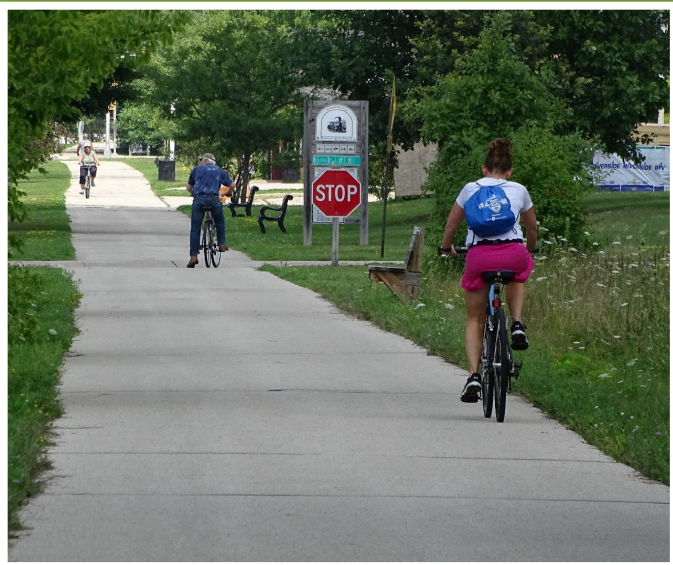


CONNECT



# WASHINGTON COUNTY BIKEWAY & TRAIL NETWORK PLAN

Adopted June 2019



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*Information contained in this document is for planning purposes and should not be used for final design of any project. All results, recommendations, cost opinions, and commentary contained herein are based on limited data and information, and on existing conditions that are subject to change. Existing conditions have not been field-verified. Further analysis and engineering design are necessary prior to implementing the recommendations contained herein.*



## Acknowledgements

The Plan Advisory Committee members, Washington County staff, and other individuals listed below deserve special thanks and acknowledgement for their contributions. Funding for the project was provided by Washington County and a grant from the Wisconsin Department of Transportation.

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## Key Stakeholder Engagement

In addition to the individuals on the previous page, the key stakeholders listed below contributed (or were given opportunities to contribute) throughout the planning process.

### Inter-Agency Coordination Discussions

The County met with the following agencies and organizations during the Preliminary Draft Plan Public Engagement Period:

Willie Karidis, Rails to Trails Conservancy (Route of the Badger)  
Rob Wessberg, Wisconsin Department of Natural Resources  
Thomas Stolp, Ozaukee Washington Land Trust  
Steve Henkel, Ozaukee Washington Land Trust  
Linda Mutschler, Cedar Lake Conservation Foundation  
Mike Nast, Cedar Lake Conservation Foundation  
Tim Malzhan, Ice Age Trail Alliance  
Eric Gabriel, National Park Service  
Pam Schuler, National Park Service  
Mary Tano, National Park Service  
Andrew Struck, Ozaukee County Planning & Parks  
Ramsey Radakovich, Milwaukee County Parks  
Michael Marlin, Milwaukee County Parks  
Jason Wilke, Waukesha County Parks  
Bridget Henk, City of Mequon  
Tyler Zwagerman, Village of Menomonee Falls

### Public Engagement Notification

The following organizations were notified via email of opportunities to provide input at public meetings and on interactive maps:

Wisconsin Department of Natural Resources--Northern Kettle Moraine Unit  
Ice Age Trail Alliance  
West Bend Area Chamber  
Hartford Conservation and Gun Club  
West Bend Barton Sportsman Club  
Newburg Sportsman Club  
Museum of Wisconsin Art  
Ozaukee Washington Land Trust  
Germantown Area Chamber  
Hartford Area Chamber  
Kewaskum Area Chamber  
Downtown West Bend Association  
Daniel Boone Conservation League  
YMCA  
Town of Kewaskum  
Town of Addison  
West Bend Daily News  
Washington County Insider  
Richfield School District  
Washington County Boys and Girls Clubs  
Village of Slinger Park and Rec.  
Village of Germantown Park and Rec.  
City of West Bend Park and Rec.  
Village of Kewaskum DPW  
Village of Richfield Public Works and Parks  
Fond Du Lac County Parks  
Town of Hartford  
Town of Wayne  
Village of Jackson  
Ozaukee Bicycle Club  
Belgium Bicycle Club



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# 1 Introduction



The Eisenbahn State Trail is a popular walking and biking route for West Bend residents.

## The Plan as a Guide

The Washington County Bikeway and Trail Network Plan (the Plan) was developed to help guide the County as it makes investments in bikeways and trails across the County for a wide variety of people—from school children to casual adult bicyclists to avid road cyclists. The centerpiece of the Plan are seven high-priority, “all ages and abilities” bikeway and trail corridors that will connect all of the incorporated cities and villages in the County. The Plan will be used as a guide to implement bikeways and trails over the next 30 to 40 years.

The intent of this Plan is to give individual communities and the County a comprehensive map of future bikeways and trails, as well as proposed policy and program actions that will help the planned trails and bikeways come to fruition. An extensive stakeholder and public engagement process was employed to gain input from hundreds of people from across the County—including elected officials, agency staff, advocates, and the public—in shaping the future for biking and walking. A five-year strategic action plan will be created following Plan adoption that will narrow the County focus for implementing the Plan and identify tasks necessary to determine the final location of bikeways and trails based on extensive discussions with willing landowners. This strategic action plan will be reviewed annually. The current County Park and Open Space Plan (POSP) is under development and the recommendations of this Plan will be incorporated into the POSP.

The recommendations in the Plan are based on preliminary planning-level research and not engineering study to confirm feasibility. Existing conditions have not been field-verified. Further analysis, engineering, and outreach to property owners will occur prior to implementing the bikeway and trail recommendations. Plan implementation will be fulfilled over time in small, incremental steps. The implementation of bikeway and trail segments and corridors identified in the Plan will require the review and approval of appropriate County Board liaison committees and the County Board of Supervisors through the annual budget and capital improvement plan processes.

## The Case for Bicycling and Walking

Increasing bicycling and walking opportunities can improve the health and safety, quality of life, economic growth, and economic and social accessibility of Washington County and its citizens. The cost of building bikeways and trails is also relatively modest when compared to other types of transportation or recreation investments.

### Health and Safety

Improving bicycling and walking conditions can improve the health and well-being of Washington County residents by:



- *Increasing daily levels of exercise in the community.* In Washington County, about 31% of adults have a body mass index (BMI) over 30, which is considered obese, and about 20% of adults do not engage in any physical activity.<sup>1</sup> The Centers for Disease Control and Prevention recommends changing the built environment in communities to make it easier for people to bicycle and walk as a strategy to prevent chronic disease.<sup>2</sup>
- *Reducing crash risks through greater visibility and protection.* For people who bike, facilities such as bicycle lanes and off-street paths are associated with reduced risk of crashes. For people on foot, sidewalks are proven to reduce crashes. Generally, facilities that physically separate people biking and walking from cars (e.g. off-street paths, sidewalks, and protected bicycle lanes) offer the greatest actual (and perceived) safety and comfort.<sup>3</sup> Additionally, the more bicyclists and pedestrians there are, the lower the crash risk, due to a “safety in numbers” effect. This is likely due to greater driver awareness of bicyclists and pedestrians.<sup>4</sup>

## Quality of Life

Building more paths and trails is one way to ensure that Washington County residents have desirable places to live and work. They complement one of Washington County’s unique strengths: access to natural resources and scenic vistas. Communities that offer better access to bicycle or walking infrastructure generally have higher property values, indicating that people value those amenities.<sup>5</sup> Building new bicycle and pedestrian facilities can also help maintain quality of life by providing alternatives to driving and limiting air pollution.<sup>6</sup>

## Cost-Effectiveness

Bicycling and walking infrastructure is relatively low-cost compared to infrastructure for other modes and can often be built as part of planned resurfacing and reconstruction of existing roads, or through incremental extensions of the path network. Expanding and improving the bikeway and trail network is fiscally responsible in several ways, notably:

- *Reducing traffic and demand for new roadways by diverting short trips.* Washington County’s population is growing quickly, and the traffic levels are growing as well. Nationally, 28% of trips are of one mile or less and 40% of trips are of two miles or less.<sup>7</sup> Most short trips—to

<sup>1</sup> University of Wisconsin Population Health Institute. *County Health Rankings and Roadmaps*, 2018, [www.countyhealthrankings.org/app/wisconsin/2018/rankings/washington/county/outcomes/overall/snapshot](http://www.countyhealthrankings.org/app/wisconsin/2018/rankings/washington/county/outcomes/overall/snapshot)

<sup>2</sup> Centers for Disease Control and Prevention – Division of Community Health. *A Practitioner’s Guide for Advancing Health Equity: Community Strategies for Preventing Chronic Disease*. US Department of Health and Human Services, 2013.

<sup>3</sup> Monsere Christopher et al., “Lessons from the Green Lanes: Evaluating Protected Bike Lanes in the U.S.” *Transportation Research Board*, 2014, [www.trb.org/Society/Blurbs/170880.aspx](http://www.trb.org/Society/Blurbs/170880.aspx)

<sup>4</sup> Jacoben, P.L., “Safety in Numbers: More Walkers and Bicyclists, Safer Walking and Bicycling.” *Injury Prevention*, vol. 9 (3), 2003, pp. 205-209, [injuryprevention.bmj.com/content/9/3/205](http://injuryprevention.bmj.com/content/9/3/205)

<sup>5</sup> Urban Land Institute. *Active Transportation and Real Estate: The Next Frontier*. Washington, D.C: The Urban Land Institute, 2016

<sup>6</sup> Ngo, Victor Douglas, et al., “Effects of New Urban Greenways on Transportation Energy Use and Greenhouse Gas Emissions: A Longitudinal Study from Vancouver, Canada.” *Science Daily*, 5, 2018, [www.sciencedaily.com/releases/2018/07/180705110056.htm](http://www.sciencedaily.com/releases/2018/07/180705110056.htm)

<sup>7</sup> Flusche, Darren, “National Household Travel Survey—Short Trips Analysis.” League of American Bicyclists, 22 January 2010, [www.bikeleague.org/content/national-household-travel-survey-short-trips-analysis](http://www.bikeleague.org/content/national-household-travel-survey-short-trips-analysis)

nearby schools, stores, or restaurants—are made in motor vehicles. If more residents can make such trips on foot or by bicycle, Washington County can respond to the increased traffic demand that accompanies population growth by providing safe alternatives to driving.

- *Incremental investments.* Bicycle and pedestrian facilities can often be included in regular road resurfacing or reconstruction projects for as little as 1% increase in the cost of the overall project (by just adding bike lanes), and up to 20% (under the most constrained situations).<sup>8</sup> This efficiency is particularly important considering that most local road funds are available and used only for resurfacing and reconstruction projects. Funding for off-street paths is also limited. However, such paths can be built in incremental stages over time, lessening the impact on local budgets.

## Recreation and Tourism-Oriented Development

Two major studies (one conducted in Wisconsin in 2010<sup>9</sup> and the other conducted in Iowa in 2011<sup>10</sup>) attempted to quantify economic impacts from bicycling. The Wisconsin study found that bicycling contributed about \$550 million to the state economy, while the Iowa study found that bicycling contributed over \$900 million. Both studies found that catering to bicyclists could create significant numbers of jobs, many located in rural locations where other jobs can be difficult to create and maintain.

Washington County can increase economic development through investing in bicycling. This opportunity can be leveraged through the development of the *Route of the Badger*. This proposed network of off-street paths and trails will be discussed more in the following section, but it has the potential to create a cohesive bicycle network throughout southeastern Wisconsin that could draw visitors from other parts of Wisconsin and Illinois into Washington County for recreational bicycling.

## Economic and Social Accessibility

Improving active transportation infrastructure helps widen choice and access to jobs and destinations. About 25% of Washington County households have only one vehicle.<sup>11</sup> Improved bicycle and pedestrian conditions offer transportation opportunities and choices to those households which may allow them to avoid purchasing an additional vehicle.

Additionally, 4% of County households lack any vehicle at all. While such households comprise a relatively small proportion of the population, they have limited access to jobs and destinations.

---

<sup>8</sup> Federal Highway Administration. *Incorporating On-Road Bicycle Networks into Resurfacing Projects*, March 2016, [www.fhwa.dot.gov/environment/bicycle\\_pedestrian/publications/resurfacing/resurfacing\\_workbook.pdf](http://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/resurfacing/resurfacing_workbook.pdf)

<sup>9</sup> Grabow, M. et al. "Valuing Bicycling's Economic and Health Impacts in Wisconsin." Nelson Institute for Environmental Studies and the Center for Sustainability and the Global Environment at University of Wisconsin-Madison, ResearchGate, 2010, [www.researchgate.net/publication/242569776\\_Bicycling's\\_Economic\\_and\\_Health\\_Impacts\\_in\\_Wisconsin](http://www.researchgate.net/publication/242569776_Bicycling's_Economic_and_Health_Impacts_in_Wisconsin)

<sup>10</sup> Lankford, Jill et al. "Economic and Health Benefits of Bicycling in Iowa," *Iowa Bicycle Coalition*, 2011, [iowabicyclecoalition.org/wp-content/uploads/2012/04/2012-Economic-Impact-Study.pdf](http://iowabicyclecoalition.org/wp-content/uploads/2012/04/2012-Economic-Impact-Study.pdf)

<sup>11</sup> "Household Size by Vehicles Available: 2013-2017 American Community Survey 5-Year Estimates." *United States Census Bureau: American Fact Finder*, 2017



Providing alternative transportation options for this group will help them find and keep jobs while also ensuring that businesses keep workers.

## Vision, Goals, and Practices for this Plan

### Plan Vision

*“Quality of life for Washington County residents is enhanced by a comprehensive system of bicycling and walking routes connecting destinations throughout the County and neighboring communities. County bicycling and walking routes are safe, scenic, and serve people of all ages, abilities and circumstances.”*

The Vision Statement set forth above was developed in consultation with the Washington County Bike and Pedestrian Plan Advisory Committee—a group of stakeholders representing County supervisors and agencies, representatives from cities, villages, and towns, advocacy organizations, and interested citizens.

### Plan Goals and Practices

As Committee members considered the Vision, it became clear that some aspects of the Committee’s hopes and goals for this planning effort should be further clarified into four goals and/or practices:

#### Fiscal Responsibility

Seek all potential funding sources, partnerships, sponsorships, and investments from local municipalities, families, businesses, and foundations. Stage new infrastructure investments so that they are folded into other construction projects.

#### Safety

Increase and emphasize safety for all road users through infrastructure projects, utilizing best practices for design and promoting safety through education and outreach.

#### Quality of Life

Increase the comfort, accessibility, usefulness, and appeal of trail and on-road bikeway networks to serve people of all ages, abilities, and circumstances for recreational and utilitarian use, thereby improving health, independence and quality of life.

#### Partnership

Work in partnership with cities, villages, towns and the State to grow and expand the network through regular collaboration and communication.

## Alignment with Washington County Vision, Mission, and Strategic Goals

The Vision, Goals and, Practices for this Plan align with the Vision, Mission, and Strategic Goals for County government, notably in the emphasis on quality of life, safety, and good governance:

### County Vision

*Washington County strives to cultivate its rich heritage, vibrant economy, and attractive communities through the distinct values that define us.*

### County Mission

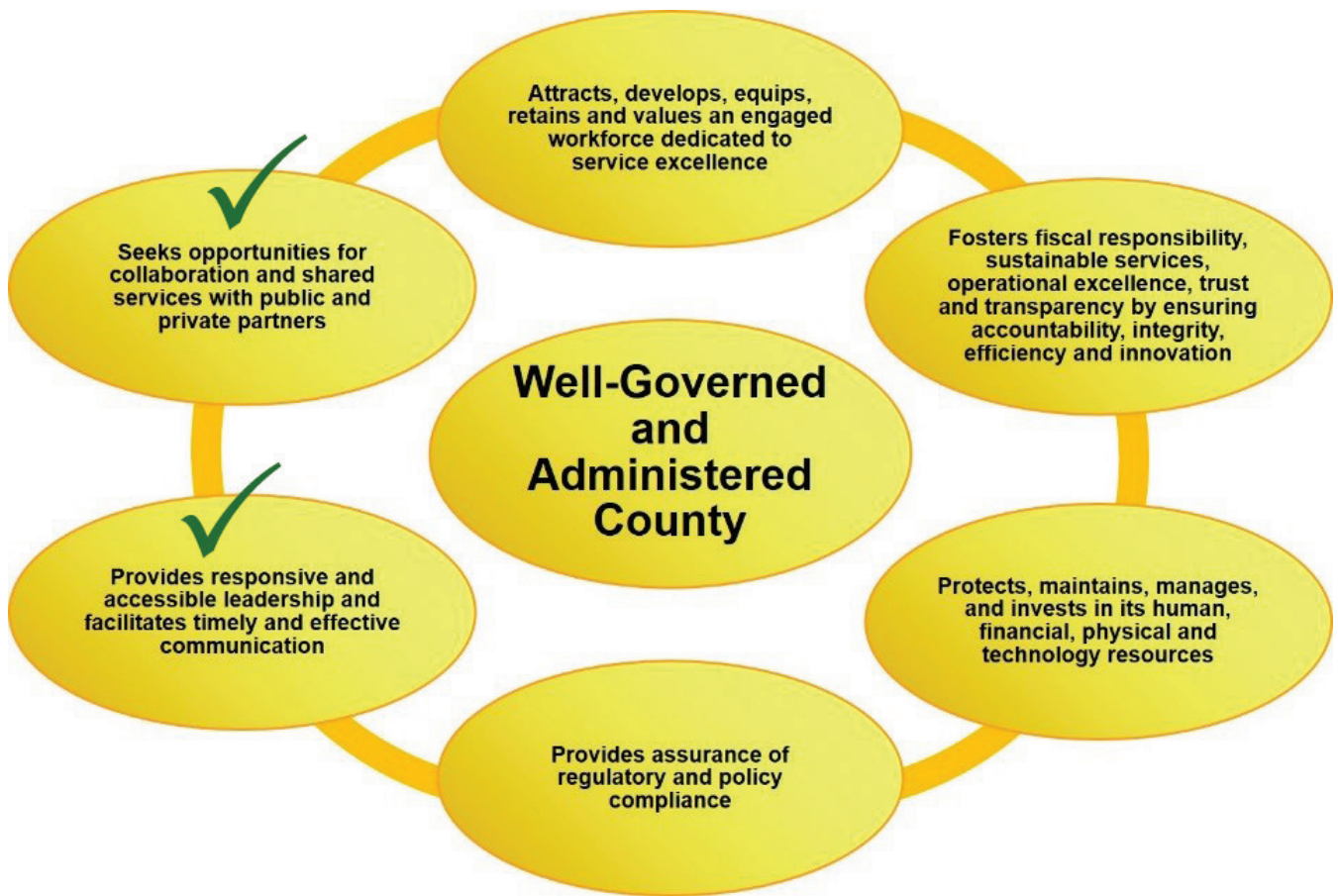
*We create an environment for residents and businesses to enjoy our authentic quality of life through a well - governed and administered county dedicated to safe and secure communities; economic growth and vitality; effective mobility and reliable infrastructure; and access to basic needs.*

### County Goals and Practices

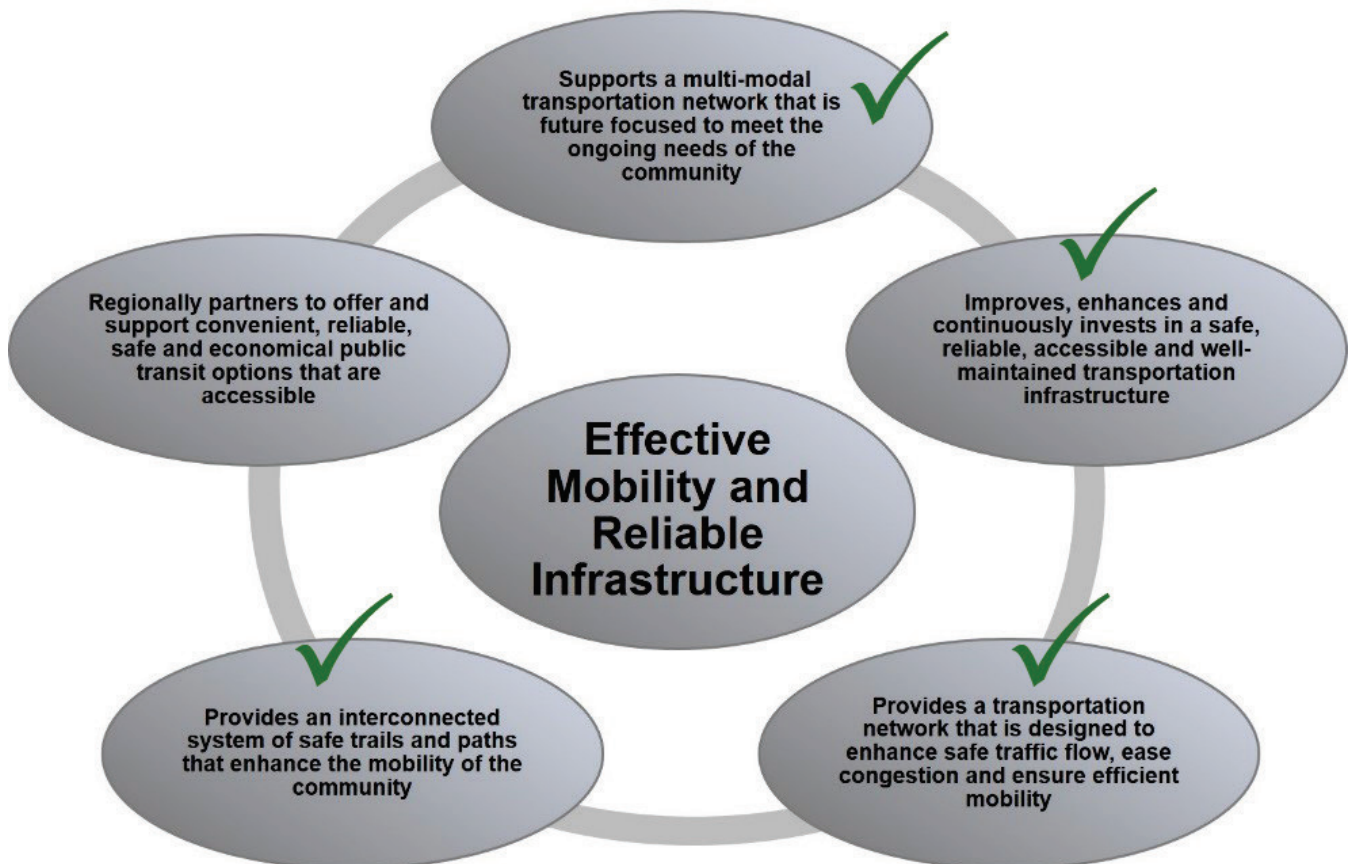
The County Board also has five strategic goals for County programs and services:

- Well-Governed and Administered County
- A Safe and Secure Community
- Economic Growth and Vitality
- Effective Mobility and Reliable Infrastructure
- Access to Basic Needs

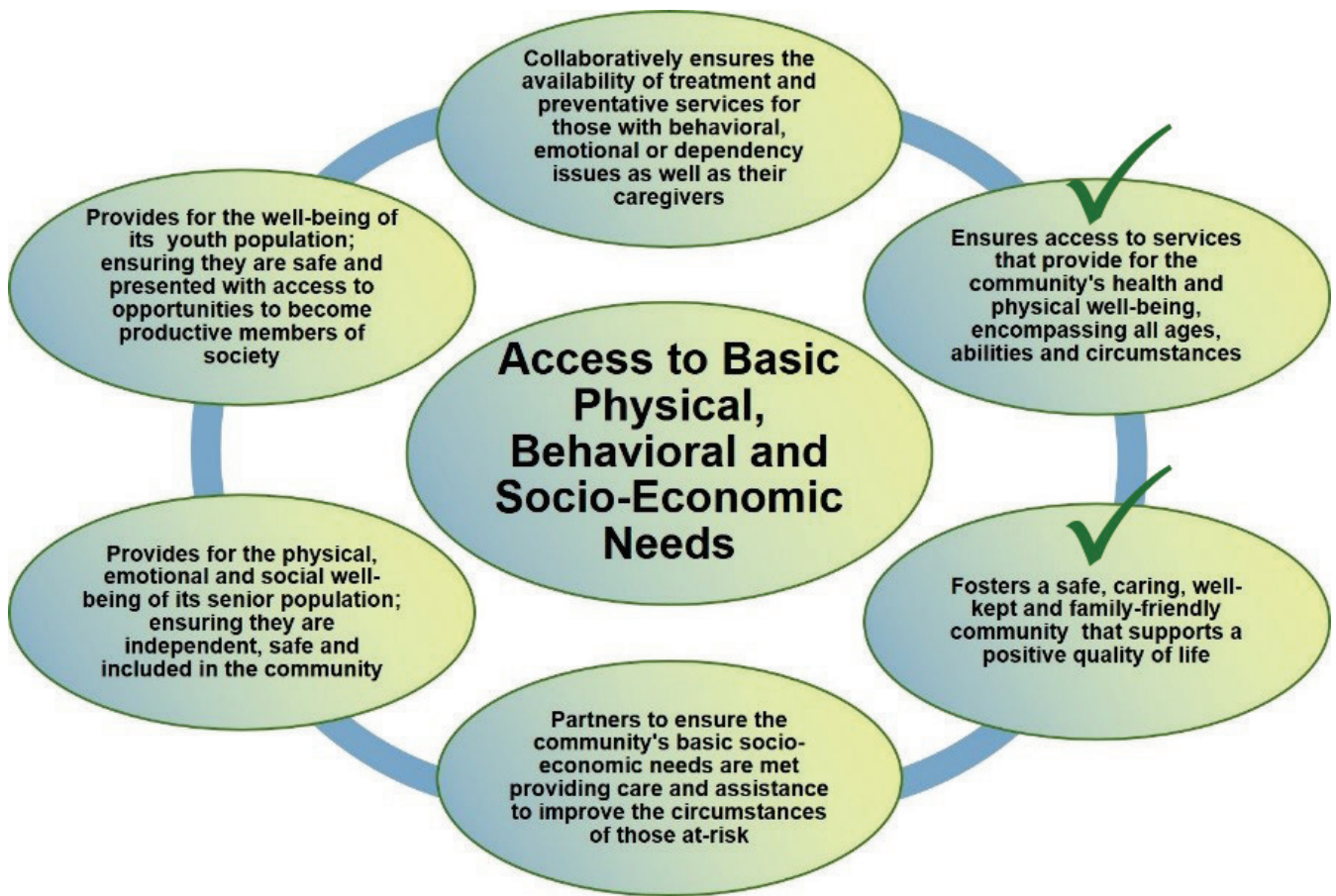
Each goal is supported by a set of practices designed to achieve that goal. The goals and practices are shown in the following charts. Practices that align with this Plan are marked with green checkmarks.











## 2 Existing Conditions, Opportunities, Challenges, and Needs



State Highway 60 in the Village of Jackson was rebuilt recently with bike lanes and a sidepath on the north side of the highway.

## Existing Bikeways and Trails

**Shared Use Paths.** Washington County has several popular off-street shared use paths (also referred to as “trails”) which will form the foundation of the recommended bicycle and pedestrian network in the County. These existing trails are shown in Figure 2-1:

- *Eisenbahn State Trail.* This north-south trail runs through the north-central portion of the County for approximately 12.5 miles. The southern terminus of the trail is in West Bend at Rusco Road. The trail runs north through the City of West Bend and the Village of Kewaskum, roughly paralleling the Milwaukee River. The trail ends in the Village of Eden in Fond du Lac County. It follows a former rail corridor that fell into disuse in the 1990s. At that time, the State of Wisconsin bought the land and in 2006 an agreement was reached with Washington County in which the County would maintain and develop the portion of the right-of-way within its jurisdiction. The County opened the trail in 2006, when it was still unpaved. The next year, the City of West Bend paved 5 miles of the trail, but it is unpaved north of Barton Road in West Bend. Snowmobiles and ATVs are permitted on unpaved portions of the trail north of the City during the winter, when conditions are right.
- *West Bend Riverfront Parkway.* The City of West Bend has built the Riverfront Parkway along the Milwaukee River, which connects to the Eisenbahn Trail in some areas, creating an extensive network of paths in the downtown area.
- *Rubicon River Bike Trail.* In 1982, the City of Hartford began acquiring land to create the Rubicon River Parkway along the riverfront, with the eventual goal of connecting the path to Pike Lake State Park east of the City. This goal was achieved when a sidepath next to State Highway 60 was built as part of a reconstruction project. Some of the path segments are paved but in poor condition.

**Sidepaths.** Sidepaths are shared use paths adjacent to roadways. The City of Hartford, and the Villages of Germantown, Jackson, and Richfield have several miles of sidepaths within their jurisdictions. Some of these sidepaths were built along State Highways when they were reconstructed.

**Wide Shoulders/Bike Lanes.** Wide paved shoulders and bike lanes provide space for people bicycling on the roadway. Most existing on-street bikeways in Washington County are wide paved shoulders, which are often on county, state, or federal highways that have high speeds and traffic volumes. These can be useful to more experienced bicyclists but do not serve “all ages and abilities.” Paved shoulders improve safety for motorists and have significant maintenance benefits for the County.

**Ice Age National Scenic Trail.** The Ice Age National Scenic Trail is a continuous footpath that extends approximately 1,200 miles across the State of Wisconsin along the terminal moraine formed during the Wisconsin Glaciation. The Ice Age Trail provides a natural corridor for wildlife and habitat, is an educational resource for people to learn about the cultural and geological history of Wisconsin, and provides quiet places for people to form a connection with the landscape. About 35 miles of completed

footpath has been built in Washington County. The trail is designated for walking and hiking only. In areas where there is not yet a designated footpath, the Ice Age Trail uses roads as connectors.

## Bicycle and Pedestrian Facilities Proposed in Other Plans

Before developing a recommended bicycle and pedestrian network in Washington County, it is helpful to refer to previous planning efforts. Proposed networks from previous bicycle or pedestrian planning efforts are shown on Figure 2-1.

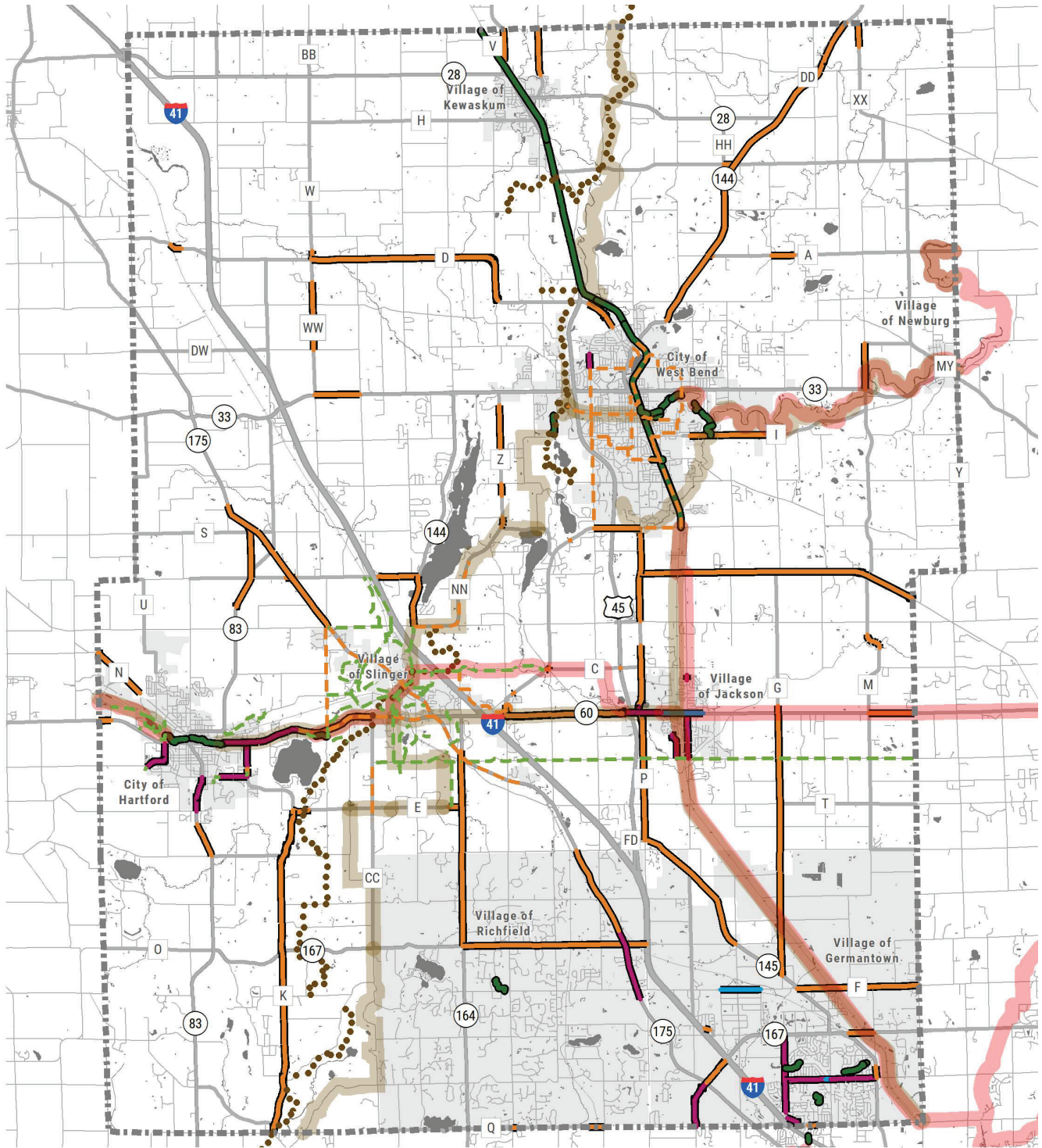
### Proposed Regional Networks

There are two important proposals for a regional network of bicycle facilities on low-traffic streets and off-street paths relevant to this Plan:

- *VISION 2050* is a regional plan adopted in 2016 by the Southeastern Wisconsin Regional Planning Commission (SEWRPC). This long-range plan encompasses analysis and recommendations for land use and transportation networks for the seven-county region. As such, the plan is regional in scope, focusing on connections between cities and villages with populations over 5,000. *VISION 2050* recommends that bicycle facilities be provided, if feasible, on all arterial streets and highways as they are resurfaced or reconstructed. In addition, *VISION 2050* recommends expanding the off-street bicycle path system, connecting paths with low-traffic local roads, and in some places, connections along arterial streets that have bicycle lanes or paved shoulders. The 2020 Washington County Open Space Plan includes this proposed off-street bicycle path network, which is shown on Figure 2-1.
- *The Route of the Badger* is a proposed path network in southeastern Wisconsin promoted by the Rails-to-Trails Conservancy, a national organization that advocates for the conversion of disused or lightly-used rail rights-of-way into active transport paths. The *Route of the Badger* aims to link southeastern Wisconsin's 340 miles of existing paths into a connected 500-mile network. In Washington County, many of the connections are based on the *VISION 2050* Plan. The proposed path network mainly runs through the southern and central portions of Washington County. It is currently being refined through extensive meetings and consultations with County and local officials. Figure 2-1 shows the network (as of October 2018).



**Figure 2-1 Existing Bikeways and Trails, and Bikeways or Trails Proposed in Other Plans**



- Existing Bikeways or Trails**
- Shared Use Path
  - Sidepath
  - Wide Shoulder
  - Bike Lane
  - Ice Age Trail Footpath

- Proposed Regional Networks**
- VISION 2050 Proposed Off-Street Network
  - Route of the Badger (October 2018)

- Proposed Local Bikeways or Trails**
- - - Proposed On-Street Bikeway
  - - - Proposed Trail or Shared-Use Path

0 1 2 Miles



Sources: SEWRPC, Washington County, Rails to Trails Conservancy, Bike Friendly West Bend, City of Hartford, Village of Slinger

## Other Relevant State County, City, Village, Town, and Open Space Plans

In addition to the regional networks described above, project staff reviewed area plans that have been adopted in the last 15 years to determine if they include recommendations relevant to this Plan. Figure 2-2 lists the plans that were reviewed, and whether they had content that the planning team could refer to during the subsequent development of the recommended bikeway and trail network. Figure 2-1 shows local planned bicycle routes and paths for the City of Hartford and the Village of Slinger, as well as on-street bicycle routes proposed by Bike Friendly West Bend. The planning team was unable to obtain the digital mapping data to show the planned bicycle routes and paths for the Villages of Jackson, Richfield, and Germantown, or for Wisconsin Department of Transportation (WisDOT) Connections 2030 plan. However, the hard copy versions of those plans were consulted when developing the recommended network.

**Figure 2-2: Table of Relevant State, County, Village, Town, and Open Space Plans**

Relevant Plans Adopted Since 2003, by Jurisdiction	Path Network Rec	On-Street Bikeway Rec	List of Priority Projects	Specific Policy Rec
<b>Washington County</b>				
A Multi-Jurisdictional Comprehensive Plan for Washington County: 2035				
Adoption Date: April 2008	✓	✓		✓
Plan Horizon: 2008-2035				
A Park and Open Space Plan for Washington County				
Adoption Date: March 2004	✓			
Plan Horizon: 2004-2020				
A Jurisdictional Highway System Plan for Washington County				
Adoption Date: December 9, 2008				
Plan Horizon: 2008-2020				
2017 Washington County Community Health Improvement Plan				
Adoption Date: September 2017				
Plan Horizon: 2017-				
2050 Transportation Network Sustainability Plan				
Adoption Date: August 2018			✓	
Plan Horizon: 2018-2050				
<b>Town of Addison</b>				
A Comprehensive Plan for the Town of Addison: 2035				
Adoption Date: June 2009				✓
Plan Horizon: 2009-2035				
<b>Town of Barton</b>				
A Comprehensive Plan for the Town of Barton: 2035				
Adoption Date: April 2008			✓	
Plan Horizon: 2008-2035				
<b>Town of Erin</b>				
A Comprehensive Plan for the Town of Erin: 2035				
Adoption Date: December 2009				
Plan Horizon: 2009-2035				

Relevant Plans Adopted Since 2003, by Jurisdiction	Path Network Rec	On-Street Bikeway Rec	List of Priority Projects	Specific Policy Rec
<b>Town of Farmington</b>				
A Comprehensive Plan for the Town of Farmington: 2035				
Adoption Date: January 2010	✓			✓
Plan Horizon: 2010-2035				
A Comprehensive Plan Update for the Town of Farmington: 2050				
Adoption Date: May 2018				
Plan Horizon: 2018-2050				
<b>Town of Germantown</b>				
Town of Germantown Comprehensive Plan				
Adoption Date: May 2008				
Plan Horizon: 2008-				
<b>Town of Hartford</b>				
A Comprehensive Plan for the Town of Hartford: 2035				
Adoption Date: April 2009				✓
Plan Horizon: 2009-2035				
<b>Town of Jackson (see Village of Jackson)</b>				
<b>Town of Kewaskum</b>				
A Comprehensive Plan for the Town of Kewaskum: 2035				
Adoption Date: October 2009				
Plan Horizon: 2009-2035				
<b>Town of Polk</b>				
A Comprehensive Plan for the Town of Polk: 2035				
Adoption Date: September 2009				✓
Plan Horizon: 2009-2035				
<b>Town of Trenton</b>				
A Comprehensive Plan for the Town of Trenton: 2035				
Adoption Date: April 2009				✓
Plan Horizon: 2009-2035				
<b>Town of Wayne</b>				
A Comprehensive Plan for the Town of Wayne: 2035				
Adoption Date: March 2009				✓
Plan Horizon: 2009-2035				
<b>Town of West Bend</b>				
Plan Name: N/A				
<b>Village of Germantown</b>				
Village of Germantown: 2020 Smart Growth Plan				
Adoption Date: August 2004	✓	✓	✓	✓
Plan Horizon: 2004-2020				
US EPA Technical Assistance Connectivity Plan				
Adoption Date: Not yet adopted	✓	✓		
Plan Horizon: 2019-2030				

Relevant Plans Adopted Since 2003, by Jurisdiction	Path Network Rec	On-Street Bikeway Rec	List of Priority Projects	Specific Policy Rec
<b>Village and Town of Jackson</b>				
Opportunity Analysis and Redevelopment Plan				
Adoption Date: March 2017	✓			
Plan Horizon: 2017-				
Village and Town of Jackson Comprehensive Plan: 2035				
Adoption Date: August 2009	✓	✓	✓	
Plan Horizon: 2009-2035				
A Joint Parks, Recreation & Open Space Plan for The Village of Jackson and The Town of Jackson - 2008				
Adoption Date: Revised March 2009	✓	✓	✓	
Plan Horizon: 2009-				
<b>Village of Kewaskum</b>				
A Comprehensive Plan for the Village of Kewaskum: 2035				
Adoption Date: 2009				✓
Plan Horizon: 2009-2035				
<b>Village of Newburg</b>				
A Comprehensive Plan for the Village of Newburg				
Adoption Date: 2014				✓
Plan Horizon: 2014-2035				
<b>Village of Richfield</b>				
Village of Richfield Comprehensive Plan: 2014-2033				
Adoption Date: June 2014	✓	✓		
Plan Horizon: 2014-2033				
The Village of Richfield Northeast Corridor Opportunity Analysis				
Adoption Date: June 2016				
Plan Horizon: 2016-				
<b>Village of Slinger</b>				
Village of Slinger Comprehensive Plan				
Adoption Date: November 2017	✓	✓	✓	✓
Plan Horizon: 2017-2040				
<b>City of Hartford</b>				
City of Hartford 2030 Smart Growth Plan				
Adoption Date: Unknown				
Plan Horizon: 2030				
<b>City of West Bend</b>				
Bicycle Routes Proposed by Bike Friendly West Bend				
Adoption Date: Plan was <b>not</b> adopted by the City		✓		
Plan Horizon: 2017-2025				
2020 Comprehensive Plan for The City of West Bend				
Adoption Date: March 2004	✓	✓		✓
Plan Horizon: 2004-2020				
A Park and Open Space Plan for the City of West Bend:2020				
Adoption Date: March 2008	✓	✓		
Plan Horizon: 2008-2020				



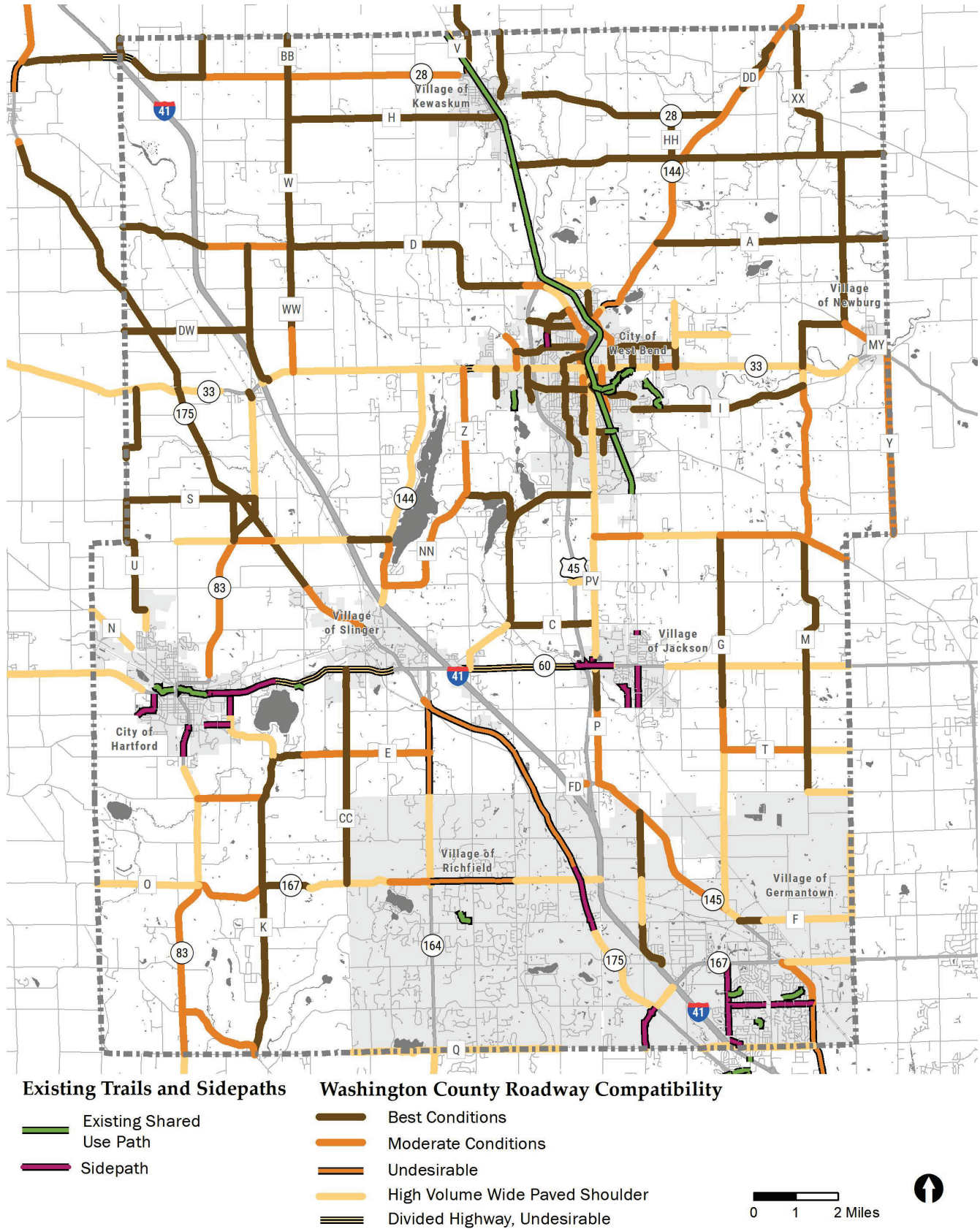
Relevant Plans Adopted Since 2003, by Jurisdiction	Path Network Rec	On-Street Bikeway Rec	List of Priority Projects	Specific Policy Rec
<b>OTHER PLANS</b>				
<b>Ice Age Trail</b>				
Ice Age Trail Strategic Plan				
Adoption Date: November 2017				
Plan Horizon: 2018-2020				
<b>Southeastern Wisconsin Regional Planning Commission</b>				
VISION 2050: A Regional Land Use and Transportation Plan				
Adoption Date: July 2016	✓	✓		✓
Plan Horizon: 2016-2050				
<b>Wisconsin Department of Transportation</b>				
Connections 2030 Long-Range Multimodal Transportation Plan				
Adoption Date: October 2009	✓			
Plan Horizon: 2009-2030				

## Roadway Bicycle Compatibility

WisDOT developed a methodology for rating the compatibility of roadways with bicycling based on several widely available metrics. The methodology produces a bicycle compatibility rating of “best conditions,” “moderate conditions,” or “undesirable” for each roadway segment. The ratings are for adult bicyclists over 16 years of age who are generally comfortable with at least lower volumes of higher traffic speed motor vehicle traffic. Figure 2-3 displays the results of this analysis for rural Washington County roads. In the north and west of the County, many of the roads are predicted to be “best condition”. In the more suburban sections and in many of the transition areas between urban areas and rural areas, many roads are “undesirable” for people bicycling. In general, WisDOT rates the conditions for federal, state, or county highways, because there is insufficient data on local roads owned by cities, villages, or towns. The compatibility ratings use a formula to estimate the probability of conflict, as defined as two opposing motor vehicles passing each other when a bicyclist is present. This impacts the suitability of a road for safe shared use; very few rural roads in Wisconsin have space for two cars and a bicycle. There is an exponential relationship between traffic volumes and conflicts. For example, a bicyclist can expect to encounter nine times as many conflicts on a road with 1,500 vehicles daily, compared to a road that has 500 vehicles daily.<sup>12</sup> A more detailed description of how the rating is calculated is documented in [Appendix A of the Wisconsin Rural Bicycle Planning Guide](#). The specific data sources and methodology used to produce the map in Figure 2-3 are included in Appendix A of this Plan.

<sup>12</sup> Wisconsin Rural Bicycle Planning Guide. Madison, WI, Wisconsin Department of Transportation. April 2006, 15.

**Figure 2-3: Roadway Bicycle Compatibility Scores in Washington County**



Sources: SEWRPC, WisDOT (2015 Federal/State highways), Washington County Highway Department (2018 County highways)

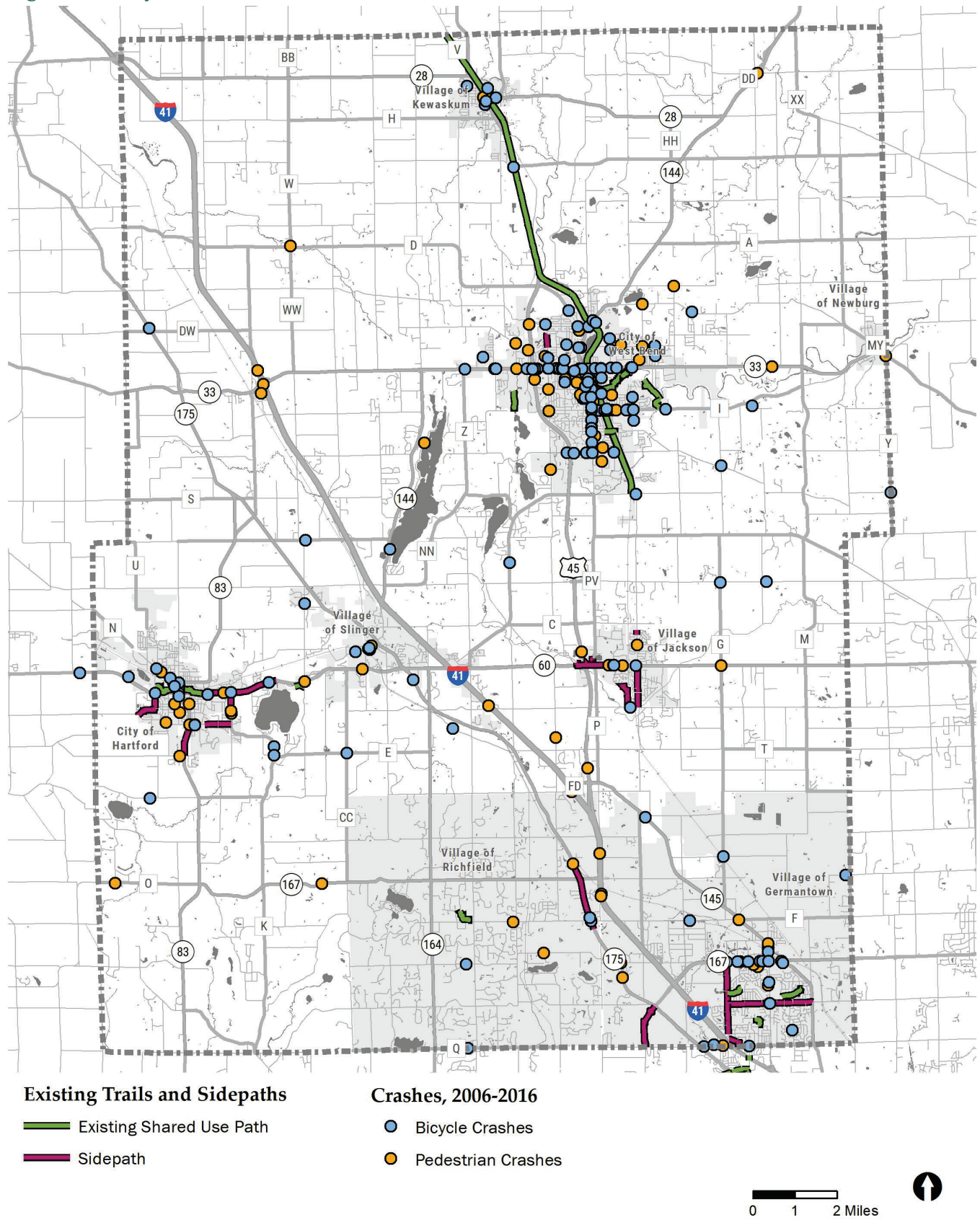
## Bicycle and Pedestrian Crash Analysis

Figure 2-4 shows the Washington County bicycle and pedestrian crashes that were reported to police between 2006 and 2016. It should be noted that Wisconsin does not mandate self-reporting of crashes; consequently, many minor bicycle and pedestrian crashes without injuries or property damage are not reported to police. Therefore, the below numbers are almost certainly undercounts. Another problem with the data is that Washington County, like most communities, lacks exposure data (that is, counts of bicyclists and pedestrians that can be used to determine crash rates). Consequently, the planning team could not determine whether an area with many crashes was less safe than other areas.

- *Bicycle crashes.* There were 191 bicycle-related crashes reported between 2006 and 2016. Most of these crashes (104) occurred in the City of West Bend, the most populous city in the County. The Village of Germantown (with 31 crashes), and the City of Hartford (with 23 crashes) contained most of the remaining crashes. This may be an indication of higher numbers of bicyclists, destinations, and intersection density in those communities, resulting in a higher chance that a bicyclist will experience a crash.
- *Pedestrian crashes.* There were 141 pedestrian-related crashes reported between 2006 and 2016. As with bicyclist-related crashes, these collisions were concentrated in the City of West Bend (60 crashes), the Village of Germantown (20 crashes), and the City of Hartford (30 crashes). As explained above, this may be an indication that there are more pedestrians, destinations, and greater intersection density in those communities, resulting in a higher chance that a pedestrian will be in a crash.
- *Common crash locations.* The streets with the highest number of crashes are STH 33 (West Washington Street) and South Main Street in the City of West Bend, Mequon Road in the Village of Germantown, and North Main Street and STH 60 (Sumner Street) in the City of Hartford. Many of these high-crash areas are in commercial zones where people may be walking to and from work or shopping destinations. These streets also have four or more lanes of traffic, making it difficult to cross for people walking or biking.
- *Serious injuries and fatalities.* Urban areas tend to report more *total* bicyclist and pedestrian crashes than rural areas, but relatively few *serious* injuries and fatalities, a result of slower collision speeds in urban areas. Washington County is no exception; bicycle- and pedestrian-related crashes are overwhelmingly clustered in the most urbanized sections of the County although crashes causing fatalities or serious injuries more often occur in suburban and rural areas. For bicyclists, 21 out of 31 fatalities or serious injuries occurred in either suburban or rural areas, while for pedestrians, 21 of 39 fatalities or serious injuries occurred in suburban or rural areas.



**Figure 2-4: Bicycle and Pedestrian Crashes, 2006-2016**



Source: Wisconsin Traffic Operations and Safety Laboratory (TOPS)



## Opportunities & Gaps

### Gap Analysis

As part of the *VISION 2050* regional planning effort, SEWRPC conducted an analysis of bicycle network connectivity to identify how well the bicycle facilities in the *VISION 2050* plan would address gaps in the regional network. Figure 2-5 visualizes the existing gaps in the overall bicycle network (both on-street and off-street connections) between cities and villages with populations of 5,000 or more. There are gaps between almost all the incorporated cities and villages in Washington County, as well as many gaps across county lines. As part of this Plan, connectivity and gaps to communities in Dodge, Fond du Lac, and Sheboygan Counties were also considered and added to Figure 2-5. There are gaps between Hartford and Watertown, and between West Bend and Mayville.

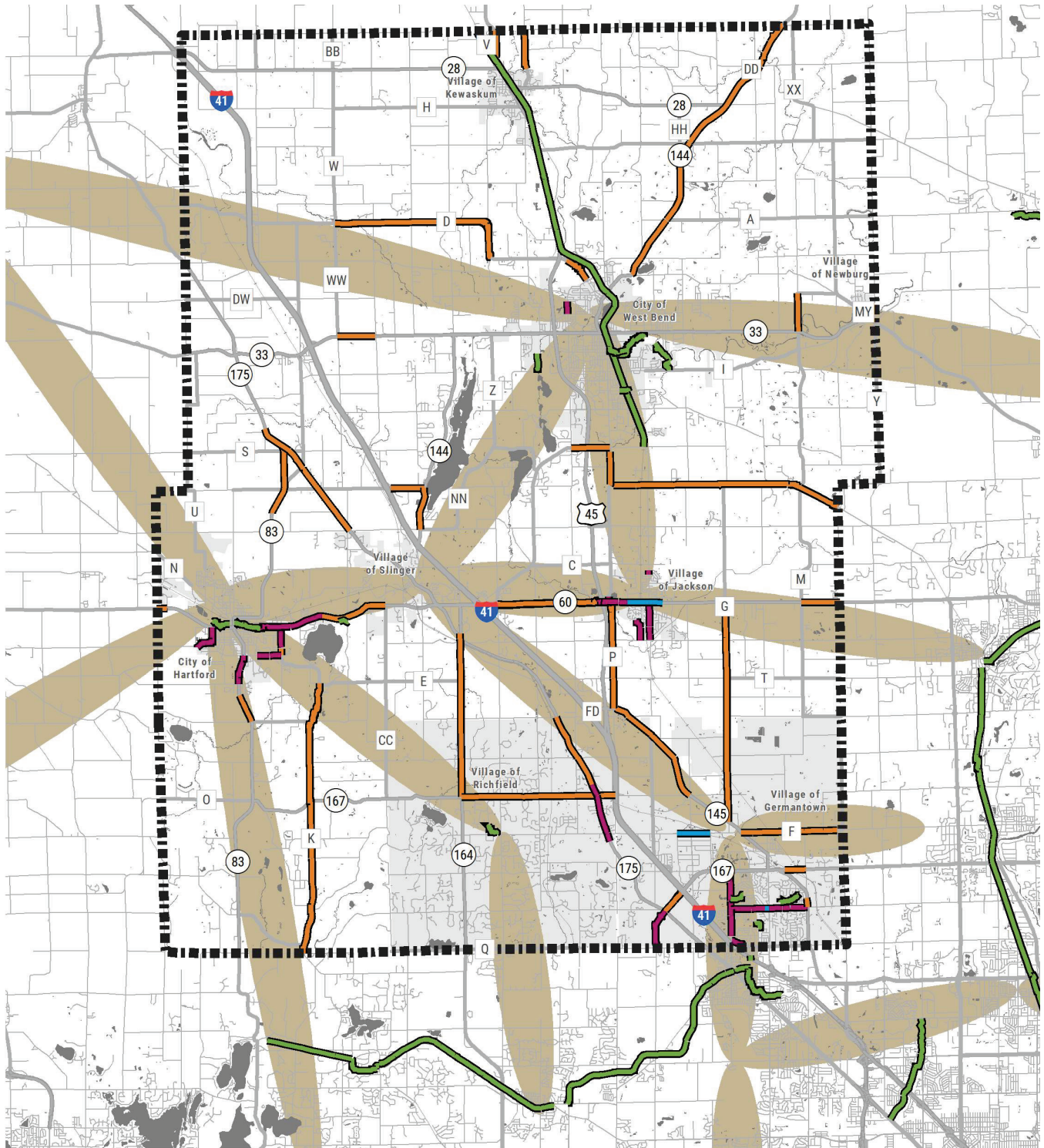
### Opportunities

The planning team considered a variety of potential “opportunity corridors” that might address those gaps during the development of the recommended bikeway and trail network. Such corridors include active railroad lines, electric transmission lines, utility pipelines, natural or open space corridors, and roads with the “best” bicycling conditions.

*Existing active railroad lines.* Many Washington County residents wish to see the Eisenbahn State Trail extended from West Bend to the Village of Germantown. However, the corridor that the Trail would follow is an active rail line in use by Canadian National railroad company. Further research—described in more detail in Chapter 6—examined whether this corridor has sufficient space for a path next to the trail, or a “rail with trail,” such as that shown in Figure 2-6. These proposed trails were then included in the Plan.

*Electric transmission lines* can be good corridors for shared use paths, such as the one shown in Figure 2-7. The existing New Berlin Trail and the Lake Country Trail in Waukesha were both built along transmission line corridors in cooperation with the owner of the right-of-way (ROW). Community members benefit from this arrangement by getting a shared use path; the transmission line company benefits by having a paved access road to maintain its assets. Of note in Washington County are the east-west electrical transmission lines north of the Villages of Jackson and Slinger. The planning team reviewed these corridors during the development of the recommended bikeway and trail network to see whether they might offer a feasible connection for shared use paths. Transmission line corridors can traverse rugged terrain, farms, and wetlands, so caution was used before assuming the corridors could be easily adapted for bicycle and pedestrian use.

**Figure 2-5: Existing Gaps in the Regional Bicycle Network**



**Existing Trails and Bikeways**

- Existing Shared Use Path
- Sidepath
- Wide Shoulder
- Bike Lane

**Gap Analysis**

- Existing gap in the overall bicycle network between cities or villages with populations of 5,000 or more



Sources: SEWRPC and Toole Design



Gas and petroleum pipelines can also be good corridors for shared use paths, such as the one shown in Figure 2-8. The pipes are generally underground. In rural areas, they may be nearly undetectable because property owners may have an easement to continue farming over the right-of-way; however, in urban areas they can sometimes accommodate a path. In Washington County, the ANR natural gas pipeline runs north-south and the West Shore petroleum pipeline runs diagonally through the County, roughly parallel to IH-41. As the planning team developed the recommended bikeway and trail network, they referred to these pipeline corridors to determine if they could provide feasible or desirable rights-of-way for shared use path connections.

*The Ice Age National Scenic Trail corridor* may provide possible partnerships. The long-term goal for the Ice Age Trail is an unpaved path for use by people on foot only. This plan does not propose shared use paths on current Ice Age Trail foot paths. Where terrain allows, the publicly-owned lands in the Ice Age Trail planning corridor may be sufficient to add a paved shared use path in the same parcel, with the intent to build such a path as far away from the footpath as possible. To provide essential connections for path users, the Ice Age Trail may temporarily or permanently utilize portions of future shared use paths. Prior to implementing any shared use paths proposed on Ice Age Trail planning corridors or State Ice Age Trail Areas, the County will work with the land owners and the Ice Age Trail Alliance

**Figure 2-6: A “rail with trail”, or shared use path next to a rail corridor, in Seattle, WA**



**Figure 2-7: A shared use path built along an electric transmission line trail in Loudoun County, VA**



**Figure 2-8: A shared use path follows a natural gas pipeline in Mays Landing, New Jersey**



Source: [www.pedestrians.org](http://www.pedestrians.org)

to determine restrictions, find solutions, or propose alternate corridors. Dane County Parks provides an excellent example of a partnership opportunity when it developed the Ice Age Junction park and path area to the west of Madison. This area includes both a paved bicycle path and the Ice Age Trail footpath in the same corridor. The two trails join briefly to share a newly-built overpass over Dane CTH PD (McKee Road), which is shown in Figure 2-9.

*Public and Private Open Space.* Finally, parks, forests, and open space that are owned by state, county, local governments, or conservation organizations provide an opportunity to expand the path network in floodplains, parks, and in protected conservation areas. The planning team used this information to recommend trails in these open spaces that might be strung together with low-traffic on-street connections. Although these open spaces represent opportunities, they may have restrictions that make paths difficult to implement. Prior to implementing any paths proposed on open space parcels, the County will work with the land owners to determine restrictions, find solutions, or propose alternate corridors.

Figure 2-10 shows existing roadways with the “best” bicycle compatibility for roadways, overlaid with railroads, gas and petroleum pipelines, the Ice Age National Scenic Trail planning corridor and footpath, and all public and private open space in Washington County.

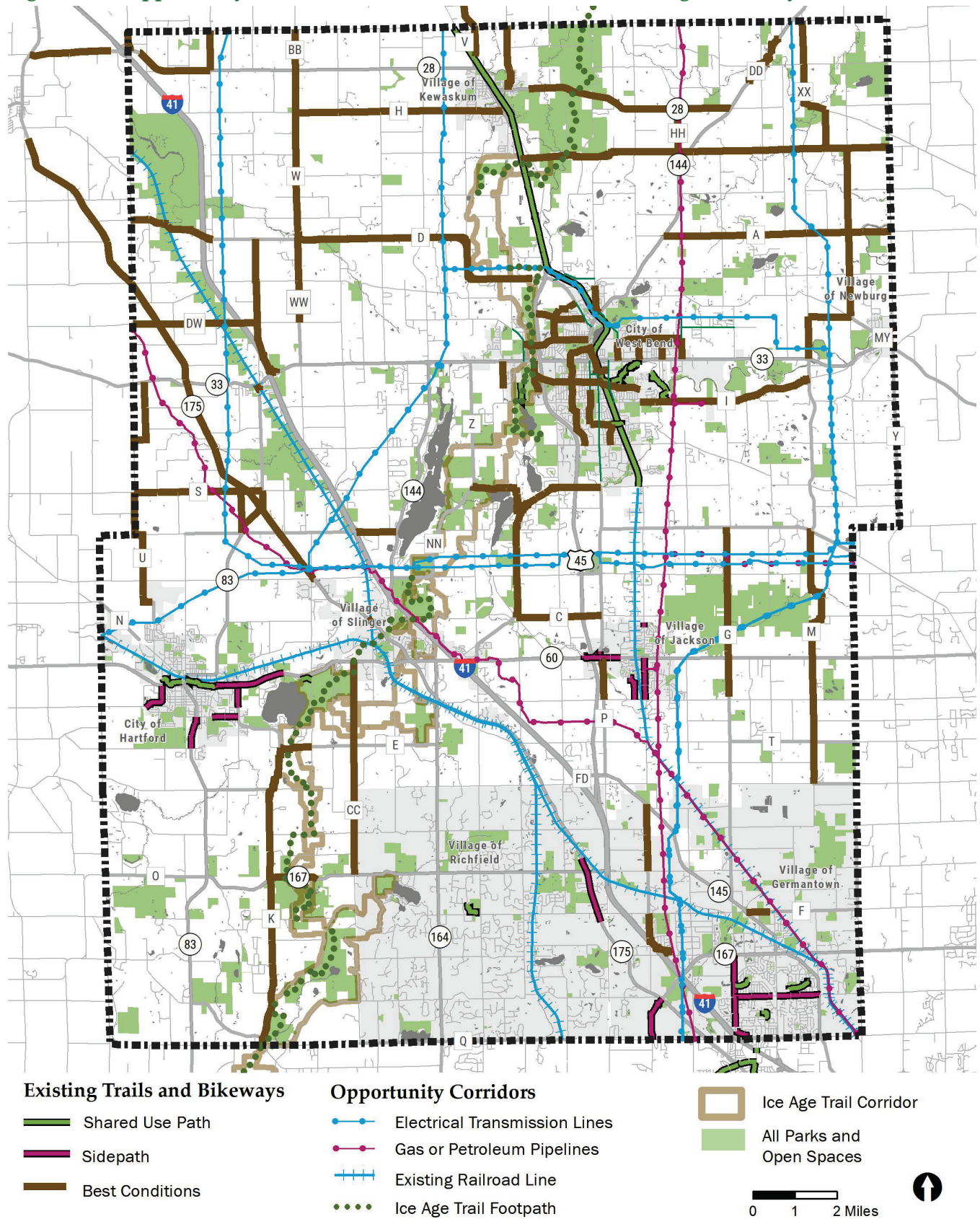
**Figure 2-9: A bicycle and pedestrian bridge over CTH PD (McKee Road) in Madison, WI connects the Ice Age Junction Path system**



Source: Ayres Associates



Figure 2-10: Opportunity Corridors for New Paths or Trails in Washington County



Sources: SEWRPC, Washington County Planning and Parks Department, Ice Age Trail Alliance

# 3 Public Engagement and Outreach



Members of the Bike and Pedestrian Plan Advisory Committee participate in an activity designed to help prioritize the recommended bikeway and trail network.



## Past Public Comments and Surveys

A variety of outreach efforts in Washington County in the past 15 years documented residents' desire for more bikeways and trails and helped spur County officials to undertake this planning process. These previous public outreach efforts are summarized below. Full reports of these previous efforts can be found on the [Washington County Planning and Parks Department website](#).

### Comprehensive Planning Telephone Survey (2006)

This survey was conducted in February and March 2006 with 1,205 responses completed. As part of the survey, residents rated the expansion of bicycle paths and lanes as being either a "high priority" (46%), or a "medium priority" (31%). Only 21% of respondents stated that the construction of such a network was a "low priority."

### Eisenbahn State Trail User Survey (2008)

This survey was completed by 582 summer users and 150 winter users of the Eisenbahn State Trail. Key findings are listed below:

- Users expressed safety concerns about trail crossings at Highway 33 (Washington Street), Decorah Road, and Paradise Drive.
- Users were asked to rate their preference for different trail types. Summer users (primarily people walking and biking) preferred paved trails; winter users (primarily people snowmobiling) preferred unpaved trails. There were more summer users than winter users, so overall, more users preferred paved trails.
- Users suggested extending the Eisenbahn State Trail southward to the Village of Jackson and to the Village of Germantown, STH 167, and eventually to Waukesha County. Users also suggested new connecting trails along STHs 33 and 60, which would support more east-west recreational travel in the County.

### Public Outreach for the Open Space Plan for Washington County: 2035 (2014)

Over 300 participants attended seven different public outreach events in October and November 2014 to provide input on the *2035 County Park and Open Space Plan*. The public was supportive of the County's existing trails and supported expansions and improvements of the system. Specifically:

- More than half of participants (55%) said the County should invest in a countywide trail system.
- More than half (56%) agreed that the County should invest in additional trails like the Eisenbahn State Trail.
- Almost two-thirds of participants (62%) agreed that new trails should be developed to connect to existing trails in adjacent counties.
- Regarding funding sources and levels, more than two-thirds of the attendees (67%) agreed that parks and trails are a public service that should be funded by County government.

### Washington County Parks and Trails Telephone Survey (2015)

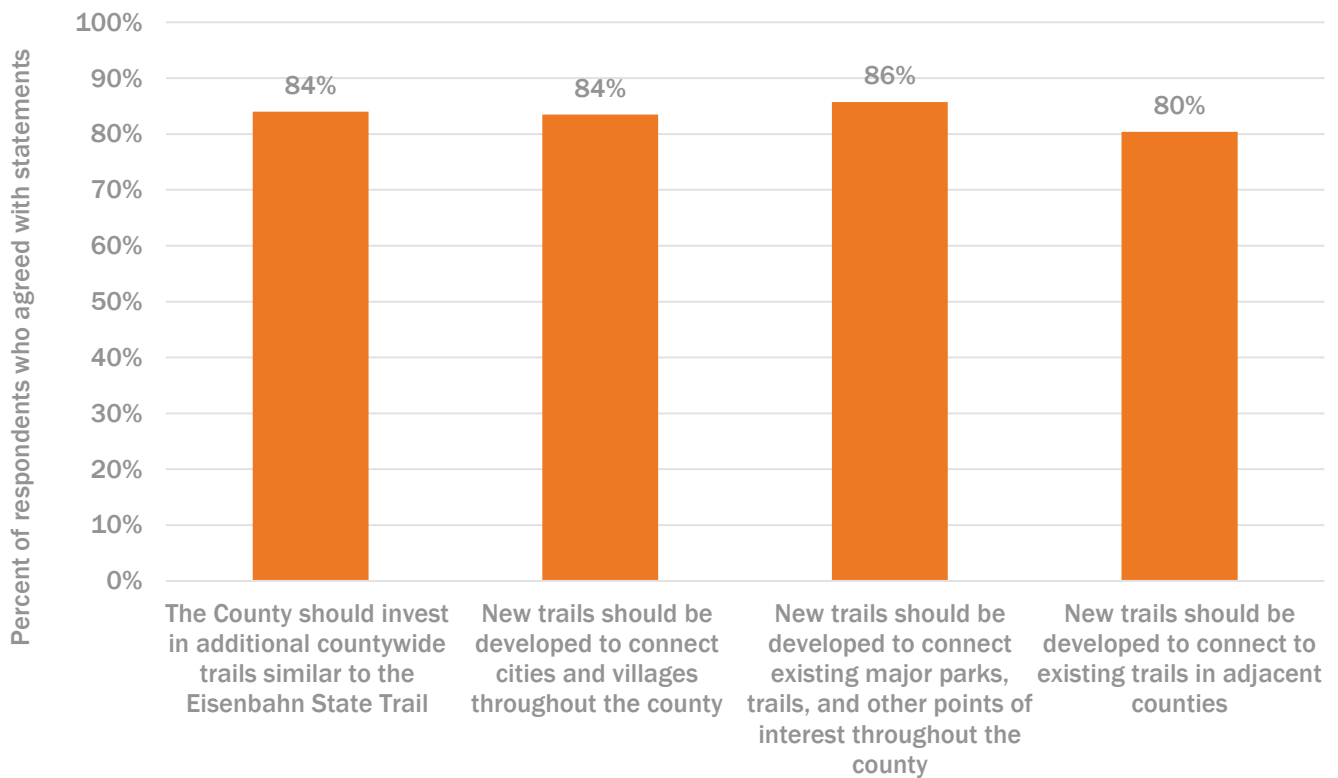
This randomized survey was done in October of 2015 by the UW-Milwaukee Center for Urban Initiatives and Research. As part of the survey, residents were asked about their level of agreement or disagreement with certain statements, including statements about trail development. As Figure 3-1 shows, support for trails is very high. In fact, no question posed received fewer than 80% of respondents favoring new trail investment and expansion.

### Eisenbahn State Trail User Counts (2016, 2017, 2018)

Passive infrared counters collected trail user count data at different points and times along the Eisenbahn State Trail in 2016, 2017, and 2018. Key findings include:

- There are many more users of the trail in downtown West Bend than in more rural locations.
- The trail sees fewer users during the week (Monday-Friday) than weekends, in a typical recreational pattern.
- The paved portions of the trail generally have more users than the unpaved portions of the trail.

**Figure 3-1: Support for New Trails in 2015 Telephone Survey**





## Advisory Committee

To help guide and oversee the development of this Plan, the Washington County Board authorized the creation of the Bike and Pedestrian Plan Advisory Committee, whose members are listed in the acknowledgements of this Plan. The Committee is comprised of representatives from most towns and municipalities in the County, as well as important stakeholders with an interest in bicycle and pedestrian issues. The Committee provided input throughout the development of the Plan, including reviewing and commenting on the memoranda that provided the basis of this Plan. The Committee has met 5 times during the planning process, reviewing different topics at each meeting:

- Meeting 1: Project Overview and Visioning
- Meeting 2: Review of Existing Conditions, Opportunities, Challenges, and Needs; and Refining the Planning Vision and Goals
- Meeting 3: Review of Draft Programs and Policy Recommendations, Draft Bikeway and Trail Network, and Prioritization Activity
- Meeting 4: Review of Draft Plan
- Meeting 5: Review of Final Draft Plan



Committee Chair Daniel Zignego (seated) and Rails-to-Trails Conservancy representative Willie Karidis (left) participate in the prioritization activity with planning team member Kit Keller (right) at Meeting 3 of the Bike and Pedestrian Plan Advisory Committee.

## Public Engagement Overview

In addition to the Advisory Committee oversight, there were numerous opportunities for public engagement throughout the planning process including two online interactive mapping exercises, traditional public meetings, as well as in-person “meeting in a box” outreach. These opportunities were advertised by Washington County staff using traditional efforts, social media, and an email contact list developed for this project. The email contact list was created at the start of the planning process and included organizations (listed on page iii) that could have an interest in the Plan. During the planning process, additional citizens requested to be added to the list, which grew to about 90 addresses.

## Online Interactive Maps

Community members provided input through two different interactive maps that allowed them to comment at different stages of the Plan development. Online interactive maps provide an excellent way to reach a broader spectrum of residents than those with the time or ability to attend public meetings. They are also easily promoted: County staff and members of the Bike and Pedestrian Plan Advisory Committee shared the link on Facebook, Twitter, and via the email contact list.

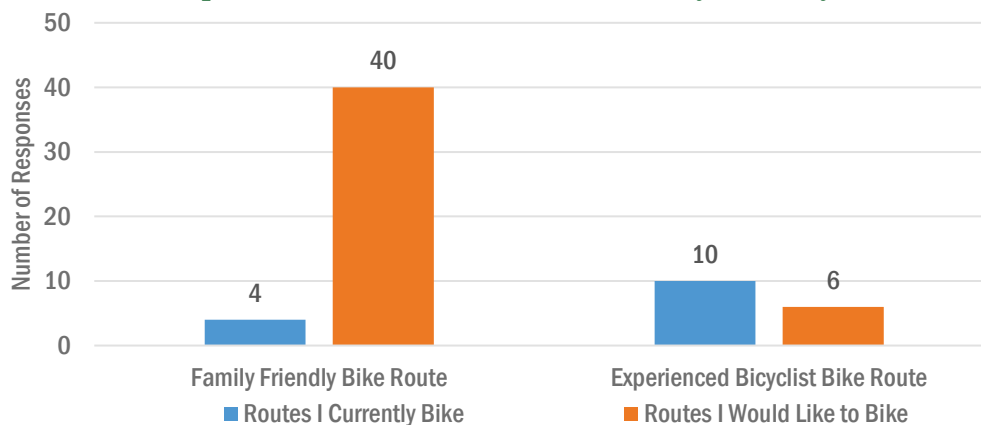
### First Interactive Map

The purpose of the first interactive map was to identify desirable and challenging walking and biking routes. The map was available for input between August 16 and September 11, 2018. During that time, a total of 118 unique users created map accounts. Of those, 37 users provided map input, entering a total of 161 comments in the map. Appendix B provides a complete summary of the map input.

### Routes

The map’s instructions asked users to mark current and desired routes for walking and biking in Washington County. A pop-up survey asked users if the route was a “family friendly bike route” or an “experienced bicyclist bike route.” Most of the current bike routes were for “experienced bicyclists,” while most of the desired routes were for “family friendly bike routes” (Figure 3-2).

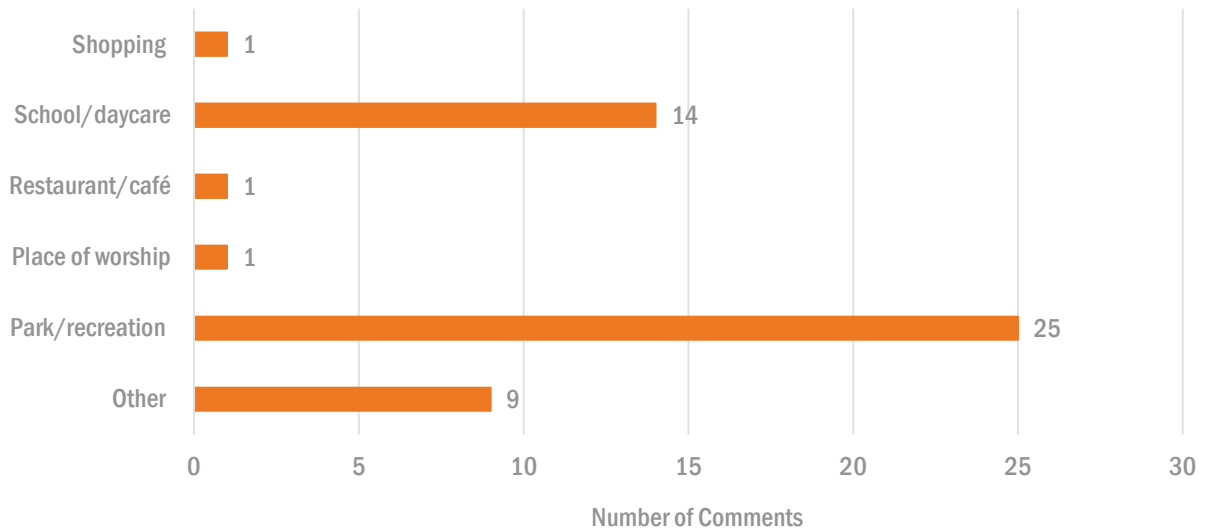
**Figure 3-2: Most Map Users Would Like to Bike on Family-Friendly Bike Routes**



### Destinations and Barriers

The first interactive map allowed users to place points where there were destinations and barriers for walking and biking. The top destinations placed were “Park/recreation” and “School/daycare” (see Figure 3-3). The top barriers were “Safety concern at intersection” and “Heavy traffic.”

**Figure 3-3: Most Map Users Chose Park/Recreation and Schools/Daycares as Destinations**



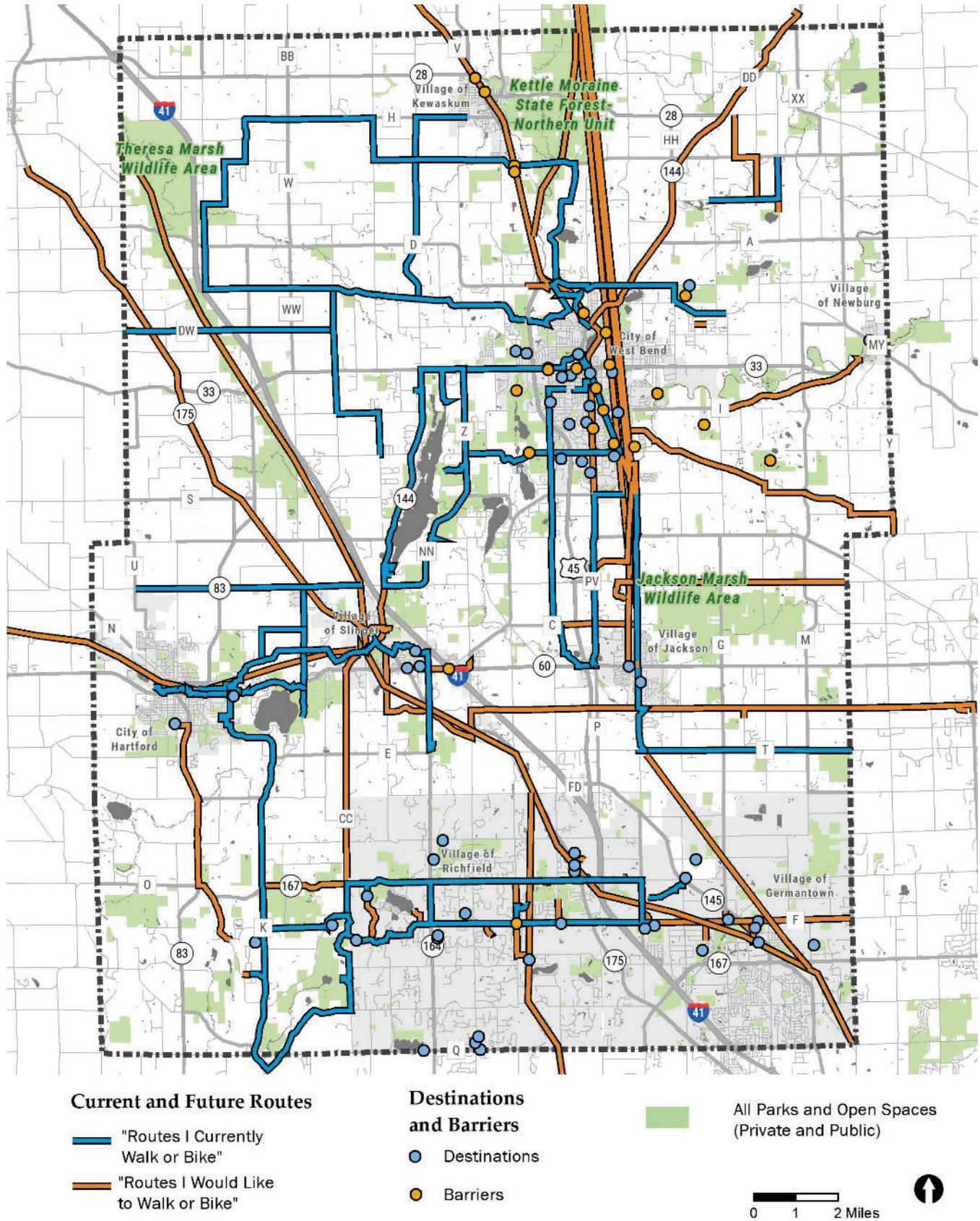
### Conclusions from the First Interactive Map

Figure 3-4 shows the combination of all user inputs (routes, destinations, and barriers) in the first interactive map. The first interactive map gave the planning team several important findings that translated into the development of the recommended bikeway and trail network:

- The desire to extend the Eisenbahn State Trail southward was seen on all input features.
- Users noted that connections to the Eisenbahn State Trail were lacking in West Bend and in surrounding communities.
- Respondents showed a desire for “family-friendly” bike routes, or routes for all ages and abilities.



Figure 3-4: Routes, Destinations, and Barriers from the First Interactive Map



Sources: Toole Design and WikiMap



## Second Interactive Map

The second interactive map presented the proposed bikeway and trail network, and asked participants to identify which segments (or “corridors”) of the network were most important. This map was available for comment between November 13 and December 3, 2018. During that time, 109 unique respondents logged into the interactive map. Of those users, 100 provided some sort of input on the map.

### Corridor Scores

When participants clicked on a proposed bikeway and trail network corridor, a pop-up box asked, “Is this a priority corridor;” to which respondents could respond “Yes” or “No.” Most of the votes were “Yes” votes (very few participants voted against any corridors). Most participants provided this input on one to five corridors. Corridors received overall scores by summing the “Yes” and “No” votes and a Total Score was calculated by subtracting the “No” votes from “Yes” votes. The highest-priority routes are shown in the map in Figure 3-5, labeled with their Total Score. Appendix C contains a memo documenting a complete summary of the second interactive map and ranking each of the 37 corridors by its total score.

### Conclusions from the Second Interactive Map

The second online interactive map gave the planning team several important findings that translated into the development of priority corridors in Chapter 6:

- The top-ranked priority corridors were the Eisenbahn Trail connection between Jackson and Germantown, the connection between West Bend and Slinger, and the southward extension of the Eisenbahn Trail from West Bend to Jackson.
- Almost all the highest-priority corridors were “routes for all ages and abilities”, connecting low-traffic local streets with off-street paths in scenic areas.

Figure 3-5: Top Priority Corridors Identified in the Second Interactive Map



## Public Meetings and In-Person Outreach

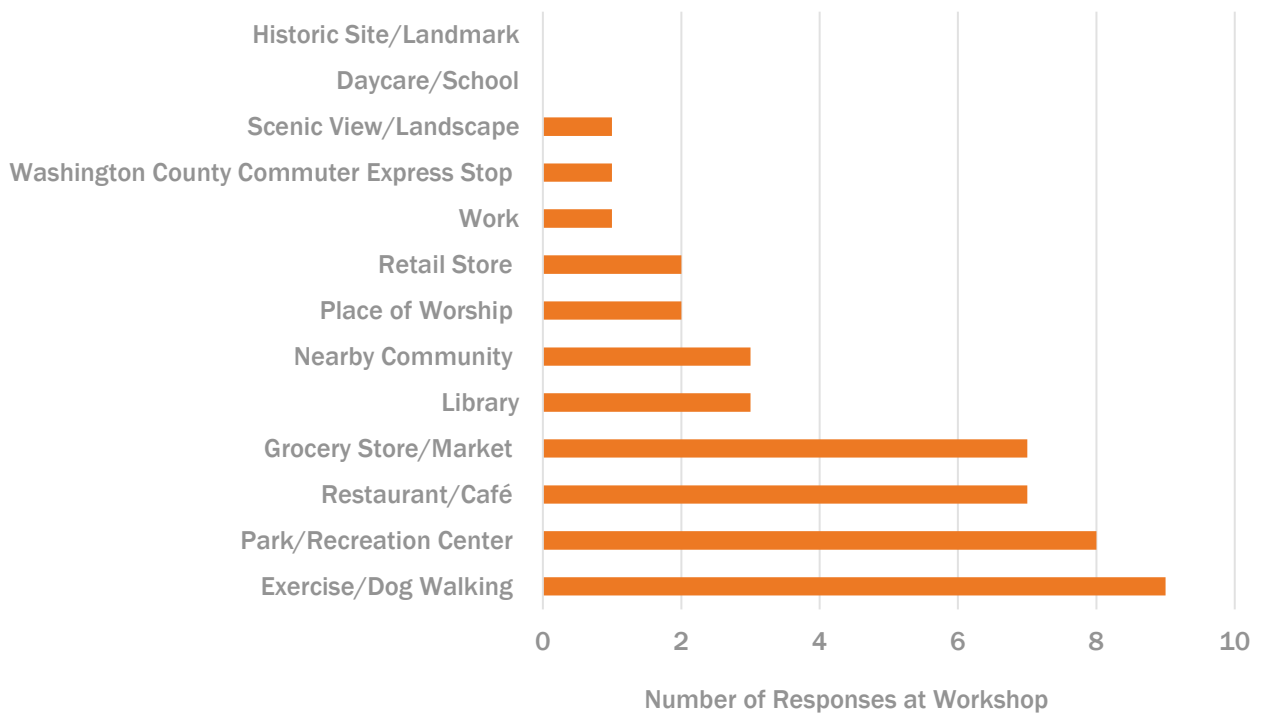
The public outreach for this Plan also included traditional public meetings, as well as in-person “meeting in a box” outreach in which County staff went to community events with two posters for community members to provide input. These meetings were advertised by Washington County staff using traditional efforts as well as social media.

### Public Workshop for Washington County Bikeway and Trail Network Plan (August 2018)

A total of 18 people attended the first public workshop on August 16, 2018, which served as a kick-off meeting for the Plan. Attendees could provide input on posters and maps to identify preferences, opportunities, challenges, and needs. Key findings from the workshop include:

- Attendees wanted a connected network of bicycling and walking facilities. When asked what factors discourage bicycling and walking in the County, the top-selected option was “Lack of Connected Multi-Use Trails/Sidewalks.” When asked what was most important to improve walking and biking, the top-selected option was “Close Network Gaps.”
- When asked what destinations were important, the two top-selected options were simply “Exercise/Dog Walking” and “Park/Recreation Center” (Figure 3-6) indicating that recreational bicycling and walking may be more important than any specific destinations. This is consistent with the public input on the first interactive map.

**Figure 3-6: Public Workshop Attendees Value Recreational Destinations**





## Meeting in a Box

Washington County held six “Meetings in a Box” (MIAB) between November 10 and November 26, 2018, to solicit public feedback on the draft bikeway and trail network and project prioritization. The MIABs were held concurrent with the second online interactive map; the corridors on the two maps were consistent so the scores on the corridors could be compared. Over 130 members of the public provided input on the two posters, which asked about corridor prioritization (where bikeways and trails should be built), as well as infrastructure preferences (what form those bikeways and trails should take). Specific dates and locations of the MIAB events are listed in order below:

1. November 10, 2018: Germantown Christmas Festival, Germantown (20 participants)
2. November 10, 2018: Hartford Craft Fair, Hartford (24 participants)
3. November 14, 2018: YMCA River Shores Branch, West Bend (30 participants)
4. November 17, 2018: YMCA West Washington Branch, West Bend (8 participants)
5. November 21, 2018: YMCA West Washington Branch, West Bend (17 participants)
6. November 25, 2018: Santa Ramp Up, West Bend (25 participants)

### Corridor Scores

Participants at the MIAB events were asked to look at the proposed bikeway and trail network map and select the three corridors they would like to see constructed first. Figure 3-7 shows the top 10 corridors according to the votes of the MIAB participants, labeled by their ranking from 1 to 10. Most of the top-ranked corridors from the MIAB events are the same as the top-scoring corridors on the second online interactive map.

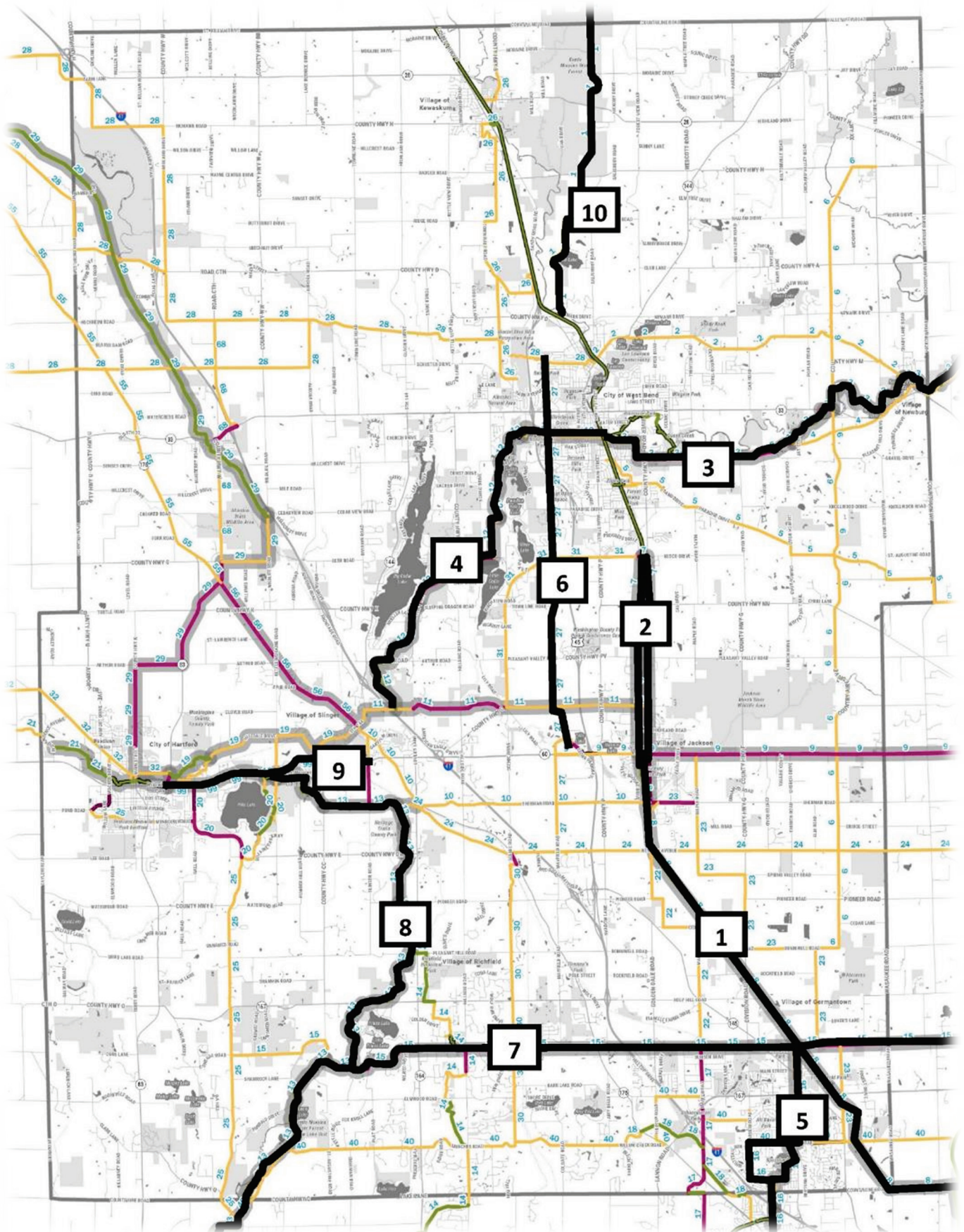
- The top-ranked corridors, by far, were the extensions of Eisenbahn Trail between Jackson and Germantown, and between West Bend and Jackson. The third highest-ranking corridor was the connection from West Bend to Newburg along the Milwaukee River and Decorah Road.
- Almost all the highest-priority corridors were “routes for all ages and abilities”



Participants in the MIAB at the Santa Ramp Up discuss the corridors in the proposed network



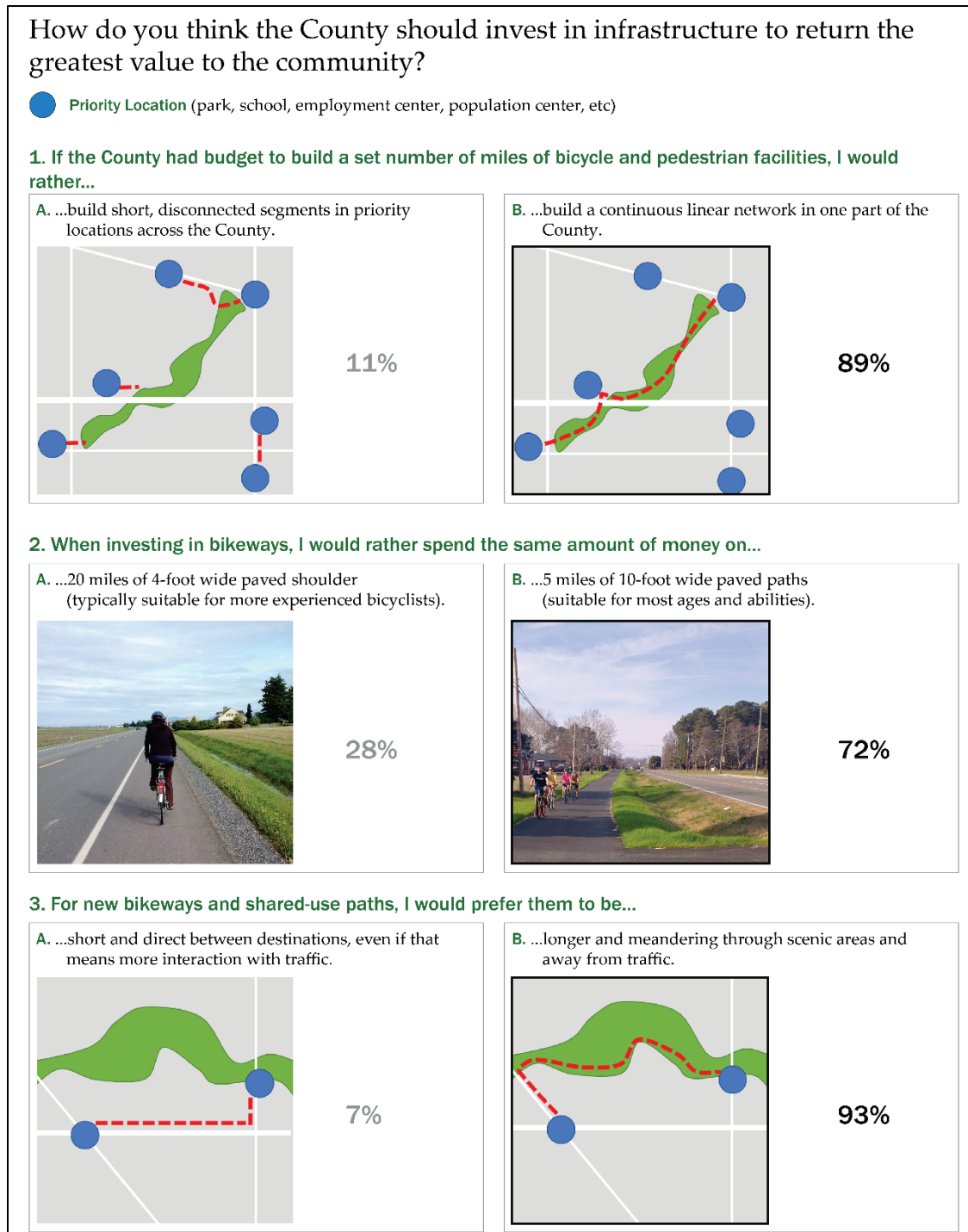
Figure 3-7: Top Corridors Ranked from 1 to 10, According to “Meeting in a Box” Participants



### “Weighing Tradeoffs” Preferences

The other poster on exhibit at the MIAB events asked participants about their preferences for different types of infrastructure investments, given limited funding. Figure 3-9 shows the poster and summarizes participants’ responses. Respondents overwhelmingly preferred continuous networks, paths that can be used by “all ages and abilities,” and facilities located in scenic areas, even if they may be indirect.

**Figure 3-9: Weighing Tradeoffs Poster Exhibit and Responses**



## Public Open House on the Draft Bikeway and Trail Network Plan (February 2019)

A total of about 55 people attended the second public meeting on February 13, 2019, which displayed maps of the Draft Recommended Bikeway and Trail Network, maps and descriptions of the Priority Corridors (discussed in detail in Chapter 6), and summaries of the recommended changes to policies and programs (discussed in detail in Chapter 4). The planning team also gave a presentation explaining how the Plan was developed and summarizing the recommendations. During this meeting, attendees raised several issues or concerns about the draft bikeway and trail network:

- Representatives of the Ice Age Trail Alliance (IATA) were concerned that Priority Corridors 4 and 7 would be constructed on, or near, segments of the Ice Age National Scenic Trail. They also questioned whether the Wisconsin Department of Natural Resources (DNR) had participated in the development of the Plan. In the days following the Public Open House, several volunteers and representatives of IATA emailed the planning team registering their opposition to the possibility of a shared use path being constructed on the Ice Age National Scenic Trail. The communications pointed out that the Polk Kames State Ice Age Trail Area and other parcels owned by private conservation groups where paths were proposed may have restrictions on the use of bicycles. These concerns prompted staff to hold additional meetings with the IATA, the Wisconsin DNR, the National Park Service, and local land conservancy organizations. These meetings are discussed below under “Inter-Agency Coordination.” The recommended network in the Plan reflects realignments discussed as part of these meetings.
- A group of attendees who were residents of the Village of Germantown recommended re-aligning the on-street connection in Priority Corridor 6 between Spassland Park and the pedestrian bridge over I-41 in the Village of Menomonee Falls. The attendees also pointed out several existing and planned shared use paths in the Village that could be included in the County Bikeway and Trail Network Village. The final recommended network in this Plan reflects those suggestions.
- Other attendees were happy with the bikeway and trail network proposed in the Plan, eager to see it implemented, and disappointed that it would take so long to build out completely.

## Inter-Agency Coordination

During the development of the Plan, County staff held many in-person meetings and reviewed opportunities to solicit input and coordination both within County government and between other agencies that were not represented on the Advisory Committee. A list of the attendees is on page iii. These meetings and reviews are documented in detail in Appendix D and summarized below:

### Rails to Trails Conservancy

On November 12, 2018, the planning team held a meeting with the representative of the Rails to Trails Conservancy to coordinate the proposed bikeway and trail network and the Route of the Badger initiative. As a result, changes to proposed alignments were made that are reflected in the Bikeway and



Trail Network. The Route of the Badger was also updated to include many of the additional proposed bikeways and trails proposed in the Plan.

### **Multi-Jurisdictional Coordination**

On November 15, 2018, representatives from SEWRPC and counties and municipalities adjacent to Washington County were invited to review the draft plan bikeway and trail network and discuss how they might connect with bikeways and trails in their jurisdiction. Representatives from Milwaukee, Ozaukee, and Waukesha Counties, the Village of Menomonee Falls, and the City of Mequon attended. Several changes were made to the draft network and policy recommendations because of this meeting. The attendees agreed that such meetings should occur annually to coordinate bikeways and trails across county lines.

### **Wisconsin DNR**

County staff held a meeting with Wisconsin DNR representatives on March 5, 2019 to discuss the draft Bikeway and Trail Network, as well as the concerns regarding the Ice Age Trail and possible restrictions that could prevent the use of bicycles on certain DNR properties. As a result, the planning team made several adjustments: they aligned proposed paths with future path and boat launch in the Kettle Moraine State Forest - Pike Lake Unit; moved proposed paths farther from the Ice Age Trail on several DNR properties; reduced the number of times the proposed path would cross the Ice Age Trail; and changed the crossings so that they would be perpendicular to the Ice Age Trail. Recommendations were also added to consider on-street alternative alignments to the proposed paths in the Polk Kames State Ice Age Trail Area and the Loew Lake Unit of the Kettle Moraine State Forest.

### **National Park Service**

County staff held a meeting with National Park Service representatives on March 6, 2019 to discuss the draft Bikeway and Trail Network, as well as the concerns regarding the Ice Age Trail and possible restrictions that could prevent the use of bicycles on certain DNR properties. The National Park Service representatives agreed with the realignments described above, and noted that some of the proposed paths could be utilized by the Ice Age Trail footpath instead of the current on-road connections.

### **Ice Age Trail Alliance**

County staff held a meeting with representatives of IATA and the City of West Bend on March 8, 2019 to discuss the area where the proposed shared use path would share the same corridor currently used by the Ice Age Trail footpath in Ridge Run Park, just north of Boot Lake. Because of the discussion in that meeting, the planning team added a recommendation in the description of Priority Corridor 4 that the County should partner with IATA, the Wisconsin DNR, the National Park Service, and the City of West Bend to build a new alignment for the Ice Age Trail within the northern section of Ridge Run Park. Due to a recent property acquisition by the IATA, the current Ice Age Trail entrance to Ridge Run Park would no longer be needed after the IATA realigns the current trail, and this abandoned trail could be used as the shared use path connection.

### **Local Land Conservancy Organizations**

In addition to the agencies listed above, County staff also held meetings with the Ozaukee-Washington Land Trust on March 1, 2019 and the Cedar Lakes Conservation Foundation on March 6, 2019 to review where Priority Corridors were proposed on their properties. Based on the meetings, proposed alignments were adjusted slightly.

### **WisDOT Review**

In response to concerns from a National Park Service representative, WisDOT staff reviewed the Draft Plan in March of 2019 to ensure that the Plan had been developed with sufficient interagency coordination and provide comment on recommendations related to state and federal highway and bikeway requirements. Based on the review, several additional sidepaths were added to the network in the Village of Germantown, alternative alignments were added for consideration on some corridors, and changes were made to recommended bikeways in Priority Corridors 3 and 5. Alternative alignments and recommendations were also included for consideration on Priority Corridors 1, 2, and 4.

### **County Staff Bike and Pedestrian Workgroup**

In addition to the meetings above, County staff from the Washington County Highway Department, Parks and Trails Division, and the Washington Ozaukee Health Department met numerous times during the development of the Plan. In November, the workgroup reviewed the initial program and policy recommendations, the draft network proposed in the first interactive map, and provided extensive feedback. In January, the workgroup reviewed the implementation recommendations. Several changes were made to the priority corridors and the implementation chapter as a result.

## 4 Policy and Program Recommendations



County Highway P in the Town of West Bend has been rebuilt recently with a wide paved shoulder that will provide longer road life and can be used by bicyclists and pedestrians.



Implementation of this Plan depends on changes in policies and programs at the county and municipal levels. This chapter provides recommendations and specific actions for policies and programs that will allow the creation of the recommended bikeway and trail network and improve walking and bicycling conditions in Washington County.

## Goals and Practices for Program and Policy Recommendations

The program and policy recommendations in this chapter are designed to fulfill and relate to the Goals and Practices of the Plan that were set forth in Chapter 1:

- Fiscal Responsibility
- Safety
- Quality of Life
- Partnership

### Policy Recommendations Matrix

Figure 4-1 lists the policies and program recommendations in this chapter and correlates each recommendation to the goals and practices listed above. Each of the recommendations include specific actions, a general timeline for implementation, and partners who may be involved with implementing each action.

**Figure 4-1: Policy Recommendations as they Relate to Goals and Practices of the Plan**

Policy Recommendation		Fiscal Responsibility	Safety	Quality of Life	Partnership
1	Adopt design standards and implementation practices that will result in the creation of safe and well-designed walking and biking facilities.		✓	✓	✓
2	Update other plans and ordinances to include Plan recommendations.	✓			✓
3	Adopt a sustainable maintenance strategy and an evaluation program.	✓	✓		✓
4	Pursue all potential funding sources for bikeways and trails.	✓			✓
5	Increase coordination and communication between agencies.		✓		✓
6	Provide training and education opportunities for County staff.		✓		✓
7	Increase public outreach, awareness, and education.		✓	✓	✓

## Design and Implementation Policies

### Recommendation 1: Adopt design standards and implementation practices that will result in the creation of safe and well-designed walking and biking facilities.

For a bikeway and trail network to be safe, paths, sidewalks, shoulders, and bike lanes must be built to the correct design standards. The County should assist willing communities with the adoption of consistent design standards and practices to ensure that facilities are designed and built correctly.

Action	Proposed Timeline	Partners
<p>Add paved shoulders to County highways as part of Resurfacing, Restoration, and Rehabilitation (“3R”) projects when possible and appropriate. Add paved shoulders to County highways as part of Reconstruction projects. Adopt the paved shoulder widths recommended in Figure 4-1 below:</p> <ul style="list-style-type: none"> <li>Where a County highway segment is included in the Bikeway and Trail Network, use the “Bike Route” standard, unless bicycle accommodation will be provided on a sidepath. In some cases along “bike routes” the paved shoulder width standards may exceed the total width of the <a href="#">Trans 205 “3R”</a> standard, which may require significant investment.</li> <li>For all other County highways, and where bicycle accommodation will be provided on a sidepath, use the “Acceptable” standard.</li> </ul>	Ongoing	<ul style="list-style-type: none"> <li>Washington County Highway Department</li> </ul>
<p>If rumble strips are being considered during County highway Reconstruction projects, the County will use the WisDOT rumble strips policy and design criteria in the WisDOT <a href="#">Facilities Development Manual</a>.</p>	Ongoing	<ul style="list-style-type: none"> <li>Washington County Highway Department</li> </ul>
<p>Develop standard design guidelines for on-street bikeways and paths in the County:</p> <ul style="list-style-type: none"> <li>Guidelines should be adopted by the County and shared with cities, villages, and towns</li> <li>Include urban contexts, rural contexts, and urban/rural transitions</li> <li>Include preferred standard widths for bike lanes, sidewalks, paved shoulders and sidepaths, and preferred crossing treatments where paths cross roadways</li> </ul>	1-3 years	<ul style="list-style-type: none"> <li>Washington County Highway Department</li> <li>Washington County Planning and Parks Department</li> <li>WisDOT</li> <li>Local municipalities</li> <li>Advocacy Groups</li> </ul>
<p>On state roadway projects, WisDOT requires municipalities to pass a Resolution of Support before they will build bicycle and pedestrian accommodations as part of a state roadway project. The County will assist municipalities in writing a Resolution of Support if needed.</p>	1-3 years	<ul style="list-style-type: none"> <li>Washington County Highway Department</li> <li>Washington County Planning and Parks Department</li> <li>WisDOT</li> </ul>
<p>Partner with appropriate organizations to establish a full-time trail coordinator to work toward implementing the bikeway and trail network in the County.</p>	1-3 years	<ul style="list-style-type: none"> <li>Washington County Planning and Parks Department</li> <li>Ozaukee County</li> </ul>
<p>Provide appropriate staff and resources to implement the recommendations of the Plan.</p>	Following Plan adoption	<ul style="list-style-type: none"> <li>Washington County Planning and Parks Department</li> </ul>

**Figure 4-1: Recommended Widths for Shoulders Paved During Resurfacing, Restoration, and Rehabilitation (“3R”) Projects**

Anticipated Average Daily Traffic (ADT)	Wisconsin Trans 205 Standards for County Trunk Highways		
	Total Shoulder Width for “3R” Projects (Paved + Unpaved)	Total Shoulder Width for Reconstruction Projects (Paved + Unpaved)	Recommended Paved Shoulder Width for Bicycle Accommodation
Under 750	3 ft	2-6 ft	Acceptable: 0 ft Desirable: 2 ft
750-1,500	4 ft	6 ft	Acceptable: 0 ft Desirable: 2 ft; 3 ft for roads with poor sightlines (solid yellow lines) Bike Routes*: 4 ft
1,500-2,000	4 ft	6 ft	Acceptable: 2 ft** Desirable: 3 ft** Bike Routes*: 5 ft**
2,000-3,500	6 ft	6 ft	Acceptable: 3 ft** Desirable: 4 ft** Bike Routes*: 6 ft**
3,500-5,000	6 ft	8-10 ft	Acceptable: 4 ft** Desirable: 5 ft** Bike Routes*: 6 ft**
Above 5,000	6 ft	8-10 ft	Acceptable: 5 ft** Desirable: 6 ft** Bike Routes: Separate facility, such as sidepath or multi-use trail

\*On roadways identified in this Plan as part of the County bicycle network.

\*\*Paved width exclusive of rumble strips if rumble strips are included



**Recommendation 2: Update other plans and ordinances to include Plan recommendations.**

The recommendations in this Plan should be institutionalized in other plans and policies. Whenever possible, integrate policies that support walking, bicycling, and active living at the regional, County, and local level.

Action	Proposed Timeline	Partners
Update the Washington County Park and Open Space Plan and Multi-Jurisdictional Comprehensive Plan for Washington County to include Plan recommendations.	1-3 years	<ul style="list-style-type: none"> <li>Washington County Planning and Parks Department</li> </ul>
As preliminary plats and Certified Survey Maps are submitted, work with developers, County Highway Department and local municipalities to consider possible bicycle and pedestrian accommodation based on Plan recommendations. <ul style="list-style-type: none"> <li>Meet with developers and builders' associations to increase awareness of this Plan, so they will know to include easements or connections for the recommended bikeway and trail network</li> </ul>	1-3 years	<ul style="list-style-type: none"> <li>Washington County Planning and Parks Department</li> <li>Washington County Highway Department</li> <li>Local municipalities</li> </ul>
Review and update County highway and traffic ordinances to ensure new developments and infrastructure projects will help implement the recommended bikeway and trail network and accommodate bicycling and walking as appropriate.	1-3 years	<ul style="list-style-type: none"> <li>Washington County Planning and Parks Department</li> <li>Washington County Highway Department</li> </ul>
Work with County Public Affairs Coordinator to determine barriers in State law that limit successful implementation of Plan recommendations.	1-3 years	<ul style="list-style-type: none"> <li>Washington County Planning and Parks Department</li> <li>County Administration</li> </ul>
Add "locations and widths of proposed bicycle and/or pedestrian accommodation" to 24.02(1) of Washington County Chapter 24 – Land Division.	1-3 years	<ul style="list-style-type: none"> <li>Washington County Planning and Parks Department</li> </ul>
Support the completion of the Ice Age National Scenic Trail in Washington County.	3-20 years	<ul style="list-style-type: none"> <li>Washington County Planning and Parks Department</li> </ul>
Consider Plan recommendations when developing County Park development plans and updating the County Parks Fiscal Sustainability Plan, County Highway Sustainability Plan, and County Capital Improvement Plan (CIP).	3-5 years	<ul style="list-style-type: none"> <li>Washington County Planning and Parks Department</li> <li>Washington County Highway Department</li> </ul>
Update health-based planning documents—such as Community Health Improvement Plans and strategic plans—to include appropriate Plan recommendations.	3-5 years	<ul style="list-style-type: none"> <li>Washington Ozaukee Health Department</li> </ul>
Encourage local municipalities to update their ordinances and local plans to ensure that the bikeway and trail network is implemented in their community.	3-10 years	<ul style="list-style-type: none"> <li>Washington County Planning and Parks Department</li> <li>Local municipalities</li> </ul>
Update SEWRPC Regional land use and transportation plan to include regional bikeway connections recommended in this Plan.	3-10 years	<ul style="list-style-type: none"> <li>SEWRPC</li> </ul>

**Recommendation 3: Adopt a sustainable maintenance strategy and an evaluation program.**

Once a bicycle and pedestrian facility is built, it needs to be maintained so that it remains safe and useable. Maintenance is also a fiscally-sustainable strategy because oftentimes, a wise maintenance strategy can save money in the long-term by avoiding more costly repairs. The County should help coordinate a feasible and sustainable maintenance strategy for these investments. The County should also continue and expand non-motorized counts to validate the investments in this Plan. SEWRPC and WisDOT have helped the County count users on the Eisenbahn State Trail for several years. An expanded evaluation program would include pre- and post-evaluation measures to assess the use of new investments such as bike lanes, paved shoulders, or shared use paths. It would also identify intensely used trail segments and hazardous areas and road crossings.

Action	Proposed Timeline	Partners
<p>Create and maintain a countywide bicycle and pedestrian count program (in addition to the Eisenbahn State Trail counts). Consider:</p> <ul style="list-style-type: none"> <li>• Conducting counts before and after infrastructure is added</li> <li>• On-street and off-street counts</li> </ul>	1-3 years	<ul style="list-style-type: none"> <li>• SEWRPC</li> <li>• WisDOT</li> <li>• Washington County Planning and Parks Department</li> <li>• Washington County Highway Department</li> </ul>
Determine appropriate measures of success for Plan implementation as part of user counts and survey results.	1-3 years	<ul style="list-style-type: none"> <li>• Washington County Planning and Parks Department</li> </ul>
Annually review crashes flagged as “bicycle” or “pedestrian” in the County and take a multi-disciplinary approach to addressing intersection concerns or problem areas as appropriate.	2-5 years	<ul style="list-style-type: none"> <li>• Internal County staff workgroup</li> <li>• Sheriff’s Department</li> <li>• Local municipalities</li> <li>• WisDOT</li> </ul>
<p>Develop a sustainable strategy for annual maintenance needs and responsibilities:</p> <ul style="list-style-type: none"> <li>• Include guidelines for necessary agency commitments (such as how frequently to trim back vegetation from trails)</li> <li>• Consider longer-term maintenance and replacement of infrastructure</li> </ul>	3-5 years	<ul style="list-style-type: none"> <li>• Washington County Highway Department</li> <li>• Washington County Planning and Parks Department</li> <li>• Local Municipalities</li> </ul>
<p>Conduct a survey of countywide trail system users every five years to gain insight into preferences, concerns and use.</p> <ul style="list-style-type: none"> <li>• Include questions about the use of electric-assist bicycles (“e-bikes”) to determine whether high-speed e-bikes are negatively affecting other trail users</li> </ul>	5-10 years	<ul style="list-style-type: none"> <li>• Washington County Planning and Parks Department</li> </ul>

## Funding Policies

### Recommendation 4: Pursue all potential funding sources for bikeways and trails.

Infrastructure and programs to support the bikeway and trail network in Washington County will require additional financial resources.

Action	Proposed Timeline	Partners
Continue annual capital investment in bikeway and trail projects through County Planning and Parks Department.	Ongoing	<ul style="list-style-type: none"> <li>Washington County Planning and Parks Department</li> </ul>
Pursue federal, state, and foundation grants, such as the Transportation Alternatives Program, Recreational Trail Program, or Brownfields Program.	Ongoing	<ul style="list-style-type: none"> <li>Washington County Planning and Parks Department</li> </ul>
Continue to fund on-street bikeway accommodations on County highways as part of roadway projects. <ul style="list-style-type: none"> <li>Consider how paving shoulders may increase costs of scheduled projects, requiring more funds</li> </ul>	Ongoing	<ul style="list-style-type: none"> <li>Washington County Planning and Parks Department</li> <li>Washington County Highway Department</li> </ul>
Establish annual capital investment for pedestrian, bikeway, and trail improvements on County highways that are NOT part of roadway projects, such as: <ul style="list-style-type: none"> <li>Spot treatments where trails cross roadways</li> <li>Sidepath construction where it is not part of a roadway construction</li> <li>Installation of signs and pavement markings</li> </ul>	1-2 years	<ul style="list-style-type: none"> <li>Washington County Planning and Parks Department</li> <li>Washington County Highway Department</li> </ul>
Implement a Washington County grant opportunity where funds are awarded for biking/walking projects in Cities, Villages, or Towns.	3-5 years	<ul style="list-style-type: none"> <li>Washington County</li> <li>Healthy Community Fund</li> </ul>
Partner with area businesses and foundations for sponsorships and donations. <ul style="list-style-type: none"> <li>Explore opportunities for sponsored trails or named routes</li> <li>Coordinate physical and in-kind donations</li> </ul>	3-5 years	<ul style="list-style-type: none"> <li>Washington County Planning and Parks Department</li> <li>Local businesses</li> <li>Community foundations</li> </ul>
Encourage municipalities to establish annual capital investments for bicycle and pedestrian infrastructure improvements.	3-5 years	<ul style="list-style-type: none"> <li>Washington County Planning and Parks Department</li> <li>Local municipalities</li> </ul>



## Coordination and Communication Policies

### Recommendation 5: Increase coordination and communication between agencies

Implementation of this Plan will require cooperation and coordination between many different municipalities, agencies, and departments. This can be achieved by establishing committees responsible for implementation and oversight.

Action	Proposed Timeline	Partners
Continue to meet quarterly with internal County Staff Bike and Pedestrian workgroup, to oversee the implementation of the Plan and provide interdepartmental feedback on upcoming infrastructure projects, grant opportunities, and policy projects.	Ongoing	<ul style="list-style-type: none"> <li>Washington County staff</li> </ul>
Develop a Strategic Action Plan to identify specific tasks to implement the Plan recommendations over the next five years, along with responsible entities.	Following Plan adoption	<ul style="list-style-type: none"> <li>Washington County staff</li> </ul>
Continue to meet with adjacent counties and local governments on an annual basis to discuss priority routes and coordinate implementation efforts.	Ongoing	<ul style="list-style-type: none"> <li>Washington County staff</li> <li>Staff from Milwaukee, Ozaukee, and Waukesha Counties</li> </ul>
Establish a formal Intergovernmental Bike/Ped Council to address countywide bikeway and trail opportunities, share knowledge, and oversee implementation of the Plan.	1-3 years	<ul style="list-style-type: none"> <li>Washington County staff</li> <li>Town and municipal staff</li> <li>Advocacy organizations</li> <li>WisDOT</li> </ul>

### Recommendation 6: Provide training and education opportunities for County staff

Increasing the knowledge and capabilities of planners, engineers, and law enforcement officers is paramount to the effective implementation of this Plan and continued safety of the public.

Action	Proposed Timeline	Partners
Provide opportunities for appropriate County staff to attend webinars or conferences related to bicycle and pedestrian planning and implementation.	1-3 years	<ul style="list-style-type: none"> <li>Washington County staff</li> </ul>
Provide “Pedestrian & Bicycle Safety for Law Enforcement” course for Sheriffs and local law enforcement officers.	1-3 years	<ul style="list-style-type: none"> <li>Washington County Sheriff</li> <li>Local enforcement agencies</li> </ul>

### Recommendation 7: Increase public outreach, awareness, and education

The County and partnering organizations should effectively and strategically communicate with the public throughout the implementation of Plan recommendations. Public engagement should cover topics related to the planned bikeway and trail network; the value and benefits of biking and walking; and how to encourage safe and friendly behavior by all modes (drivers, bicyclists, and pedestrians).

Action	Proposed Timeline	Partners
Develop an online mobile-friendly interactive map tool that shows the current and planned bikeway and trail network in the County, and major projects expected to be completed in the next 5 years.	As soon as Plan is complete	<ul style="list-style-type: none"> <li>Washington County Planning and Parks Department</li> </ul>
Periodically update the Washington County Park and Trail Map to include new paths and all on-street bicycle routes.	1-3 years	<ul style="list-style-type: none"> <li>Washington County Planning and Parks Department</li> </ul>
Develop and implement a public engagement strategy for all ages, abilities, and circumstances tied to Plan implementation recommendations, construction of new infrastructure, and the benefits of biking and walking. Consider: <ul style="list-style-type: none"> <li>Educating elected officials by coordinating events for them to walk and bicycle in their community with residents</li> <li>Continuing to support partnering organizations that organize bicycling and walking events</li> <li>Partnering with hospitals and health coalitions to promote walking and bicycling for health</li> <li>Engaging interested parties (including the Ice Age Trail Alliance, the Wisconsin DNR, or local land trusts) about implementation efforts on the seven priority corridors</li> </ul>	1-3 years	<ul style="list-style-type: none"> <li>Washington County Planning and Parks Department</li> <li>Washington Ozaukee Health Department</li> <li>Well Washington County</li> <li>Advocacy groups</li> <li>Hospital organizations</li> </ul>
Develop a coordinated enforcement campaign that combines law enforcement with road user education to increase awareness of rules of the road, including messages targeted at reducing distracted and aggressive driving.	3-5 years	<ul style="list-style-type: none"> <li>Sheriff's Department</li> <li>Local law enforcement</li> <li>Advocacy groups</li> </ul>
Support programs to educate children on how to walk and bike safely, such as "bike rodeos" or education programs in school.	3-5 years	<ul style="list-style-type: none"> <li>Sheriff's Department</li> <li>Local law enforcement</li> <li>Washington Ozaukee Health Department</li> <li>School districts</li> </ul>

# 5 Recommended Bikeway and Trail Network



The City of Hartford plans to expand the Rubicon River Trail both westward and eastward to connect more residential and commercial destinations.

## Approach to Developing the Recommended Network

The recommended bikeway and trail network went through several stages of development and iteration. The planning team developed an initial draft of a proposed network by referring to the existing conditions, challenges, and opportunities in Chapter 2, using that information to connect all communities of over 5,000 people in Washington County and neighboring counties. The pipeline and electrical transmission line corridors in Figure 2-10 were reviewed in greater depth; unfortunately, most did not have their own right-of-way and therefore would require substantial property acquisition. The initial network included several possible connections to the Bugline Trail in Waukesha County and Interurban Trail in Ozaukee County.

### Adherence to Goals and Practices

The approach to developing the bikeway and trail network derived from the Goals and Practices of this Plan:

#### Fiscal Responsibility

A strong preference was given to connecting a network of low-traffic and low-speed local roadways so that minimal investment is needed. Where off-street paths are recommended, they are often routed over land that is currently agricultural, but that may be developed into residential subdivisions in the next 30 years. The costs of these off-street paths may be defrayed by requiring subdivisions to include the paths or easements when property is developed. Where possible, proposed off-street paths avoid wetlands and steep slopes to minimize cost.

#### Safety

Major investments along a select number of roadways are necessary for both safety and quality of life reasons. Some roadways have such high traffic volumes—or such narrow rights-of-way—that it will be necessary to spend more than the typical costs to provide sufficiently wide shoulders for bicyclists and/or pedestrians, even if they are not part of “all ages and abilities” routes. Careful consideration was given to where proposed paths or trails will cross busy highways.

#### Quality of Life

Routes for “all ages and abilities” will require significant financial investment over the next 30 years (or longer) to build an extensive network of off-street paths and sidepaths, but will enhance quality of life for all Washington County residents.

#### Partnership

Building out the recommended bikeway and trail network will require many initiatives on the part of town, village, and city governments throughout the County. For example, towns will need to require construction of paths or dedication of easements when new subdivisions are approved, while cities and villages will need to set aside funding to build bikeways or trails on roads and parks under their jurisdiction.






## Bikeway and Trail Facility Recommendations

Once the draft recommended bikeway and trail network had gone through several stages of development, the planning team recommended specific types of bikeway and trail facilities for each segment. This was performed by reviewing traffic counts, road context, and physical constraints, and by considering whether the segment was part of the “all ages and abilities” network (in which case a low-stress facility like a trail or sidepath was selected).

### Types of Bikeway and Trail Facilities

The following table shows the different types of bikeway and trail facilities that make up the “menu” of facility types that were considered for the recommended bikeway and trail network.

Facility, Cost, Safety Considerations	Example	Description
<p>Shared Use Paths</p> <ul style="list-style-type: none"> <li>• High cost</li> <li>• Reduce crashes</li> </ul>		<ul style="list-style-type: none"> <li>• Part of the “all ages and abilities” network</li> <li>• Fully separated from a street or road</li> <li>• Typically paved and 10-12 feet wide</li> <li>• Often installed along rail or utility corridors or next to rivers</li> <li>• Low-stress experience for many types of users (bicyclists, pedestrians, joggers)</li> </ul>
<p>Sidepaths (Shared Use Paths along a Roadway)</p> <ul style="list-style-type: none"> <li>• High cost</li> <li>• Can reduce crashes if designed correctly</li> </ul>		<ul style="list-style-type: none"> <li>• Part of the “all ages and abilities” network</li> <li>• Fully separated and located immediately next to and parallel to a roadway</li> <li>• Provide a comfortable space for pedestrians</li> <li>• Typically paved and 10-12 feet wide</li> <li>• Paths next to urban and suburban roadways can increase hazards to bicyclists if there are numerous driveways and intersections</li> <li>• Typically used on medium and high-volume streets with few intersections or driveways</li> </ul>
<p>Rail with Trail</p> <ul style="list-style-type: none"> <li>• High cost</li> <li>• Reduce crashes</li> </ul>		<ul style="list-style-type: none"> <li>• Part of the “all ages and abilities” network</li> <li>• Run parallel to an active railroad</li> <li>• Usually have barrier separation between the path and the railroad</li> <li>• Open lines of communication with the railroad can make this a viable option</li> </ul>

Facility, Cost, Safety Considerations	Example	Description
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**Bike Lanes**

- Usually low cost (achieve by reallocating street space)
- Reduce crashes



- Designate space for bicyclists on medium-to-high volume streets with markings and signs
- Located next to motor vehicle travel lanes; goes in the same direction as motor vehicle traffic
- Usually 5 feet wide; can be wider with a painted “buffer” marking
- Can be added by removing on-street parking, reducing the number of travel lanes, or through reconstruction

**Paved Shoulders (3'-6' wide)**

- Low-to-medium cost
- Reduce crashes



- Benefit all road users and lengthen roadway life
- Serve more experienced bicyclists used to fast-moving traffic
- Can be used by pedestrians
- Recommended paved shoulder width depends mostly on the anticipated average daily traffic (ADT)

**Minor Enhancements/ Shared Lane Markings (Sharrows)**

- Low cost
- Minimal benefits



- Used to indicate a shared bicyclist/motorist lane
- Indicate where bicyclists should position themselves in the lane
- Typically used on low-volume local streets

**Minor Enhancements/ Signed Routes**

- Low cost
- No safety benefit



- Help bicyclists navigate low traffic, low-stress streets
- Quickly and affordably expand the bicycle network using existing residential and town roads
- Alert drivers that bicyclists may be present
- May include destinations, distance, and direction

**Traffic Calming**

- Low-to-medium cost
- Reduces crashes



- Usually used on neighborhood streets to slow speeds
- Can include curb extensions, speed humps, neighborhood traffic circles, and pedestrian islands
- Fire departments and school bus operators may object to traffic calming treatments; they should be a part of the planning process
- Can be hazardous to bicyclists if not properly designed

## Facility Selection Process

The planning team selected specific bikeway or trail facilities for all segments of the network based on a review that considered the following factors:

- **Routes for “all ages and abilities”** generally require more separation to improve safety than routes that will be used by experienced bicyclists. The “all ages and abilities” network is an investment in improving the quality of life for all Washington County residents. Feedback from County staff and stakeholders resulted in more routes with sidepaths and trails.
- **Traffic volumes:** For rural high-speed roads, traffic volumes play a large role in determining bicyclist comfort. Paved shoulder recommendations for rural roads were developed using the standards in Figure 4-1.
- **Traffic speeds (urban versus rural):** For on-street routes in cities and villages, motorist speeds are lower than in rural areas, so bike lanes may be acceptable facilities. Where there is not room for bike lanes, other measures such as traffic calming to slow speeds are recommended.
- **Site constraints:** How wide is the public right-of-way? Is on-street parking in high demand? Is a bridge wide enough to accommodate a 10-foot sidewalk? For the high-priority corridors, individual site constraints were analyzed in detail. In some cases, the original proposed alignment of a bikeway was changed after more in-depth review. For example, the Plan originally recommended a sidepath on Hubertus Road between Fond du Lac Avenue (STH 175) to Friess Lake Road. After review, County staff decided there were too many constraints on Hubertus Road, and recommended a sidepath on Holy Hill Road (STH 167) instead.

## Recommended Bikeway and Trail Network

The culmination of this iterative process is the network of bikeways and trails shown on Figure 5-1. (In the Village of Germantown and the City of Hartford, many of the existing sidepaths are too narrow; the symbology on the map shows these “existing” sidepaths as “planned”, reflecting the assumption that they need to be rebuilt to at least 10 feet in width.) The full network includes approximately 72 miles of trails, 81 miles of sidepaths, and 195 miles of on-street treatments such as marked bike routes, bike lanes and paved shoulders. At build out, the full network encompasses 348 miles of bikeway and trails.

Throughout the planning process, it became clear that Washington County staff and residents desire a network of trails, sidepaths, and low-traffic, low-speed streets that could be used by “all ages and abilities,” enhancing the quality of life for County residents and families. The “all ages and abilities” network is shown on Figure 5-2. At build out, this network will be 178 miles and will connect all the cities and villages in the County.

The recommended network shown on these maps is meant to be a conceptual guide. Further analysis and engineering design are necessary prior to implementation. Final bikeway and trail alignments will also depend on the willing participation of landowners.



**Figure 5-1: Recommended Bikeway and Trail Network**

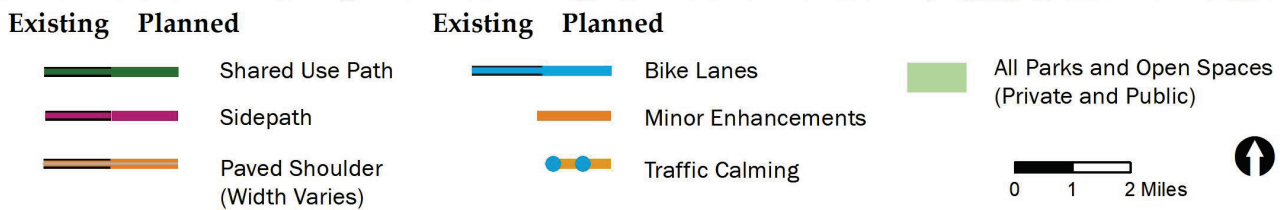
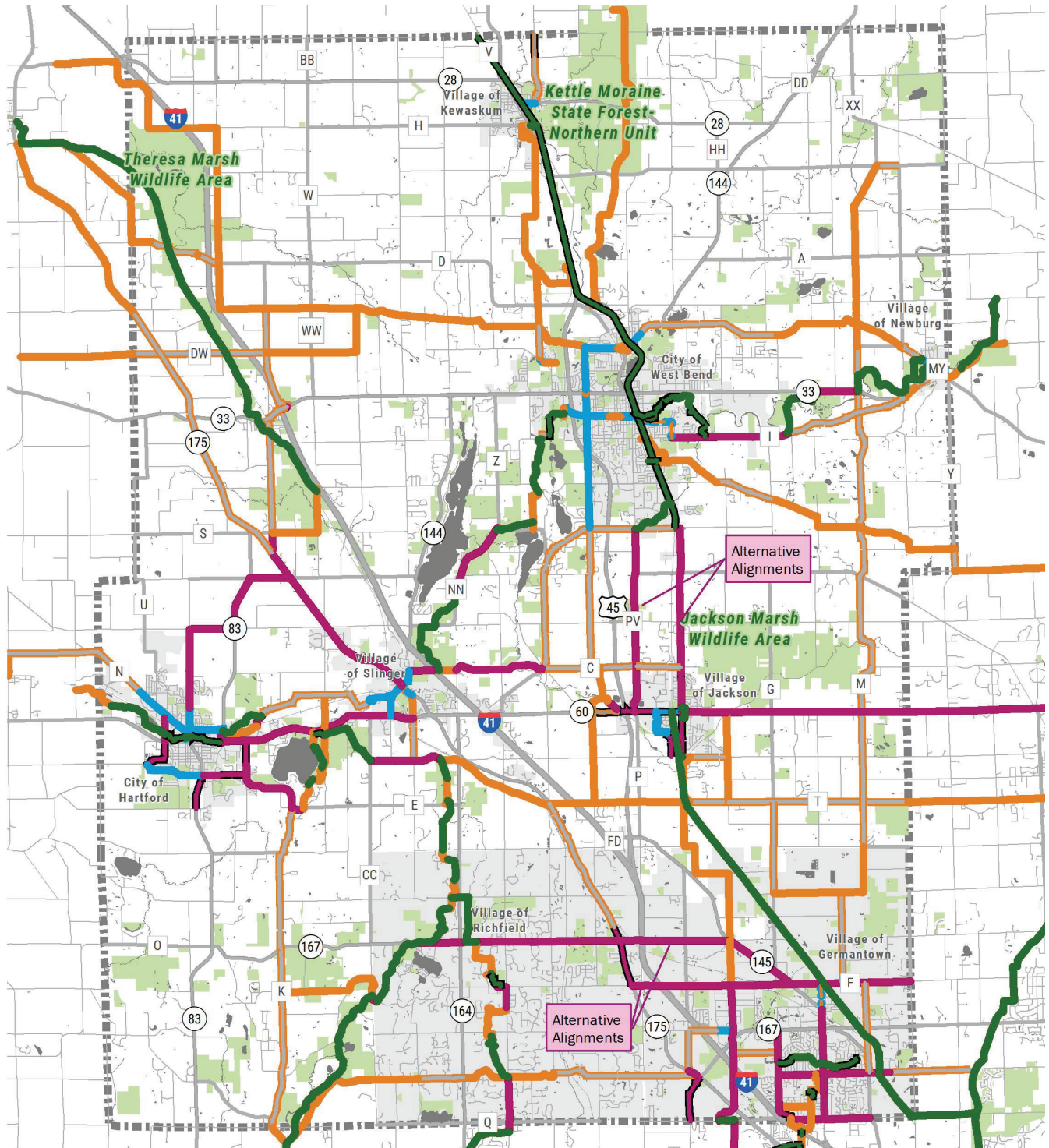
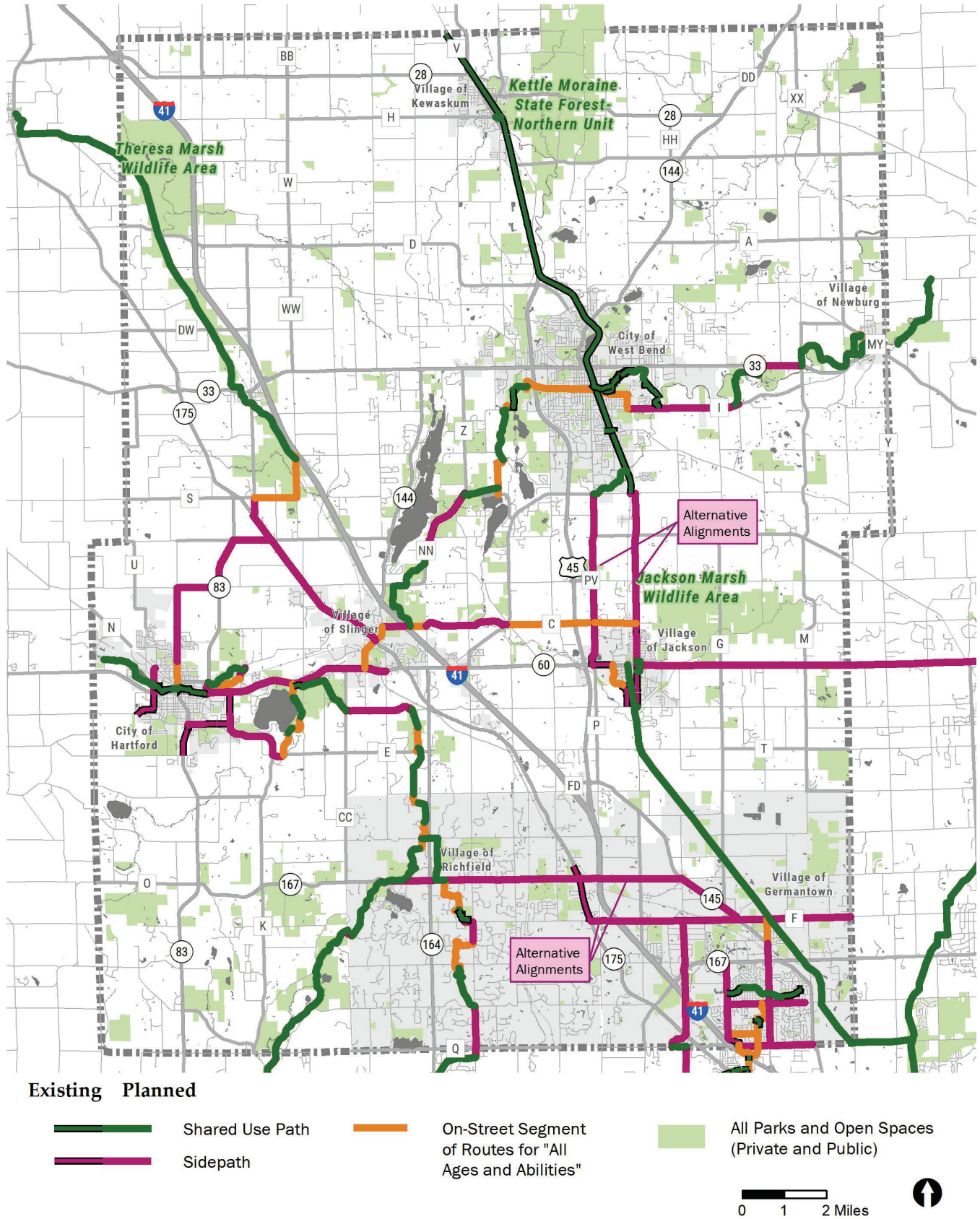




Figure 5-2: Routes for "All Ages and Abilities"



## Alternative Alignment Options

In several cases, the recommended bikeway and trail network includes more than one option for a proposed connection between communities in Washington County. In some cases, these represent a near-term option and a long-term option, with the latter option more reliant upon larger sources of funding. These alternative alignments include:

- **Options to connect the Eisenbahn State Trail between West Bend and Jackson.** The network includes two potential sidepath connections to extend the Eisenbahn State Trail to the south. Canadian National currently uses the rail line, and several issues (terrain, stream crossings, and active sidings next to businesses) prevent building a trail next to the rail line while it is in active use. If the rail line is abandoned, the State or County should build the extension of the trail. In the near term, the County should conduct a corridor study on both Jackson Drive and CTH P to determine which alignment to pursue. This corridor is discussed in more detail in Chapter 6.
- **Options between Jackson and Germantown.** The network includes a potential extension of the Eisenbahn State Trail as a “rail with trail” next to the track currently owned and operated by Canadian National. Like the issues described above, this proposed trail poses many challenges. In the meantime, the County can pursue the recommended on-road bike routes between Jackson and Germantown.

## Planning, Budgeting, and Right-of-Way Acquisition

### The Journey from Plan to Implementation

The Plan represents the intended actions and priorities of Washington County and the municipal representatives and stakeholders who participated in its development. It provides a basis on which the County and municipalities can budget for future investments and coordinate specific bikeway and trail project implementation. However, the recommendations shown on the map are based on preliminary planning-level investigation and not implementation-level engineering study to confirm feasibility. Additional study and outreach to property owners will occur prior to implementation of bikeway and trail recommendations.

It is important to recognize that the Plan is not an “end result” but rather a guide for future action. Plan implementation will be fulfilled over time in small, incremental steps. The implementation of bikeway and trail segments and corridors identified in the Plan will require the review and approval of appropriate County Board liaison committees and the County Board of Supervisors through the annual budget and capital improvement plan processes.

### Steps for Plan Implementation

The journey from Plan to reality for each bikeway and trail involves many steps and typically takes several years. The process may vary from one jurisdiction to another, but typically it mirrors the jurisdiction’s roadway project development process. Typical steps include:

1. Developing a long-range plan that identifies comprehensive bikeway and trail network needs (this Plan)
2. Identifying individual projects within the Plan (at a minimum, identifying the beginning and ending points for each project, and a time horizon for construction)
3. Budgeting for the proposed project in a multi-year capital improvement plan (CIP) as a standalone project, or by incorporating them into larger highway projects (this step includes applying for and receiving grant funding)
4. Producing a preliminary engineering assessment to confirm feasibility, refine the alignment, assess basic impacts, and determine right-of-way needs
5. Acquiring right-of-way, complete engineering construction documents, and accept contractor bids
6. Constructing and closing out the project

### **Paths Proposed on Private Land**

Broad public involvement and communication is part of steps 1, 2, 3, and 4. Outreach to individual property owners affected by the project usually occurs as early as step 2 and as late as step 4.

It is not unusual for landowners to initially oppose a trail; however, as public support increases for trails, landowners often come to realize both tangible and intangible benefits from being near a trail. Where the proposed path alignment goes over a land parcel that is under private ownership, the County anticipates negotiating an easement or, if necessary, purchasing the land from willing sellers. Current state law does not allow for the use of eminent domain to acquire property for bicycle or pedestrian paths.

For some sidepaths, the right of way may need to be expanded; this may involve an easement or acquisition of a strip of property along the highway.

Consider the “long-haul” approach taken by the City of Kirkland, Washington. The City desired to create a lakefront walking trail for all to use. The City decided to purchase properties as they came on the market. The City placed an easement on the deed, then resold the property, thus incurring minimal taxpayer expense to gradually create a cherished trail that enhances the quality of life for Kirkland residents.

### **Rails with Trails**

Some trails come about when an active rail corridor is abandoned and then “rail banked” and used as a recreational or active transportation trail. The United States is beginning to see successful rails with trails. In the years to come, this approach may become a viable option in Washington County. Washington County should work with local staff of the Rails to Trails Conservancy to better understand and act upon both options, and to help establish lines of communication with Canadian National, the owner and operator of the railroad ROW on the proposed extension of the Eisenbahn State Trail.



# 6 Project Prioritization, Implementation, and Funding



A message of encouragement on the Eisenbahn State Trail.

Washington County elected officials and staff are eager to begin building the recommended bikeway and trail network. The County has pledged to contribute \$250,000 annually to the Parks and Planning Department Capital Improvement Plan in 2019 through 2023 (subject to an annual vote of the County Board) for implementing the recommendations in this Plan. One of the principal outcomes of this Plan was to decide which bikeway and trail projects the County should build first. Therefore, this Chapter represents the centerpiece of this Plan and a roadmap for building out the network over the next 30 years.

## Priority Corridors

The planning team and County staff selected seven Priority Corridors out of the full recommended bikeway and trail network for further study and guidance on implementation. These corridors were determined by combining the scores from the “Meeting in a Box” corridor prioritization exercise and the second interactive map, and then ranking all the corridors by the total score.

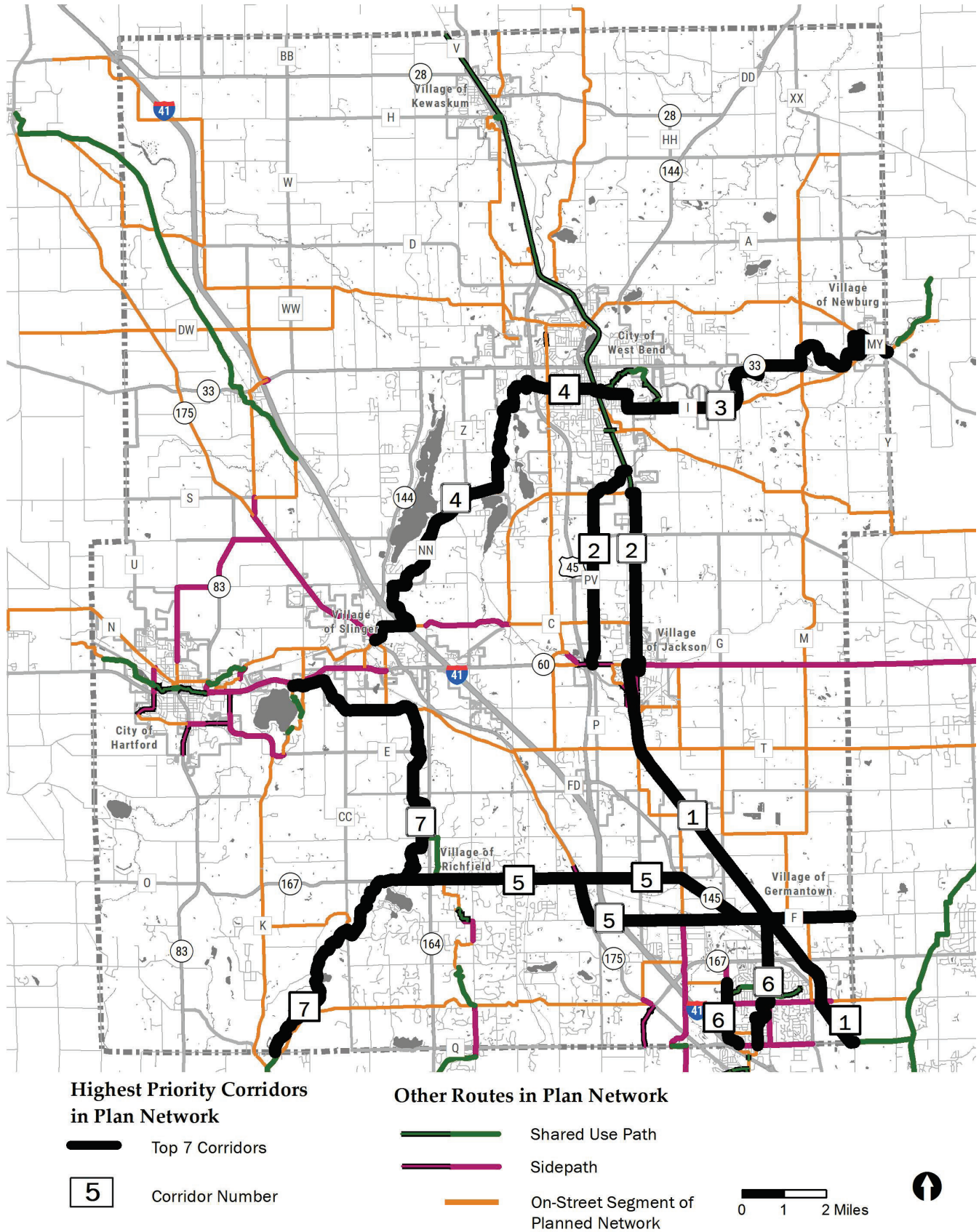
The seven Priority Corridors are:

- 1) Jackson to Germantown via Eisenbahn State Trail Extension
- 2) West Bend to Jackson via Jackson Drive or CTH P
- 3) West Bend to Newburg via Decorah Road and Milwaukee River Path
- 4) West Bend to Slinger via Ridge Run Park and CTH NN
- 5) Holy Hill Road-Freistadt Road
- 6) Germantown to Bugline Trail via I-41 Pedestrian Overpass
- 7) Pike Lake Unit to Heritage Trails Park to Loew Lake Unit

Figure 6-1 shows the Priority Corridors. When built, these seven corridors will create a nearly continuous “all ages and abilities” network of bikeways and trails across the County. The planning team and County staff conducted a segment-by-segment analysis of the challenges and specific recommendations necessary to carry out each corridor. In some corridors—especially corridors 2, 3, and 5—staff made significant changes to the proposed alignment after the analysis revealed that the initial alignment looked unfeasible. The following section presents the results of those detailed analyses.



**Figure 6-1: Priority Corridors**



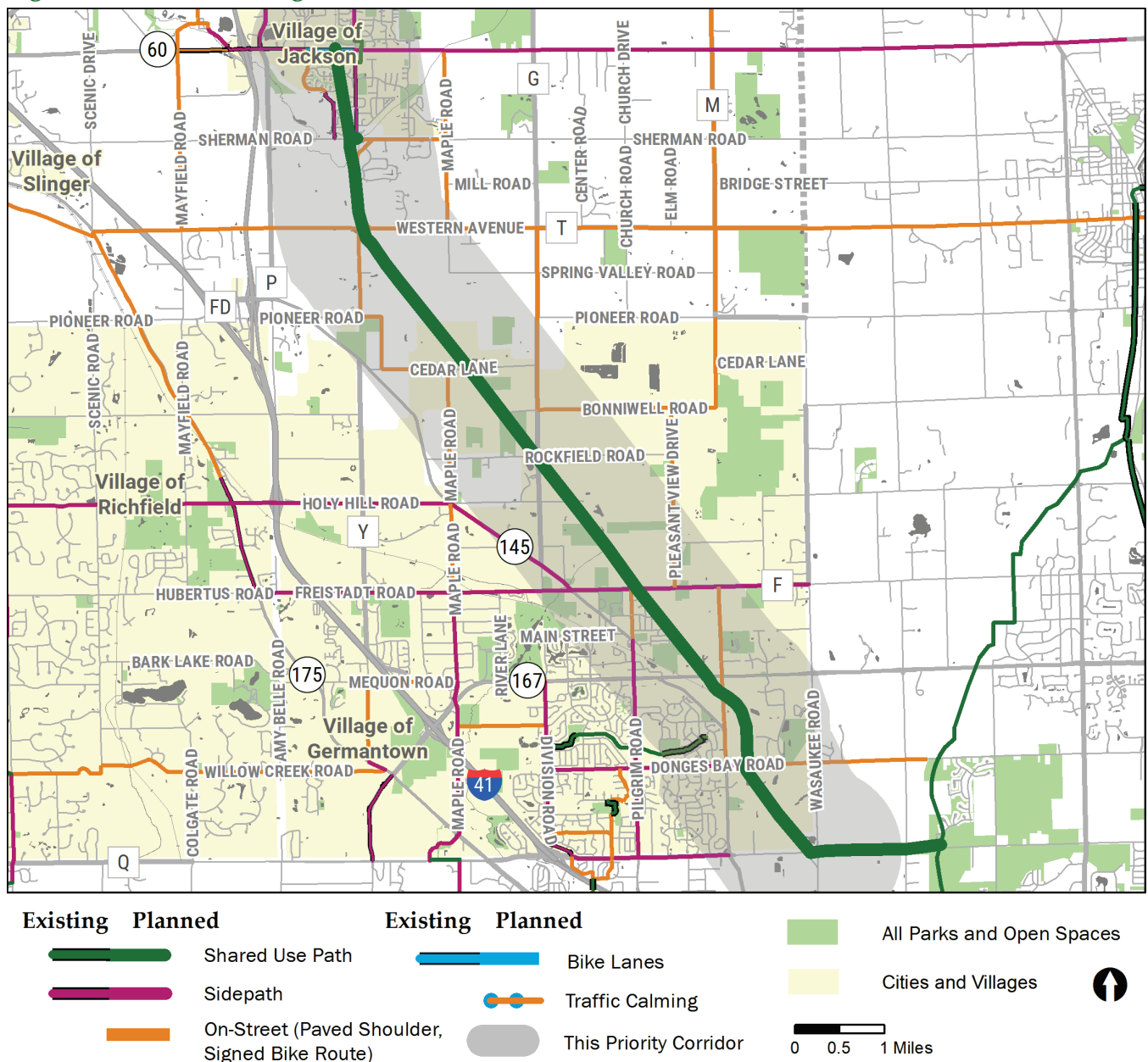


## Corridor 1: Jackson to Germantown via Eisenbahn State Trail Extension

### Corridor 1: Corridor overview

Public input on priority routes revealed that this connection between Jackson and Germantown via a future extension of the Eisenbahn State Trail was—by far—the most important trail connection for Washington County to complete. Rail-trails have the advantage of being flat, removed from traffic, and, in this case, travel through rural farmlands to connect two important communities. However, this railroad is currently in use by Canadian National railroad. The alignment description below is based on the trail being built next to the existing rail line in the railroad right-of-way (ROW). In the interim, there are two on-road options for experienced bicyclists, which only require wayfinding signs and minimal investment in paving shoulders as roads are resurfaced or reconstructed.

Figure 6-2: Corridor 1 Alignment



## Alignment Description

To explore the extension of the trail, the County should work with the Rails to Trails Conservancy and approach Canadian National, which owns and operates the railroad, to determine the feasibility of a “rail with trail” in the railroad ROW. There is a “rail with trail” next to a Canadian National rail line in nearby Ozaukee County; the section of the Interurban Trail that goes through Mequon and Thiensville runs mostly within the Canadian National ROW. Negotiating with the railroad may be the largest challenge the County will need to overcome; however, there are also at least seven stream and river crossings in this corridor that will need to be crossed. The remainder of this section discusses the individual challenges along each segment of the route.

- **Railroad ROW from STH 60 (Main Street) to Western Avenue: Rail to Trail or Rail with Trail**
  - Railroad ROW is 100 feet wide; rail line goes down the middle of the alignment
  - This section has two bridges where the railroad crosses rivers or streams
  - Install high-visibility crossing treatment at Sherman Road and Western Avenue
  - Alternative alignment: Bike lanes and traffic calming on Jackson Drive (parallel corridor)
- **Railroad ROW from Western Avenue to Cedar Lane: Rail to Trail or Rail with Trail**
  - Railroad ROW is 100 feet wide; rail line goes down the middle of the alignment
  - This section has one bridge where the railroad crosses a river, and a significant grade change where the railroad climbs 50 feet in elevation and is graded steeply on either side
- **Railroad ROW from Cedar Lane to Rockfield Road: Rail to Trail or Rail with Trail**
  - Railroad ROW is 100 feet wide
  - Between Bonniwell Drive and Rockfield Road, the railroad track splits into two, but the siding is for train car storage and is not connected to any local businesses, so no crossings would be necessary
  - This section has one bridge where the railroad crosses a river
- **Railroad ROW from Rockfield Road to Freistadt Road (CTH F): Rail to Trail or Rail with Trail**
  - Railroad ROW is 100 feet wide; rail line goes down the middle of the alignment
  - Install high-visibility crossing treatment at Division Road (CTH G) and at Freistadt Road (CTH F) to warn motorists of path users
  - This section is very rural and remote, passing through mostly wetlands. There are two bridges where the railroad crosses a river
- **Railroad ROW from Freistadt Road (CTH F) to Mequon Road (STH 167): Rail to Trail or Rail with Trail**
  - Railroad ROW is 100 feet wide; rail line goes down the middle of the alignment
  - There is one culvert where the railroad crosses a stream and many wetlands in the area
  - At Mequon Road (STH 167), install high-visibility crosswalks and signs, and 10-foot wide pedestrian island to allow path users to safely cross the street in two stages

- Alternative option: Rectangular Rapid Flashing Beacons
- **Railroad ROW from Mequon Road (STH 167) to Donges Bay Road: Rail to Trail or Rail with Trail**
  - At Country Aire Drive, the ROW merges with another Canadian National ROW, forming a 200-foot ROW with the railways 100 feet from each other and 50 feet from the edge of the ROW
  - To the east of the railroad, just north of Donges Bay Road, Waste Management has a railroad siding; therefore, any rail with trail should run along the west of this segment
  - At Donges Bay Road, install high-visibility crosswalks and signs, and 8-foot wide pedestrian island to allow path users to safely cross the street in two stages
- **Railroad ROW from Donges Bay Road to County Line Road**
  - South of Donges Bay Road, railroad ROW widens even more, to 300 feet in places; the two railways still run 50 feet from the edge of the ROW
  - There is one stream/river crossing and wetlands in the railroad ROW
  - The property belonging to the City of Milwaukee just north of County Line Road appears to have a railroad siding, although it may not be in use
  - At County Line Road, the proposed alignment would continue as a sidepath into Ozaukee County
  - Alternative: Continue into Ozaukee County on Donges Bay Road due to lower traffic volumes and less truck traffic

### Land Acquisition Costs for Corridor 1

The Canadian National railroad ROW is exempt from property assessments; moreover, operating railroad corridor properties are typically not sold in the open market. Therefore, this report cannot estimate the cost of land acquisition for Corridor 1.

**Figure 6-3: Construction Cost Opinion for Corridor 1**

Facility Type	Action	Standalone Price/Mile 2018 Dollars	Miles/ Units	Cost
New Shared Use Path	Construct New (10') Next to Active RR in ROW	\$1,152,000	10.9	\$12,499,000
Bridges/Structures	Bridges over Streams and Small Rivers	\$400,000	7 bridges	\$2,800,000
<b>Total</b>			10.9	\$15,299,000

Cost opinions are based on Fiscal Year 2018 WisDOT Unit Costs. Assumptions:

- 1) All work occurs in existing ROW (ROW acquisition costs are not included)
- 2) Quantities are rounded
- 3) Costs include 15% contingency
- 4) For Shared Use Paths and Sidepaths, the existing ROW is clear and free of obstructions (trees, structures, etc.) and does not require bridges or culverts. Estimated structure costs are tallied on a separate line.

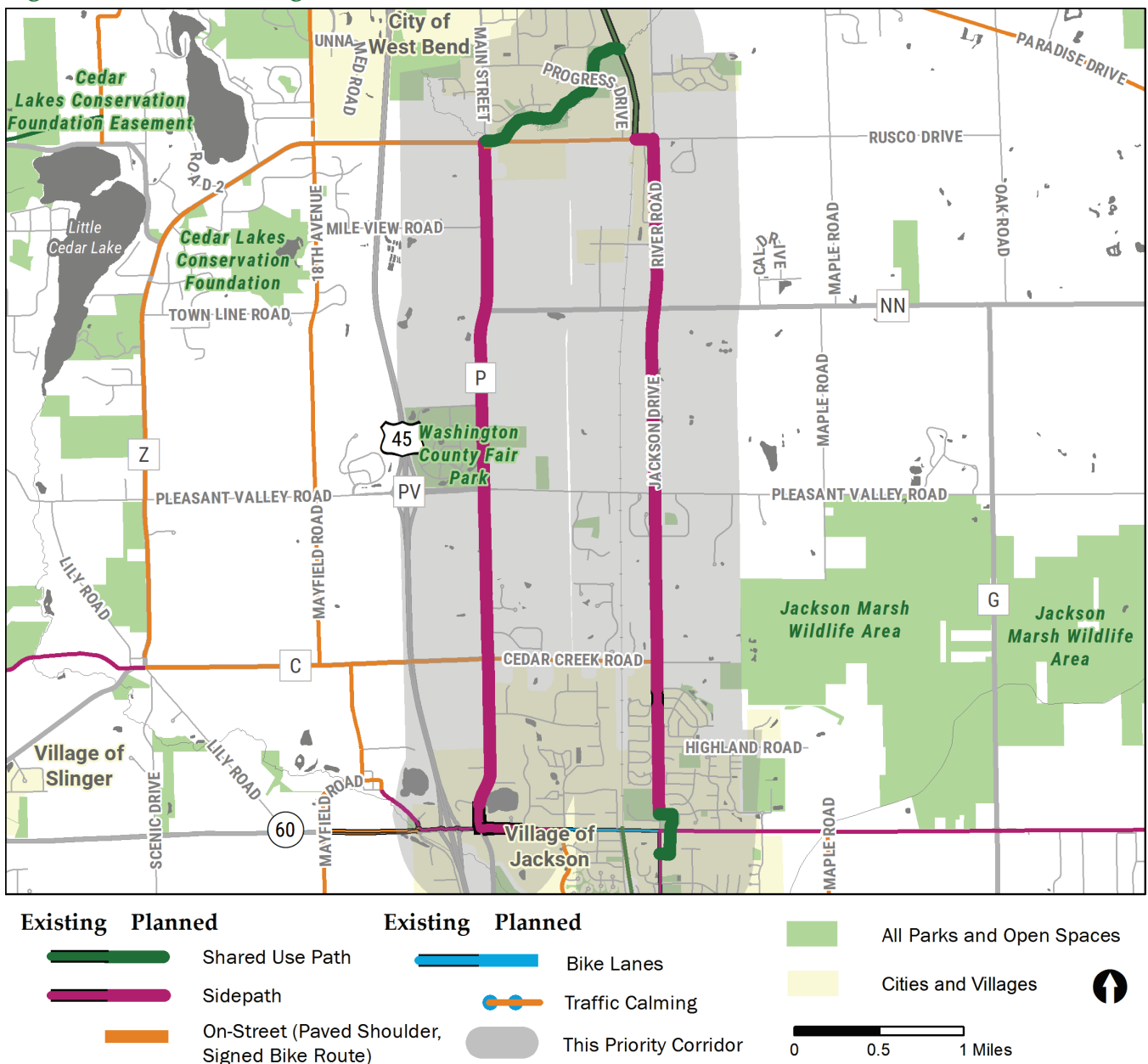


## Corridor 2: West Bend to Jackson via Jackson Drive or CTH P

### Corridor overview

Public input placed a high priority on continuing a bicycle or trail to connection from the Eisenbahn State Trail south from West Bend to Jackson. Initially, the planning team and County staff considered a “rail with trail” option next to the railroad. However, the initial analysis determined that it was unlikely that Canadian National would abandon the railroad and the steep slopes on either side of the railroad would pose many challenges to building a trail next to the existing rail line. Therefore, the two potential alignments presented here propose sidepaths built in the road right-of-way. The County will need to perform an engineering study to decide which of the alignments is more feasible and cost-effective.

Figure 6-4: Corridor 2 Alignment



### Alignment 1 Description: Quaas Creek Corridor and CTH P

- **Quaas Creek Corridor between the Eisenbahn State Trail and CTH P: Shared Use Path**
  - Construct a 10-foot path along the Quaas Creek Corridor
  - The City of West Bend owns most of the land and has plans for a shared use path in this corridor; the entire corridor is characterized by wetlands and forested areas, which will require clearing
  - A bridge may be necessary to cross Quaas Creek
  - The path should cross Rusco Road at the existing stop sign at the intersection of Rusco Road and CTH P; high-visibility crosswalk and advance path crossing signs are recommended
- **CTH P between Rusco Road and CTH PV: Sidepath**
  - Use existing ROW to construct a 10-foot sidepath on the east side of CTH P
  - Shallow ditches and telephone poles on the east side will require grading
  - Existing roundabouts at CTH NN and CTH PV provide safe crossing treatments for path users
  - Provide curb cuts and bikeway or path access to the Washington County Fairgrounds driveway entrance
- **CTH P between CTH PV and STH 60 (Main Street): Sidepath**
  - Use existing ROW to construct a 10-foot sidepath on the east side of CTH P
  - Some easements required at strategic locations
  - The sidepath requires a new bridge over the creek just north of Woodland Drive
  - South of Hasmer Lake Park, the route would continue on existing sidepaths on CTH P and STH 60/ Main Street

### Alignment 2 Description: River Road/Jackson Drive

- **Rusco Road to River Road: Sidepath**
  - Install high-visibility crossing treatment (signs and pavement markings) at Rusco Road and the Eisenbahn State Trail
  - Construct 10' sidepath on the south side of Rusco Road to River Road
- **River Road to Georgetown Drive (Jackson Park) Sidepath**
  - Construct a 10' sidepath on the west side of River Road between Rusco Road and CTH NN within the existing ROW; very little grading/clearing required
  - Existing roundabout at Jackson Drive and CTH NN provides safe crossing treatment for bicyclists and pedestrians
  - Between CTH NN and Cedar Creek Road, further studies will be necessary to determine which side of the road to build a sidepath; steep slopes, a narrow road ROW, and a bridge over a stream crossing make it difficult to determine on which side of the road a

- sidepath is more feasible. The preference would be to keep the sidepath on the same side for a longer duration, rather than requiring path users to cross Jackson Drive multiple times. Sidepaths are usually not recommended in areas where frequent driveway or street crossings would be required; further study may find that on-street bike lanes may be a safer alternative. Jackson Drive is wide enough to accommodate on-street bike lanes with a “buffer” between the motor vehicle travel lane and the bike lane, if the on-street parking is removed on both sides of the road.
- South of Cedar Creek Road, construct a 10’ sidepath on the west side of Jackson Drive; this can be required as part of new development, and can connect to the current sidepath in this location
  - South of Crestview Drive, reconstruct the existing 4-foot sidewalk into a 10-foot sidepath on the west side of Jackson Drive
  - **Georgetown Drive (Jackson Park) to STH 60/Main Street: Shared Use Path**
    - Construct a shared use path through the planned Jackson School Redevelopment
    - Recommend building a high-visibility crossing treatment across Jackson Drive at Georgetown Drive (rather than crossing in front of the school as shown in the *2017 Village of Jackson Opportunity Analysis and Redevelopment Plan*)
    - Short-term: marked bicycle lanes on Jackson Drive between Cedar Creek Road and STH 60/Main Street
  - **STH 60/Main Street to future Jackson School site: Shared Use Path**
    - Construct a shared use path south of STH 60/ Main Street, as shown in the *2017 Village of Jackson Opportunity Analysis and Redevelopment Plan*
    - Install high-visibility crosswalks and Rectangular Rapid Flashing Beacons across STH 60/Main Street
    - South of the future Jackson School site, the route continues on the existing sidepath on the east side of Jackson Drive

#### Land Acquisition Costs for Corridor 2

The land acquisition costs for Corridor 2 are estimated to be between \$60,000 and \$240,000, assuming 15-foot easements will need to be purchased on some parcels for the sidepath. Land acquisition costs for Alignment 1 (Quaas Creek Corridor and CTH P) will likely be on the lower end of that estimate, while Alignment 2 (River Road/Jackson Drive) will be on the higher end of the estimate.

#### Construction Costs for Corridor 2

The figure below is an estimate of the full construction costs for the both possible alignments of Corridor 2.



**Figure 6-5: Construction Cost Opinion for Corridor 2**

Facility Type	Action	Standalone Price/Mile	Miles	Cost
		2018 Dollars		
<b>Alignment 1: Quaas Creek Corridor and CTH P Sidepaths</b>				
New Shared Use Path	Construct New (10') on Streambank	\$691,200	1.1	\$756,000
Sidepath	Construct New (10') Along Rural Roadway	\$691,200	3.9	\$2,696,000
Total for Alignment 1			5.6	\$3,452,000
<b>Alignment 2: Jackson Drive Sidepath</b>				
Sidepath	Construct New (10') Along Rural Roadway	\$691,200	3.3	\$2,289,000
Sidepath	Construct New (10') Along Urban Roadway	\$432,000	0.6	\$271,000
New Shared Use Path	Construct New (10') on Flat to Rolling Terrain	\$576,000	0.5	\$310,000
Total for Alignment 2			4.5	\$2,859,000

Cost opinions are based on Fiscal Year 2018 WisDOT Unit Costs. Assumptions:

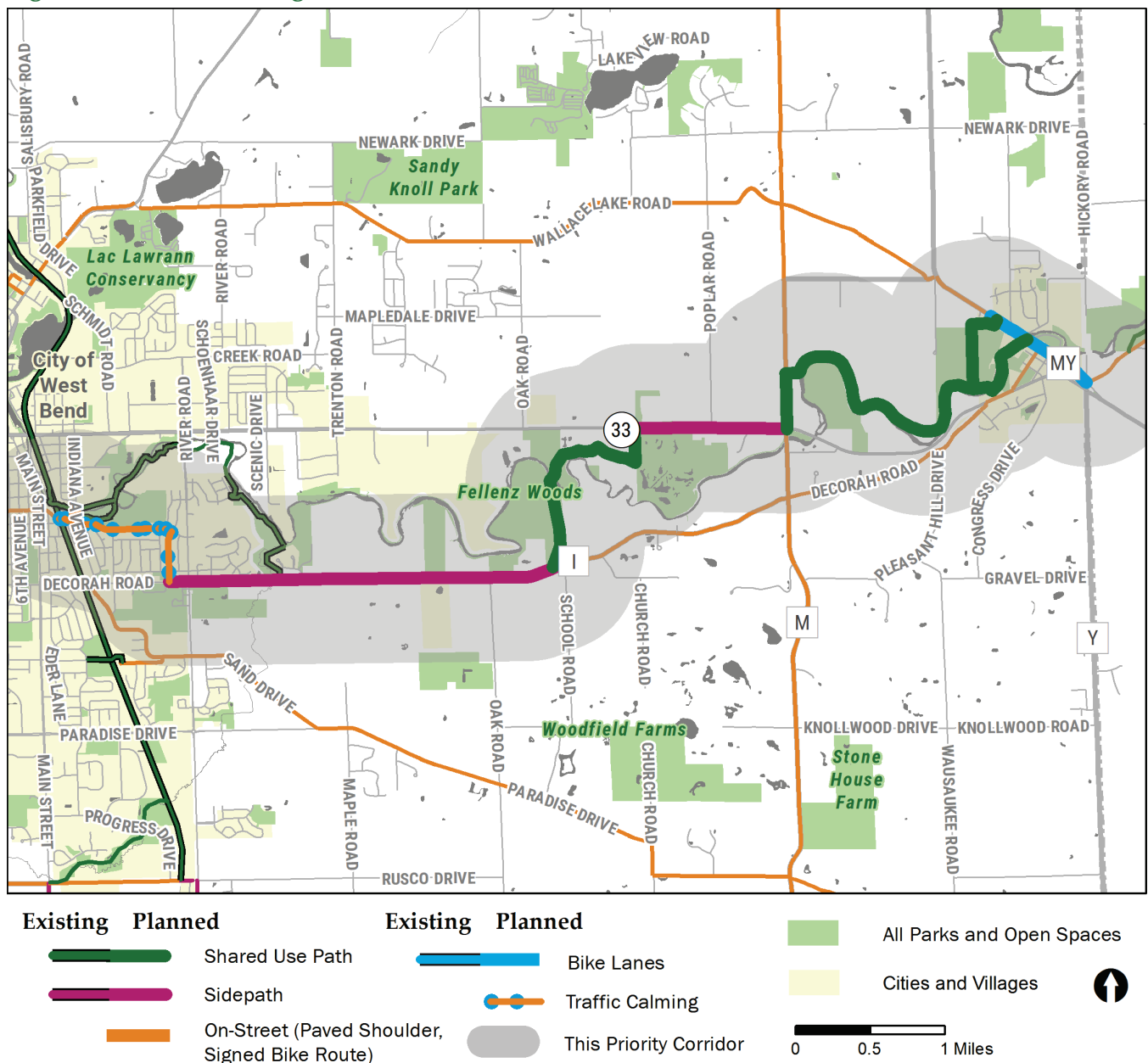
- 1) All work occurs in existing ROW (ROW acquisition costs are not included)
- 2) Quantities are rounded
- 3) Costs include 15% contingency
- 4) For Shared Use Paths and Sidepaths, the existing ROW is clear and free of obstructions (trees, structures, etc.) and does not require bridges or culverts. Estimated structure costs are tallied on a separate line.

## Corridor 3: West Bend to Newburg via Decorah Road & Milwaukee River Path

### Corridor overview

This route from West Bend to Newburg would be a part of an eventual “all ages and abilities” bikeway and trail connection from the Eisenbahn State Trail in West Bend to the Interurban Trail in Ozaukee County. During the planning process, County staff determined that the previously planned alignment along the West Bend Municipal Airport was unfeasible due to federal airport runway open space requirements (see Figure 6-7). The proposed alignment connects West High School in West Bend to a variety of parks and residential areas. At Fellenz Woods, the route continues as a shared use path across the Milwaukee River to STH 33, then as a sidepath along STH 33 and CTH M before following the river again, ending in the Village of Newburg.

Figure 6-6: Corridor 3 Alignment



**Figure 6-7: West Bend Municipal Airport Restricted Areas**



The blue and green areas are the Runway Protection Zones of the West Bend Municipal Airport. The Runway Protection Zones, according to Federal Aviation Administration (FAA) rules, must be controlled from incompatible land uses; recreational/transportation facilities such as bike paths are considered an incompatible land use.

#### **Alignment Description**

- **Kilbourn Avenue from Eisenbahn Trail to Sheridan Drive: Traffic Calming**
  - Roadway is approximately 28-30 feet wide with double-yellow lines
  - Currently has parking on one side in places
  - Speed humps and traffic circles at intersections to slow traffic; shared lane markings
- **Sheridan Drive from Kilbourn Avenue to Decorah Road: Traffic Calming**
  - Roadway is 32 feet wide
  - Currently has parking limits of two hours north of Redwood Street; south of that street, parking is not allowed
  - Install speed humps and shared lane markings
- **Decorah Road from Sheridan Drive to Acadia Avenue: Sidepath**
  - Replace sidewalk with 14-foot sidepath on south side of the road by West High School (sidewalks near schools should be a minimum of 10 feet); consider applying for Safe Routes to School funds (a subset of Transportation Alternatives funds) for this segment
  - Build safe crossing treatments at Sheridan Road and Decorah Road, and at Decorah Road and River Road. Consider pedestrian islands at both intersections
- **Decorah Road (CTH I) from Acadia Avenue to east leg of Country Creek Circle: Sidepath**
  - Construct a 10-foot sidepath on south side of the road
  - Currently, paved shoulders are 8-feet wide; may need to narrow paved shoulders to fit the sidepath in the right-of-way

- Path requires widening the bridge, or building a new bridge over the marsh west of County Creek Circle; possible grading as well
- **Decorah Road (CTH I) from east intersection of Country Creek Circle to Fellenz Woods: Sidepath**
  - Construct a 10-foot sidepath on north side of the road
  - Currently, paved shoulders are 8 feet wide until South Oak Road; may need to narrow paved shoulders to fit the sidepath in the right-of-way
  - Where sidepath crosses the road from the south to the north at Country Creek Circle East, construct a 10-foot wide pedestrian island
  - Path requires widening the culvert, or building a new culvert over the creek near Serigraph
  - East of South Oak Road, at Fellenz Woods, the path will require significant clearing
- **Fellenz Woods to Milwaukee River: Path**
  - Construct a 10-foot wide path from the Fellenz Woods parking area toward the south shore of the Milwaukee River
  - Explore the possibility of easements through Fellenz Woods (owned by the Ozaukee Washington Land Trust); the land was purchased using habitat area grants which may restrict recreational uses; additional research will be needed
  - Path can be built east of the West Bend Municipal Airport runway protection zone
  - Path alignment along the Milwaukee River is preferable due to the scenic nature of the area, but it could possibly cause significant impact to floodplain, wetland, upland, and endangered resources. Care will be taken to mitigate the impact to environmental resources.
  - Alternative alignment: continue sidepath on Decorah Road (CTH I) to CTH M to STH 33 to Newburg
- **Milwaukee River between Fellenz Woods and STH 33: Path**
  - Construct a 10-foot wide path from the Fellenz Woods property line along and across the Milwaukee River
  - The Ozaukee Washington Land Trust owns land directly north of Fellenz Woods, and sees a potential benefit to having a bridge connect their two properties, although additional research will be needed to determine whether bicycling is allowed
  - Requires a bridge (desired width of 14 feet) over the Milwaukee River, which will increase the cost of the estimate for this segment
  - The preferred alignment would follow the Milwaukee River on land that is privately owned; acquire property or easements necessary to construct the path
  - Alternative alignment: head directly north, utilizing land owned by Ozaukee Washington Land Trust, to STH 33



- **STH 33 from West Bend Lakes Golf Club to CTH M: Sidepath**
  - Construct a 10-foot sidepath on the south side of STH 33 to the west of the driveway of the West Bend Lakes Golf Club
  - Construct a 10-foot sidepath on the north side of STH 33 east of the West Bend Lakes Golf Club toward CTH M
  - Path may require minor grading work immediately east of River Court
  - Build safe crossing treatments across STH 33 at the entrance to the West Bend Lakes Golf Club; the current medians in STH 33 need to be widened to at least 6 feet (desired width of 10 feet) to accommodate bicyclists and pedestrians; consider over-head mounted Rapid Rectangular Flashing Beacons (RRFB)
  - WisDOT’s Connections 2030 Long-Range Multimodal Transportation Plan supports providing bicycle accommodations in the STH 33 corridor
- **CTH M from STH 33 to Unnamed Stream Connecting to Milwaukee River: Sidepath**
  - Construct a 10-foot sidepath; further study will determine whether it should be on the east or west side of the road
  - Path requires widening the culvert, or building a new culvert, over the stream
- **Milwaukee River between CTH M and West Main Street in Newburg: Path**
  - Construct a 10-foot path from CTH M along the unnamed stream to the Milwaukee River
  - Acquire private property or recommend that the Town of Trenton require a path easement if any of the properties are subdivided between CTH M and Kratzsch Preserve
  - Explore the possibility of easements through the Kratzsch Preserve (owned by the Ozaukee Washington Land Trust); the land was purchased using habitat area grants which may restrict recreational uses; additional research will be needed
  - When the Newburg dam was removed from the Milwaukee River, it exposed land that the Village of Newburg can reclaim; the Village plans on transferring the land to adjacent property owners but leaving an easement for a trail
  - Two alternative path alignments are shown: one which would require an easement along the western boundary of the Newburg Sportsman Club to the north of the Milwaukee River; the other, which would require an easement on the south of the Newburg Sportsman Club and a bridge across the Milwaukee River; the Village will explore both opportunities
- **West Main Street (CTH MY) between Newburg Sportsman Club and Hawthorne Drive: Bike lanes**
  - Roadway to the west of the river is 22-24 feet wide, with 2-foot wide unpaved shoulders
  - Rebuild CTH MY with 6-foot paved shoulders/bike lanes; add some sort of “gateway” feature, such as a landscaped median island and a “Welcome To Newburg” sign at

Shady Lane Road that would send a message to drivers to reduce traffic speeds as they enter Newburg

- The bridge over the Milwaukee River is approximately 40 feet wide, including a 6-foot sidewalk on the north side; provide 11-foot travel lanes and 6-foot bike lanes
- Removing on-street parking on Main Street will provide sufficient space for bike lanes in Newburg

### Land Acquisition Costs for Corridor 3

The land acquisition costs for Corridor 3 are estimated to be between \$190,000 and \$470,000. The upper land acquisition estimate reflects the following assumptions: the County or maintaining agency will purchase 30-foot easements for shared use paths and more easements for sidepaths at a higher land valuations. The lower land acquisition estimate reflects the following assumptions: the County or maintaining agency will purchase 30-foot easements for shared-use-paths and fewer easements for sidepaths at a lower land valuation.

### Construction Costs for Corridor 3

The figure below is an estimate of the full construction costs for the corridor. This does not take into account alternative alignments, or segments that are proposed to be built as paths, but may be built as on-street connections if farmland parcels are developed into residential subdivisions.

**Figure 6-8: Construction Cost Opinion for Corridor 3**

Facility Type	Action	Standalone Price/Mile 2018 Dollars	Miles/ Units	Cost
Sidepath	Construct New (10') Along Rural Roadway	\$691,200	3.8	\$2,627,000
Sidepath	Construct New (10') Along Urban Roadway	\$488,300	0.3	\$146,000
New Shared Use Path	Construct New (10') on Flat to Rolling Terrain	\$576,000	2.8	\$1,613,000
New Shared Use Path	Construct New (10') on Streambank	\$691,200	1.3	\$899,000
Traffic Calming and Shared Lane Markings	Install Speed Humps and Traffic Circles and Shared Lane Markings (Sharrows)	\$114,400	1.1	\$126,000
Minimal Enhancements	Shared Lane Markings (Sharrows)	\$16,000	0.1	\$2,000
Bridges/structures	Bridge over Milwaukee River	\$700,000	2 bridges	\$1,400,000
<b>Total</b>			<b>9.4</b>	<b>\$6,813,000</b>

Cost opinions are based on Fiscal Year 2018 WisDOT Unit Costs. Assumptions:

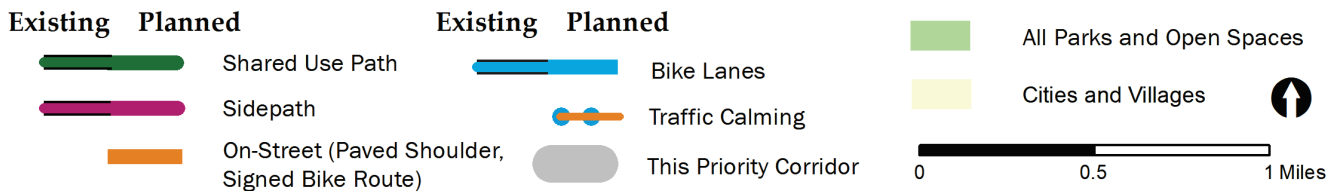
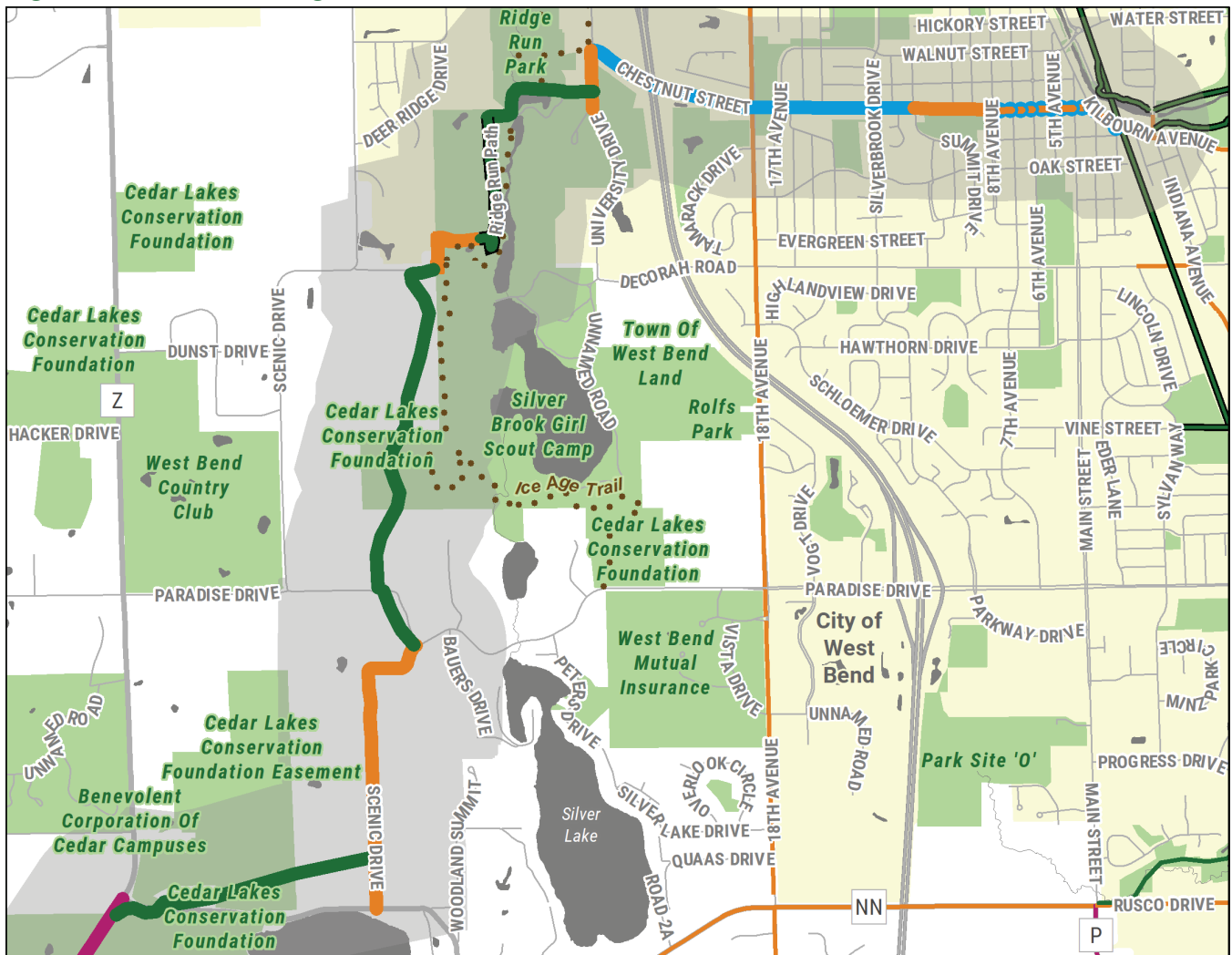
- 1) All work occurs in existing ROW (ROW acquisition costs are not included)
- 2) Quantities are rounded
- 3) Costs include 15% contingency
- 4) For Shared Use Paths and Sidepaths, the existing ROW is clear and free of obstructions (trees, structures, etc.) and does not require bridges or culverts. Estimated structure costs are tallied on a separate line.

## Corridor 4: West Bend to Slinger via Ridge Run Park and CTH NN

### Corridor overview

This proposed route runs through some of the most scenic areas in Washington County and connects West Bend to Slinger via an “all ages and abilities” route. At the northern and southern ends of the route, the alignment runs parallel to existing hiking segments of the Ice Age National Scenic Trail, but has been adjusted in places to provide as much distance as possible between the hiking trail and the proposed path. Along CTH NN, the road ROW is wide enough in most places to allow a sidepath without the need to acquire many additional property easements. Due to the length of this route, the corridor is split into northern and southern sections.

Figure 6-8: Corridor 4 Alignment (Northern Section)



## Alignment Description for Northern Section of Corridor 4

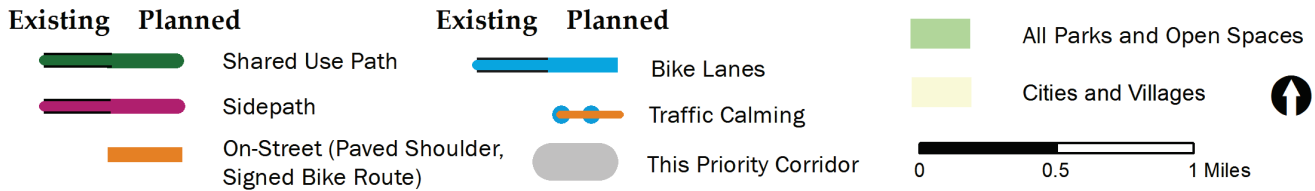
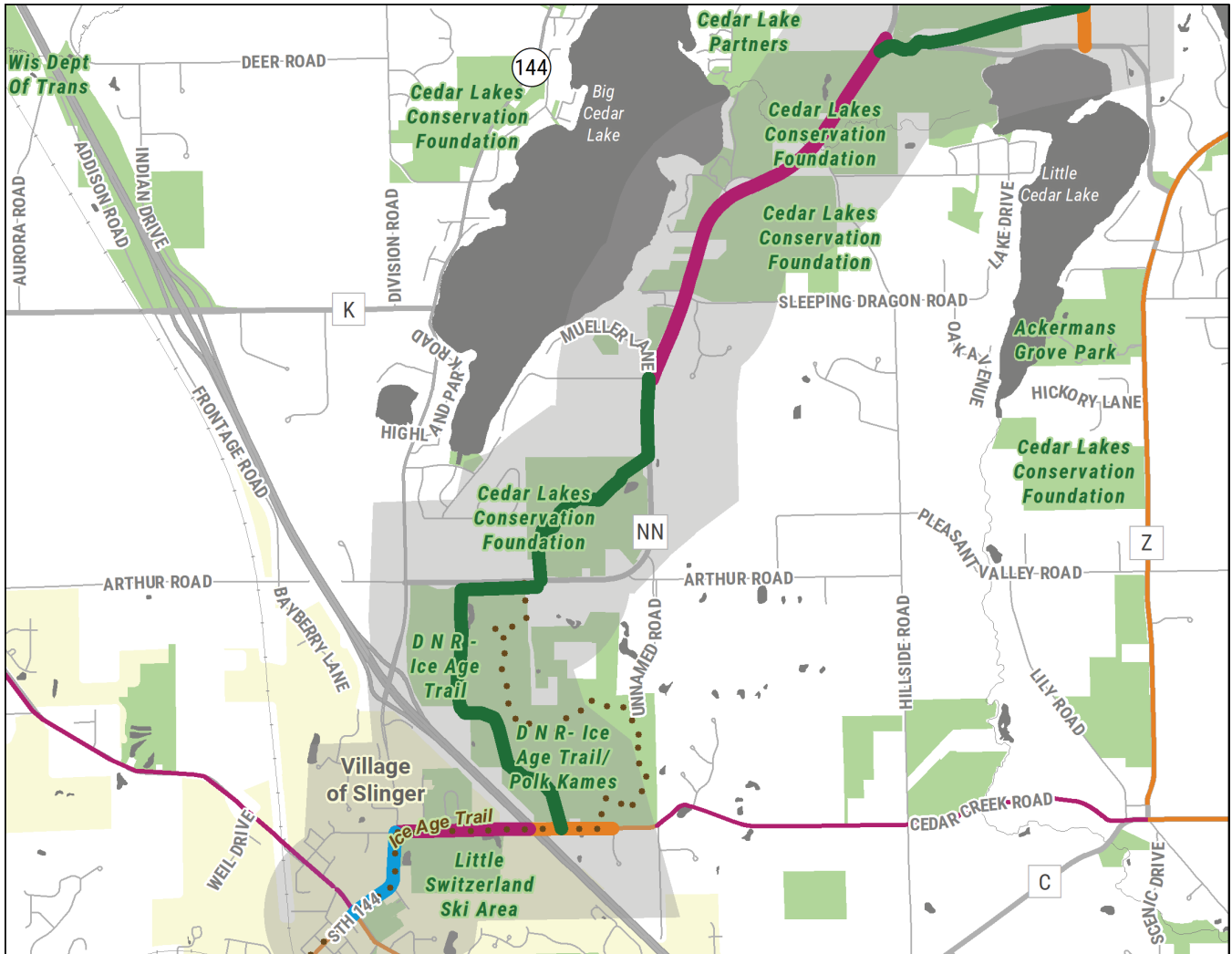
- **Chestnut Street from Eisenbahn Trail to 8th Avenue: Traffic Calming and Shared Lane Markings**
  - Roadway is approximately 28 feet wide
  - Parking is not allowed on the south side of the street east of South 7<sup>th</sup> Avenue and is not allowed on either side between S 7<sup>th</sup> and 8<sup>th</sup> Avenue
  - Install traffic-calming infrastructure like speed humps, and traffic circles at intersections (at 5<sup>th</sup> or 7<sup>th</sup> Avenues) to slow traffic; install shared lane markings
- **Chestnut Street from S 8th Avenue to S 11th Avenue: Shared Lane Markings**
  - Roadway is approximately 36-38 feet wide
  - In front of McLane Elementary School, there are existing curb extensions that slow traffic and improve safety for pedestrians and bicyclists
  - Install shared lane markings
- **Chestnut Street from S 11th Avenue to S 18th Avenue: On-Street Bicycle Facilities**
  - Roadway is approximately 36 feet wide
  - Parking is allowed on both sides of the street; parking demand is light
  - Preferred option: 24 feet of travel lanes and two 6-foot bike lanes; no parking either side
  - Alternate option: Speed humps and traffic circles at intersections to slow traffic; shared lane markings
- **Chestnut Street from S 18th Avenue to S University Drive: On-Street Bicycle Facilities**
  - Roadway is approximately 36 feet wide
  - Parking is allowed on both sides of the street; parking demand is light
  - Preferred option: 24 feet of travel lanes and two 6-foot bike lanes; no parking either side
  - Install 5-foot bike lanes over the bridge (width of 40 feet)
- **S University Drive from Chestnut Street to Ridge Run Park Driveway: Bike Lanes**
  - Roadway is approximately 36 feet wide
  - Parking is allowed on both sides of the street, although there are no buildings on the east side of the street
  - Preferred option: 24 feet of travel lanes and two 6-foot bike lanes; no parking either side
- **Ridge Run Park Driveway to Ice Age Trail: Existing Park Driveway**
  - Existing park driveway is 22 feet wide
  - Add bike route signs and shared lane markings at the point where bikeway users leave the driveway to get on what is currently Ice Age Trail



- **Ice Age Trail from Ridge Run Park Driveway to Northern Parking Lot: Paved Path**
  - Due to a recent property acquisition for the Ice Age Trail, the IATA is currently working with the City of West Bend to reroute the Ice Age National Scenic Trail in the northern section of Ridge Run Park, eliminating the entrance off University Drive
  - The County should partner with IATA, the Wisconsin DNR, the National Park Service, and the City of West Bend to establish a new alignment of the Ice Age Trail from just north of Boot Lake to better align with the new proposed route from the northern section of Ridge Run Park. Once the IATA abandons the current trail, pave a 10-foot shared use path utilizing the entrance off of University Drive to Boot Lake.
  - The shared use path would be separate from the Ice Age Trail footpath, but they would meet at the upper parking lot in Ridge Run Park; there should be appropriate signs for both Ice Age Trail and shared use path users; on segments where bicyclists are illegally riding on the Ice Age Trail, it may be appropriate to construct a dodgeway to discourage bicyclists
- **Ridge Run Park from Northern Parking Lot to Southern Parking Lot: Existing Path**
  - Use existing paved path through Ridge Run Park
- **Ridge Run Park Driveway from Ridge Run Park Path to the intersection of Wheat Ridge Lane and Cedar Community Memory Care: On-Street Bicycle Facilities**
  - Existing low-volume, low-speed road is 16-22 feet wide, with steep slopes on either side
  - Widen road and consider improved bicycling signage and shared lane markings.
- **Wheat Ridge Lane to Paradise Drive, parallel to Ice Age National Scenic Trail corridor: New Path**
  - Construct a 10-foot path to the west of the Ice Age National Scenic Trail and wetlands
  - The route's northern section is privately owned by the Benevolent Corporation (the Cedar Lake Health and Rehabilitation Center); work with the owner to explore or cooperate on path development
  - The route's center section would traverse land owned by Cedar Lake Conservation Foundation; more research is needed to determine possible deed restrictions to implementation; this section will require substantial grading and clearing
  - The route's southern section traverses privately-owned land; encourage the Town of West Bend to require a path easement if or when the parcel is subdivided
- **West Paradise Drive to Scenic Drive: Path or Sidepath next to West Paradise Drive**
  - Construct a 10-foot path or sidepath west of West Paradise Drive or through the adjacent field
  - This parcel is privately owned encourage the Town of West Bend to require a path easement if or when it is subdivided; alternatively, acquire an easement along Paradise Drive

- There may be opportunities for the County to partner with the IATA on property acquisition for both the Ice Age Trail and the shared use path on this segment
- **Scenic Drive from Paradise Drive to location 500-1,500 feet north of CTH Z/CTH NN: On-Street Bicycle Facilities**
  - Existing low-volume road is 21-22 feet wide, with no shoulder
  - Install shared lane markings and bike route signs
- **Location 500-1,500 feet north of CTH Z/CTH NN to Cedar Lake Wayside County Park: Shared Use Path**
  - Construct a 10-foot path between Scenic Drive and Cedar Lake Wayside County Park
  - The proposed alignment crosses parcels that are privately owned; encourage the Town of West Bend to require path easement if or when the parcels are subdivided; alternatively, purchase easements from property owners
  - There may be opportunities for the County to partner with the IATA on property acquisition for both the Ice Age Trail and the shared use path on this segment
  - Alternative: Continue route to CTH Z/CTH NN, then construct sidepath on the north side of CTH Z/CTH NN; some private property acquisition would be required from the residential parcels close to the intersection with Scenic Drive
  - West of the residential parcels, most of the land on both sides of the road belongs to the Cedar Lake Conservation Foundation, but no land acquisition is likely necessary (the ROW is sufficiently wide to accommodate a sidepath)
  - Cedar Lake Wayside County Park is an old easement from the former road right-of-way that is currently being terminated; the County could work with the new landowner once the easement is terminated to establish a trailhead for path users

Figure 6-9: Corridor 4 Alignment (Southern Section)



## Alignment Description for Southern Section of Corridor 4

- **CTH NN (Kettle View Drive) from Wayside County Park to Hillside Drive: Sidepath**
  - Mark high-visibility path crossing at Wayside County Park across CTH Z/CTH NN to south side
  - Construct a 10-foot sidepath or path along the eastern side of CTH NN (Kettle View Drive); significant grading or boardwalks over wetlands may be required
  - Open space on both sides of the highway belongs to the Cedar Lakes Conservation Foundation, although property acquisition will likely not be required (ROW is sufficiently wide to accommodate a sidepath)
  - Alternative: build a shared use path through open space property belonging to Cedar Lakes Conservation Foundation
  - At Hillside Road, construct a path crossing from the east side of CTH NN (Kettle View Drive) to the west side
- **CTH NN (Kettle View Drive) from Hillside Road to Fontana Road: Sidepath**
  - Construct a 10-foot sidepath along the west side of CTH NN (Kettle View Drive)
  - South of Timmers Bay Road, some grading may be required due to steep slope
  - The County owns a wide ROW on CTH NN, but some easements may be necessary between Timmers Bay Road and Birchwood Road
  - Work with the Cedar Lakes Conservation Foundation to create the sidepath on the west side of the road where the road ROW is not sufficiently wide
- **CTH NN (Kettle View Drive) from Fontana Road to 1,600 feet south of that location: Sidepath**
  - Use existing ROW to construct a 10-foot sidepath on the west side of the road
- **CTH NN (Kettle View Drive) to CTH NN (Arthur Road): Path**
  - Preferred option: Create new diagonal path through partially wooded open space owned by the Cedar Lakes Conservation Foundation; a path through this parcel would improve the scenic appeal of this trail; some modest grading and clearing is necessary; an unnamed north-south creek (likely seasonal) may require a bridge or culvert; a future segment of the Ice Age Trail footpath may be built on this parcel
  - Alternative: Continue sidepath along CTH NN to DNR Ice Age Trail Polk Kames site
- **CTH NN (Arthur Road) at DNR Ice Age Trail Polk Kames Site: Path Crossing**
  - Provide a high-visibility path crossing at CTH NN (Arthur Road); consider an 8-foot wide pedestrian island
- **DNR Ice Age Trail Polk Kames Site between CTH NN (Arthur Road) and Cedar Creek Road: Path**
  - Construct a 10-foot off-street path connecting CTH NN and Cedar Creek Road on the DNR Polk Kames Site



- The east-west section of the path can fit inside the road ROW; the north-south connections would run through the parcel owned by the Wisconsin DNR
- This property is a State Ice Age Trail Area with use restrictions governed by Wisconsin Administrative Code NR 1.29: “Depending on conditions including topography and sight lines, bicycling and horse riding may take place on a State Ice Age Trail Area. Location of these trails shall not detract from the purpose of the property....such use shall take place not less than 200-500 feet away from the Ice Age Trail tread.”
- There is currently no master plan for the Polk Kames property; a master plan is necessary to allow use of bicycling and delineate where a shared use path could be located
- Land and Water Conservation Funds were used to purchase the Polk Kames and a shared use path would need permission from the National Park Service
- The Polk Kames property is of great ecological conservation value; care will need to be taken when delineating an appropriate trail for minimal impact
- Alternative: build a sidepath on CTH NN (Arthur Road) and STH 144 (Kettle Moraine Scenic Drive); make the safety of path users a high priority when designing path crossings at the on- and off-ramps at the STH 144/I-41 interchange; WisDOT’s Connections 2030 Long-Range Multimodal Transportation Plan supports providing bicycle accommodations along STH 144 between CTH NN and Slinger
- **Cedar Creek Road from DNR Ice Age Trail Polk Kames site to I-41 bridge: Signs and Shared Lane Markings**
  - Cedar Creek Road is a low-volume roadway with narrow right-of-way and steep slopes on either side
  - The bridge over I-41 measures 34 feet wide, which is not enough space to provide adequate separation for bicyclists, pedestrians, and motorists
  - Until the bridge is reconstructed, lower the speed limit to 25 mph and provide signs and shared lane markings to alert motorists to the presence of bicycles and pedestrians
- **Cedar Creek Road from I-41 bridge to Kettle Moraine Drive: Sidepath**
  - Construct a 10-foot sidepath on the north side of the road
  - The path can be built within the existing road ROW with minimal grading or clearing
- **Kettle Moraine Drive (STH 144) to downtown Slinger (Washington Street): Bike Lanes**
  - High-visibility crossing treatments for sidepath users transitioning to bike lanes
  - Road is 44 feet wide, with parking allowed on both sides; parking demand is low on the northern part of this segment but higher near Washington Street; off-street parking is available
  - Recommended cross-section: two 12-foot travel lanes, 6-foot bike lanes, and one 8-foot parking lane

### Land Acquisition Costs for Corridor 4

The land acquisition costs for Corridor 4 are estimated to be between \$212,000 and \$310,000. The upper land acquisition estimate reflects the following assumptions: the County or maintaining agency will purchase lands at higher valuations, purchasing a 30-foot easement for privately-owned parcels in the shared use path corridor, and more easements for sidepaths. The lower land acquisition estimate reflects the following assumptions: the County or maintaining agency will purchase lands at lower land valuations, purchasing a 30-foot easement on privately-owned parcels in the shared use path corridor, and fewer easements for sidepaths.

### Construction Costs for Corridor 4

The figure below is an estimate of the full construction costs for the corridor. This does not take into account alternative alignments, or segments that are proposed to be built as paths, but may be built as on-street connections if farmland parcels are developed into residential subdivisions.

**Figure 6-10: Construction Cost Opinion for Corridor 4**

Facility Type	Action	Standalone Price/Mile		
		2018 Dollars	Miles	Cost
Sidepath	Construct New (10') Along Rural Roadway	\$691,200	2.6	\$1,797,000
New Shared Use Path	Construct New (10') on Flat to Rolling Terrain	\$576,000	1.9	\$1,094,000
New Shared Use Path	Construct New (10') on Streambank	\$691,200	2.9	\$2,004,000
Minimal Enhancements	Marked Bike Route (Rural)	\$3,350	1.7	\$6,000
Traffic Calming	Install Speed Humps and Traffic Circles	\$114,400	0.4	\$46,000
Bike Lanes	Add Striping/Marking	\$37,200	1.5	\$56,000
<b>Total</b>			<b>11.0</b>	<b>\$5,003,000</b>

Cost opinions are based on Fiscal Year 2018 WisDOT Unit Costs. Assumptions:

- 1) All work occurs in existing ROW (ROW acquisition costs are not included)
- 2) Quantities are rounded
- 3) Costs include 15% contingency
- 4) For Shared Use Paths and Sidepaths, the existing ROW is clear and free of obstructions (trees, structures, etc.) and does not require bridges or culverts. Estimated structure costs are tallied on a separate line.



## Alignment Description

- **Holy Hill Road (STH 167) between Glacier Hills County Park and N Friess Lake Road: Sidepath**
  - Construct a 10-foot sidepath; further engineering study is needed to determine which side of the road is more feasible and cost-effective for the sidepath; the right-of-way is narrow, with steep slopes and guardrails in sections; all work along or impacting State highways needs to be permitted by WisDOT
  - Acquire property or easements along Holy Hill Road (STH 167) necessary to build the sidepath
  - On the westernmost stretch, the proposed sidepath is parallel to a proposed path that would be part of Priority Corridor 7 that would traverse land currently owned by Daniel Boone Hunter’s League, north of Holy Hill Road (STH 167); consider how those paths will intersect near Glacier Hills County Park
  - The existing STH 167 bridge over the Oconomowoc River is 40 feet wide; speeds and traffic volumes on STH 167 will require a new bridge and boardwalk over the Oconomowoc River and surrounding wetlands
- **Holy Hill Road (STH 167) between North Friess Lake Road and STH 164: Sidepath**
  - Build a 10-foot sidepath; further engineering study is needed to determine which side of the road is more feasible and cost-effective for the sidepath
  - The road right-of-way is narrow and the proposed sidepath will require property acquisition or easements, regardless of whether the sidepath is on the north or south side of the road
  - Near the intersection with STH 164, the road right-of-way widens, but a wooded area and the presence of a retaining wall will require grading and clearing
  - Build safe crossing treatments for path users at the intersection of STH 167 and STH 164; engineering studies can determine the appropriate crossing treatments
- **Holy Hill Road (STH 167) between STH 164 and Hillside Rd: Sidepath**
  - Construct a 10-foot sidepath on south side, utilizing the existing road right-of-way
  - Both sides of the road have wide rights-of-way, but there appears to be slightly more room on the south side of the road for a sidepath
- **Holy Hill Road (STH 167) between Hillside Rd and Scenic Road: Sidepath**
  - Construct a 10-foot sidepath on the south side, utilizing the existing road right-of-way
  - Both sides of the road have adequately wide rights-of-way, but it is preferred to maintain the sidepath on the south side to avoid crossings and wetlands on the north side of Holy Hill Road (STH 167) near Scenic Road
  - At Wolfe Run Drive, grading will be required because of steep elevation changes and an existing retaining wall
- **Holy Hill Road (STH 167) between Scenic Road and Mayfield Road: Sidepath**



- Construct a 10-foot sidepath on the south side of the road, utilizing the existing road right-of-way
- There is an elevated rail bridge near Kettle Hills Golf Course. STH 167 is currently 40 feet wide under the bridge; it is unlikely this bridge will be reconstructed in the foreseeable future; a separate tunnel through the railroad embankment will be needed for the side path
- Slightly to the east of the railroad bridge, grading will be required where there is a stone retaining wall
- **Holy Hill Road (STH 167) between Mayfield Road and STH 175 (Appleton Avenue): Sidepath**
  - Construct a 10-foot sidepath on the south side, utilizing the existing road right-of-way
  - Near the intersection of STH 175 (Appleton Avenue), narrow the turn radius and right turn lane onto Basswood Lane

From here, there are two potential alignments to connect to Freistadt Road, which are described below:

**Option 1 Alignment on Appleton Avenue (STH 175)**

- **Appleton Avenue (STH 175) between Holy Hill Road and Hubertus Road / Freistadt Road: Existing Sidepath**
  - Continue on existing sidepath on west side of the road
  - Build safe crossing treatments for path users at the intersection of STH 175 (Appleton Avenue) and Hubertus Road/Freistadt Road
- **Freistadt Road between Town Line Road and St. Boniface School: Sidepath**
  - Build a 10-foot sidepath on the south side of the road, utilizing the current road right-of-way with some private easements required
  - Analyze how to accommodate the path over the Interstate Highway 41 / STH 45 bridge; the bridge has a width of 38-40 feet; a 12-foot wide sidewalk and curb would allow for two 10-foot travel lanes and two 3-foot shoulders; it may be necessary to wait until the bridge is reconstructed
  - Some tree clearing may be required near St. Boniface School
- **Freistadt Road from Homestead Hollow County Park and Fond du Lac Avenue (STH 145): Sidepath or Path**
  - Build a 10-foot path or sidepath on the south side of the road
  - Through Homestead Hollow County Park, the path may deviate somewhat from the road to use existing paths; however, it should not meander as much as the current paths do; otherwise, trail users will create shortcuts or “goat paths”
  - East of Homestead Hollow County Park, Freistadt Road has bike lanes and a 5-foot sidewalk on the south side of the street

- Between McCormic Drive and River Lane, replace the existing 5-foot sidewalk/sidepath on south side of the street with a 10-foot sidepath; little to no grading or clearing is required, making this an easy project
- Between Cove Lane and Fond du Lac Avenue, there are wetlands on the south side of Freistadt Road; there is also a bridge over a stream that can accommodate a barrier-separated path
- Traffic on Fond du Lac Avenue (STH 145) does not stop at Freistadt Road; the speed is high and visibility to the southeast is poor; an engineering study is necessary to determine the appropriate traffic control for this intersection and sidepath users of “all ages and abilities;” consider tightening curb radii to slow motorists’ turning speeds

#### Option 2 Alignment on Fond du Lac Avenue (STH 145)

- **Holy Hill Road between Appleton Avenue (STH 175) and Goldendale Road (CTH Y): Sidepath**

- Construct a 10-foot sidepath on the north side of the road; it may be necessary to build a bridge or culvert over wetlands near the railroad crossing
- Minimal grading is needed except at the approaches to the overpass at Interstate 41
- The Interstate 41 bridge is 70 feet wide, which is ample width to accommodate a 12-foot wide shared use path the bridge; however, the existing raised concrete median would need to be narrowed
- At the intersections with on- and off-ramps, engineer sidepath crossings to enhance visibility, safety, and priority for path users; consider installing “porkchop” pedestrian islands that improve safety for path users while maintaining adequate turn radii for trucks
- The Briggs & Stratton distribution center is located on this segment on the north side of Holy Hill Road, east of the interstate and west of Goldendale Road (CTH Y); the County and the Village of Germantown could work with the corporation to make improvements to better serve bicyclists along this segment of Holy Hill Road

- **Holy Hill Road between Goldendale Road (CTH Y) and Fond du Lac Avenue (STH 145): Sidepath**

- Construct a 10-foot sidepath on the north side of the road
- East of Goldendale Road (CTH Y), the ROW narrows significantly, requiring either easement acquisition or construction of the sidepath on a culvert in place of the existing ditch

- **Fond du Lac Avenue (STH 145) between Holy Hill Road and Freistadt Road: Sidepath**

- Build a 10-foot sidepath; further engineering study is needed to determine which side of the road is more feasible and cost-effective for the sidepath
- Regardless of the side of the road on which the sidepath is constructed, some land acquisition, minor grading and telephone pole removal will be required

- There are scattered wetlands on both sides of the road; the area around the Menomonee River just north of Freistadt Road will require special attention
- The bridge over the Menomonee River is 54 feet wide, with a right turn lane for southbound traffic; speeds and traffic volumes on STH 145 will require a new bridge and boardwalk over the Menomonee River and surrounding wetlands
- The Corridor 5 sidepath is proposed to continue on the south side of Freistadt Road
- Traffic on Fond du Lac Avenue (STH 145) does not stop at Freistadt Road; the speed is high and visibility to the southeast is poor; an engineering study is necessary to determine the appropriate traffic control for this intersection and sidepath users of “all ages and abilities;” consider tightening curb radii to slow motorists’ turning speeds
- Both alignments continue east from the intersection of Freistadt Road and West Fond du Lac Avenue (STH 145). The remainder of the Corridor is described below.

#### Continuation of both Alignments on Freistadt Road

- **Freistadt Road between West Fond du Lac Avenue and Pilgrim Road: Sidepath**
  - Build a 10-foot sidepath on the south side of the road
  - Segment has wide shoulders and a wide right-of-way
  - Take care to connect the path to Firemen’s Park and Kennedy Middle School; consider applying for Safe Routes to School funds (part of the Transportation Alternatives program) for this segment
- **Freistadt Road between Pilgrim Road and the Ozaukee County boundary: Sidepath**
  - Build a 10-foot sidepath on the south side of the road to boundary with Ozaukee County
  - The road right-of-way is wide and very few easements or property acquisition will be required
  - Take care to provide safe angle crossing treatment for bicyclists at the railroad crossing (the planned Eisenbahn State Trail Corridor extension)

#### Land Acquisition Costs for Corridor 5

The land acquisition costs for Corridor 5 are estimated to be between \$166,000 and \$690,000. The upper land acquisition estimate reflects more easements, purchased at a higher land valuation. The lower estimate reflects fewer easements, purchased at lower land valuation. Land acquisition costs for Alignment 1 (Appleton Avenue) will likely be less than that of Alignment 2 (Fond du Lac Avenue).

### Construction Costs for Corridor 5

The figure below is an estimate of the full construction costs for the both possible alignments of Corridor 5.

**Figure 6-12: Construction Cost Opinion for Corridor 5**

Facility Type	Action	Standalone Price/Mile		
		2018 Dollars	Miles	Cost
<b>Alignment 1: Via Appleton Avenue (STH 175)</b>				
Sidepath	Construct New (10') Along Rural Roadway	\$691,200	8.3	\$5,737,000
Sidepath	Construct New (10') Along Urban Roadway	\$432,000	2.4	\$1,037,000
Bridges/structures	Bridge/boardwalks over Oconomowoc River	\$700,000	1 bridge	\$700,000
Bridges/structures	Box culvert under railroad bridge	\$241,000	1 culvert	\$241,000
Total for Alignment 1			10.7	\$7,715,000
<b>Alignment 2: Via Fond du Lac Avenue (STH 145)</b>				
Sidepath	Construct New (10') Along Rural Roadway	\$691,200	9.9	\$6,843,000
Sidepath	Construct New (10') Along Urban Roadway	\$432,000	1.4	\$605,000
Bridges/structures	Bridge/boardwalks over Oconomowoc & Menomonee Rivers	\$700,000	2 bridges	\$1,400,000
Bridges/structures	Box culvert under railroad bridge	\$241,000	1 culvert	\$241,000
Total for Alignment 2			11.3	\$9,089,000

Cost opinions are based on Fiscal Year 2018 WisDOT Unit Costs. Assumptions:

- 1) All work occurs in existing ROW (ROW acquisition costs are not included)
- 2) Quantities are rounded
- 3) Costs include 15% contingency
- 4) For Shared Use Paths and Sidepaths, the existing ROW is clear and free of obstructions (trees, structures, etc.) and does not require bridges or culverts. Estimated structure costs are tallied on a separate line.

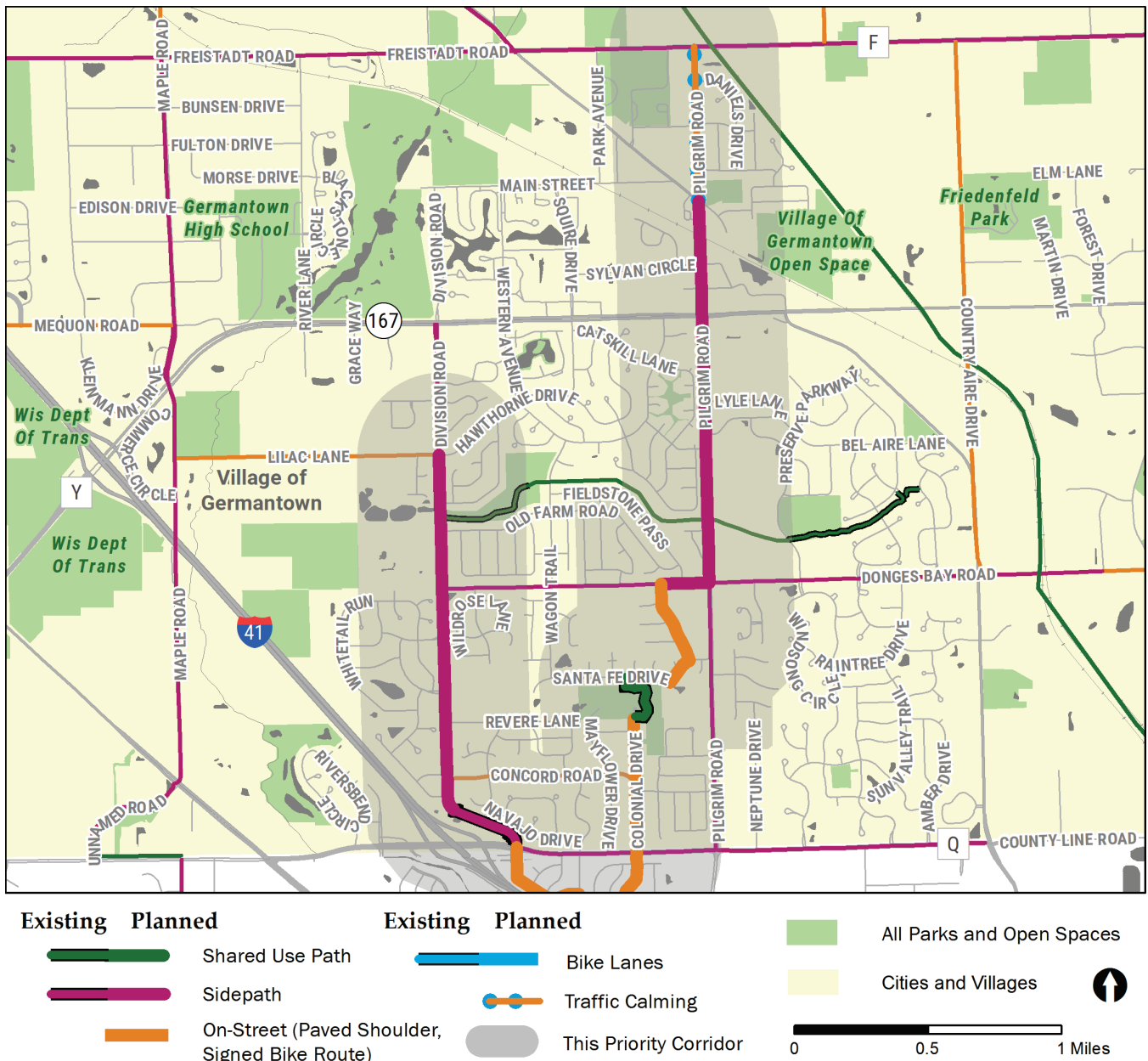


## Corridor 6: Germantown to Bugline Trail via I-41 Pedestrian Overpass

### Corridor Overview

This corridor provides Germantown residents with a safe, all-ages-and-abilities route to access the Bugline Trail and Menomonee River Parkway in Menomonee Falls. The existing sidepaths on Division Road and Donges Bay Road need to be rebuilt to state design standards to safely accommodate bicyclists and pedestrians, which is why they appear as “planned” sidepaths. Some of the planned sidepaths recommended on Pilgrim Road are within the road ROW and could be built as part of new development.

Figure 6-13: Corridor 6 Alignment



## Alignment Description

- **Pilgrim Road between Freistadt Road and West Fond du Lac Avenue: Traffic Calming**
  - Roadway is two lanes and between 28-32 feet wide; south of Williams Drive, there is no shoulder with a very narrow right-of-way
  - There is currently no parking on either side
  - Install shared lane markings and use traffic calming such as speed humps or traffic circles to slow motor vehicles
  - Improve bicyclist visibility at the intersection with West Fond du Lac Avenue
- **Pilgrim Road between West Fond du Lac Avenue and Mequon Road: Sidepath**
  - Road has four lanes and high traffic volumes and has a wide right-of-way
  - Install sidepath on the east side of the road; give path users priority at intersections and driveways
  - Carefully consider the safety of path users where the path crosses Mequon Road
- **Pilgrim Road between Mequon Road and Donges Bay Road: Sidepath**
  - Build a 10-foot sidepath on the east side of the street
  - Roadway has four lanes of traffic and high traffic volumes; the right-of-way on the east side is wide with few driveways and intersections
  - The Village of Germantown could require the sidepath on the undeveloped parcels near Donges Bay Road if or when they are developed
- **Donges Bay Road between Pilgrim Road and Mohawk Drive: Sidepath**
  - Replace existing 6-foot wide sidewalk/sidepath with a 10-foot sidepath on the north side of the street, using existing road ROW
  - Preferred alternative: build a 10-foot sidepath on both the north and south sides of the road
  - Give path users priority at intersections and driveways, using State of Wisconsin's Bicycle Facility Design Guidance (the current sidepath does not do this)
- **Mohawk Drive between Donges Bay Road and Council Bluffs Drive: Signs and Markings**
  - Roadway is approximately 30 feet wide, with two lanes; traffic is light
  - Parking allowed on both sides
  - Install shared lane markings and wayfinding signage
- **Council Bluffs Drive between Mohawk Drive and Santa Fe Drive: Signs and Markings**
  - Roadway is two lanes and approximately 46-48 feet wide
  - Parking allowed on both sides; demand is very light
  - Install shared lane markings and wayfinding signage
- **Santa Fe Drive between Council Bluffs Drive and Spassland Park: Signs and Markings**

- Roadway is two lanes and approximately 48 feet wide
- Parking allowed on both sides
- Install shared lane markings and wayfinding signage
- **Spassland Park between Santa Fe Drive and North Way: Widen and upgrade existing Path**
  - Collaborate with the Village of Germantown to widen existing 6-foot wide Spassland Park Path to 10 feet
- **Colonial Drive between Spassland Park Path and County Line Road: Signs and Markings**
  - Roadway is approximately 24 feet wide
  - Parking is allowed, but the narrow width of the street and light demand discourages parking
  - Install shared lane markings and wayfinding signage
  - At County Line Road, construct median island or traffic diverter to restrict left turns from Colonial Drive onto County Line Road; use median island to provide refuge for bicycles and pedestrians; coordinate with Waukesha County and the Village of Menomonee Falls on wayfinding signage and connections to the Bugline Trail via Colonial Drive
- **Division Road between Lilac Lane and Dotty Way: Sidepath**
  - Using existing road ROW, replace existing 6-foot sidewalk/sidepath on the west side of the road with a 10-foot sidepath
  - Give path users priority at intersections and driveways, using State of Wisconsin’s Bicycle Facility Design Guidance
  - At Alt Bauer Park, there is a bridge; move the guardrail and shift the roadway slightly to accommodate the wider sidepath on the bridge
  - Near Hawthorne Drive, put a barrier or buffer between the path and the roadway
- **Division Road between Dotty Way and County Line Road: Sidepath**
  - Build a new 10-foot sidepath on the west side of Division Road; there is a gap in the sidepath network of less than 700 feet
  - An easement will need to be acquired from one parcel (which explains the existing gap in the sidepath); consider a request to purchase or transfer the easement at the sale of the property
  - Between Wendy Lane and County Line Road, use the existing sidepath on the west side of Division Road
  - Mark a high-visibility crosswalk on the west leg of the intersection of Division Road and County Line Road; coordinate with Waukesha County and the Village of Menomonee Falls on wayfinding signage and connections to the Bugline Trail

### Land Acquisition Costs for Corridor 6

Corridor 6 would require about \$6,000 to purchase a 15-foot easement on a single parcel on Division Road; all other proposed sidepaths are within the existing public right-of-way.

**Figure 6-14: Construction Cost Opinion for Corridor 6**

Facility Type	Action	Standalone Price/Mile		
		2018 Dollars	Miles	Cost
Traffic Calming and Shared Lane Markings	Install Speed Humps and Traffic Circles and Shared Lane Markings (Sharrows)	\$114,400	0.6	\$65,000
Widen Sidepath	Widen Existing (by 5')	\$188,230	0.9	\$166,000
Sidepath	Construct New (10') Along Urban Roadway	\$432,000	1.5	\$648,000
Minimal Enhancements	Marked Bike Route (Urban)	\$5,539	1.0	\$6,000
<b>Total</b>			<b>4.0</b>	<b>\$885,000</b>

Cost opinions are based on Fiscal Year 2018 WisDOT Unit Costs. Assumptions:

- 1) All work occurs in existing ROW (ROW acquisition costs are not included)
- 2) Quantities are rounded
- 3) Costs include 15% contingency
- 4) For Shared Use Paths and Sidepaths, the existing ROW is clear and free of obstructions (trees, structures, etc.) and does not require bridges or culverts. Estimated structure costs are tallied on a separate line.

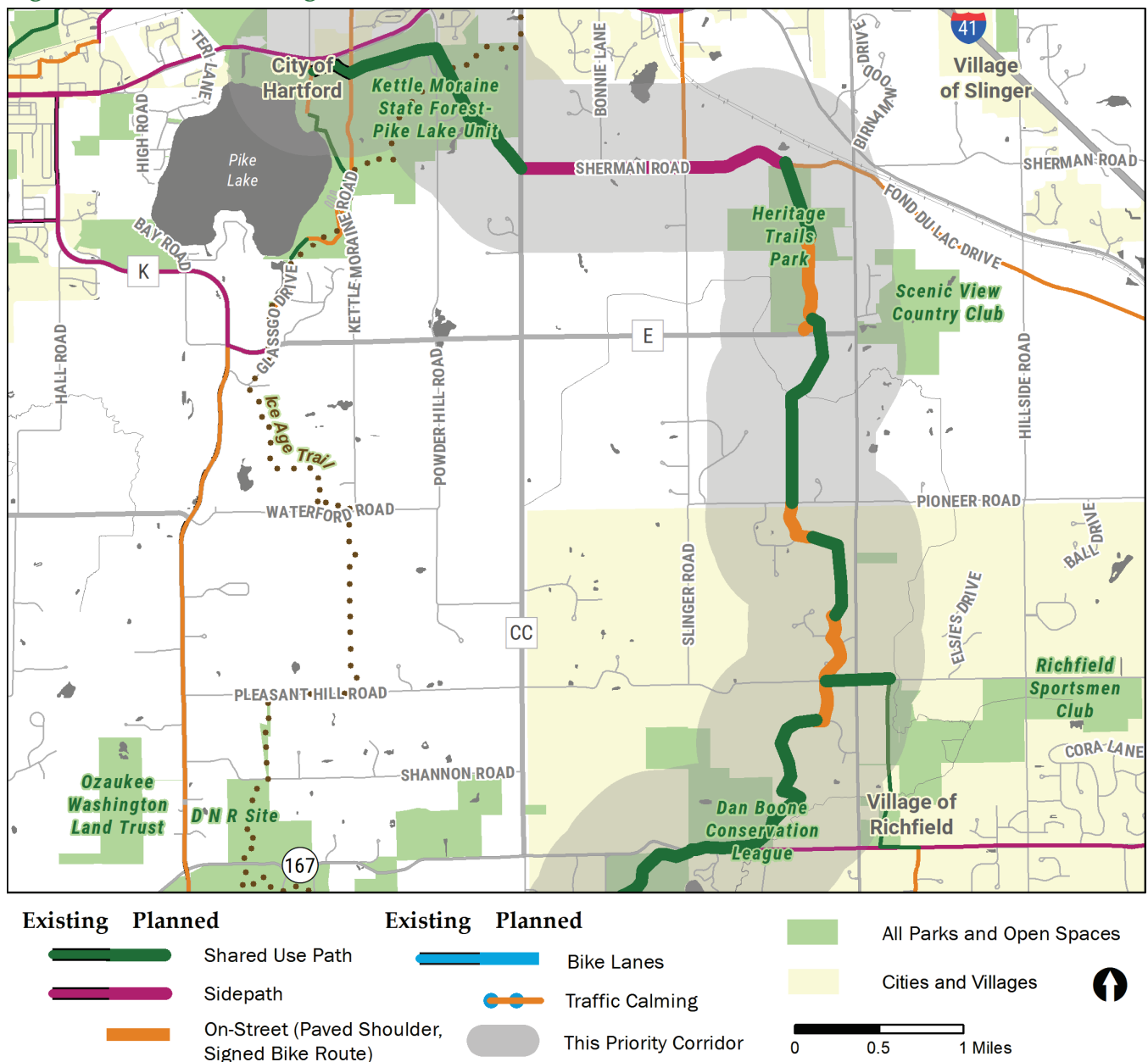


## Corridor 7: Pike Lake Unit to Heritage Trails Park to Loew Lake Unit

### Corridor overview

This proposed route connects some of the most beautiful and scenic areas of the County, taking advantage of open space in Kettle Moraine State Forest units and several County parks. Between CTH E and Holy Hill Road (STH 167), the proposed alignment traverses land that is currently active farmland. The proposed alignment depends on the Village of Richfield and the Town of Polk providing on-street connections or easements for the future path if or when the agricultural parcels are subdivided. The corridor may traverse several of the same parcels as the Ice Age National Scenic Trail; the alignment has been adjusted to minimize the number of times the proposed path would cross the hiking trail, and to emphasize that trail crossings shall be perpendicular and clearly marked.

Figure 6-15: Corridor 7 Alignment (Northern Section)



## Alignment Description for Northern Section of Corridor 7

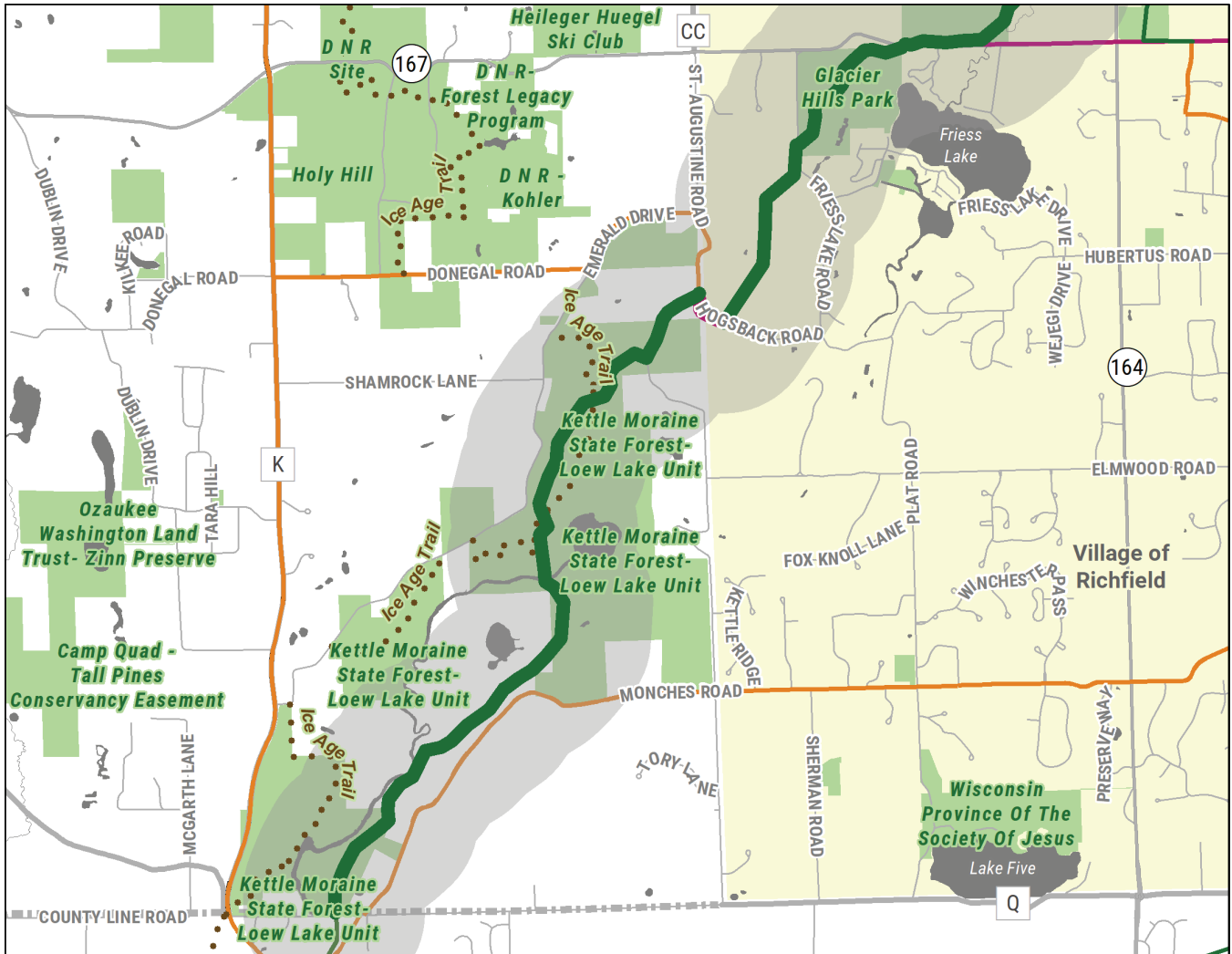
- **Kettle Moraine State Forest - Pike Lake Unit: from STH 60 sidepath and Franklin Drive, to Pike Lake Campground on Powder Hill road: Path**
  - Wisconsin DNR is planning a 10-foot paved shared use path connecting the campground on Powder Hill Road to Pike Lake Beach; this corridor would use that path
  - No property acquisition, as the path is existing and within the Kettle Moraine State Forest - Pike Lake Unit
  - Connect to the current end of the sidepath on STH 60 by “Big Guys” restaurant on Franklin Drive
- **Kettle Moraine State Forest - Pike Lake Unit: from Pike Lake Campground to the intersection of CTH CC and Sherman Road: Path**
  - Construct a 10-foot path connecting the campground parking lot to Sherman Road
  - The northern, wooded part of the route is located within state property (the Kettle Moraine State Forest - Pike Lake Unit) and does not require property acquisition.
  - Significant clearing and moderate grading required
  - The southern, open part of the route runs through private property which is currently farmland; property or right-of-way easement acquisition will be necessary; no grading and clearing required; alternatively, construct a side path along CTH CC
- **Sherman Road from CTH CC to Heritage Trails County Park, about 500 yards west of STH 164 bridge over Sherman Road.**
  - Low-traffic road is approximately 22 feet wide
  - Preferred option: Construct a 10-foot sidepath on the south side of the road, mostly using the road ROW (although some private property acquisition is likely necessary); grading required near Bonnie Lane and Slinger Road; grading and clearing required on the eastern, forested section of the segment
  - Alternative option: Construct 4-foot paved shoulders on both sides of the road (total lane and shoulder width of 32 feet)
- **Heritage Trails County Park route from Sherman Road to parking lot: Path**
  - Use open space in Heritage Trails Park to construct a 10-foot path
  - Significant clearing and grading required on the northern, forested section of the segment
- **Heritage Trails County Park driveway from parking lot to and CTH E: Shared Lane Markings and Wayfinding Signs**
  - Driveway is two lanes and 19-feet wide
  - Install shared lane markings and wayfinding signs
- **Route between unnamed road connecting to Heritage Trails County Park parking lot, and CTH E: Path**

- Construct a 10-foot path through private property to connect to CTH E
- Modest grading and significant clearing required on the northern portion of the segment.
- **Route between CTH E and Pioneer Road/Autumn Trail: Path**
  - Construct a 10-foot path through one mile of land that is privately owned; there are some parcels in this section that are still actively farmed and have not been subdivided
  - Encourage the Town of Polk to require an easement when the land is subdivided, or include the route as part of a residential street
  - The crossing of Coney River in the middle of the segment will require a bridge; wetlands to the south may complicate the route and/or involve engineering work
  - Alternative: Build a sidepath on the west side of State Highway 164 if easements cannot be acquired
- **Autumn Trail and Whitetail Run between Pioneer Road Whitetail Run cul-de-sac: Shared Lane Markings and Wayfinding Signs**
  - Roads are two lanes with widths of 24 feet
  - Install shared lane markings and wayfinding signs
- **Route between Whitetail Run cul-de-sac and North Star Place cul-de-sac: Path**
  - Alternative 1: Construct a 10-foot path between the two cul-de-sacs along existing homeowner’s association property easements and other land that is currently under private ownership that are still actively farmed
    - Encourage the Town of Polk to require an easement when the land is subdivided, or include the route as part of a residential street
    - Seasonal wetlands and a stream in the southern part of the segment would require engineering work
  - Alternative: Build a sidepath on the west side of State Highway 164 if easements cannot be acquired
- **Residential streets between North Star Place and Greystone Drive cul-de-sac: Shared Lane Markings and Wayfinding**
  - Low-traffic, narrow residential streets
  - Install shared lane markings and wayfinding signs
  - Study crossing safety at Pleasant Hill Road (possibly add high-visibility signs to warn motorists of path users)
- **Route through Daniel Boone Hunter’s League property, between Greystone Drive cul-de-sac and Holy Hill Road (STH 167): Path**

- Construct a 10-foot path running northeast-southwest, using private property in the route's northern section, and open space owned by the Daniel Boone Hunter's League in the route's southern section
- For the northern section, encourage the Village of Richfield to require easements or build connecting streets when subdividing
- For the southern section, work with the Daniel Boone Hunter's League to acquire property or easements to develop the path, taking care to avoid any part of the property near the shooting range
- Significant grading required in the central section because of elevation changes
- There are creek crossings and wetlands in the southern section
- The current proposed alignment avoids the shooting range
- Build a high-visibility path crossing to Glacier Hills County Park to warn motorists on Holy Hill Road (STH 167) of path users



Figure 6-16: Corridor 7 Alignment (Southern Section)



Alignment Description for Southern Section of Corridor 7

- **Glacier Hills County Park path between Holy Hill Road and Friess Lake Road: Path**
  - Construct a 10-foot path through Glacier Hills County Park
  - The path will require significant grading and clearing in the park
  - Build a high-visibility path crossing across Friess Lake Road to the sidepath on the south/west side of the road
- **Friess Lake Road to Hogsback Road: Path**
  - Build a 10-foot shared use path and 14-foot boardwalks through the wetlands and open space between Friess Lake Road and Saint Augustine Road; parcels in this area are all

privately owned, and many have single-family residences on them; work with willing property owners to identify an alignment

- **Hogsback Road between proposed path and Saint Augustine Road**
  - Construct a 10-foot sidepath; further engineering study is necessary to determine which side of the road is appropriate for the sidepath
  - Acquire property or easements along Hogsback Road necessary to build the sidepath
  - Some grading and clearing is required, especially at the creek 300 meters west of the intersection with Saint Augustine Road; there are wetlands on both sides of the road
- **Kettle Moraine State Forest - Loew Lake Unit from Saint Augustine Road to Monches Road: Path**
  - Construct a 10-foot path through public open space (the Kettle Moraine State Forest - Loew Lake Unit)
  - Moderate clearing and grading would be required; there are wetlands near the proposed river crossing
  - The shared use path would be separate from the Ice Age Trail footpath, but would likely cross it at least twice; shared use path crossings of the Ice Age Trail should be done at a perpendicular angle, with appropriate signs for both Ice Age Trail and shared use path users; on segments where bicyclist are illegally riding on the Ice Age Trail, it may be appropriate to construct a dodgeway to discourage bicyclists
  - The proposed alignment has been modified so that it is farther from the Ice Age Trail and has fewer crossings
  - The proposed alignment crosses equestrian trails and is shown to cross the river on a bridge currently used for equestrian use; the shared use path would need to be completely separate from any equestrian trails, and if the bridge were shared, there should be a barrier to separate bicycles from horses; the equestrian bridge is currently 10 feet wide and is not currently wide enough to include a barrier-separated shared use path
  - The DNR Master Plan for the Loew Lake Unit does not mention bicycling and would have to be amended to allow such a use; moreover, a shared use path may not be consistent with the “low use and low impact” recreation as described in the DNR Master Plan
  - Alternative: provide shared lane markings and bike route signs on Emerald Drive from Saint Augustine Road to CTH K, and a sidepath on CTH K to CTH Q
- **Kettle Moraine State Forest - Loew Lake Unit and private property, from Monches Road to Waukesha County border: Path**
  - Construct a 10-foot path between Monches Road and the river to the County Line Road

- Proposed alignment requires property acquisition or easements to avoid wetlands; the southern part of the proposed alignment traverses the southern entrance of the Loew Lake Unit
- At least one bridge required for creek crossings
- Alternative: Build a sidepath on the west side of Monches Road; this requires property acquisition and significant clearing

### Land Acquisition Costs for Corridor 7

The land acquisition costs for Corridor 7 are estimated to be between \$456,000 and \$670,000. The upper land acquisition estimate reflects the following assumptions: the County or maintaining agency must purchase land at higher valuations for a 30-foot easement on privately owned parcels in the shared use path corridor and purchase more easements for sidepaths. The lower land acquisition estimate reflects the following assumptions: the County or maintaining agency will purchase land at lower valuations for a 30-foot easement on privately-owned parcels in the shared-use-path corridor, and will purchase fewer easements for sidepaths.

### Construction Costs for Corridor 7

The figure below is an estimate of the full construction costs for the corridor. The construction costs do not take into account alternative alignments, or segments that are proposed to be built as paths, but may be built as on-street connections if farmland parcels are developed into residential subdivisions.

**Figure 6-17: Construction Cost Opinion for Corridor 7**

Facility Type	Action	Standalone Price/Mile		Cost
		2018 Dollars	Miles	
New Shared Use Path	Construct New (10') on Flat to Rolling Terrain	\$576,000	3.6	\$2,074,000
New Shared Use Path	Construct New (10') on Hilly Terrain / Streambank	\$691,200	7.5	\$5,184,000
Sidepath	Construct New (10') Along Rural Roadway	\$691,200	1.8	\$1,244,000
Minimal Enhancements	Marked Bike Route (Rural)	\$3,350	2.2	\$7,200
Bridges/Structures	New or widened bridge by Loew Lake	\$700,000	1 bridge	\$700,000
<b>Total</b>			<b>15.1</b>	<b>\$9,209,200</b>

Cost opinions are based on Fiscal Year 2018 WisDOT Unit Costs. Assumptions:

- 1) All work occurs in existing ROW (ROW acquisition costs are not included)
- 2) Quantities are rounded
- 3) Costs include 15% contingency
- 4) For Shared Use Paths and Sidepaths, the existing ROW is clear and free of obstructions (trees, structures, etc.) and does not require bridges or culverts. Estimated structure costs are tallied on a separate line.

## Implementation of the Connector Network

The remaining “non-priority routes” in the bikeway and trail network are still important connections—both locally, within municipalities, and as supplementary connectors to the priority routes. For the connector network, the County and local municipalities should implement the network in an opportunistic and incremental way. An opportunistic approach takes advantage of scheduled repaving or reconstruction projects to build the bikeway or trail. In fact, some projects in the connector network may be quickly implemented because they can be timed with repaving projects that are due to occur in the next five years. Any time the following actions take place, the County and local municipalities should refer to the bikeway and trail network in this Plan and determine whether the recommendations can be implemented as part of the project:

- Private property on a recommended bikeway or trail is subdivided or redeveloped
- A highway or road is repaved or reconstructed
- An intersection is reconfigured to a roundabout
- A bridge is rebuilt

The County and local municipalities can also build out the network by dedicating funding to “incremental” improvements that are low-cost and relatively easy to implement, such as signed bicycle routes on roads and streets that require minimal investments.

## Building Out the Network: Project Timing

To illustrate how both the Priority Corridors and the remaining bikeway and trail network might be built out, project staff referred to the County Highway Department’s schedule of surface improvements in the [2050 Transportation Network Sustainability Plan](#), as well as the projects listed in [WisDOT’s six-year improvement program](#). Washington County Figures 6-18, 6-19, and 6-20 show the way in which the network might be built out over the next 15-30 years.

### Short Term Opportunities (Figure 6-18):

The limited number of projects on Figure 6-18 reflect the assumption that the County will be conducting engineering studies and acquiring property for some of the proposed Priority Corridor segments, but in the meantime, could invest in low-cost improvements like the signed bike route between Germantown, Jackson, and Slinger. These opportunities will be considered and refined as part of the 5-year strategic action plan that County staff will undertake after adoption of this Plan.

### Opportunities on Priority Corridors

The following projects or “easy wins” present some opportunities to add to the Priority Corridors in the short term:



- **Corridor 2 (West Bend to Jackson).** The West Bend School District has plans to build a new school in Jackson, which would free the existing elementary school parcel near Main Street and Jackson Drive to a catalytic development for downtown Jackson. The new development could include a shared use path connection.
- **Corridor 3 (West Bend to Newburg via Decorah Road & Milwaukee River Path).** The City of West Bend could implement traffic calming on City streets and the sidepath by West High School. This project may be a good candidate for grant funding because it connects to schools and parks.
- **Corridor 4 (West Bend to Slinger via Ridge Run Park and CTH NN).** The City of West Bend could implement traffic calming and bike lanes on City streets. The City and the County could collaborate to assist the IATA in re-routing the Ice Age Trail, and then pave the segment north of Boot Lake in Ridge Run Park. Finally, the City and the County could work with the Cedar Community Retirement Center to build a path on the grounds of the Memory Care center.
- **Corridor 5 (Holy Hill-Freistadt Road).** In 2022, Freistadt Road (CTH F) is scheduled to be repaved between Fond du Lac Avenue and the Ozaukee County line. The County should add the proposed 10-foot sidepath on the south side of Freistadt Road at that time. Some parts of the sidepath, especially the ones near Firemen’s Park and Kennedy Middle School, may be good candidates for grant funding. The County can add bike lanes as an interim treatment on some sections of Freistadt Road. A sidepath could be included when the Briggs and Stratton distribution center on Holy Hill Road (east of IH-41 and west of Goldendale Road) is built.
- **Corridor 6 (Germantown to Bugline Trail via I-41 Pedestrian Overpass).** South of Donges Bay Road, the Village of Germantown could add bike route wayfinding signs to guide residents to the Bugline Trail.
- **Corridor 7 (Pike Lake Unit to Heritage Trails Park to Loew Lake Unit).** The Wisconsin DNR is planning to construct a shared use path in the Pike Lake Unit in 2020. The path would connect the campground on Powder Hill Road and the beach.

### Opportunities on the Connector Network

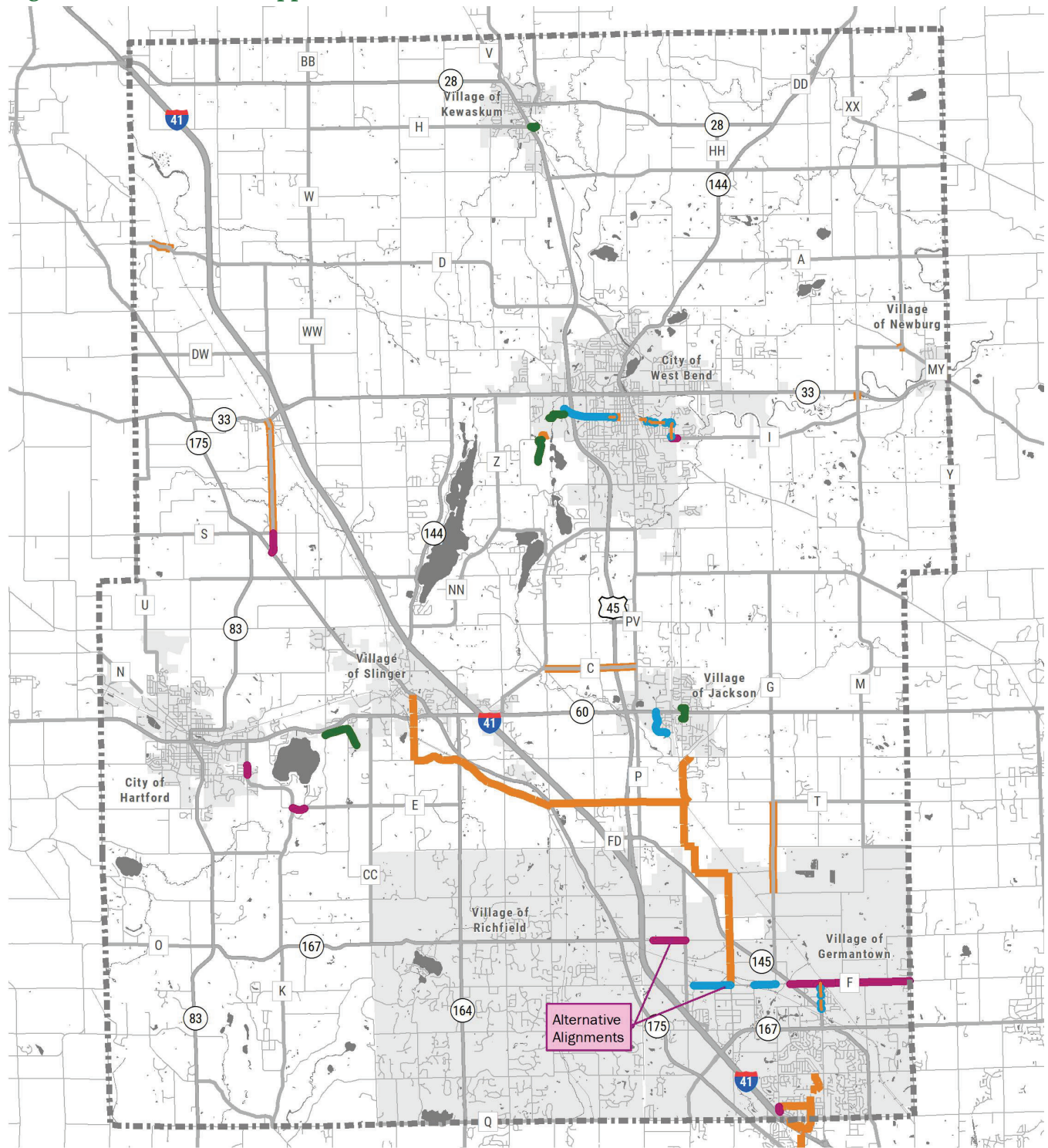
The following paving projects occurring in the next five years (2019 to 2023) present opportunities to add to the bikeway network:

- In 2019, CTH C (Cedar Creek Road) is scheduled to be repaved between CTH Z and CTH P. The Plan recommends 3-foot shoulders along this segment, or alternatively a sidepath if there is sufficient width in the road ROW.
- In 2020, USH 45 will be rehabilitated between the Interstate 41/ USH 45 split and CTH D north of West Bend, and within in the Village of Kewaskum. Washington County should urge

WisDOT to consider improvements where USH 45 passes over or under proposed bikeways, and to add the recommended connection to the Eisenbahn State trail in Kewaskum from CTH H through the water treatment plant. The Hubertus Road bridge over USH 45 is also scheduled for bridge rehabilitation in 2020; while it is unlikely that a sidewalk or separated bikeway could be added to the bridge at that time, WisDOT should study what kinds of bikeway treatments are appropriate for the bridge.

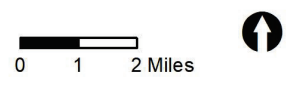
- In 2020, CTH W is scheduled to be reconstructed between Allenton and STH 83/CTH K. The Plan recommends 5-foot paved shoulders for most of this segment, and sidepaths for some segments that will eventually connect to the path planned through the Allenton State Wildlife Area and Theresa Marsh.
- In 2020, the bridge across the Milwaukee River on CTH M (near STH 33) is scheduled to be reconstructed with 5-foot paved shoulders.
- The County could implement a signed bike route between Jackson, Slinger, and Germantown at relatively low cost and effort. This will provide an interim connection between these communities, reflecting the understanding that a “rail with trail” path along the Canadian National railroad is unlikely to occur soon.

**Figure 6-18: Short-Term Opportunities**



**Short-Term Opportunities**

- Shared Use Path
- Sidepath
- Paved Shoulder (Width Varies)
- Bike Lanes
- Traffic Calming
- Minor Enhancements



## Mid-Term Opportunities (Figure 6-19)

### Opportunities on Priority Corridors

The following projects occurring in five to ten years (by 2028) present opportunities to add to the Priority Corridors:

- **Corridor 3 (West Bend to Newburg via Decorah Road & Milwaukee River Path).** In 2026, segments of Decorah Road (CTH I) where a sidepath is recommended are scheduled to be repaved. While adding the sidepath will require more funding than the repaving project alone, it is logical to coordinate the projects. Much of CTH M is also scheduled to be repaved or reconstructed during this timeframe. The County should consider grading a sufficient area to accommodate a future sidepath north of STH 33 when work crews are in the area.
- **Corridor 4 (West Bend to Slinger via Ridge Run Park and CTH NN).** In 2025, segments of CTH NN where a sidepath is recommended are scheduled to be repaved. While adding the sidepath will require more funding than the repaving project alone, it is logical to coordinate the projects.
- In addition to those projects, Figure 6-19 shows some expansion of the other Priority Corridors, assuming the County has completed the necessary engineering design and land acquisition. These include expansions of the sidepaths in Corridors 2, 3 and 5.

### Opportunities on the Connector Network

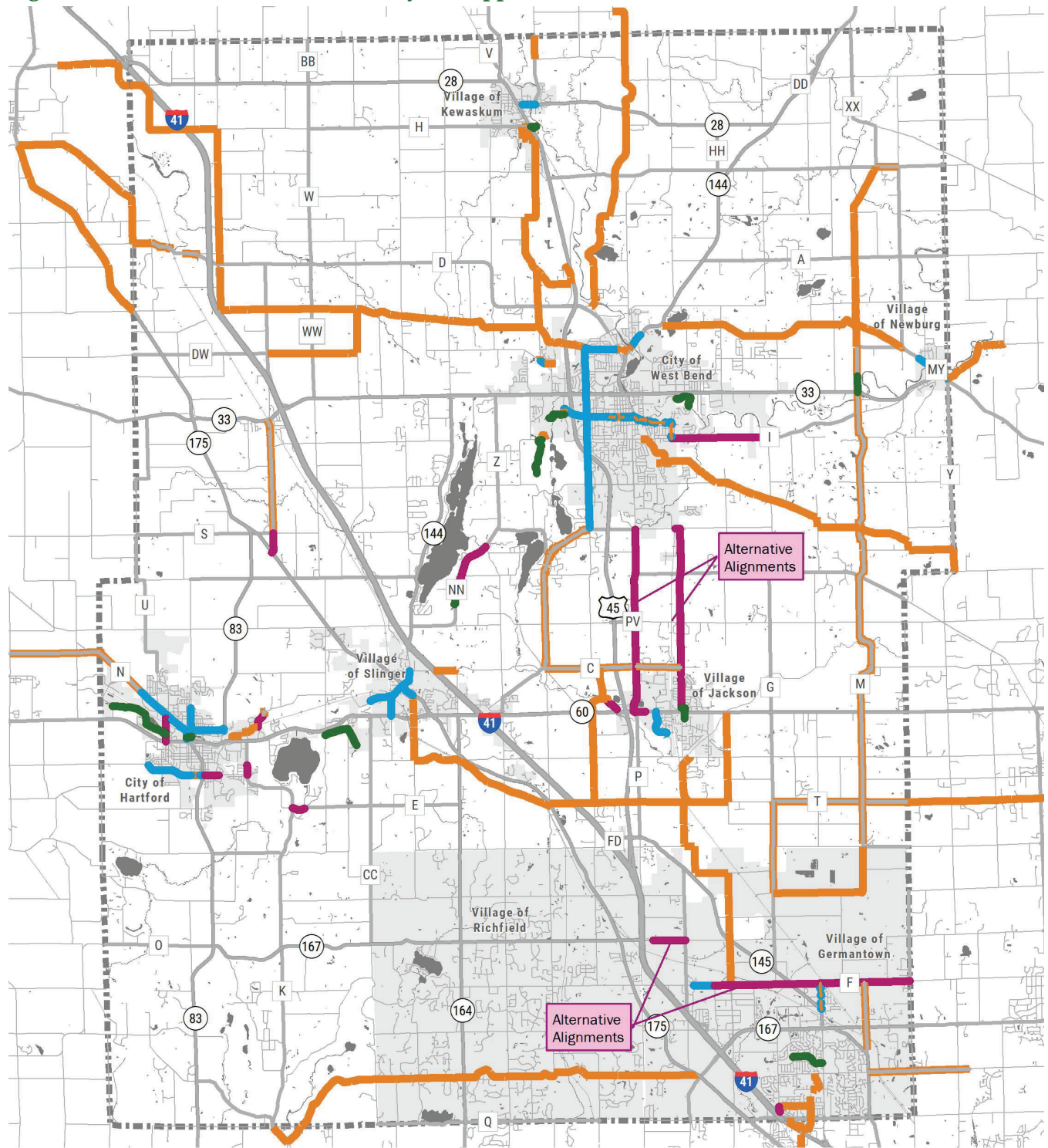
The more extended network in Figure 6-19 reflects the assumption that within ten years (by 2028) most municipalities will have expanded their bikeway network through repaving or reconstruction opportunities, or via low-cost projects such as bike lanes or marked bike routes. It also assumes that the County will pursue more low-cost “easy win” projects like signed bike routes in the rural northern part of the County. The map shows a rough illustration of how the network might be built out based on knowledge of upcoming County Highway projects and the time it takes to acquire property and conduct design for off-street bikeways and trails. The actual timeline of implementation may differ significantly from what is shown in Figure 6-19.

## Long-Term Projects (Figure 6-20)

Figure 6-20 shows the same “full build-out” that is presented in Figure 5-1, so that it is easier to refer between it and the short-to mid-term projects. The map reflects the reality that most of the corridors will take 10 to 50 years to complete, if not longer.



**Figure 6-19: Short and Mid-Term (1-10 year) Opportunities**



**Short and Mid-Term Opportunities (by 2028)**

- Shared Use Path
- Bike Lanes
- Sidepath
- Minor Enhancements
- Paved Shoulder (Width Varies)
- Traffic Calming

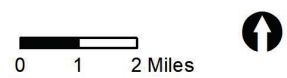
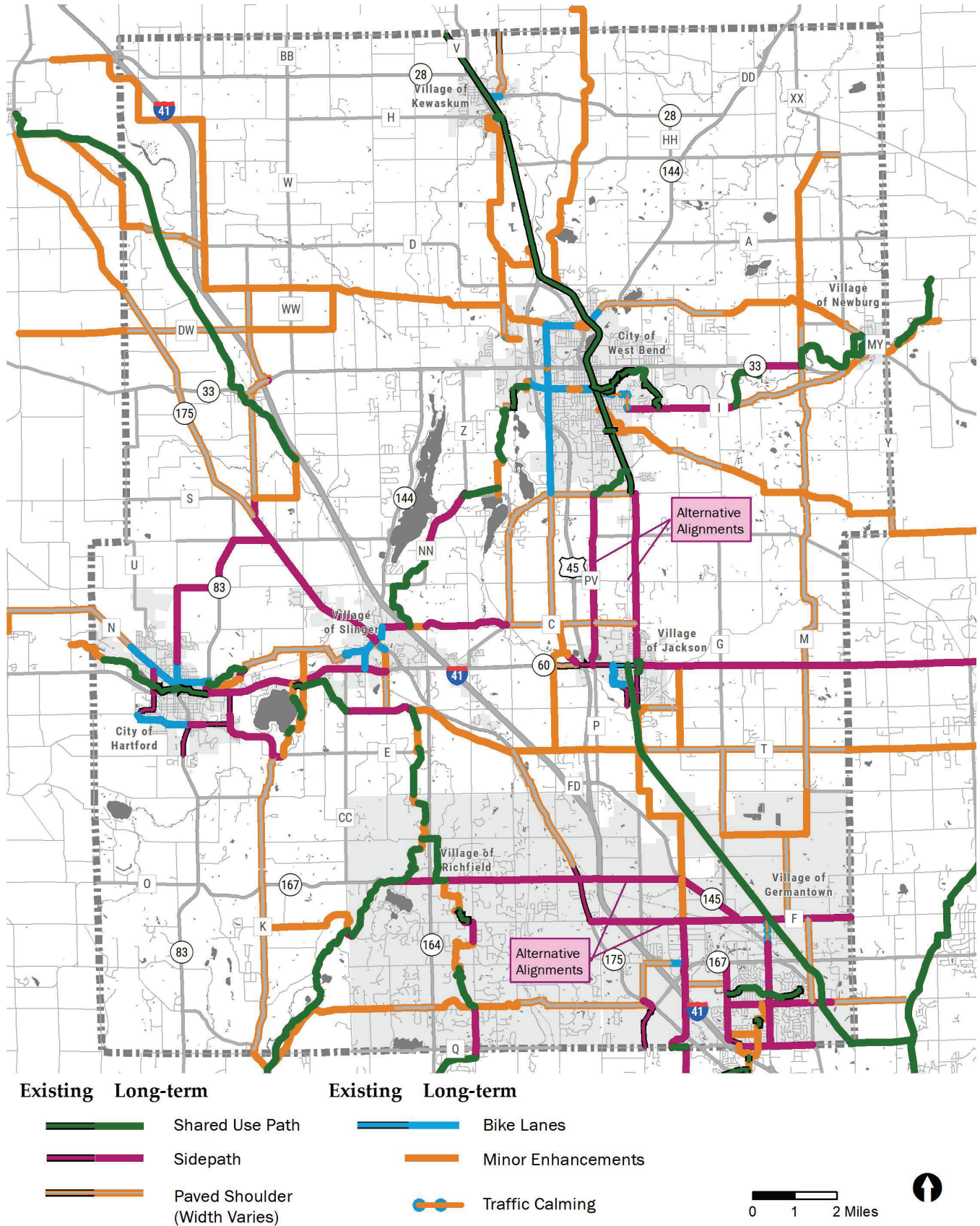


Figure 6-20: Built-Out Network





## Opinion of Probable Costs for Bikeways and Trails

### Construction Costs

The planning-level cost opinions used for the Priority Corridors are based on typical per-mile cost estimates in Figure 6-21 and 6-22 below. Opinions of probable cost were developed by identifying major pay items and establishing rough quantities, to determine a rough order of magnitude cost. Additional pay items have been assigned approximate lump sum prices based on a percentage of the anticipated construction cost. Planning-level cost opinions include a 15 percent contingency to cover items that are undefined or are typically unknown early in the planning phase of a project. Unit costs are based on 2018 dollars and were assigned based on historical cost data from WisDOT, other state departments of transportation, and other sources. Cost opinions **do not** include costs for culverts or bridges; easement and right-of-way acquisition; permitting, inspection, or construction management; engineering, surveying, geotechnical investigation, environmental documentation; special site remediation; or the cost for ongoing maintenance. The overall cost opinions are intended to be general and used only for planning purposes. Construction costs will vary based on the ultimate project scope, actual site conditions and constraints, schedule, and economic conditions at the time of construction.

For stand-alone projects, the per-mile estimates include excavation, grading, milling, pavement marking eradication, base course, surface course, new pavement markings, signs, construction zone traffic control, and the 15 percent contingency. In some cases, per-mile estimates also include landscaping, drainage, and utility adjustments. The cost for pavement markings and striping is based on epoxy, which is more durable and longer lasting—but much costlier—than regular paint. Since many of the on-street projects involve striping, the cost of each project could be less if cheaper (but less durable) paint was used instead.

If built as part of a larger roadway project, the cost of bikeways is substantially less. For example, when a paved shoulder is added as part of a regular repaving project, there is no additional cost for mobilizing equipment, traffic control, or eradicating pavement markings. In addition, project unit costs are often reduced, benefitting from an economy of scale. To account for this, we have provided “coordinated project” cost estimates.

Using the per-mile cost estimates in Figure 6-21 and 6-22, the total cost of constructing the entire bikeway and trail network in the Plan is estimated at \$90 million. That cost would not be borne entirely by the County; for example, WisDOT, local municipalities, the Wisconsin DNR, and other jurisdictions would all be significant contributors to the cost of building the network. The County will also pursue grant funding, partnerships, and sponsorships to offset the costs of the Plan.

**Figure 6-21: Typical Cost per Mile for On-Street Bikeways**

Facility	Action	Stand-Alone Price/Mile (2018 Dollars)	Coordinated Price/Mile (2018 Dollars)
Bike Lanes	Add Striping/Marking	\$37,200	\$35,400
	Road Diet	\$83,400	\$45,100
	Lane Diet	\$49,200	\$35,400
	Widen Roadway	\$470,900	\$240,800
Paved & Striped Shoulder	Add Striping/Marking	\$22,300	\$21,200
	Road Reconfiguration (“Road Diet”)	\$83,400	\$30,200
	Lane Narrowing (“Lane Diet”)	\$24,100	\$0
	Pave Existing Unpaved Shoulder (5' each side)	\$129,800	\$97,200
	Pave Existing Unpaved Shoulder (6' each side)	\$145,100	\$108,600
	Widen (by 2' each side)	\$87,100	\$70,400
	Widen (by 4' each side)	\$205,500	\$157,100
	Widen (by 5' each side)	\$470,900	\$240,800
Minimal Enhancements	Shared Lane Markings (Sharrows)	\$16,000	\$15,200
	Marked Bike Route (Urban)	\$6,700	\$6,400
	Marked Bike Route (Rural)	\$3,350	\$3,200
Traffic Calming and Shared Lane Markings	Install Speed Humps and Traffic Circles and Shared Lane Markings (Sharrows)	\$114,400	\$98,200

Cost opinions are based on Fiscal Year 2018 WisDOT Unit Costs. Assumptions:

- 1) All work occurs in existing ROW (ROW acquisition costs are not included)
- 2) Quantities are rounded
- 3) Costs include 15% contingency

**Figure 6-22: Typical Cost per Mile for Trails and Sidepaths**

Facility	Action	Stand-Alone Price/Mile (2018 Dollars)	Coordinated Price/Mile (2018 Dollars)
New Shared Use Path	Construct New (10') on Former RR ROW	\$345,600	--
	Construct New (10') Next to Active RR in ROW	\$1,152,000	--
	Construct New (10') on Flat to Rolling Terrain	\$576,000	--
	Construct New (10') on Hilly Terrain	\$691,200	--
	Construct New (10') on Streambank	\$691,200	--
Sidepath	Widen Existing (by 5')	\$188,230	\$180,701
	Construct New (10') Along Urban Roadway	\$432,000	\$415,400
	Construct New (10') Along Rural Roadway	\$691,200	\$664,600

Cost opinions are based on Fiscal Year 2018 WisDOT Unit Costs. Assumptions:

- 1) All work occurs in existing ROW (ROW acquisition costs are not included)
- 2) Quantities are rounded
- 3) Costs include 15% contingency
- 4) For Shared Use Paths and Sidepaths, the existing ROW is clear and free of obstructions (trees, structures, etc.) and does not require bridges or culverts. Estimated structure costs are tallied on a separate line.



## Design and Environmental Review Costs

Design costs for trails or sidepaths are typically 20 to 25 percent of the construction costs. Most of the projects in the Priority Corridors can go into the design stage after this Plan is approved. WisDOT does not award federal Transportation Alternatives Program (TAP) grants to multimodal projects that propose stand-alone preliminary engineering work such as developing project-specific design or environmental documents. In addition, WisDOT does not fund multimodal projects that require property acquisition that has not been completed. The County should plan on locally funding all preliminary engineering work, environmental review, and property acquisition for projects they hope to complete with WisDOT grant funds.

The first step of the design process is alternative development, which considers different potential trail alignments within a corridor, prepares feasibility and costs reports, and typically designates a preferred alternative. After the alternatives development, the County can review the costs for each alternative, including easement and right-of-way acquisition costs.

An additional cost for projects constructed using federal funds is the more detailed environmental documentation needed. At the low end, added documentation for federal funding can cost between \$15,000 to \$30,000 for a simple categorical exclusion (which determines that the project does not have a significant effect on the environment and therefore is excluded from having to undergo a detailed environmental impact statement). At the higher end, the added documentation can cost hundreds of thousands of dollars for a full Environmental Impact Statement (EIS). Shared use path projects often require only a categorical exclusion; however, the presence of wetlands, floodplain, rare/threatened/endangered species, or historic/cultural resources may push the environmental documentation to a higher level of review and cost. Certain federal agencies often require a higher level of environmental documentation/approval than a typical transportation agency.

## Maintenance Cost Estimates for Bikeways and Trails

The League of American Bicyclists has found that agencies with successful maintenance strategies are those that consider bicycle and pedestrian infrastructure in the same light as other infrastructure systems—a necessary part of providing a high quality of life to the community. Washington County should use the interjurisdictional workgroup recommended in Chapter 5 to cooperatively implement a strategy for annual maintenance needs and guidelines for the commitments from each agency. For guidance on what a maintenance strategy might include, the County can refer to the [City of Madison's comprehensive bikeway maintenance policy](#) that defines departmental responsibilities between different city agencies, as well as the minimum maintenance intervals.

To help jurisdictions in Washington County include adequate maintenance funding in their annual operating budgets, this Plan includes planning-level maintenance costs in Figure 6-23 and 6-24 for both on-street bikeways and paths. The maintenance costs are based on estimates from a variety of sources, including Washington County, WisDOT unit costs, the [Twin Cities Regional Trails Master Plan](#), and the Rails to Trails Conservancy's [Maintenance and Operation Survey](#).

**Figure 6-23: Routine Maintenance Costs per Mile for Bikeways and Trails**

Routine Operations and Maintenance	Estimated Annual Cost/Mile
<b>On-Street Bikeways Routine Maintenance Costs</b>	
Sweep Bike Lanes (Twice Annually)	\$90
Sign Repair or Replacement	\$300
Reapply Pavement Markings for Bike Lanes and Paved Shoulders (once annually)	\$3,000
<b>Annual Cost for On-Street Routine Maintenance</b>	<b>\$3,390</b>
<b>Paths and Trails Routine Operations and Maintenance Costs</b>	
Mowing, Trail Sweeping, Brush Pruning, Clearing, Litter Removal	\$1,100
Bridge, Boardwalk, Underpass and Crosswalk Maintenance	\$350
Other Routine Operations and Maintenance	\$950
<b>Annual Cost for Paths and Trails Routine Maintenance</b>	<b>\$2,400</b>
Optional Snow Removal Costs for Paths and Trails (Cost per Mile per Snow Event)	\$400

These costs are for planning purposes only. Local agency costs will provide a more accurate predictor of maintenance costs. Note:

- Paved shoulders will be swept twice annually and cleared of snow as part of highway jurisdiction’s regular maintenance practices, regardless of whether they are considered a “bikeway”. Bike lanes will also be swept as part of the roadway, but the costs above reflect **increased sweeping** of bike lanes to improve their year-round “rideability”.
- The cost of clearing glass and debris from the road as reported by bicyclists or motorists are not included in the cost estimates, but should be considered as an incidental, but minor cost.

**Figure 6-24: Pavement and Structure Maintenance Costs per Mile**

Pavement and Structure Maintenance	Estimated Cost/Mile
<b>On-Street Bikeways Pavement Maintenance Costs</b>	
Crack Sealing 6' Paved Shoulder (Cost is for additional shoulder width only no additional costs for on-street bicycle facilities that do not require additional paved shoulders)	\$800
<b>Paths and Trails Pavement and Structure Maintenance Costs</b>	
Crack Sealing 10' Paved Trails (Every 4-5 years)	\$3,400
Add 3" Aggregate to Limestone Trails (Every 15-20 years)	\$24,000
Re-mark Yellow Center Lines (every 3-5 years)	\$1,000
Bridge, boardwalk, underpass and crossing repair	Varies

These costs are for planning purposes only. Local agency costs will provide a more accurate predictor of maintenance costs.

Maintenance costs include both “routine” maintenance such as mowing, sweeping, and trash clean-up and “pavement management” maintenance, which includes direct treatment of the pavement structure itself to elongate its life and may occur several times over the lifecycle of a road or path. All jurisdictions with authority over bikeways and trails should maintain both a routine trail maintenance calendar and a pavement management schedule. Figure 6-23 shows routine maintenance costs that should be accounted for in an annual operations budget. Figure 6-24 shows pavement and structure

maintenance costs, such as crack sealing, that may vary from year to year as different lengths of the trail and bikeway system are completed to prolong the life of the asphalt. At some point, despite the pavement maintenance, the path pavement will need to go through a resurfacing that could involve a mill and overlay or a new surface layer.

**Snow removal.** Maintenance of on-street bikeways also includes plowing or removing snow from the full width of paved shoulders and bike lanes identified in the Plan, to the same standards as snow removal from the rest of the street. The costs in Figure 6-24 assume that the full width of streets is already plowed, so there are no increased costs for snow removal for on-street bikeways.

Many cities and counties in northern climates plow snow and apply sand or brine on shared use paths to allow for year-round use by people walking or bicycling. The optional snow removal costs in Figure 6-24 assume that sand is applied after snow removal to avoid ice build-up. However, not all communities choose to include snow removal in their budgets. It should be noted that some funding sources for the construction of paths require that snow be removed from the path to maintain year-round use. Snow removal on paths can usually be done with equipment that jurisdictions already own; however, special equipment may need to be acquired. Before a community builds a trail or a sidepath, the community should consider whether it will pay for snow removal, and which agency would be responsible. Where a sidepath is built in place of a sidewalk, the community should have a public discussion with adjoining property owners to decide who is responsible for snow removal.



Many cities in northern climates purchase special equipment to plow snow from paths in winter.

## Likely Funding Sources

Grant programs—such as the Transportation Alternatives Program that funded the development of this Plan—are one of the primary sources of funding bicycle and pedestrian infrastructure. However, state and federal funding sources are limited and highly competitive. Figure 6-25 summarizes some of these funding opportunities, which are described in more detail below:

**Figure 6-25: Likely Federal and State Grants**

Types of funding	Eligible bikeway projects	Match required	Availability/timeline for application
Federal Transportation Alternatives Program (TAP) (apply through WisDOT, selected by SEWRPC)	On or off-road facilities	20%	Late 2019 or early 2020
Federal Congestion Mitigation and Air Quality Improvement Program (CMAQ) (apply through WisDOT)	Transportation projects that reduce the number of vehicle trips and/or vehicle miles traveled.	20%	Sometime in 2019
Knowles-Nelson Stewardship Local Assistance Programs	Off-road facilities such as trails and trailhead facilities	50%	May 1, 2019
Recreational Trails Program (RTP)	Development and maintenance of recreational trails and trail-related facilities	50%	May 1, 2019

Washington County, municipalities, and advocates should continue to seek funding from alternative sources, making a concerted effort to attain a significant portion of the funding of stand-alone projects from such sources. Potential alternative funding sources include the following:

- Transportation Alternatives Program (TAP)** – WisDOT manages the TAP program, which is funded through the Federal Surface Transportation Block Grant Program. Eligible projects include planning, design, and construction of bicycle and pedestrian facilities; recreational trails; Safe Routes to School projects; community improvements such as historic preservation and vegetation management; and environmental mitigation related to stormwater and habitat connectivity. This program is highly competitive. Path projects that are near schools or commercial centers receive higher priority under TAP scoring process, so some of the proposed projects near schools in West Bend and Germantown could be competitive under this program. Washington County TAP projects will need to apply through WisDOT, but the project selection process is handled by SEWRPC.
- Congestion Mitigation and Air Quality Improvement Program (CMAQ)** – CMAQ-eligible projects aim to reduce the number of vehicle trips and/or vehicle miles traveled and must be in one of the Wisconsin counties that is in an air quality non-attainment area. For a bikeway



project, applicants must show a significant potential for the planned bikeway to reduce vehicle trips and/or vehicle miles traveled; some of the proposed projects in Germantown, Jackson, and West Bend may meet these criteria. Because the focus of the program is on transportation trips, grantees may be required to plow snow on CMAQ-funded paths during the winter.

- **Knowles-Nelson Stewardship Program Grants** – The Knowles-Nelson Stewardship is managed by the Wisconsin DNR and will provide up to 50% of the cost of land acquisition and/or trail development projects that “provide public access for outdoor recreation purposes.” These funds can help pay for the land acquisition for future trail development, trail construction costs, and other recreational items like construction of shelters and restrooms at trailheads.
- **Recreational Trails Aids (RTA) Program** – This DNR program allocates federal Recreational Trails Program (RTP) funding for trails. RTP funds may only be used on trails that have been identified in or further a goal of a plan that has been included or referenced in a statewide comprehensive outdoor recreation plan. Eligible activities (in order of priority) are: maintenance or restoration of existing trails; development or rehabilitation of trailside/trailhead facilities and trail linkages; construction of new trails; and property acquisition for trails. The program has a cap of \$45,000 per grant per fiscal year but every third year the grant cap is increased to \$200,000. The grant cap in 2018 was \$200,000, meaning that in 2019 and 2020 the cap will be \$45,000.
- **Municipal Development Requirements** – Implementation of some of the Plan’s recommendations can be facilitated by development projects at the city, village, or town level. Examples include requiring new development and redevelopment to dedicate easements, pay municipal impact fees, or construct specific improvements. Some of the proposed corridors traverse town or municipal land that could be subdivided into residential development in the next 5-15 years. The County should encourage towns and municipalities to add provisions in their subdivision and zoning ordinances that require new developments to include the planned path connection; configure the residential street network to permit an on-street connection; or, at a minimum, include easements that will permit a path or an on-street connection to eventually be constructed.

**The infrastructure recommendations in the Plan cannot be implemented in a timely manner solely through grant funding.** Rather, most of the recommendations in the Plan will need to be funded from County and local sources. The program and policy recommendations in Chapter 4 included recommendations for County and local funding sources:

- Continue the Washington County Planning and Parks department’s annual capital investment allocation for trails and bikeways
- Establish an annual capital investment program for bikeways or trail crossing safety improvement projects on County Highways

- Encourage municipalities to establish annual capital investments for bicycle and pedestrian infrastructure improvements and discuss opportunities to coordinate funding for projects

That said, the recommendations also stated that the County should continue to seek funding from federal, state, and foundation grants.

## Next Steps

The County can begin implementing the Plan as soon as it is adopted by the County Board. Successful implementation of the Plan will depend on effective collaboration between County departments, and with local governments, advocacy and non-profit conservation organizations, businesses, and land owners. To facilitate this collaboration, it can be helpful to identify clear roles, responsibilities, and timelines for high-priority actions.

### Strategic Action Plan

Once the Washington County Bikeway and Trail Network Plan is adopted, County staff can develop a Five-Year Strategic Action Plan to outline clear and achievable implementation tasks. Such a plan would pull from the recommendations in Chapter 4 and 6 of this Plan, and identify priorities, responsibilities, and timelines for each individual action.

The Five-Year Strategic Action Plan will:

- Define the roles & responsibilities of the implementation team
- Outline external stakeholders and partnerships
- Prioritize tasks outlined in the Bikeway and Trail Network Plan and decide on which engineering studies to undertake to determine alternative alignments
- Focus on specific actions each year during the 5-year period
- Set performance measures of success
- Plan for communication and marketing efforts, especially with key stakeholders
- Craft a consistent message

The Strategic Action Plan will be reviewed on an annual basis. It could include the following six sections. Within each section, there would be a list of tasks, organized in one-year increments, listing the necessary actions and the entity or entities responsible:

1. Policy Implementation Tasks
2. Priority Corridor Network Implementation Tasks
  - a. Short-term projects on priority corridors
  - b. Engineering studies on priority corridors

3. Connector Network Implementation Tasks
4. Communication & Marketing Tasks
5. Public & Stakeholder Engagement Tasks
6. Funding Tasks

### Coordination, Oversight, and Communication

Successful implementation of the bikeway and trail network will require internal coordination, public oversight, and proactive communication with external agencies. The Program and Policy Recommendations in Chapter 4 included several recommendations to establish—or continue—committees for coordination and oversight, and to develop a communication plan.

The **Internal County Staff Bike and Pedestrian Workgroup** should take the lead on developing the Five-Year Strategic Action Plan and coordinating to implement specific tasks. The members of this workgroup are listed on page ii and include representatives from the Parks Division, the Highway Department, the Planning Division, and the Health Department. This group will define the annual priority tasks, assign responsibilities, and revise the Strategic Action Plan as tasks are completed or updated.

The County should also establish a formal **Intergovernmental Bike/Ped Council** to oversee implementation of the Plan, support implementation within their capabilities, and provide guidance on difficult decisions. This Council could advise the County’s Public Works Committee, meet quarterly, and confirm the annual tasks in the Strategic Action Plan. The Council could include representatives from the Bike and Pedestrian Plan Advisory Committee that oversaw this Plan, which included local governments and advocacy organizations. It could also include the Wisconsin DNR, IATA, and land conservancy organizations such as the Cedar Lake Conservation Foundation.

Creating an official council takes time; in the absence of such a council, County staff will continue to meet and inform stakeholders in accordance with the communication and marketing tasks that will be identified in the Five-Year Strategic Plan. The to-be-determined Communications and Marketing tasks could take several forms:

- Send email blasts to the list of email contacts developed during this planning process, to keep stakeholders up-to-date on implementation progress or specific corridor questions
- Create small workgroups for each of the Priority Corridors, comprised of stakeholders specific to the corridor, to oversee implementation of the corridor
- Hold an annual meeting of a workgroup made up of stakeholders (such as those listed in the Intergovernmental Bike/Ped Council) to oversee implementation of the Plan, support implementation, and provide guidance on difficult decisions



# Appendices

**Appendix A: Data Sources and Methodology for the Roadway Bicycle Compatibility Score**

**Appendix B: Summary of Public Input on the First Interactive Map**

**Appendix C: Summary of Public Input on the Second Interactive Map**

**Appendix D: Documentation of Inter-Agency Coordination**

**Appendix E: National Park Service Comments on Draft Plan**

**Appendix F: Rails to Trails Conservancy–Route of the Badger**



The bridge over the Milwaukee River on the Quass Creek Trail in West Bend.



## Appendix A: Data Sources and Methodology for the Roadway Bicycle Compatibility Score

WisDOT developed a methodology for rating the compatibility of roadways with bicycling based on several widely available metrics. The methodology produces a bicycle compatibility rating of “best conditions,” “moderate conditions,” or “not recommended” for each roadway segment. Figure 2-3 displays the results of this analysis for rural Washington County roads. This appendix provides more information on how the compatibility was measured.

### Methodology to Determine Roadway Bicycle Compatibility

In general, WisDOT estimates the conditions for federal, state, or county highways, because there is insufficient data available to estimate the conditions on local roads owned by cities, villages, or towns. The draft roadway bicycle compatibility ratings shown on Figure 2-3 are from two sources:

- For federal, state, and local roads, the planning team used map layers provided by WisDOT showing the most recent compatibility ratings, based on WisDOT’s 2015 update to the [State Bicycle Map](#). Those ratings were modified where there was a known change in the bicycling conditions (such as an increase in truck traffic or a road project that added paved shoulders in the past three years).
- For Washington County roads, the planning team used road centerline data provided by the Washington County Highway Department with 2018 pavement width and traffic volumes. The planning team then estimated the bicycling conditions using the methodology described below.

WisDOT develops the compatibility ratings using a formula to estimate rural road bicycle compatibility. The formula was designed to be sensitive to the conditions of low- and moderate-volume rural roads, such as those found throughout Wisconsin and Washington County. The model was based on the probability of a conflict, defined as two opposing motor vehicles passing each other when a bicyclist is present. This impacts the suitability of a road for safe shared use; very few rural roads in Wisconsin have space for two cars and a bicycle. There is an exponential relationship between traffic volumes and conflicts. For example, a bicyclist can expect to encounter nine times as many conflicts on a road with 1,500 vehicles daily, compared to a road that has 500 vehicles daily.<sup>13</sup>

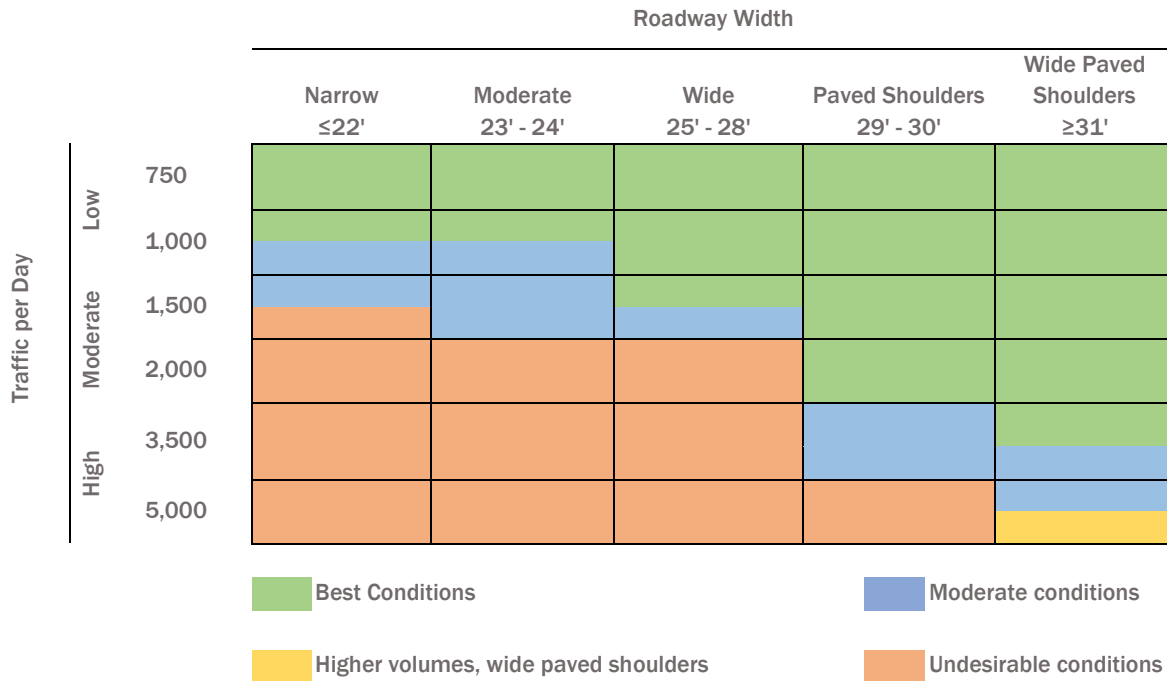
WisDOT’s bicycle compatibility rating assessment uses the following factors: average daily traffic volume; roadway width; percent yellow center line (which measured passing restrictions); and percent heavy truck traffic. Based on these factors, roadway segments are rated “good,” “moderate,” or “undesirable.” The provided ratings are for adult bicyclists over 16 years of age who are generally comfortable with at least lower volumes of higher traffic speed motor vehicle traffic.

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<sup>13</sup> *Wisconsin Rural Bicycle Planning Guide*. Madison, WI, Wisconsin Department of Transportation. April 2006, 15.

Figure A-1 displays a generalized depiction of the methodology results. As traffic volumes increase, roadway width must also increase to maintain bicyclist comfort levels. A similar pattern exists for truck volumes and speed increases; as these factors increase, wider paved shoulders are needed to maintain comfort levels. A more detailed description of how the rating is calculated is documented in [Appendix A of the Wisconsin Rural Bicycle Planning Guide](#).

**Figure A-1: Roadway Ratings by Width and Volume**



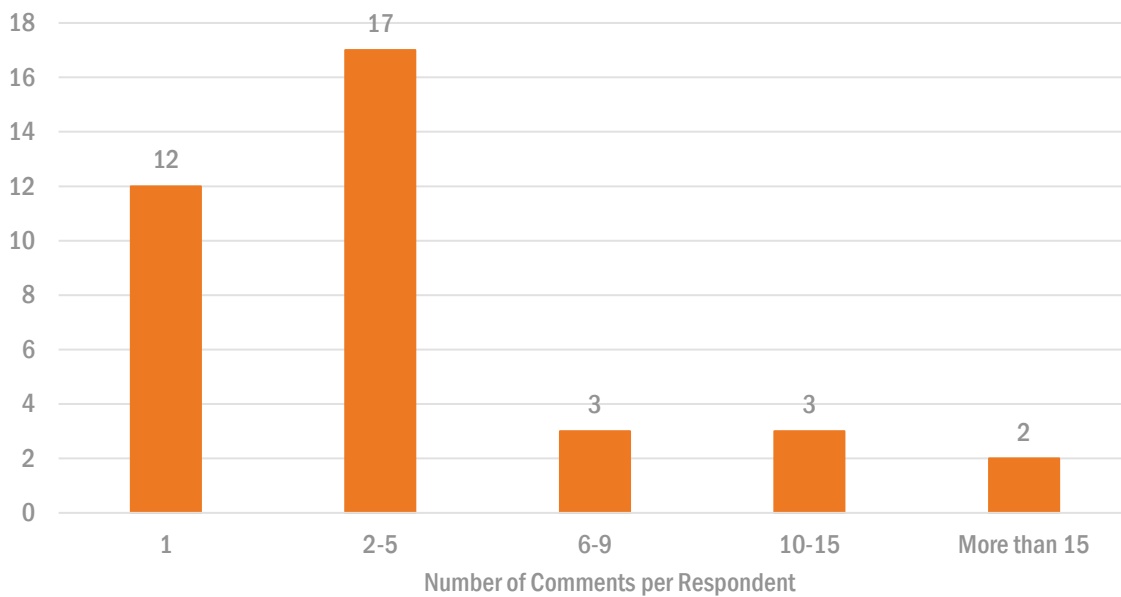
## Appendix B: Summary of Public Input on the First Interactive Map

WikiMap is an online interactive public involvement platform that allows participants to identify and comment on specific challenge areas and opportunities to improve bicycling. This appendix provides an overview of the data that was collected through the WikiMap that was available for online comment between August 16 and September 11, 2018. The appendix does not describe detailed entries on the map, but rather the generalized map comments.

### WikiMap Commenter Information

During the open comment period, 118 different users (excluding staff from the project management team of Washington County and Toole Design) logged into the WikiMap site and created accounts. Of those users, only 37 provided input on the map. Those 37 respondents entered a total of 161 comments on the map. Most users provided between one and five comments, although two users entered more than 15 comments.

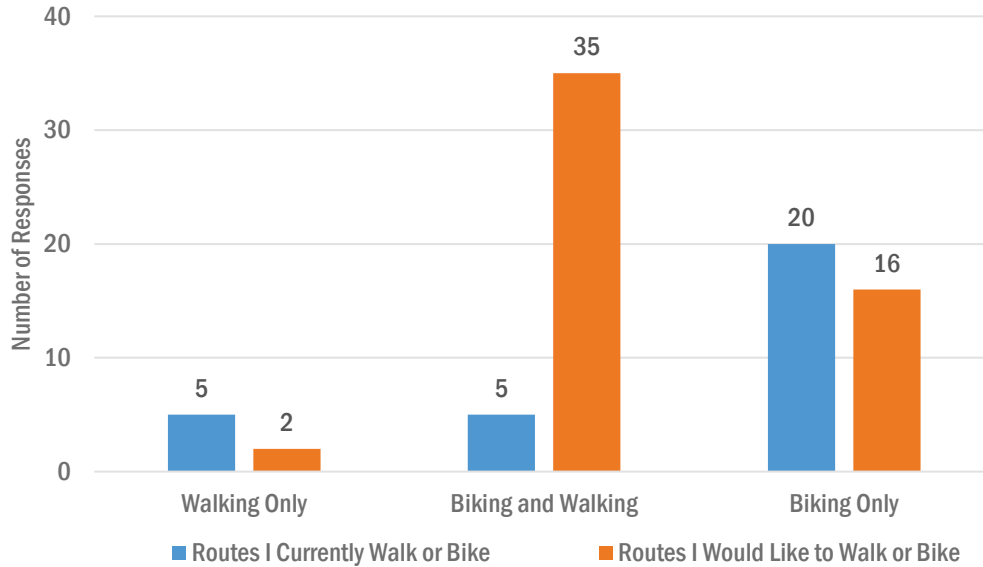
**Figure B-1: Most WikiMap Respondents Entered between 1 and 5 Comments**



### Line Comments

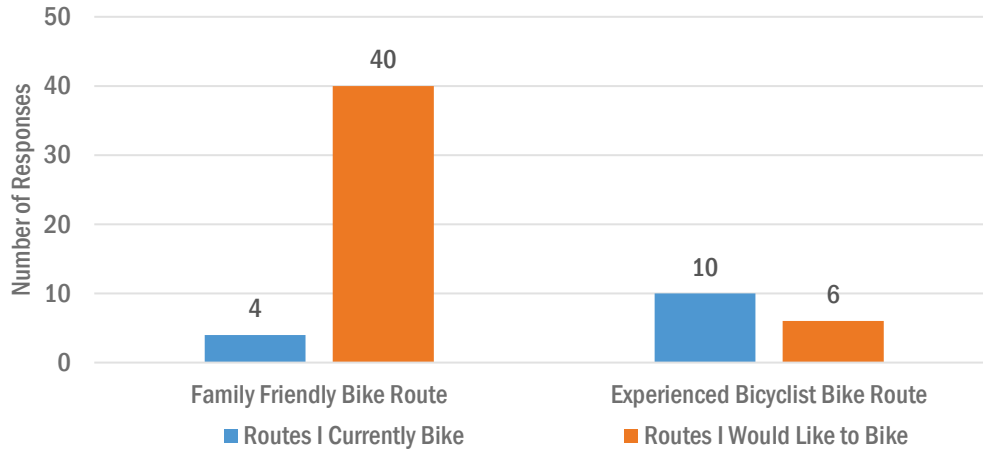
Respondents drew a total of 83 lines on the interactive map. Of those lines, most (53) were lines showing “routes I would like to walk or bike” (orange bars in Figure B-2). The remaining 30 were lines showing “routes I currently walk or bike” (blue bars in Figure B-2). Within each of those categories, respondents could identify if the route was a walking-only route, a walking and biking route, or a biking-only route. Most of the “routes I would like to walk or bike” were “biking and walking routes”, indicating a desire for more shared use paths.

**Figure B-2: Line Comments by Travel Mode, and by Current and Desired Routes**



To determine what kinds of biking routes (current or desired) users drew on the interactive map, users were asked if their current or desired route was a “family friendly bike route” or a “experienced bicyclist bike route.” Most of the “routes I currently bike” were for “experienced bicyclists,” while most of the “routes I would like to bike” were for “family friendly bike routes” (see Figure B-3).

**Figure B-3: Types of Biking Routes Drawn on WikiMap**



**Routes I Currently Walk or Bike**

Map 1 shows the “Routes I Currently Walk or Bike” marked by users on the WikiMap. Many of the users left comments on these routes to clarify the conditions of the current routes; these comments are displayed on Map 1. Users could mark “I agree” with a comment. In those cases where multiple users agreed with a comment, the comment is shown in bold text.

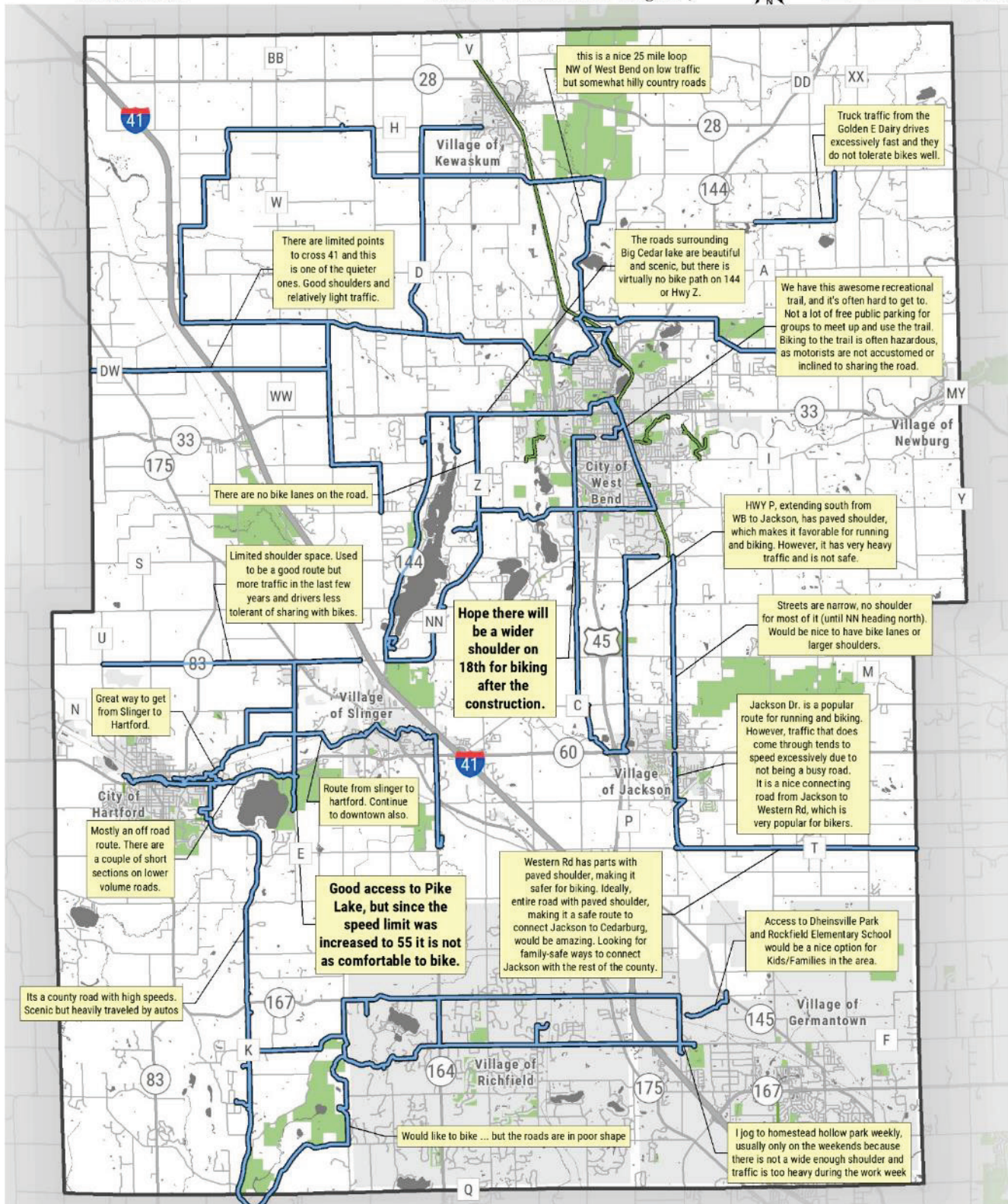
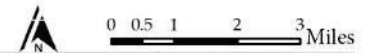


# Map 1: Current Routes Marked on the WikiMap



— "Routes I Currently Walk or Bike"

■ User Comment (in bold if another user marked "I Agree")



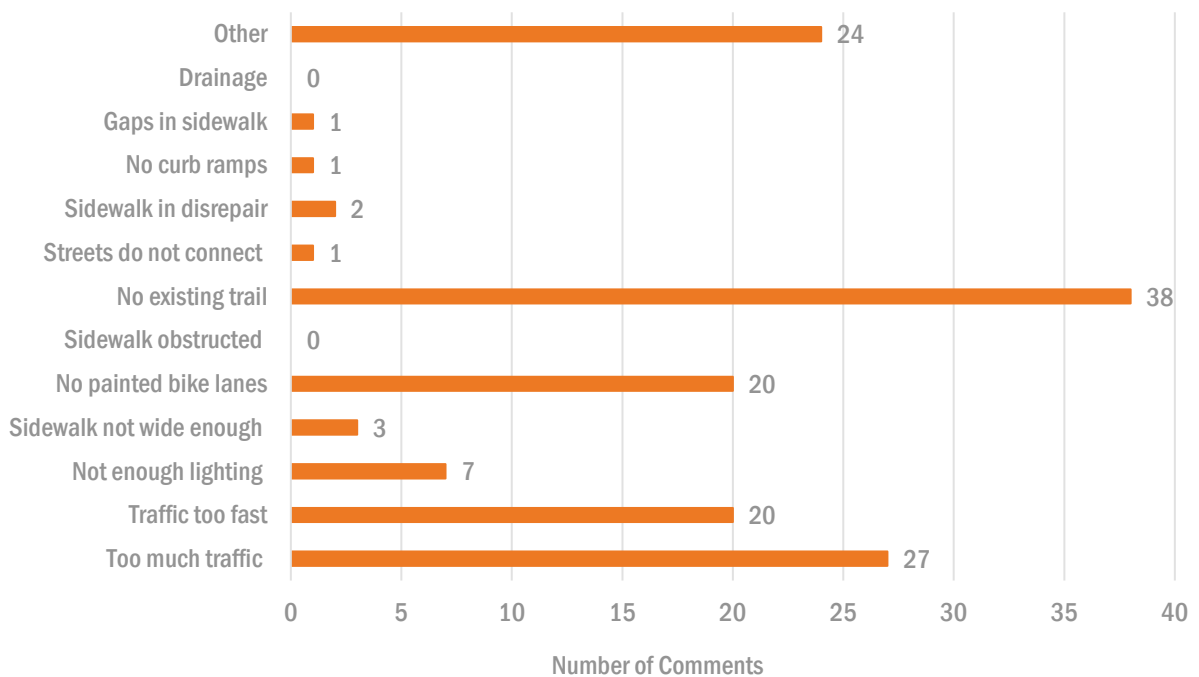
Source: Toole Design and WikiMap

### Routes I Would Like to Walk or Bike

Map 2 shows the “Routes I Would Like to Walk or Bike” marked by users on the WikiMap. Many users want southern extensions of the Eisenbahn State Trail, routes connecting the northwest and southeastern portions of the County via Slinger, and east-west connections through the central and southern portions of Washington County. Users could mark “I agree” with a comment. As with Map 1, in those cases where multiple users agreed with a comment, the comment is shown in bold text.

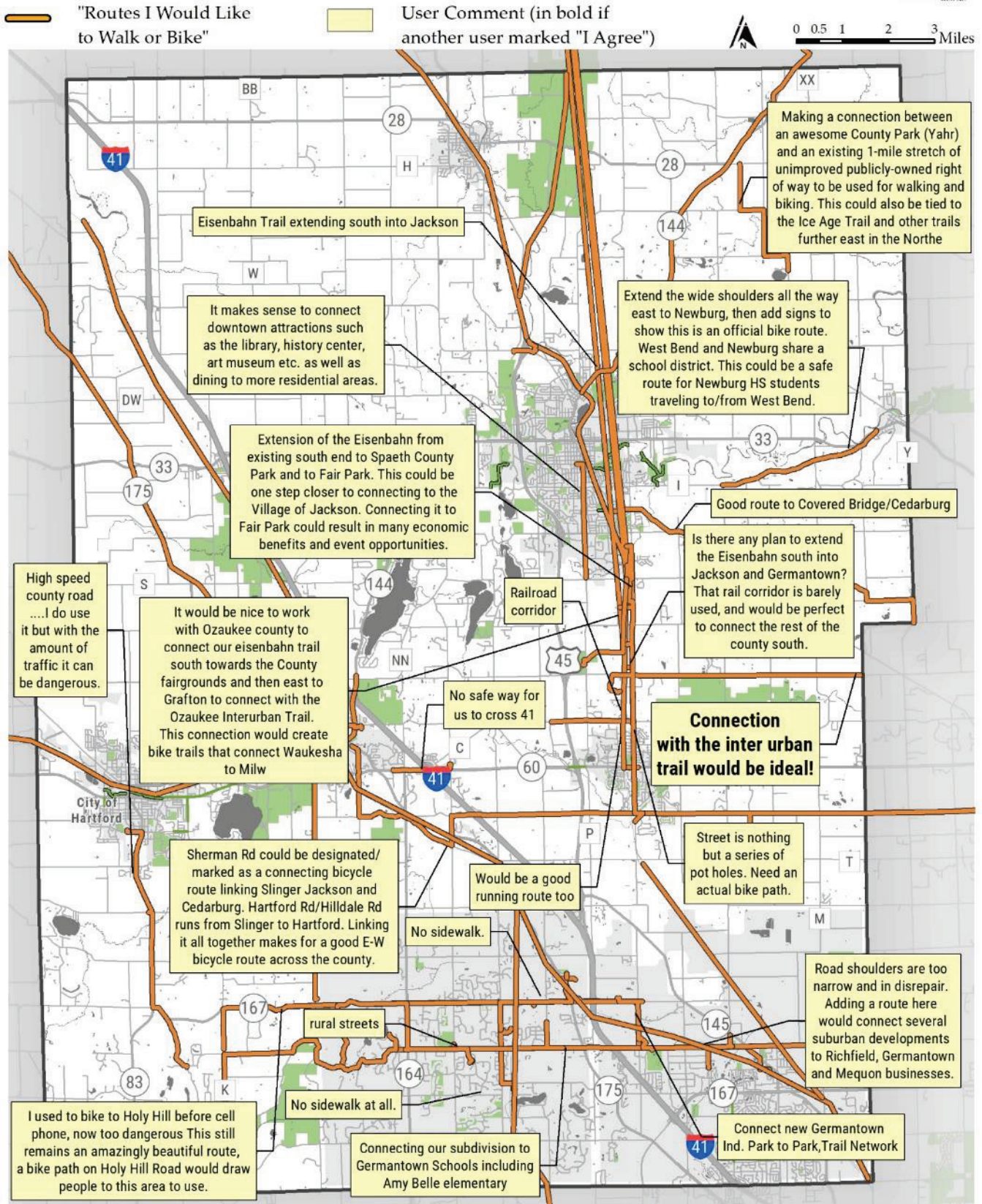
When users drew a route that they would like to walk or bike, they were asked “Why do you currently not use this route?” They could then select multiple options on a menu of reasons. Figure B-4 shows the reasons selected for those routes. The three most common reasons were “No existing trail,” “Too much traffic,” and “Other”. Most of the people who selected “Other” wrote explanations which are shown as comments on Map 2.

**Figure B-4: Reasons for Not Bicycling and Walking on “Routes I Would Like to Walk or Bike”**





Map 2: Desired Routes Marked on the WikiMap



Source: Toole Design and WikiMap

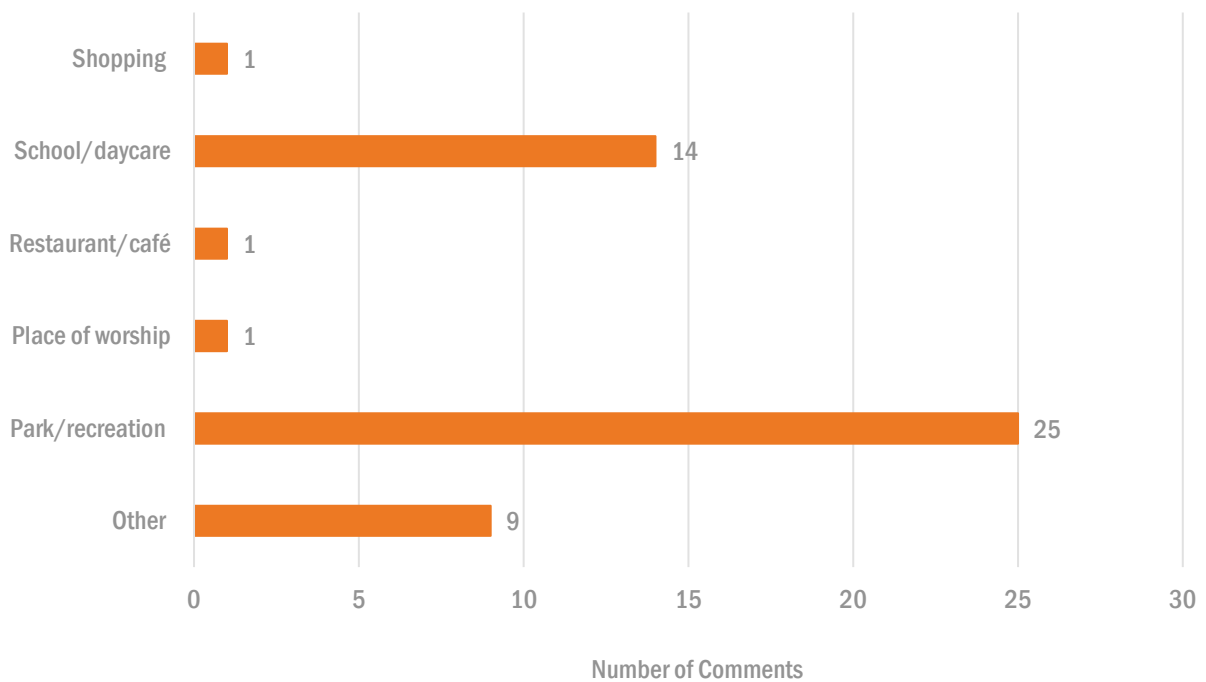
## Point Comments

In total, 80 point-related comments were contributed to the WikiMap. Points allow people to comment on single features, such as barriers and destinations for walking and biking. The predominant point type placed by participants was “Destinations” (55 responses). The remaining 25 points were “Barriers.”

### Destinations

When a user added a destination to the WikiMap, they were asked to identify what type of destination it was. Figure B-5 displays how frequently each type of destinations was selected. Park/recreation and school/daycare destinations were the most common destination types added to the map by far. This was the case countywide and in the County’s largest city, West Bend. Within West Bend, seven of the seventeen destinations were marked as park/recreation. Most of the destination points related to park/recreation in West Bend were in the northern section of the city, clustered around the Eisenbahn State Trail. Citywide, another six destinations were school/daycare-related. It should be noted that three users placed nearly half (26) of the 55 destinations identified.

**Figure B-5: Types of Destinations Identified on the WikiMap**



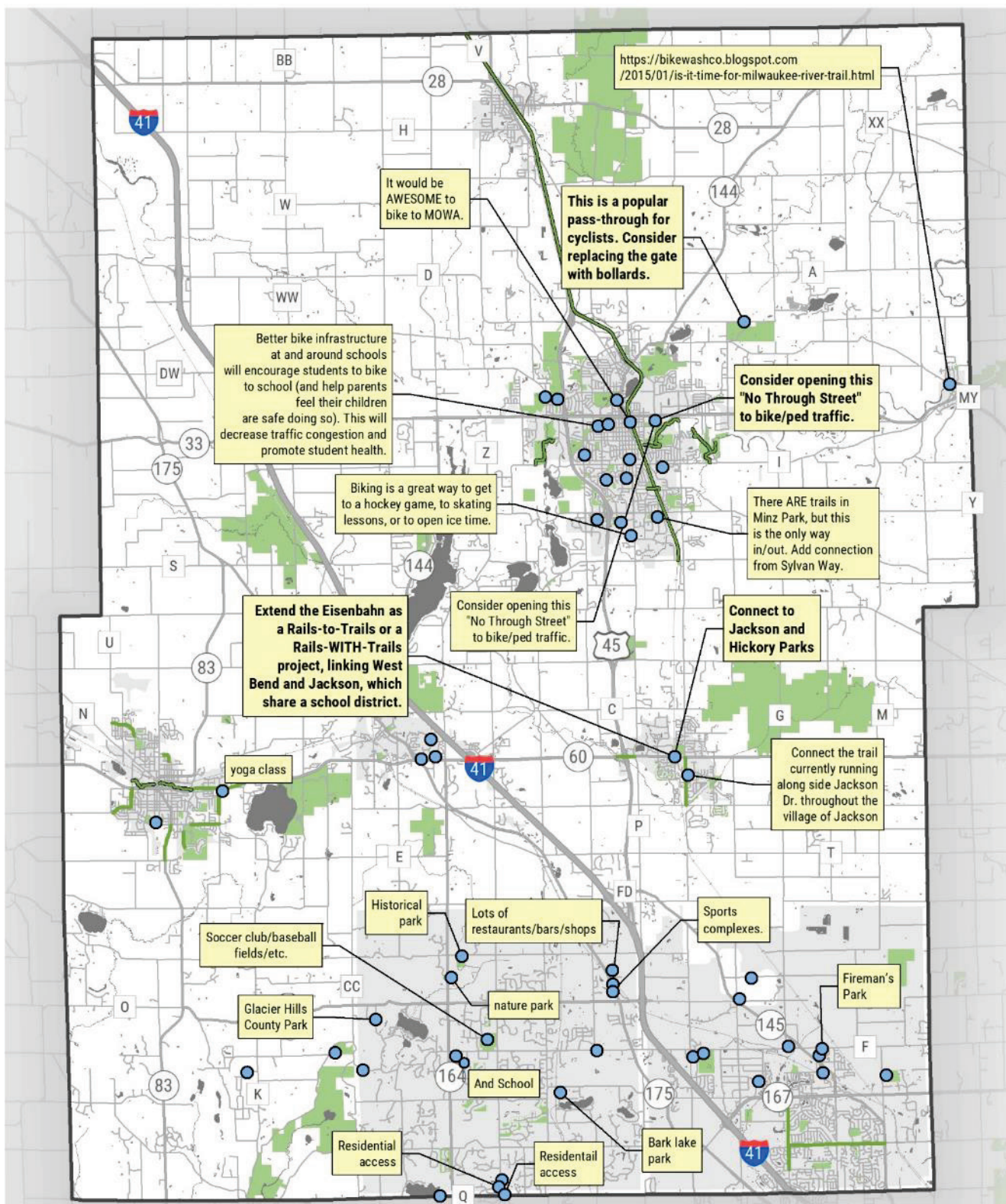
Map 3 shows the locations of the destinations that were placed on the WikiMap, and the comments left by users to explain or clarify the location. Not all points contained related comments. In some cases, WikiMap users used this point tool to highlight areas in the current bicycle and pedestrian network that need improvement. As with Maps 1 and 2, in those cases where multiple users agreed with a comment, the comment is shown in **bold text**.



### Map 3: Destinations Marked on the WikiMap

● Destinations

■ User Comment (in bold if another user marked "I Agree")



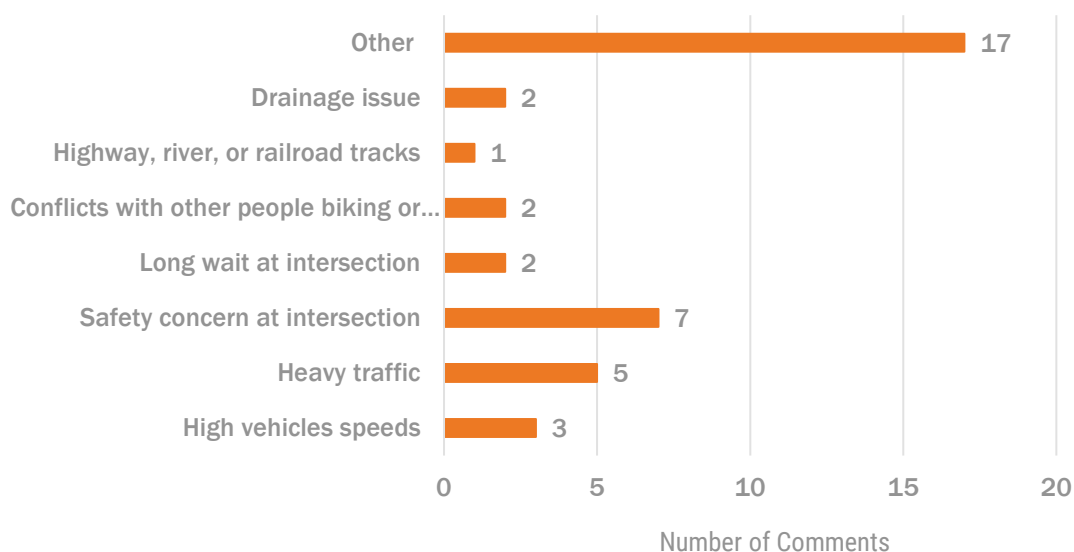
Source: Toole Design and WikiMap

## Barriers

When a user added a “Barrier” point to the WikiMap, they were asked whether it was a barrier to biking, walking, or both. 14 barrier points showed barriers to both walking and biking, 9 points showed barriers to biking, and 2 points showed barriers to walking. It should be noted that one user placed over half of the barrier points on the map.

Users were also asked to select reasons the location was a barrier. Figure B-6 shows how frequently each reason was selected. The “Other” reason was the most frequently selected option. All the “other” comments are included in Map 4; they frequently relate to whether bicycles are prohibited along certain trails or parks.

**Figure B-6: Reasons for Barriers to Walking and Bicycling in Washington County**



Map 4 shows the locations of the barriers that were placed on the WikiMap, and the comments left by users to explain or clarify the location. In some cases, WikiMap users used this point tool to highlight paths that were displayed on the WikiMap but are not open to the public. As with Maps 1-3, in those cases where multiple users agreed with a comment, the comment is shown in bold text.

Map 5 shows the locations of all the lines and points that were placed on the WikiMap—actual routes, desired routes, destinations, and barriers. This map helps put all the comment information in perspective.

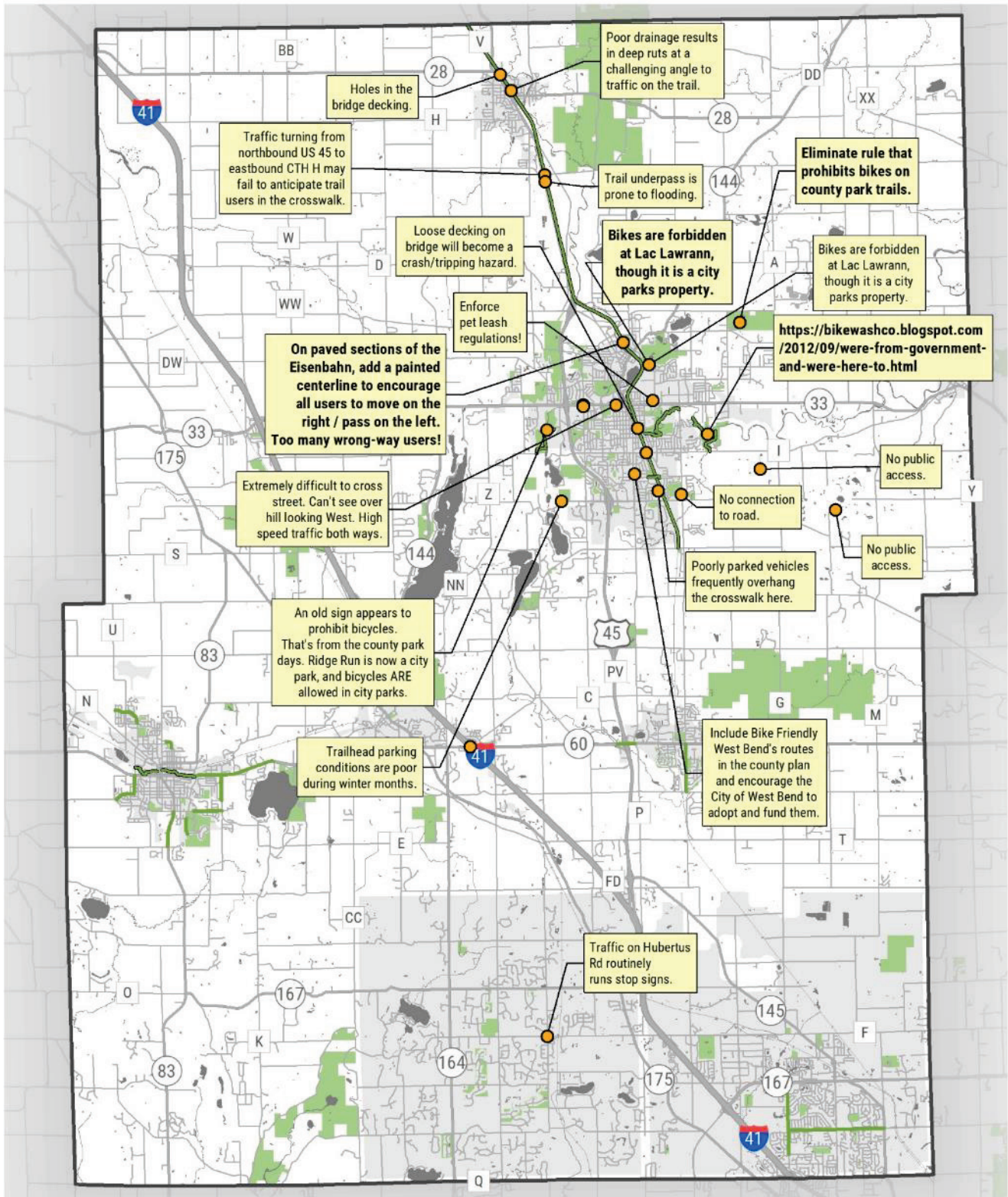
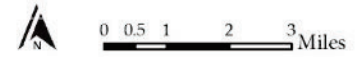


Map 4: Barriers Marked on the WikiMap



● Barriers

■ User Comment (in bold if another user marked "I Agree")



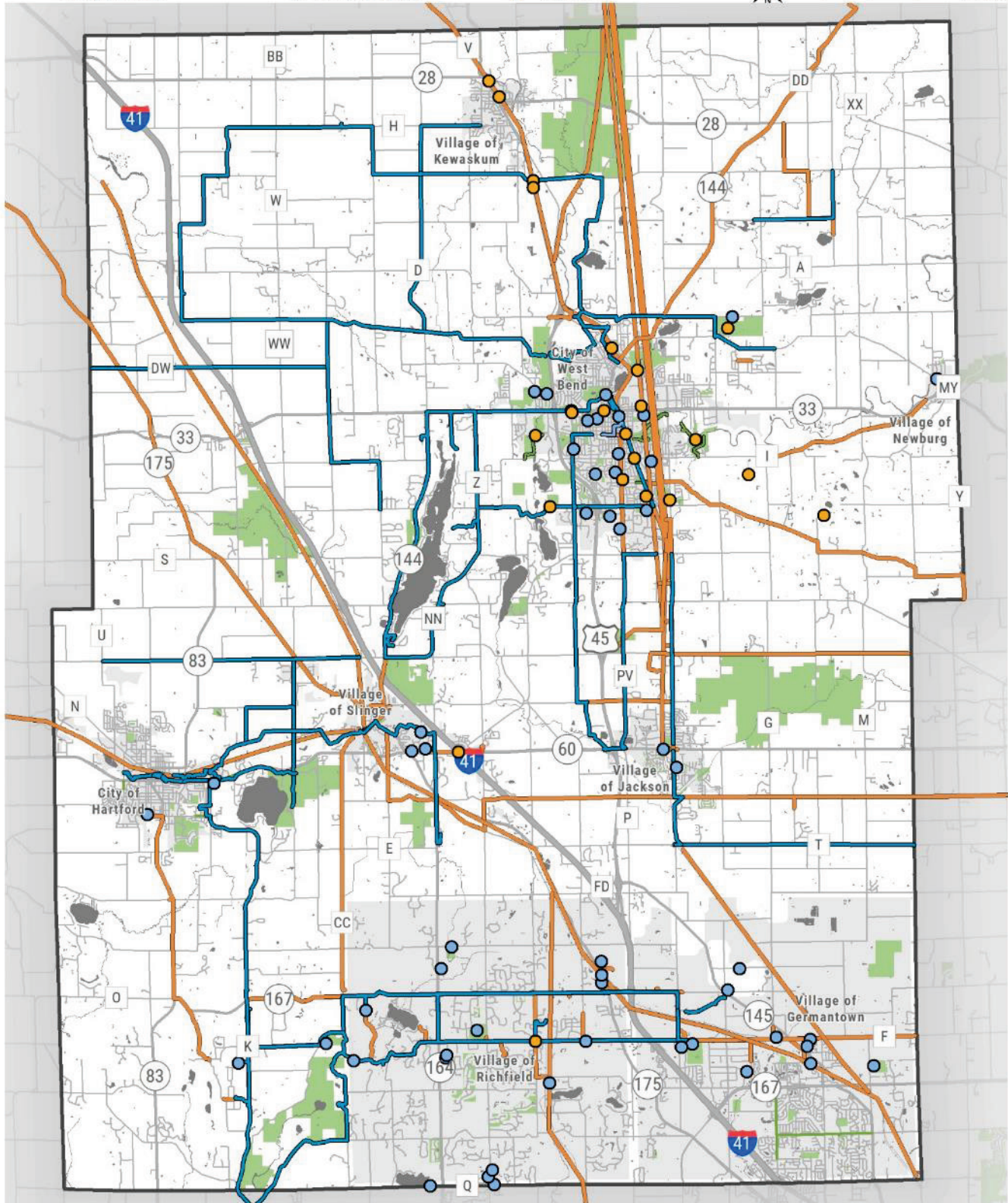
Source: Toole Design and WikiMap



**Map 5: Current Routes, Desired Routes, Destinations, and Barriers**



— "Routes I Currently Walk or Bike"    
 — "Routes I Would Like to Walk or Bike"    
 ● Destinations  
● Barriers



Source: Toole Design and WikiMap



## Conclusion

It is interesting to note the significant overlap of the comments on all four WikiMap input features. For example, the desire to extend the Eisenbahn State Trail southward was commented on repeatedly on all input features. Additionally, while the Eisenbahn State Trail is very popular, connections to this route are lacking in West Bend and its surrounding communities. Additionally, respondents showed a preference for investing in “family-friendly” bike routes instead of bike routes that cater to experienced bicyclists.

Comments specific to each map are shown below:

- WikiMap participants currently use many on-road routes, but added explanatory comments stating concerns about high traffic speeds and safety on those routes (Map 1). In the northern parts of the County, on-road routes had fewer concerns.
- Desired routes include extensions of the Eisenbahn State Trail south to Jackson and pavement on the northern sections of the trail (currently unpaved). Improved east-west connections are highly cited (Map 2).
- The most common reasons cited for why respondents do not walk or bike on routes that they would like include “No trail,” “Too much traffic,” and “Traffic too fast.” This indicates a great desire for shared use paths or sidepaths that would separate walkers and bikers from motor vehicle traffic.
- Destinations are clustered in West Bend and in the southern portions of the County. Parks/recreation and school/daycare destinations predominate (Map 3).
- Many “barriers” are not physical barriers at all, but restrictions on bicycles on trails and in parks (Map 4).
- Where barriers fit into specific categories, the largest barriers are “Safety concerns at intersections” and “Heavy traffic” (Map 4). This would indicate an interest in making safety improvements for bicyclists and pedestrians at intersections.

The comments received from the public through the WikiMap were referenced during the development of the Recommended Bikeway and Trails Network.

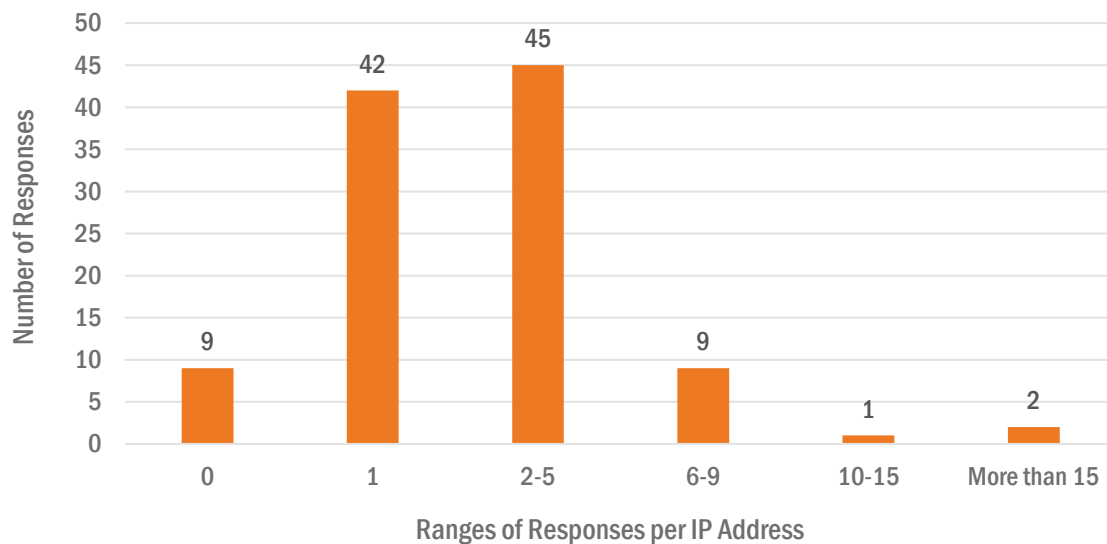
## Appendix C: Summary of Public Input on the Second Interactive Map

This appendix provides an overview of the data that was collected through an interactive map (built on the [GitHub development platform](#)) that was available for online comment between November 13 and December 3, 2018. Washington County Planning & Parks Department staff promoted the interactive map via email, social media, and at “Meeting in a box” events throughout Washington County. The interactive map allowed users to click on specific corridors in the recommended bicycle and pedestrian network. In response to the question “*Is this a priority corridor?*” users could click “Yes” or “No.”

### Map Respondent Information

During the open comment period, respondents using 109 different IP addresses (excluding responses by staff at Washington County and Toole Design) logged into the interactive map. Of those users, 100 provided some sort of input on the map. Figures C-1 and C-2 show the breakdown of responses by type. Most respondents provided input on one to five corridors, although three respondents provided input on over 10 corridors.

**Figure C-1: Number of Responses per IP Address**





## Priority Corridors

Table C-1 shows the corridors as defined by their total scores (determined by subtracting “No” votes from “Yes” votes). The top-ranked corridor, by far, is the extension of the Eisenbahn State Trail from Jackson to Germantown.

**Table C-1: Corridor Prioritization Rankings**

Ranking	Corridor Number and Description	Total Yes Votes	Total No Votes	Total Score
1	(8) Eisenbahn State Trail extension from Jackson to Germantown	42	1	41
2	(7) West Bend to Jackson via extended Eisenbahn Trail or Jackson Drive	28	2	26
3	(12) West Bend to Slinger via Ridge Run Park and CTH NN	27	1	26
4	(15) Hubertus Road-Freistadt Road	18	0	18
5	(3) West Bend to Newburg via Decorah Rd & Milwaukee River path	21	4	17
6	(13) Pike Lake Unit to Heritage Trails Park to Loew Lake Unit	11	0	11
7	(29) Hartford to Theresa Marsh via CTH K and paths	11	0	11
8	(11) Jackson to Slinger via Cedar Creek Rd	8	0	8
9	(16) Germantown to Bugline via I-41 pedestrian overpass	8	0	8
10	(9) STH 60 from Jackson to Ozaukee Co	7	0	7
11	(19) Rubicon River path east of Hartford to Slinger via Hilldale Drive	7	0	7
12	(1) Kettle Moraine Scenic Drive north of West Bend	7	1	6
13	(6) Country Aire Drive North-South	5	0	5
14	(17) Germantown to Bugline via Maple Road	5	0	5
15	(20) Hartford-Pike Lake loop	5	0	5
16	(23) Jackson to Germantown via Pleasant View and Country Aire	5	0	5
17	(24) Jackson to Cedarburg via Fond du Lac Avenue and Western Avenue	7	2	5
18	(99) STH 60 between Hartford and Slinger	4	0	4
19	(5) Paradise Drive from West Bend southeast	4	1	3
20	(14) Richfield Historical Park to Heritage Park to Bugline	5	2	3
21	(21) Rubicon River path extension west of Hartford	3	0	3
22	(27) 18th Avenue and Mayfield Road south of West Bend	3	0	3
23	(28) Beaver Dam Road, Midland, and St Anthony Road west of West Bend	3	0	3
24	(40) Germantown to Monches via Monches Road and Lilac Lane	4	1	3
25	(56) STH 175 northwest of Slinger to Hwy 83	4	1	3
26	(4) Decorah Road on-street to Newburg	2	0	2
27	(31) Hwy N south of West Bend	3	1	2
28	(32) State Street west of Hartford	2	0	2
29	(2) Wallace Lake Road between West Bend and Newburg	3	2	1
30	(18) Richfield to Bugline via Menomonee River path	1	0	1
31	(25) Hartford to Monches via CTH K	3	2	1
32	(26) Prospect Drive between West Bend and Kewaskum	1	0	1
33	(10) Sherman Road and STH 175 between Jackson and Slinger	0	0	0
34	(22) Jackson to Germantown via Jackson Drive and Maple Road	2	2	0
35	(55) STH 175 northwest from STH 83 to Dodge County	0	0	0
36	(68) CTH W through Allenton	0	0	0
37	(30) Scenic Road in Richfield	0	1	-1







## Low Priority Corridors


Figure C-3 shows the nine corridors that received scores of less than 2 in blue. Each of the blue low corridors is labeled with its total score. Corridor 30 received one negative vote and no positive votes, so it has a score of -1. Staff removed or realigned these corridors in the final bikeway and trail network.

**Figure C-3: Low Priority Corridors**



Lowest Corridors According to Interactive Map Score

Existing    Planned

-  Existing
-  Planned
-  Shared-Use Path
-  Sidepath
-  On-Street Facility

 Corridor Number

Lowest 9 Corridors

-  Lowest 9 Corridors (scored between -1 to 1)
-  Total Score

**TOOLE**  
DESIGN



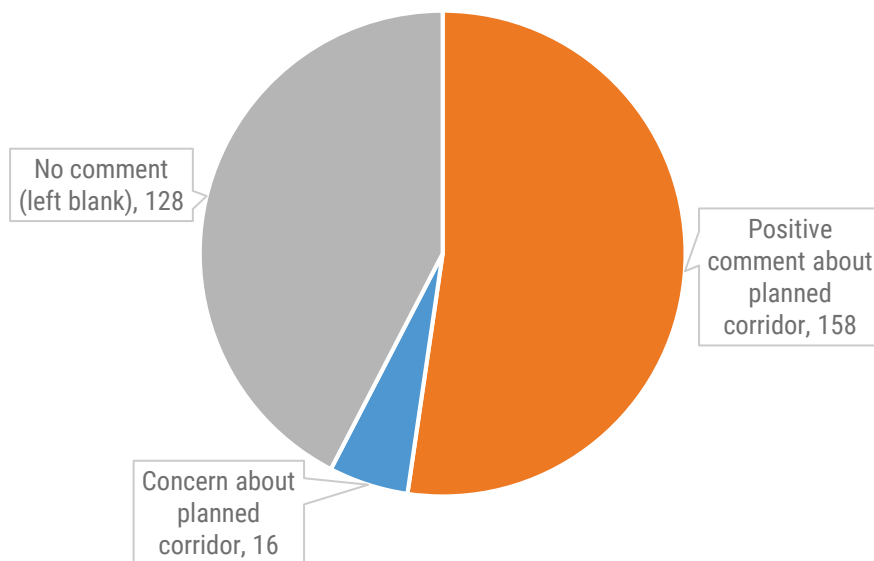
0 0.5 1 2 3 Miles



## Comments on the Planned Corridors

After respondents clicked a response to the question “*Is this a priority corridor?*” the survey tool gave them a “Comment or Explanation” text box in which they could write up to 250 characters of text if desired. The pie chart in Figure C-3 illustrates how the majority of comments (158) were positive comments about the planned routes. Of the 16 comments that were not positive, many relayed concerns about paths that were proposed on what is currently private property. As a result, staff inserted text into the Plan clarifying that no paths will be built on private property without the owner’s consent. Table C-2 (at the end of this memo) documents all respondents’ comments or explanations, in the map, sorted by corridor number.

**Figure C-3: Categorization of Comments**



## Conclusion

The input from the interactive map was compared and displayed along with the input of the Meeting in a Box mapping exercise. Together, the highest-ranking corridors from the second interactive map and the Meeting in a Box exercise resulted in the top seven Priority Corridors that are detailed in Chapter 6 of this Plan.

**Table C-2: All Comments or Explanations, Sorted by Corridor**

The comments below are reprinted verbatim, including most typos and spelling mistakes.

Corridor number	Corridor Description	Comment or Explanation
1	Kettle Moraine Scenic Drive north of West Bend	This is a great low traffic route for recreational bike riders to travel between WB and the Kettle Moraine. Would it be as simple as adding bike route designations to already existing Kettle Moraine Scenic Route road signs
		A great route already in heavy use by experienced cyclists. Less capable riders won't like the hills.
		Beautiful ride on good roads accessible to most.

Corridor number	Corridor Description	Comment or Explanation
		This is a great route to ride from Dundee to West Bend or further south. I probably ride this 10 to 15 times a year. It is hilly which is what I want in a good ride.
		This is a very popular road cycling route going all the way to Long Lake and points between. Loop routes can be ridden using this corridor as the spine. Please add marked, paved shoulders as possible!
2	Wallace Lake Road between West Bend and Newburg	Wallace Lake Road is great, but give us a wider shoulder on Main Street coming out of Newburg.
		high traffic volume and narrow width
		I ride this route to get from Dundee to the interurban trail at Bonnewell. It is a great cycling route!
		If the West Bend/Newburg corridor to the south is delayed by expense, this corridor would be potentially less expensive and provide an alternative safe corridor between the two popular areas.
3	West Bend to Newburg via Decorah Rd & Milwaukee River path	a priority
		Scenic trail along MKE River that connects to Newburg and other POI like Riveredge and possibly Hawthorne Hills County Park and Pioneer Village.
		Would like to be able to safely bike to the OWLT fellens area from downtown!
		Connecting to the Interurban Trail is very important.
		Traverses heavily populated areas so will be accessible to close residential areas.
		A trail system that would connect into Ozaukee for easy access to the Inter Urban would be fantastic!
		I think this corridor would be important to me. This is a route that would be beneficial to Newburg's economy. And a direct route for to link West Bend, Riveredge Nature Center and continue onto Ozaukee county.
		Scenic bike ride from Newburg to West Bend
		Much needed to make Decorah Rd. safe for biking. This is a very busy road and without signage it is very unsafe. It is also the only way to get to the east.
		The part west of Newburg along the river. Newburg Sportsmen's club owns land that we have summer outdoor 3D archery league and public archery shoots. We would have to see if they could change the course for the safety to people walking. Plus there is summer Tuesday Trap shooting and weekend shoots. So pellets from shooting could land about a 100 yds short of the trail.
		A portion of this goes across my backyard. There is already a patch along the river NOT on my backyard. Please do not put another unneeded path near it. Use the existing path.
		This runs right through my association's Private property.
		This path goes through our condo association land (River Ct). I can't tell for sure where this proposed path would go in relation to the prairie we have. Just make sure
		This corridor would provide a great east/west connection between Newburg and West Bend and create the link for Newburg to the Eisenbahn. Newburg is a popular destination with many amenities and events throughout the year, as well as the nearby Riveredge Nature Center. The new trail segment along the Milwaukee River should be very popular.
4	Decorah Road on-street to Newburg	A more realistic option than the Milwaukee River corridor for joining West Bend and Newburg.
5	Paradise Drive from West Bend southeast	Access to the east / Lakeshore path
		This would be an excellent marked route connector for the Eisenbahn and Interurban trails. Signs alone would be a great investment
		Already in regular use by experienced cyclists.
		this would provide a nice way to avoid having to use paradise dr. in the city where it is busy.



Corridor number	Corridor Description	Comment or Explanation
6	Country Aire Drive North-South	Improving bike routes and lanes will elevate Germantown as a life style friendly community
		I currently ride this route to get from Dundee to the interurban trail at Bonnewell Rd. It is a great route but a little narrow in places.
7	West Bend to Jackson via extended Eisenbahn Trail or Jackson Drive	Is a side path more cost effective than trails with rails?
		Eisenbahn being paved further South would be awesome!
		Give Jackson students a safe route to/from schools in West Bend.
		This is a great connection of the Jackson and West Bend Communities incorporating the existing Eisenbahn Trail.
		Connecting to Jackson is very important because of proximity and being the closest population to West Bend
		the goal would be to eventually connect to Germantown
		This is Huge to connect West Bend to Slinger and Hartford
		would make commuting to work from West Bend to Jackson and back much more safe
		I assume this is the continuation of the Eisenbahn trail toward Jackson and beyond. I am very much in favor of this extension! I would love for it to connect to the Bug Line eventually.
		I frequently walk the Eisenbahn to the north of that area.
		as an extension of an already existing off road trail it adds ability to go south off road when there aren't very many other options.
		Extension to GTown/Falls
		would like to connect the path from Jackson to west bend
		This corridor would be great to extend the Eisenbahn trail.
		Great link to Eisenbahn!
		A safe route from Jackson to West Bend would be really nice.
This is a logical connection of the existing Eisenbahn Trail to Jackson. The Jackson/West Bend/Kewaskum link-up would be popular and would provide high quality access points/services and destinations. Combined with the proposed sidepath along Hwy 60 almost to Grafton would be very close to an Interurban Trail connection!		
8	Eisenbahn Trail extension from Jackson to Germantown	It would be an important connection point between the interurban and oak leaf making it easy and safe to ride downtown and beyond
		It would tie in well to regional plans to connect the bike trails in SE Wisconsin. Funding?
		I always thought the Eisenbahn trail should go further south
		Extend the Eisenbahn if there's an opportunity.
		The Eisenbahn trail is a gem. Adding this to the plan will connect the northern trail and interurban trails.
		Connecting with the inter urban trail and northern Washington county.
		Connections between centers and between existing trails are important. This would be a good one to connect up!
		Much needed to connect to the lower portion of the county
		Main corridors to east/west and north south are essential to allowing folks to ride. This would provide easy access to east west corridors in Germantown and Cedarburg.
		Would help to extend connection to existing Oak Leaf Trail (?) network.
		Important N/S route to complete route through county. Also provides connection to the east and the Interurban Trail in the future.
		prefer to ride on a trail, not the road
		Seems like it would require the most work so it would be nice if it could be done first
If this connects existing bike routes to Germantown, then that's a great idea!		
would make commuting to work from West Bend to Jackson and back much more safe		

Corridor number	Corridor Description	Comment or Explanation
		<p>It would be simply amazing to have a bike path to link to this area from West Bend. There is no direct route or decent bike friendly way to travel from WB to the Falls.</p> <p>Easier path to Jackson via bike.</p> <p>Only reasonable North - South connection through the County which has already begun.</p> <p>Extension to GTown/Falls</p> <p>This corridor would be great to extend the Eisenbahn trail.</p> <p>Very common stretch from north Washington County to the southern part. Nice area</p> <p>Connectivity to other trail lines creates a larger impact as well as tourism/business from other bike travelers/commuters</p>
9	STH 60 from Jackson to Ozaukee Co	<p>Exploit the wide right-of-way on STH 60.</p> <p>This has potential to connect Washington County to Ozaukee County and the Interurban trail.</p> <p>Connecting Ozaukee interurban trail with this trail would be a fantastic connection from Cedarburg and further south with West Bend and the Eisenbahn trail.</p> <p>This would be the gate way to the east.</p> <p>Need a east - west link to Interurban</p>
11	Jackson to Slinger via Ceder Creek Rd	<p>There really is no safe way over</p> <p>This corridor would connect Jackson to the Ice Age Trail as well as connecting Slinger to the West Bend old railroad bike path once that stretches to Jackson. Also more scenic than a Highway 60 version of this route (though that is important as well for connecting Hartford, Slinger, and Jackson).</p> <p>Important link from Hartford and Slinger to the Eisenbahn State Trail.</p> <p>This will link to Jackson Perfectly</p> <p>This will link to Jackson without much traffic</p>
12	West Bend to Slinger via Ridge Run Park and Hwy NN	<p>Connection to lots of natural areas as long as trail stays separated physically and as visually as possible from the Ice Age Trail to not take away from the purpose of the IAT.</p> <p>connect the ice age trail</p> <p>Access to West Bend is needed</p> <p>Would like to be able to safely bike to Ridge Run Park area from the downtown area.</p> <p>This would connect West Bend and Slinger which I think would get a lot of use. Plus it's near my house and I'd probably use it daily as part of my exercise route.</p> <p>Helps completion of Ice Age Trail.</p> <p>Would be a terrific place to have a bike path for safety and for use.</p> <p>Connecting West Bend to Slinger is an important connection.</p> <p>This would be an important recreational route.</p> <p>Interconnecting loops to make it easier to travel larger distances from west bend would be amazing. Looking at the map and it's potentials makes me very excited!! Yay Bike friendly west bend!!</p> <p>Easily accessible to population center.</p> <p>Biking on NN and Z is a dangerous stretch but a beautiful and really important stretch to connect West Bend to Slinger.</p> <p>Connecting Slinger with West Bend would be a great addition.</p> <p>Beautiful area - much of it on Conservancy or park area.</p> <p>The lake area is something that I believe the entire Washington county community can enjoy with this corridor</p> <p>The lake area is something that all in the county should be able to enjoy in town where most of the foot - bike traffic is for West Bend</p> <p>nice connector trail to many parks</p>

Corridor number	Corridor Description	Comment or Explanation
		This would be a wonderful ride connecting West Bend to Slinger and winding through some very scenic areas of the county. Many facilities/amenities at both ends of the corridor.
13	Pike Lake Unit to Heritage Trails Park to Loew Lake Unit	A scenic family-orientated trail through the iconic glacial terrain associated with Washington County that connects to the Bugline.
		St. Augustine being a popular road for cyclists, narrow with vehicles that speed through and don't give cyclists the necessary minimum of 3ft. and pass on blind corners/hills.
		This was a beautiful route until Erin let the roads deteriorate so much that you need a mountain bike to ride this route.
		This could be a great secondary route!
		The DBCL is a hunting club. I am not sure that biking is appropriate through this area for safety reasons.
		HIS NEEDS TO BE NEAR THE TOP OF THE LIST ALONG WITH AN E-W CONNECTOR TO THE INTERURBAN
		Connecting Slinger to Richfield in off the main road would be great. Also, I understand this would provide gateway to the Bugline which opens up all kinds of opportunity.
		Priority for safety, tight roads and traffic don't mix.
14	Richfield Historical Park to Heritage Park to Bugline	connect to Bugline
		Again another beautiful bike route!
		This proposed trail is through several farm fields that are actively utilized each year. I also don't see a logical connection point to Ravine Ridge Subdivision. Is there a way to turn on an aerial layer?
		How does this actually connect through private property?
15	Hubertus Road-Freistadt Road	There is no safe route between the homestead hollow neighborhood and the rest of Germantown. The industrial park is a barrier.
		Provides a nice gateway to the Holy Hill area
		Would connect local and county parks well
		Good east-west corridor already partially developed for non-motorized users.
		East - West route to connect to Ozaukee-Milw county trails
		A sidepath along Freistadt Road will serve as an important corridor to Ozaukee County and the Interurban Trail. Germantown will be starting 4 residential developments along this corridor in the next 2 years, and this route will connect parks to schools in the area.
		I would use this as a route to work.
		Great connector route to make safe for recreational use!
		Connection to the Interurban with protection on a higher speed road is safe and effective; added bonus that you can then travel south to also connect to the Oak Leaf and downtown for bike commuting and festivals, too
16	Germantown to Bugline via I-41 pedestrian overpass	Use these roads frequently to bike and walk.
		Simple connection to larger overall systems within Waukesha County Bugline Trail and other great corridors.
17	Germantown to Bugline via Maple Road	Main route to get on Bugline trail, which I use all the time but have to put bike on rack on car
		Connect Bugline to the Eisenbahn!!
18	Richfield to Bugline via Menomonee River path	This route would eliminate the danger of riding on Hwy. 175
19	Rubicon River path east of Hartford to Slinger via Hilldale Drive	Getting from Hartford to Lake Michigan / Lakeshore path is important
		This road is getting very busy. No room for bikes or pedestrians. Widening and sidewalks badly needed!!
		great route with planned improvements in the near future

Corridor number	Corridor Description	Comment or Explanation
		This will link Hartford to Slinger
		Connecting the cities of Slinger and Hartford would create a more connected, shared community.
		nice connector between Slinger and Hartford
20	Hartford-Pike Lake loop	This would be a great recreational route around the lake.
		Beautiful views, great natural setting, safe biking opportunity for both community residents and visitors to the area.
		connects existing trails in an established recreational area
		Hartford currently does not have a route to bike any distance without biking on busy streets
21	Rubicon River path extension west of Hartford	Access to Walmart and other shopping areas for residents would be a benefit.
		Hartford has some great bike trails off of busy streets. Continuing this trend to the western side of the city is vital to creating a connected, safe community, in my opinion.
22	Jackson to Germantown via Jackson Drive and Maple Road	Dangerous for bicycles/pedestrians currently. Cars have to go way around and into the other lane to avoid all of the cyclists and runners.
23	Jackson to Germantown via Pleasant View and Country Aire	need safe bike paths for kids to parks
		paths to parks for kids
		Another important N/S corridor. Safety improvements are needed for bicycles along these rural roads.
24	Jackson to Cedarburg via Fond du Lac Avenue and Western Avenue	A good connector to the Interurban if Hwy 60 does not work.
		Sherman Rd would be a great connector for Slinger, Jackson and Cedarburg. Bike lanes would be optimum but signs would be inexpensive
		Great road as an alternative. Great riding
		Connection of the Interurban trail to other networks is important. Provides a east/west corridor to the city.
		Continued connections to existing networks is important. Connection to the Inner Urban Trail is key to access back to the city. This is a main east/west corridor.
		I LIKE THIS SECTION AS THE E-W CONNECTOR OF THE EISENBAHN-BUGLINE CONNECTOR
		Who will pay for the maintenance
25	Hartford to Monches via Hwy K	need more connection bike routes in Hartford
		I drive on CTY HWY K every day to and from work in M. Falls. This seems well traversed by pedal bikers. And it is currently unsafe! With limited sight lines, no dedicated bike lane/shoulder and limited passing opportunities there are many times I have to slam on my brakes to avoid hitting bicyclists as I come around a corner on the road with oncoming traffic present. Vital to the safety of bicycles and pedestrians, and the many motorized vehicles that travel this route every day.
		This road would provide a vital route for students of all ages to bike to school; providing a healthy way for students and faculty of the school to commute.
26	Prospect Drive between West Bend and Kewaskum	already use it frequently
27	18th Avenue and Mayfield Road south of West Bend	it would be great to see the new portion of the roadway continued south from Vogt to Rusco and further if possible
		This is a nice road for riding, but it's currently not safe - too narrow and low visibility.
28		low volume



Corridor number	Corridor Description	Comment or Explanation
	Beaver Dam Road, Midland, and St Anthony Road west of West Bend	This route would be an essential link into town from Towns of Barton/Wayne. For us particularly, Schuster Drive is too dangerous of a road to attempt to bike on (hilly and curvy) and the majority of traffic does not consider cyclists.
29	Hartford to Theresa Marsh via CTH K and paths	We don't have any connecting bike paths in Hartford This would be a wonderful path that would allow residents in multiple communities to use. This corridor would be great to increase access to the public marsh areas from Theresa to Allenton and beyond. I used to bike much of this route but don't feel safe doing so now that the roads have gotten much busier This would be a great addition, with both the Allenton and Theresa Marshes, wildlife and scenery. The anchor of Hartford to the south and Allenton as another access or stopping/rest point with facilities is great for the western part of the county. I would like to see a way of extending the north end of the corridor to Theresa somehow. Don't like the dead end. Theresa would provide another access point as well as some facilities and services/food etc.
30	Scenic Road in Richfield	This bike path is near the proximity of 609 Scenic Road which is a Clean Fill Landfill. I do not believe it is a good idea to have a signed bike route, bike lane, or paved shoulder in this type of an area with heavy trucking.
31	Rusco Rd and Hwy N south of West Bend	I feel as though this road already has a pretty nice shoulder for riding. This path can be very dangerous in traffic. Recommend adding better shoulder or bike path on Rusco where it connects from Eisenbahn to NN. Cars go very quickly along this route--a bike path would be a great addition. Rusco Rd is too dangerous to ride a bike on to get to the Eisenbahn Trail.
32	State Street west of Hartford	More routes from Hartford would be wonderful. same as West Bend, in town location where most foot - bike traffic is
40	Germantown to Monches via Monches Road and Lilac Lane	We need a east-west connection. There is no safe connection between the homestead hollow neighborhood and the rest of Germantown Willow Creek is a trucking corridor from Germantown. I would have concerns for safety on this as well. Completion will allow connection to existing trails along Donges Bay and ultimately the Interurban Trail
56	Hwy 175 northwest of Slinger to Hwy 83	I think that the corridor from Hartford north should be prioritized ahead of this corridor, then this corridor added when possible to link Slinger to the Hartford corridor. Will be a great addition when/if added. If the other corridor north from Slinger to West Bend is completed (higher priority), then this will give Slinger great access to the northern part of the county by bike, and users in general another great hub with services and amenities.
99	Hwy 60 between Hartford and Slinger	Bike/pedestrian path to Slinger badly needed!! It would be great to connect Hartford and Slinger. Bikes can't ride on Hwy 60 and be safe. enhancement to Pike Lake area

## Appendix D: Documentation of Inter-Agency Coordination

During the public review period of the Preliminary Draft Plan, County staff held a series of meetings to solicit input and coordination both within County government and between other agencies that were not represented on the Advisory Committee. A list of the attendees is located on page iii. These meetings are summarized in this appendix.

All of the inter-agency coordination meetings followed a similar format:

- **Introduction & Background**
  - The Washington County Bikeway and Trail Network Plan (the Plan) was developed to help guide the County as it makes investments in bikeways and trails over the next 30 plus years.
  - An extensive stakeholder and public engagement process was employed to gain input from hundreds of people from across the County.
  - A five-year strategic action plan will be created following Plan adoption that will narrow the County focus for implementing the Plan and identify tasks necessary to determine the final location of bikeways and trails based on extensive discussions with willing landowners. This strategic action plan will be reviewed annually.
  - The recommendations in the Plan are based on preliminary planning-level research and not engineering study to confirm feasibility. Existing conditions have not been field-verified. Further analysis, engineering, and outreach to property owners will occur prior to implementing the bikeway and trail recommendations.
  - The County will work with willing land owners to determine restrictions, find solutions, or propose alternate corridors. Plan implementation will be fulfilled over time in small, incremental steps.
- **Review of Proposed Bikeways and Trails**
  - Utilizing ArcGIS, County staff reviewed the proposed bike trail alignments within lands owned by the agency.
  - Based on discussion, proposed trail alignments were adjusted.
  - Additional language was added to the Priority Corridor alignment descriptions in the Plan based on the new alignments and unique features of the properties.

### Rails to Trails Conservancy – Route of the Badger

On November 12, 2018, the planning team held a meeting with the representative of the Rails to Trails Conservancy to coordinate the proposed bikeway and trail network and the Route of the Badger initiative. As a result, changes to proposed alignments were made that are reflected in the Bikeway and Trail Network. The Route of the Badger was also updated to include many of the additional proposed bikeways and trails proposed in the Plan.

### Multi-Jurisdictional Coordination

On November 15, 2018, representatives from SEWRPC and counties and municipalities adjacent to Washington County were invited to review the draft Plan bikeway and trail network and discuss how they might connect with bikeways and trails in their jurisdiction. Representatives from Milwaukee,

Ozaukee, and Waukesha Counties, the Village of Menomonee Falls and the City of Mequon attended. Several changes were made to the draft network and policy recommendations as a result of this meeting. The attendees agreed that such meetings should occur annually to coordinate bikeways and trails across county lines.

Discussion included:

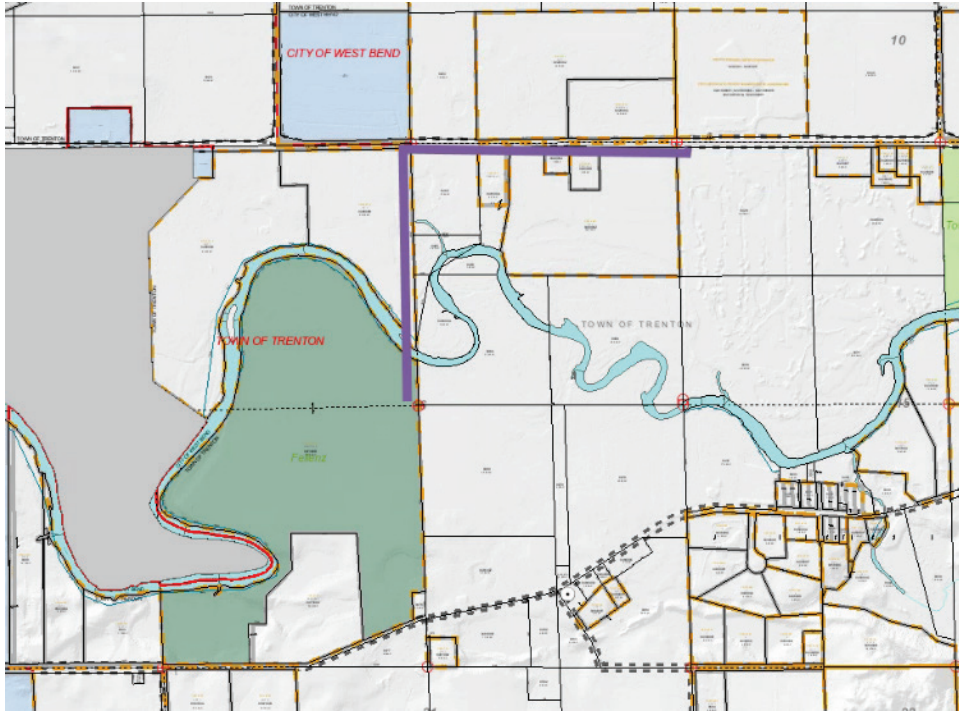
- Comments on the preliminary network included possible connections to existing or proposed trails in adjacent counties and municipalities
- Regional coordination discussion regarding a possible shared regional trail coordinator and having the group meet annually
- Signage inventory and consistency
- Establishment of a trail advisory committee has been beneficial to other counties
- Trail improvements and funding sources
- Evaluation of existing trails using counters and surveys
- User education for bicyclist and motorists

#### **Ozaukee Washington Land Trust (OWLT)**

On March 1, 2019 County staff met with the Ozaukee-Washington Land Trust (OWLT) to review where Priority Corridors were proposed on their properties. Based on the meetings, proposed alignments were adjusted slightly. Key points from the discussion:

- All of the OWLT property was purchased using habitat area grants which may restrict recreational uses. Additional research will be needed to clarify acceptable recreational uses. The OWLT provided contacts at the WDNR for future discussion regarding grant restrictions.
- OWLT owns land directly north of Fellenz Woods and there may be benefit to having the shared use bike path bridge over the Milwaukee River connecting their two properties. See alternate alignment in purple on Map D-1.
- The OWLT indicated that there are future collaborative opportunities with the County in terms of acquisition along the Milwaukee River and the proposed shared use bike path.
- The Milwaukee Metropolitan Sewerage District (MMSD) may also be a potential partner in Plan implementation.

## Map D-1: Proposed Alternative Alignment of Priority Corridor #3 on/near Fellenz Woods



### Wisconsin DNR

County staff held a meeting with Wisconsin DNR representative on March 5, 2019 to discuss the preliminary draft Bikeway and Trail Network, as well as the concerns regarding the Ice Age Trail and possible restrictions that could prevent the use of bicycles on certain WDNR properties. As a result, the planning team made several adjustments: aligned proposed paths with a WDNR future path and boat launch in the Kettle Moraine State Forest - Pike Lake Unit; moved proposed paths farther from the Ice Age Trail on several WDNR properties; reduced the number of times the proposed path would cross the Ice Age Trail; and changed the crossings so that they would be perpendicular to the Ice Age Trail. Recommendations were also added to consider on-street alternative alignments to the proposed paths in the Polk Kames State Ice Age Trail Area and the Loew Lake Unit of the Kettle Moraine State Forest.

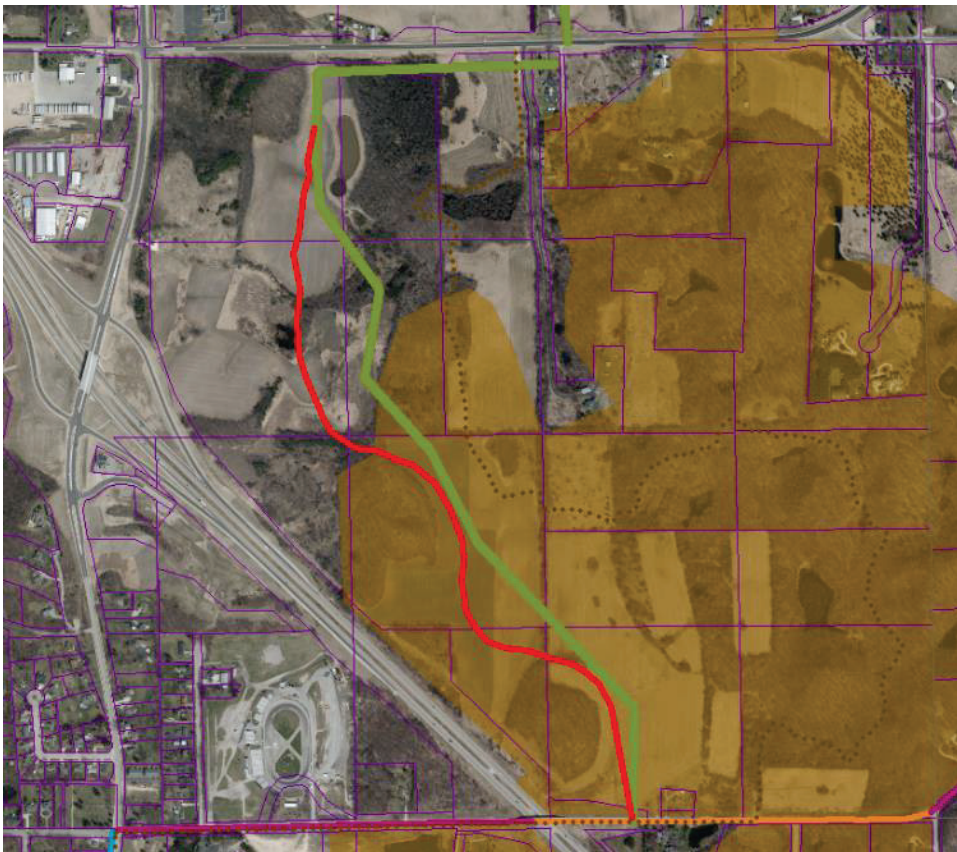
### *Discussion of the Polk Kames State Ice Age Trail Area*

- The WDNR provided a copy of *Administrative Code Chapter 1.29 - Ice Age and North Country Trails* including State Ice Age Trail Areas recreational use and management objectives, allowable related uses and facility development, vegetative management and pre-master plan uses. The discussion also covered Chapter 23.09(2)(d)(10) of the *Wisconsin Statutes*.
- The WDNR explained that the Polk Kames is a State Ice Age Trail Area with use restrictions outlined in NR 1.29 of the *Wisconsin Administrative Code*:
  - *Depending on conditions including topography and sight lines, bicycling and horse riding may take place on a State Ice Age Trail Area. Location of these trails shall not detract from the purpose of the property as provided in sub. (6). In general, such use shall take place not less than 200 - 500 feet away from the Ice Age Trail tread.*



- County staff explained that the intent is to route the shared use bike path through the Polk Kames as far away from the Ice Age Trail as possible to connect to Cedar Creek Road to avoid having to use the Hwy 144-Interstate 41 interchange to connect the shared use path to the Village of Slinger. Utilizing the Polk Kames property to connect to the Village of Slinger is a safer alternative than using the Hwy 144 – Interstate 41 interchange.
- WDNR explained that there is currently no master plan for the Polk Kames. A master plan process may take place after 2020 and would be necessary to allow the use of bicycling and delineation of the shared use path. LAWCON funds were used to purchase the Polk Kames and permission from the National Park Service is required for development of a shared use path.
- The Polk Kames property is of great ecological conservation value; care will need to be taken when delineating an appropriate trail for minimal impact. There is also open hunting on the property from Nov. 15<sup>th</sup> to Dec. 15<sup>th</sup>.
- Based on the discussion, the proposed alignment was moved farther away from the Ice Age Trail. See proposed alignment in red on Map D-2. Due to the topography and WisDOT right-of-way, the realigned shared use path was not able to move as far away from the Ice Age Trail as was discussed at the meeting. A map showing the realignment was provided to the WDNR, National Park Service and the Ice Age Trail Alliance following the inter-agency coordination meetings with an explanation as to why the realignment differed from what was discussed during the meetings. The project team also added text to the Plan explaining that an alternate route could be provided on Arthur Road and STH 144 if it is determined that a shared use path through the Polk Kames is not feasible.

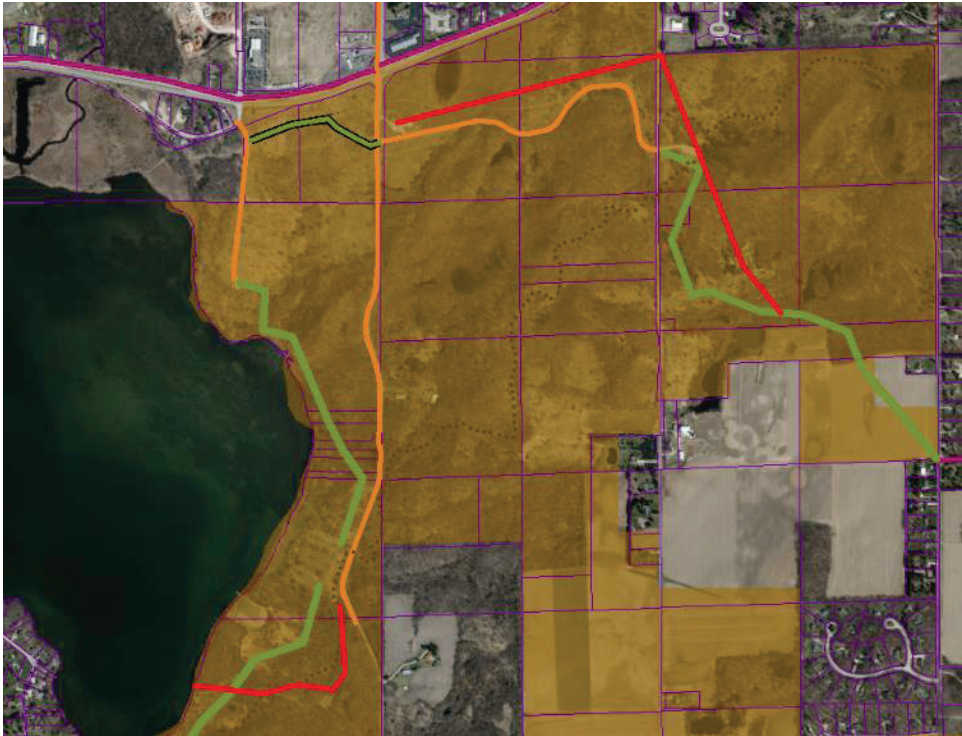
**Map D-2: Proposed Realignment of Priority Corridor #4 in the Polk Kames Site**



### ***Discussion of the Pike Lake Unit of the Northern Kettle Moraine State Forest***

- The WDNR is planning to construct a 10-foot wide bike path connecting the existing campground area to the beach and a new boat launch in the next few years. These future paths may be utilized as part of the County Bikeway and Trail Network. See proposed alignment in red on Map D-3. The WDNR will be working with the IATA on realigning the Ice Age Trail as part of their boat launch construction.

### **Map D-3: Proposed Realignment of Priority Corridor #7 in the Pike Lake Unit**

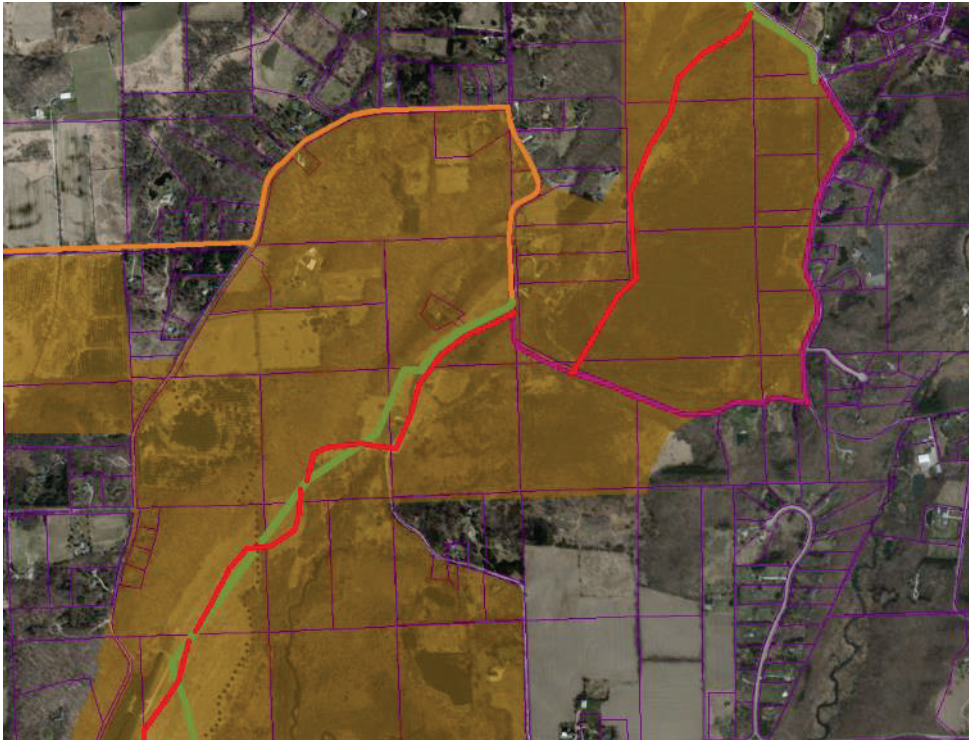


### ***Discussion of the Loew Lake Unit of the Northern Kettle Moraine State Forest***

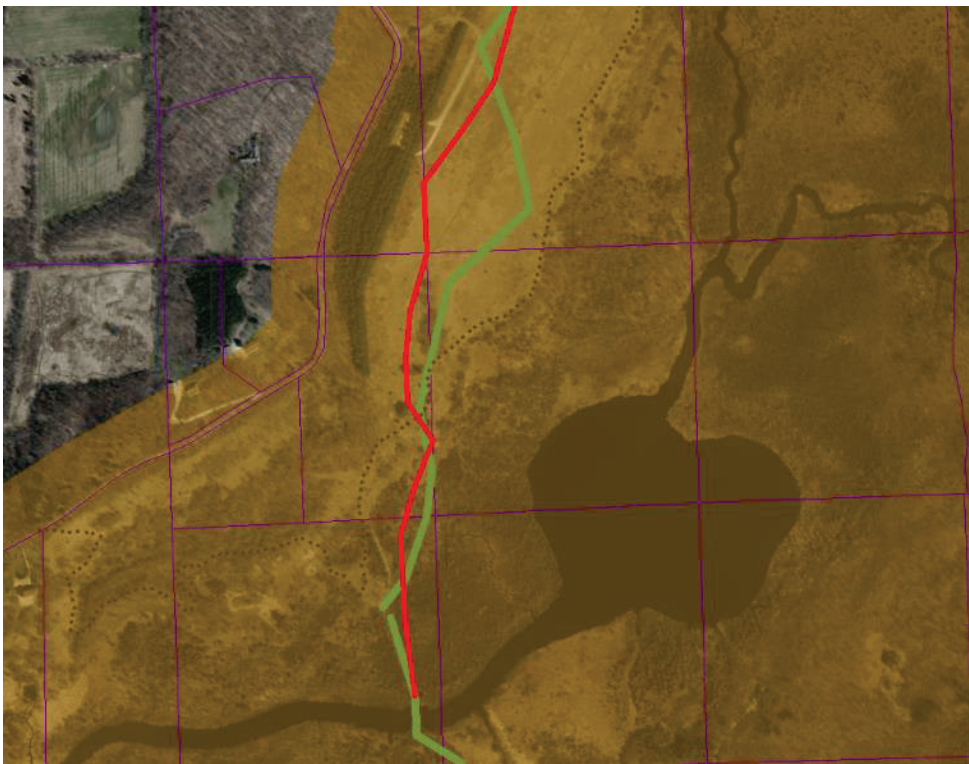
- Bicycling is not mentioned in the current master plan of Loew Lake. The master plan would need to be amended to allow this use.
- The Loew Lake Unit is of great ecological conservation value; care will need to be taken when delineating an appropriate trail for minimal impact. There is also open hunting on the property during all hunting seasons.
- Based on the discussion, the number of times the proposed path crosses the Ice Age Trail was reduced and crossings were realigned so that they would be perpendicular to the Ice Age Trail. See proposed alignment in red on Maps D-4 and D-5.



**Map D-4: Proposed Realignment of Priority Corridor #7 in the Loew Lake Unit (North)**



**Map D-5: Proposed Realignment of Priority Corridor #7 in the Loew Lake Unit (South)**

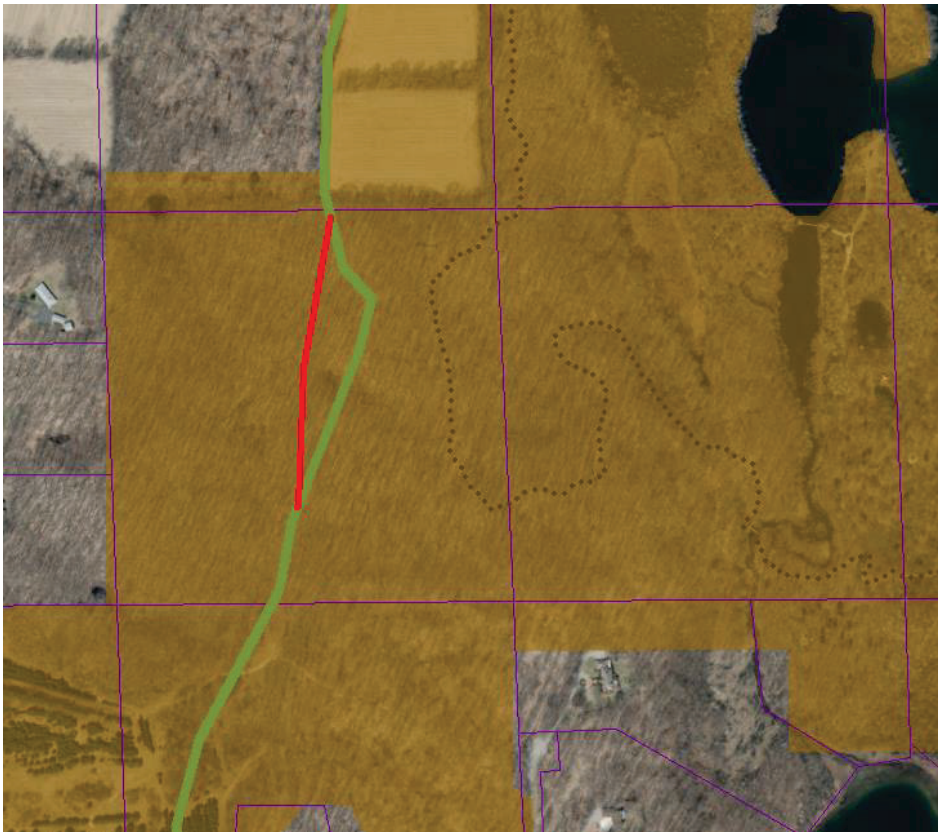


### Cedar Lakes Conservation Foundation (CLCF)

County staff held a meeting with the Cedar Lakes Conservation Foundation (CLCF) on March 6, 2019 to review where Priority Corridors were proposed on their properties as well as properties where they held conservation easements. Based on the meetings, proposed alignments were adjusted slightly. Key points from the discussion:

- CLCF described that many of their properties are deed restricted and they would research use restrictions. Properties where they held conservation easements also have use restrictions.
- CLCF provided contacts at the WDNR for future discussion regarding grant restrictions on properties that were purchased with grant funds.
- Based on the discussion, the proposed alignment was moved farther away from the Ice Age Trail near Ridge Run Park. See proposed alignment in red on Map D-6.

### Map D-6: Proposed Realignment of Priority Corridor #4 on CLCF Property near Ridge Run Park



### National Park Service

County staff held a meeting with National Park Service (NPS) representatives on March 6, 2019 to discuss the draft Bikeway and Trail Network, as well as the concerns regarding the Ice Age Trail and possible restrictions that could prevent the use of bicycles on certain DNR properties. The National Park Service representatives agreed with the realignments moving farther away from the Ice Age Trail as discussed above with the Wisconsin DNR and noted that some of the proposed paths could be utilized by the Ice Age Trail footpath instead of the current on-road connections. Key points from the discussion:



- County staff discussed the proposed shared use path north of Little Cedar Lake. The NPS indicated that the Ice Age Trail Alliance may want to partner with the County to reroute the Ice Age Trail off of County Highway Z and utilize the proposed shared use path.
- County staff discussed the idea of rerouting 950 feet of the Ice Age Trail in Ridge Run Park in the City of West Bend.
- County staff discussed the realignments of the shared use path within the Polk Kames, Pike Lake Unit and Loew Lake Unit that were discussed during the meeting of the WDNR.
- The NPS discussed the federal environmental review process and trail width protection plan. They provided several documents including the *Ice Age National Scenic Trail – Trailway Plan, Analysis of Alternatives and Environmental Assessment* and the *Ice Age National Scenic Trail Finding of No Significant Impact for Trailway Plan in Washington County, Wisconsin*, regarding establishing alternatives for a “corridor of opportunity” within which the Ice Age National Scenic Trail being developed across Washington County.

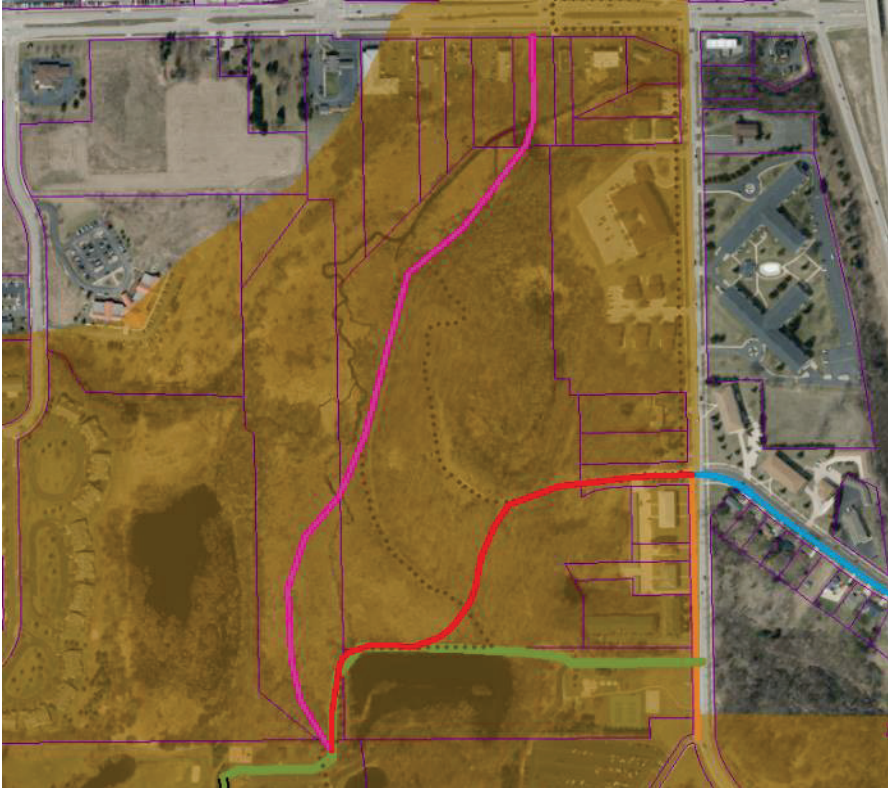
### Ice Age Trail Alliance

County staff held a meeting with representatives of the Ice Age Trail Alliance (IATA) and the City of West Bend on March 8, 2019 to discuss where the proposed shared use path would share the same corridor currently used by the Ice Age Trail footpath in Ridge Run Park and other areas of the Ice Age Trail throughout the County. Key points from the discussion:

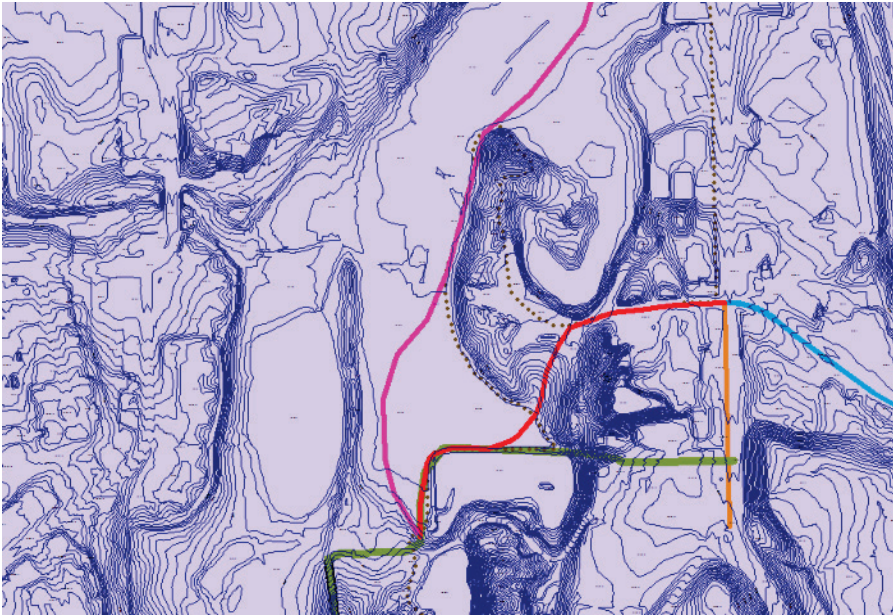
- The IATA provided the Ice Age National and State Scenic Trail Vision Statement and Attributes that describes the general route, glacial features, trail development philosophy, management objectives, trail use, etc. The long-term goal for the Ice Age Trail is an unpaved path for use by people on foot only.
- IATA explained that they are currently working with the City of West Bend to reroute the Ice Age Trail within the northern section of Ridge Run Park, eliminating their entrance off of University. County staff discussed the possibility of realigning 950 feet of the Ice Age Trail just north of Boot Lake. As a result of the discussion in that meeting, the planning team added a recommendation in the description of Priority Corridor 4 that the County should partner with IATA, the Wisconsin DNR, the National Park Service, and the City of West Bend to build a new alignment for the Ice Age Trail within the northern section of Ridge Run Park. Due to a recent property acquisition by the IATA, the current Ice Age Trail entrance to Ridge Run Park would no longer be needed once the IATA realigns their current trail. The proposed shared use path could then utilize this abandoned trail. See proposed alignment on Maps D-7 and D-8; pink is the proposed realignment of the Ice Age Trail and red is the proposed realignment of the shared use path.
- The IATA requested additional information be added to the Plan explaining the goal of the Ice Age Trail.
- The IATA requested that when the shared use path crosses the Ice Age Trail, the County should provide adequate signage indicating that bicycles are not allowed on the Ice Age Trail and construct dodgeways making the entrance onto the Ice Age Trail more difficult for a bicyclist to enter.

- The City of West Bend provided a contact at the Cedar Lake Health and Rehabilitation Center as they may be interested in partnering with the County to explore path development.
- County staff discussed the proposed shared use path north of Little Cedar Lake. The IATA may want to partner with the County to reroute the Ice Age Trail off of County Highway Z and utilize the proposed shared use path.

**Map D-7: Proposed Realignment of Priority Corridor #4 by IATA in Ridge Run Park**



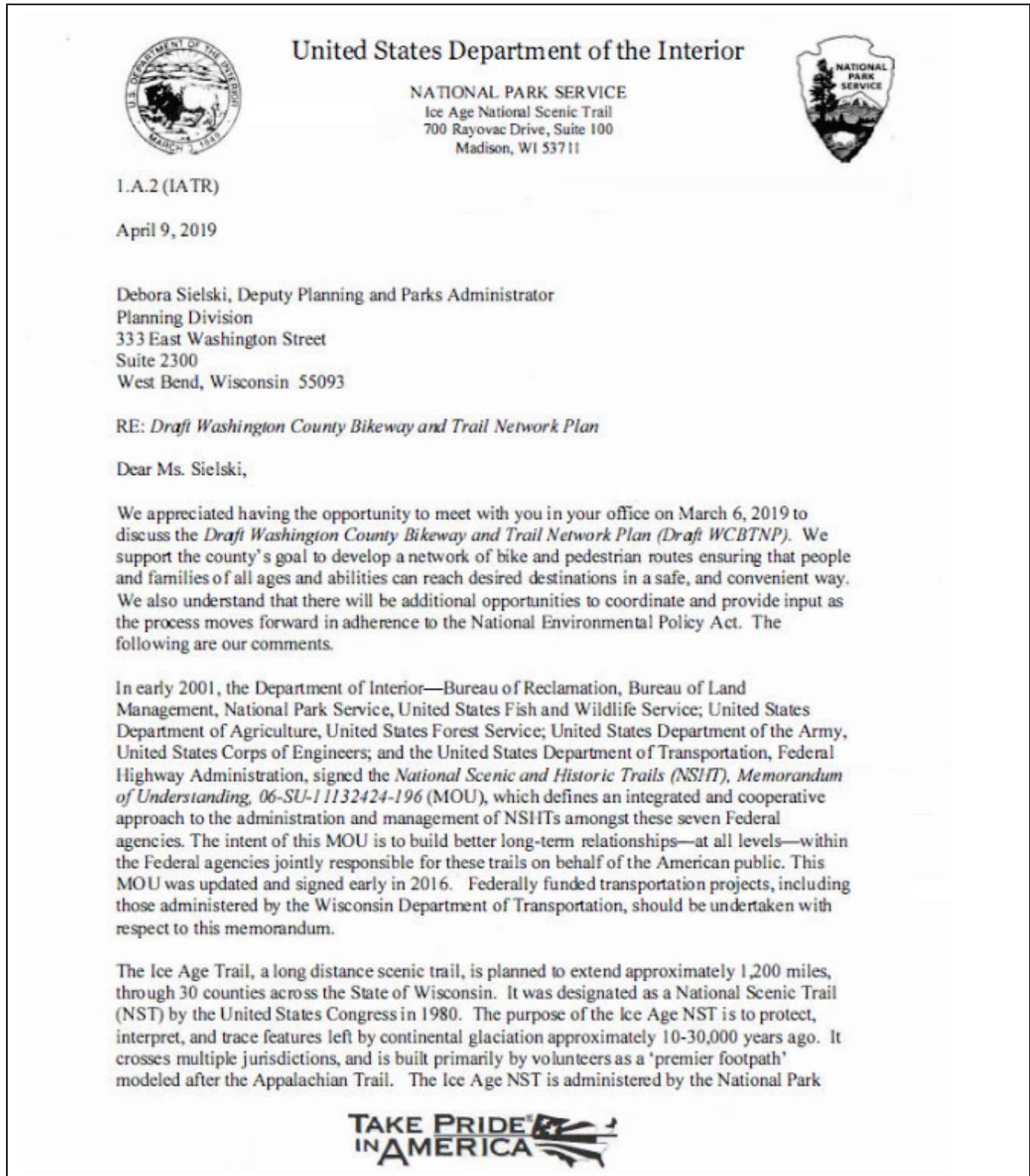
**Map D-8: Proposed Realignment of Priority Corridor #4 by IATA in Ridge Run Park (Topography)**





## Appendix E: National Park Service Comments on Draft Plan

On April 10, 2019, the County received comments from the National Park Service, Ice Age National Scenic Trail (NST) on the Final Draft Plan.



Service in cooperation with the Wisconsin Department of Natural Resources (WDNR) and the Ice Age Trail Alliance (IATA).

Corridor planning for the Ice Age NST is carried out on a county by county basis along its route. For Washington County, planning for an Ice Age NST's 'corridor of opportunity' occurred in the 1990s, resulting in the *Ice Age National Scenic Trail, Trailway Plan, Washington County, Environmental Assessment and Corridor Plan (Trailway Plan)*, which was approved by the National Park Service (NPS) and Wisconsin Natural Resources Board. As per the National Environmental Policy Act and Wisconsin Environmental Policy Act requirements, the corridor's location was determined through a public planning process involving many partners, and obtaining public input through a series of open house meetings, consultations, and questionnaires.

The Washington County Ice Age NST 'corridor of opportunity' was designed to highlight glacial features that are of national and international significance. It spans some of the highest ridges of the Kettle Interlobate Moraine, which contains very unusual features such as kames that were formed singularly and in clusters. Eskers, glacial drainageways, glacial river channels, kettle ponds and other glacial features are also found here providing habitat for rare species and ecosystems. The topography is scenic and rolling, lending itself to the construction of a meandering footpath that provides a delightful user experience. Currently, there are 35 miles of constructed Ice Age NST within the county.

Since the *Trailway Plan* was approved, there has been a concerted effort by the Ice Age NST partners—NPS, WDNR, IATA—to create a protected corridor for the trail and the above mentioned geological and biological features. Acquisition of land and easements to create this corridor (including State Ice Age Trail Areas) utilized Knowles Nelson State Stewardship and Federal Ice Age NST Land and Water Conservation Fund (LWCF) monies that total over 13 M to date. This number does not include state park, wildlife, fish or natural areas. All lands purchased with the Ice Age NST LWCF funds contain the following covenant:

*"The Grantee hereby acknowledges that the property conveyed by this document has been acquired with Federal assistance from the Land and Water Conservation Fund and such property shall not be converted to other than preservation/recreation uses related to the Ice Age National Scenic Trail without the prior written approval of the National Park Service. Any transfer of title to this property may only be to a public agency that agrees to protect the land in perpetuity for Ice Age National Scenic Trail purposes."*

Portions of the Ice Age NST in Washington County are considered 'Certified Segments,' which utilize the official Ice Age NST logo to mark its route. Certification is a process that Federal trail administrators use to officially recognize protected trail segments that meet certain criteria. It is based on National Trails System Act (NTSA) section 3(a)(3), which states, "In the negotiations leading to certification, the Federal agency becomes informed about the trail segment's location, quality, management, and environmental impact, while the applicant becomes fully informed about trail standards and the relevant authorities of the NTSA."

In order to achieve NST certification (at least as practiced along the Ice Age NST), a segment must: exist and be open to the public, be located along the route of the trail as officially mapped and link with existing segments or the anticipated location of future segments, be managed in accord with the trail's policies and guidelines, and be open to foot travel and compatible uses (snow-shoeing and skiing).



The Southeastern Wisconsin Regional Planning Commission (SEWRPC) *VISION 2020* and the *2000 Park and Open space Plan for Washington County* both recommended the development of the Ice Age NST as a pedestrian only trail. The *2010 Park and Open Space Plan for Washington County* reaffirmed these recommendations. Existing segments of the Ice Age NST in the County, are open to pedestrian travel only, which includes hiking, snowshoeing, and limited cross-country skiing. Such uses as biking, horseback riding, and snowmobiling are not permitted. However, statewide, there are places where other trails host the Ice Age NST, for example State Recreation Trails, to allow connections between existing off road segments.

The Ice Age NST 'corridor of opportunity' was identified in the *Draft WCBTNP* as Priority Corridors Segment 4 and Segment 7, to be further studied for a bikeway and trail network. On March 6, 2019, we did discuss specific routes for a bike trail, away from the Ice Age NST. One major area of concern is the southern half of the Ice Age NST corridor in Washington County, which has state parks and forests that contain sensitive topography and rare and fragile natural values. The introduction of any new uses into these environments, such as the bike path shown on Map D4 and Map D5, will need to be evaluated by federal and state agencies for impacts. The WDNR State Master Plans are the vehicle that identifies and controls allowed uses on their lands.

In regards to sensitive, natural environments, the current *Draft WCBTNP* potentially directs a bike trail to the Ice Age NST Waukesha Monches segment, which would impact the Ice Age NST. Currently mountain biking on the Monches segment, a prohibited activity, is of ongoing concern.

#### Specific Comments to *Draft WCBTNP*

##### Chapter 1

The introduction does not reflect how the *Draft WCBTNP* relates to the existing *Park and Open Space Plan*.

Page 21. Please revise the descriptions for the Opportunity Corridors identified such as railroads, pipeline, and transmission lines to clearly reflect that they "may" provide opportunities rather than "can" provide opportunities. Their feasibility for use includes not only space and environmental suitability, but permission of the land/easement holder and a review of their individual agreements and management policies.

Page 23. The second paragraph begins "The Ice Age Trail corridor can provide...." "Can" should be changed to 'may' in order to reflect the priorities and restrictions placed on some lands and easements acquired for the trail. In some instances, agreements preclude uses other than foot travel.

For example, State Ice Age Trail Areas (SIATAs) are lands purchased by the DNR for the [Ice Age National Scenic Trail](#) under the authority of s. 23.09 (2)(d) 10., Stats., unless purchased as part of another department project. The primary purpose of State Ice Age Trail Areas is to permanently protect segments of the Ice Age National Scenic Trail, preserve Wisconsin's glacial landscape features and other natural and cultural resources and, where possible, offer primitive and remote opportunities for visitors to experience a quiet connection with nature. SIATAs offer

low-impact public recreation such as hiking, backpacking and snowshoeing while protecting the natural and scenic character of the Ice Age National Scenic Trail corridor.

Similarly, the Master Planning documents for state properties such as Polk Kames, Loew Lake and Pike Lake may allow hunting, or preclude additional uses or have limits on development due to sensitive species or habitats.

The Ice Age Trail should be referred to as the Ice Age National Scenic Trail (Ice Age NST) in all instances.

Chapter 3

Page 29 "The Bike and Pedestrian Plan Advisory Committee reviewed and commented on the memoranda that provided the basis for this Plan." The origin of the memoranda should be clearly explained, and a copy provided in the Appendix of the document. For example: the county's website refers to the Wisconsin Department of Transportation's award of 2016-2020 Transportation Alternative Program (TAP) funds.

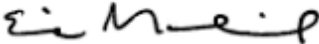
Chapter 5--Segment 7

The proposed route should end at the county line on or near County Trunk K. A review of the *Waukesha County Bicycle Plan* approved in May 2018 shows an on-road connection from this point on the Washington County line south to Monches County Park. This approved plan is also consistent with the VISION 2050 plan prepared by the SEWRPC.

In summary, as critical stakeholders, the National Park Service, Wisconsin Department of Natural Resources, and Ice Age Trail Alliance were not contacted during the initial development of the *Draft WCBTNP*. The National Park Service does appreciate having the opportunity to provide comments at this time, and looks forward to further coordination with your office as this process moves forward.

If you have any questions regarding these comments or require additional information please contact Trail Manager Pam Schuler at (608)441-5610.

Sincerely,



Eric Gabriel  
Superintendent

C C: Ice Age Trail Alliance  
Wisconsin Department of Transportation  
Wisconsin Department of Natural Resources  
Waukesha County Parks and Land Use  
Federal Highway Administration

## Appendix F: Rails to Trails Conservancy–Route of the Badger

During the development of the Preliminary Draft County Bikeway and Trail Network Plan, portions of the network were incorporated into the Rails to Trails – Route of the Badger, a proposed 500-mile trail network in Southeastern Wisconsin. The spring 2019 version of the Route of the Badger network is displayed in the map below.

