

MEMORANDUM

March 15, 2023

To: Outagamie County PMT
Organization: Outagamie County
From: Sonia Haeckel, Emily Lauderdale, and Sara Schooley
Project: Outagamie County Bicycle and Pedestrian Plan

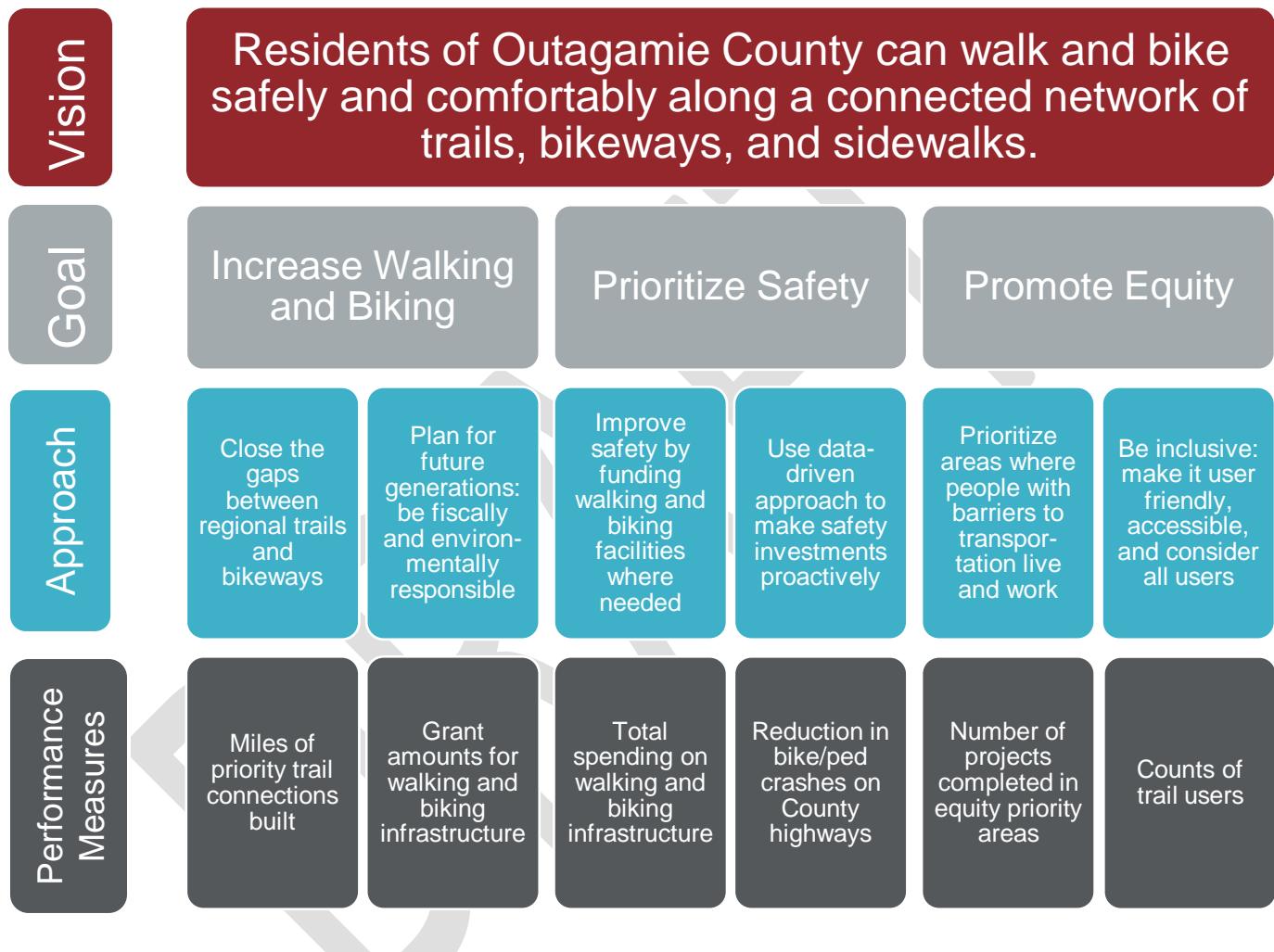
Re: Recommendations for Committee and Public Input

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Draft Vision, Goals, and Approach

The Outagamie County Bicycle and Pedestrian Plan project team relied on the input from the first round of public engagement in Fall 2022 and a special activity conducted during the Greenways Committee to develop a draft vision, goals, and approach. The vision statement helps clarify why this plan is important to Outagamie County. The goals and approaches provide guiding principles and areas of focus for improving walking and biking in Outagamie County. When presented with tradeoffs or difficult decisions, County staff and elected officials should refer to these guiding statements to help determine the correct course of action.



How Recommendations in this Chapter Meet the Goals and Approach

The planning team referred to the goals and approaches throughout the development of each of the recommendations and tools in this chapter, which will be presented in detail in the following sections. These recommendations and tools include the following:

- *Design Users and Facility Selection.* This describes the approach that the planning team used to select bikeway and trail recommendations in the priority trail and bikeway network, and the way design users should be considered for facility selection in HSPAs (below).
- *Priority Trail and Bikeway Network.* These are specific bikeway and trail recommendations for low-stress bicycle infrastructure that will close critical gaps in the County's Priority Trail Network.

- *Highway Safety Priority Areas (HSPAs)*. HSPAs are areas where the County should take extra steps to ensure that walking and biking facilities are provided.
- *Typical County Highway Cross Sections in HSPAs*. One-page diagrams and guidance the County should follow when repaving or reconstructing highways in HSPAs.
- *Policy and Program Recommendations*. Non-infrastructure actions and programs that different County agencies should adopt to move forward on the Vision, Goals, and Approach

The table below illustrates how each recommendation intersects with the six approaches.

Table 1. Intersection between recommendations, tools, and approaches

Recommendation/Tool	Close Gaps	Plan for Future Generations	Improve Safety	Data-Driven Approach	Prioritize Equity Areas	Be Inclusive
Design Users and Facility Selection	✓	✓	✓		✓	✓
Priority Trail and Bikeway Network	✓	✓	✓		✓	✓
Highway Safety Priority Areas (HSPAs)		✓	✓	✓	✓	✓
Typical County Highway Cross Sections in HSPAs		✓	✓	✓		✓
Policy and Program Recommendations	✓	✓	✓	✓	✓	✓

Design Users and Facility Selection for People Walking and Biking

There are several factors to consider when selecting the right type of facility along and across County highways. The County aims to close the gaps in the priority trail network between the regional trails in the County—and where trails are not feasible, provide low-stress bikeway connections to those priority trails. Along those priority trail connections, the planning team considered that children, families, and other inexperienced bicyclists may be using the bikeway. In small towns where County highways often serve as main streets, the County will also need to consider how to improve safety and inclusivity for people walking and biking to businesses and destinations along the street.

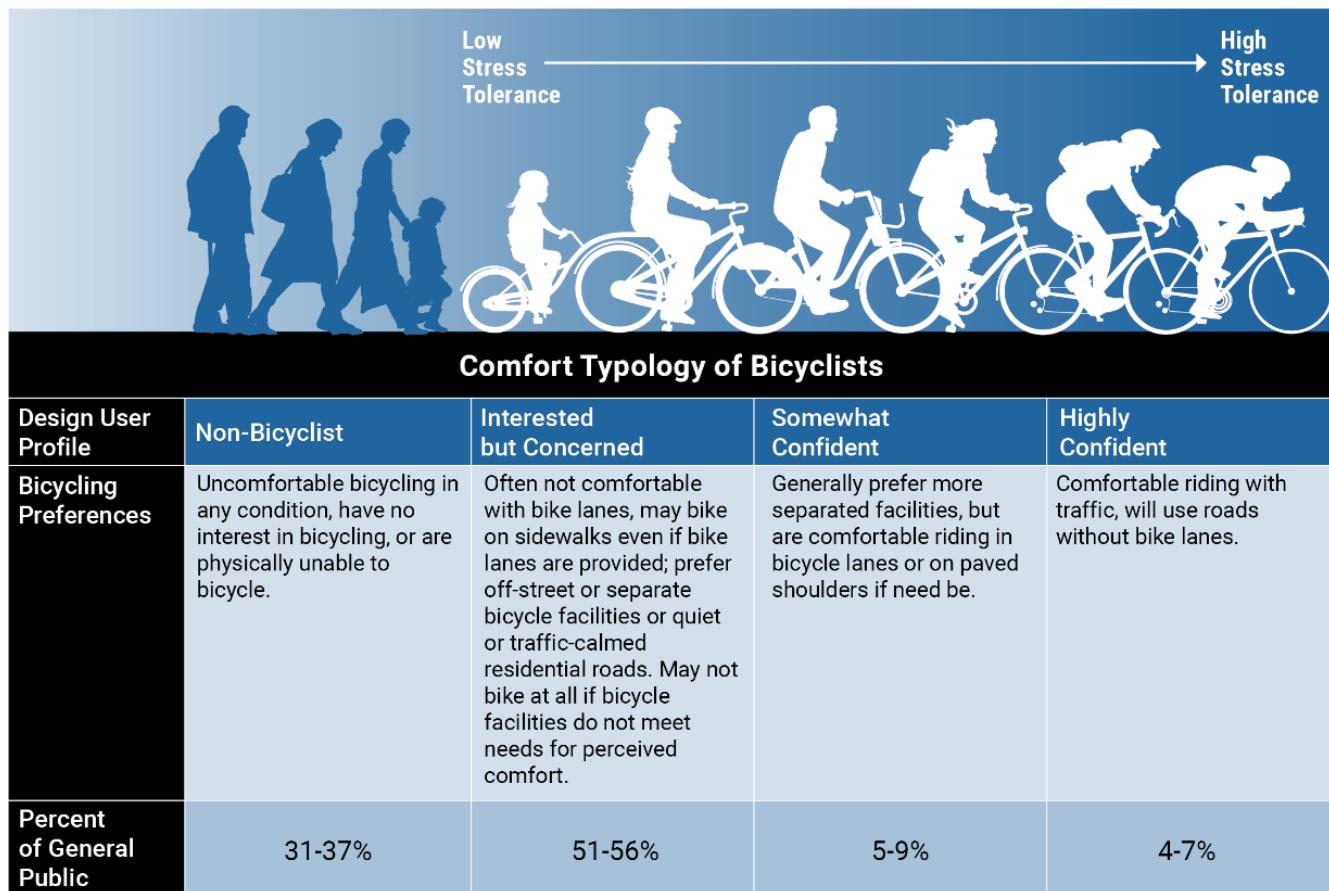
Design Users and Facility Selection

The Federal Highway Administration (FHWA) [Bikeway Selection Guide](#) and [Small Town and Rural Multimodal Networks](#) provide guidance that emphasizes the importance of designing bicycle and pedestrian networks for safety, comfort, and connectivity.

Bikeway Facility Selection. In particular, it is important to design low-stress bikeway networks that serve the needs of the “interested but concerned” bicyclist, who represents the majority of potential bicyclists. **Figure 1** demonstrates the bicyclist design user profiles and their approximate share of the population.

A low-stress bicycle network, also referred to as an “all ages and abilities network” or a “high comfort network,” is one that is designed to be safe and comfortable for all users. Low stress networks rely on separating bicyclists from traffic using separated bike lanes and shared-use paths. Low-speed and low-volume streets with the operating characteristics of bicycle boulevards also support these networks if safe crossings of busy roads are provided.

Figure 1: Bicyclist Design User Profiles and Traffic Stress Tolerance (adapted from FHWA Bikeway Selection Guide)



Pedestrian Facility Selection. Designing facilities for people walking needs to take into account that they have different needs than people biking. Pedestrians usually take short trips to nearby destinations such as a school or business. Some are simply walking a pet or walking or for exercise. Most rural small towns provide a compact center well-suited for walking and bicycling trips. Pedestrians can be accommodated by a variety of facility types, the most common being sidewalks and shared-use paths. Both of these facilities should be designed to meet standards in the US Access Board’s proposed *Public Rights-of-Way Accessibility Guidelines* (PROWAG). For selecting which safety treatments to use at pedestrian crossings, the FHWA’s *Safe Transportation for Every Pedestrian* (STEP) program’s *Studio Guide* provides several helpful tables to aid in countermeasure selection, including one shown in Figure 2 below.

Figure 2: Countermeasures for Pedestrian Crossing Locations According to Roadway Features

Roadway Configuration	Posted Speed Limit and AADT									
	Vehicle AADT <9,000			Vehicle AADT 9,000–15,000			Vehicle AADT >15,000			
	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph	
2 lanes (1 lane in each direction)	1 2 4 5 6 7	1 5 6 9	1 5 6 9	1 4 5 6 7	1 5 6 9	1 5 6 9	1 4 5 6 7	1 5 6 9	1 5 6 9	
3 lanes with raised median (1 lane in each direction)	1 2 3 4 5 7	1 3 5 9	1 3 5 9	1 3 4 5 7	1 3 5 9	1 3 5 9	1 3 4 5 7	1 3 5 9	1 3 5 9	
3 lanes w/o raised median (1 lane in each direction with a two-way left-turn lane)	1 2 3 4 5 6 7 9	1 3 5 6 9	1 3 5 6 9	1 3 4 5 6 7 9	1 3 5 6 9	1 3 5 6 9	1 3 4 5 6 7 9	1 3 5 6 9	1 3 5 6 9	
4+ lanes with raised median (2 or more lanes in each direction)	1 3 5 7 8 9	1 3 5 7 8 9	1 3 5 8 9	1 3 5 7 8 9	1 3 5 7 8 9	1 3 5 8 9	1 3 5 7 8 9	1 3 5 8 9	1 3 5 8 9	
4+ lanes w/o raised median (2 or more lanes in each direction)	1 3 5 6 7 8 9	1 3 5 6 8 9	1 3 5 6 8 9	1 3 5 6 7 8 9	1 3 5 6 7 8 9	1 3 5 6 8 9	1 3 5 6 7 8 9	1 3 5 6 8 9	1 3 5 6 8 9	
<p>Given the set of conditions in a cell,</p> <ul style="list-style-type: none"> # Signifies that the countermeasure is a candidate treatment at a marked uncontrolled crossing location. ● Signifies that the countermeasure should always be considered, but not mandated or required, based upon engineering judgment at a marked uncontrolled crossing location. ○ Signifies that crosswalk visibility enhancements should always occur in conjunction with other identified countermeasures.* <p>The absence of a number signifies that the countermeasure is generally not an appropriate treatment, but exceptions may be considered following engineering judgment.</p>										
<p>1 High-visibility crosswalk markings, parking restrictions on crosswalk approach, adequate nighttime lighting levels, and crossing warning signs</p> <p>2 Raised crosswalk</p> <p>3 Advance Yield Here To (Stop Here For) Pedestrians sign and yield (stop) line</p> <p>4 In-Street Pedestrian Crossing sign</p> <p>5 Curb extension</p> <p>6 Pedestrian refuge island</p> <p>7 Rectangular Rapid-Flashing Beacon (RRFB)**</p> <p>8 Road Diet</p> <p>9 Pedestrian Hybrid Beacon (PHB)**</p>										

*Refer to Chapter 4, 'Using Table 1 and Table 2 to Select Countermeasures,' for more information about using multiple countermeasures.

**It should be noted that the PHB and RRFB are not both installed at the same crossing location.

Toolbox of Trail and Bikeway Facilities

Following the planning around the design users for low-stress bikeways, this plan primarily recommends off-street trail connections outside the urban area. Within the Fox Cities, the priority trail connections will need to use both on-street and separated facilities. The trails and bikeways in the priority trail connections plan include those shown in Table 2.

Table 2. Recommended bicycle facility types

Facility Type	Example Image	Description
Paved Trail / Shared Use Path (in own corridor)		<ul style="list-style-type: none">• Fully separated from a street or road• Typically 10-12 feet wide• Sometimes installed along rail or utility corridors or next to rivers• Low-stress experience for many types of users (bicyclists, pedestrians, joggers)
Unpaved Trail / Shared Use Path (in own corridor)		<ul style="list-style-type: none">• Fully separated from a street or road• Can be used for snowmobiling (or skiing) during winter months if not plowed• Typically less expensive to build and maintain than asphalt trails• Low-stress experience for many types of users (bicyclists, pedestrians, joggers)
Rail-with-Trail		<ul style="list-style-type: none">• Shared use path parallel to an active railroad• Usually has barrier separation between the path and the railroad• Working with railroads requires early communication and open dialogue• Guidance on developing Rails with Trails can be found in an FHWA report: <i>Rails with Trails: Best Practices and Lessons Learned</i>¹

¹ <https://railroads.dot.gov/elibrary/rails-trails-best-practices-and-lessons-learned-0>

Facility Type	Example Image	Description
Paved Sidepath / Wide Sidewalk (next to street)		<ul style="list-style-type: none"> Typically used on medium and high-volume streets with few intersections or driveways to minimize conflicts Fully separated from a street or road Typically paved and 10-12 feet wide Next to and parallel to a roadway Can be a low-stress experience for many types of users (bicyclists, pedestrians, joggers)
Bicycle Boulevard		<ul style="list-style-type: none"> Typically installed on neighborhood streets that have lower volumes and speeds Can include curb extensions, speed humps, neighborhood traffic circles, and pedestrian islands for traffic calming Can be low-stress experience for bicyclists if traffic volumes and speeds are low enough
Marked Bike Route		<ul style="list-style-type: none"> Help bicyclists navigate existing low traffic, low-stress streets Quick and affordable expansion of the bicycle network using existing low traffic streets Alert drivers that bicyclists may be present through signs May include destination, distance, and direction on signs Not a dedicated bicycle facility
Bike Lanes		<ul style="list-style-type: none"> Designated space for bicyclists on medium volume streets with markings and signs Bicyclists ride in the same direction as motor vehicle traffic Usually 5 to 6 feet wide Can be added by reconfiguring an existing shoulder, removing on-street parking, or reducing the number or width of travel lanes

Facility Type	Example Image	Description
Buffered Bike Lane		<ul style="list-style-type: none"> Typically used on streets with higher speeds and volumes to provide greater distance between motor vehicles and bicyclists Bicyclists ride in the same direction as motor vehicle traffic. Buffers should be at least 18 inches wide Can be added by reconfiguring an existing shoulder, removing on-street parking, or reducing the number or width of travel lanes
Separated Bike Lane		<ul style="list-style-type: none"> Typically used on streets with high bicycle volumes and high motor vehicle volumes Planters, concrete medians, parked cars or other barriers provide physical separation, improving comfort and safety Buffers should be at least three feet wide. A one-directional bike lane should be 4.5 feet wide; a two-directional bike lane should be, at minimum, 10 feet wide. Reduces risk of conflict with open doors of parked cars compared to a bike lane

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Draft Priority Trail and Bikeway Network

The priority trail and bikeway network consists of low-stress bikeway facility recommendations to fill critical gaps in the County's trail network. The planning team used the many of the existing and proposed trails from the County's Comprehensive Outdoor Recreation Plan (CORP) and other initiatives as the backbone of the Priority Trail Network:

- Newton Blackmour Trail and future extension into New London
- Wiouwash State Trail
- Sidepath along State Highway 15 through Greenville to Hortonville
- CB Trail
- The trails that make up the current and planned "Loop the Locks" along the Fox River
- CE Trail along E College Avenue (CTH CE)

Starting with those six trails, the planning team looked for roads, corridors, and public right-of-way that would provide realistic opportunities to connect them via safe and low-stress bikeways. Additional specific trail and bikeway recommendations were added with input from the County Project Management Team after reviewing areas that were identified initially as Highway Safety Priority Areas (see below) and considering the goals of increasing walking and biking, prioritizing safety, and promoting equity. These additional connections included, for example:

- Trails along County highways near schools and parks where children may be present, such as Edgewood Drive (CTH JJ) near Fox Valley Lutheran High School and Plamann Park, and CTH E in Freedom (near Freedom High School and Elementary School).
- Trails along County highways with safety concerns in the urban area and with many destinations contributing to strong demand for biking and walking trips, such as Northland Avenue (CTH OO).

Figures 3 and 4 show the draft recommended Priority Trail and Bikeway Connections. *Note: Committee members can refer to the more detailed map PDF available on the Outagamie County website*

Draft Highway Safety Priority Areas

Highway safety priority areas (HSPAs) are locations where the County should prioritize pedestrian and bicycle infrastructure and ensure that walking and biking facilities are provided. Locations selected as HSPAs will need follow-up studies that consider vehicle speeds, traffic volumes, County-owned right-of-way, and expected users to determine the best facility type for the location.

In HSPAs, the County should use the typical cross sections (shown in the next section of this chapter) when planning for and designing repaving and reconstruction projects along County highways. *Note: Committee members can refer to the more detailed map PDF available on the Outagamie County website.*

Areas were designated as HSPAs if they had either of the following factors present:

1. **The highway segment had at least one bicycle or pedestrian crash in between 2017 and 2021**
(*Note: Committee members can refer to Figure 11 in the Existing Conditions report*). Segments were measured up to one mile in each direction from a crash. If the crash occurred at an intersection with another US, state, or county highway, the segment extended one mile in both directions.
2. **The segment is located in an area with "medium-to-high" bicycling and walking trip potential**
(*Note: Committee members can refer to Figure 9 in the Existing Conditions report*).

Once these two factors were applied, the planning team manually adjusted them to create logical project corridors. If a highway passed through areas with both medium trip potential and low trip potential, the entire segment was determined to be a HSPA instead of leaving gaps.

In addition to the County highways, the following three state highways were identified as highway safety priority areas because they have high rates of bicycle and pedestrian crashes in addition to high walking and biking trip potential: STH 47/Richmond Street; STH 96/Wisconsin Avenue; and STH 125/W College Avenue. The County

does not have jurisdiction over these highways, but should work with WisDOT to pursue grants and other initiatives to improve safety for bicyclists and pedestrians on those corridors.

Figure 3: Draft Priority Trail and Bikeway Connections and Highway Safety Priority Areas for Outagamie County (Countywide)

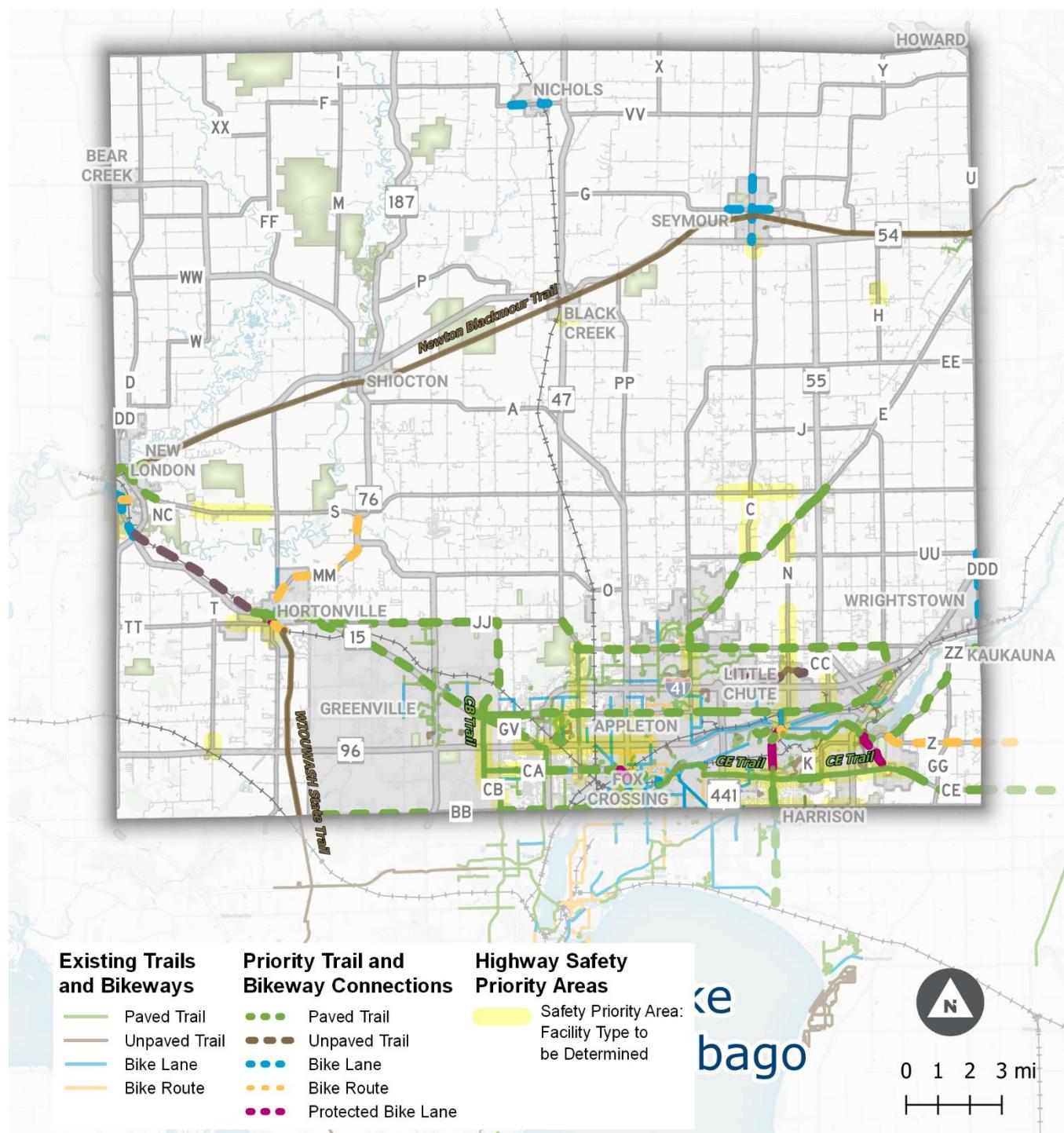
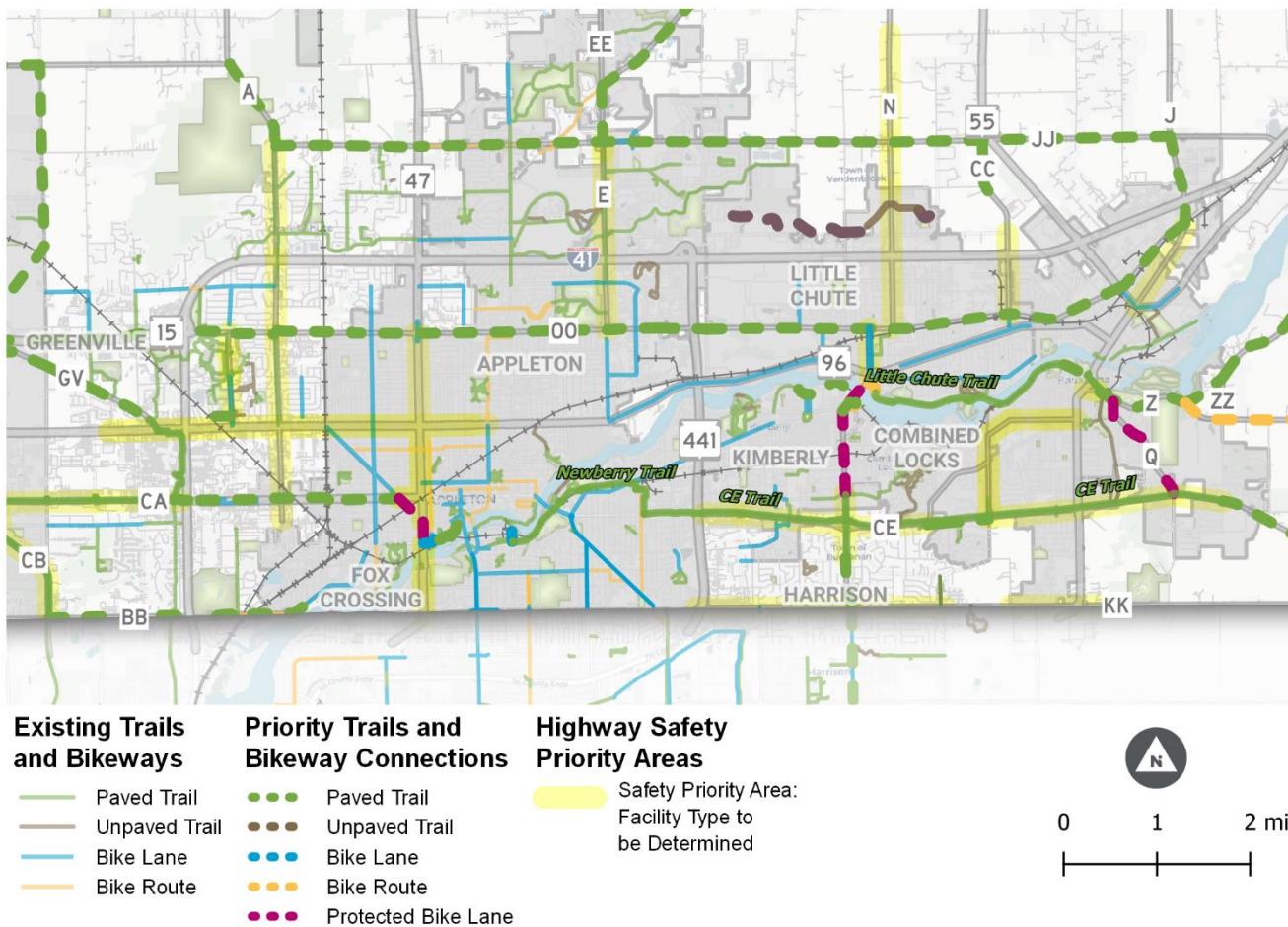


Figure 4: Draft Priority Trail and Bikeway Connections and Highway Safety Priority Areas for Outagamie County (Urban Area)



Typical Highway Cross Sections for Highway Safety Priority Areas

The American Association of State Highway and Transportation Officials (AASHTO) *Policy on Geometric Design of Highways and Streets*—commonly referred to as the “Green Book”—is considered to be the foremost guide to highway and street design. The 2018 edition of the AASHTO Green Book established five context classes for geometric design - three for urban areas and two for rural areas. The selection tools and cross sections in this chapter are aligned with these context classes:

- Urban areas, including Urban Core, Urban, and Suburban contexts
- Rural areas, including Rural Town, and Rural contexts

The following section includes overviews of different County highway configurations for both urban and rural contexts. The cross section diagrams and guidance are meant for Outagamie County staff to use as a quick reference when planning for and designing repaving and reconstruction projects. They are also meant to provide the County with the tools to communicate alternatives with the public in the early stages of planning for highway projects.

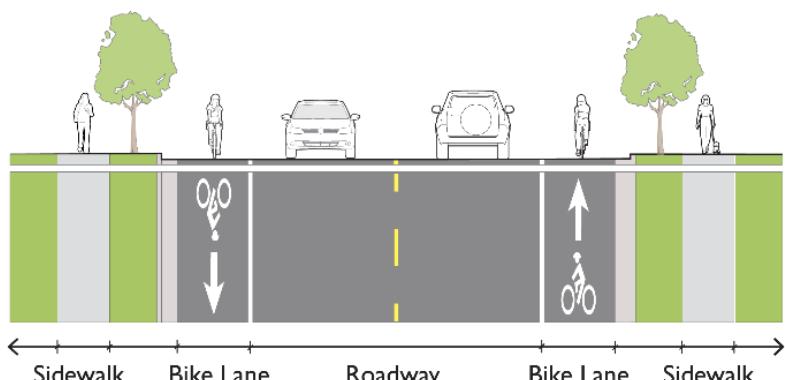
County Highways in Urban Context (including Urban Cores, Small Cities and Villages)

Motor vehicle speeds and volumes:

- Speeds of 35 mph or less
- Average Daily Traffic (ADT) is under 15,000 vehicles

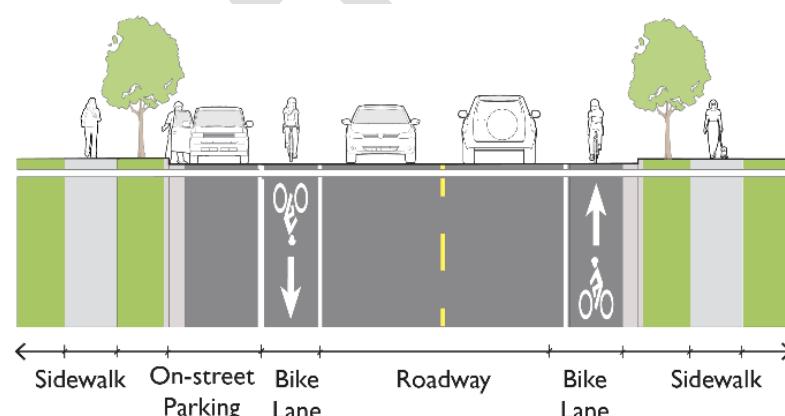
Facilities for people walking:

Sidewalks provide a dedicated place for people walking. Sidewalks are recommended on all urban streets, including streets in small cities and villages.



Facilities for people biking:

Bike lanes provide a dedicated space for people biking on streets with low-to-moderate traffic speeds and volumes.



Design considerations

Sidewalks: Sidewalks along downtown main streets should be at least 6 ft wide (8-10 ft preferred).

Bike Lanes: Visually narrowing traffic lanes by adding bike lanes can improve safety for all road users by encouraging drivers to slow down.

FHWA's Small Town and Rural Multimodal Networks guide provides detailed guidance on designing and marking bike lanes.

Acceptable modifications

A painted buffer of 1-2 feet between the bike lane and the motor vehicle traffic lane is preferred where speeds are over 25 mph or ADT is over 6,000 ADT.

Implementation

It may be possible to implement bike lanes through roadway reconfigurations ("road diets"). Road diets that reduce streets four-to-three motor vehicle lanes should be considered for roadways with less than 20,000 ADT and, in some cases, up to 25,000 ADT. Road diets have been proven to increase safety by reducing vehicle speeds and rear-end crashes.

If a road diet is not possible, it may be possible to implement bike lanes by removing on-street parking from one or both sides of the roadway and reducing lane widths. Motor vehicle travel lane widths can be 10 to 11 ft, depending on the types of vehicles using the road. If on-street parking is to be removed, the County will strive to reduce it from only one side.

Potentially suitable routes

- Nash Street (CTH M) in Hortonville
- Mill Street (CTH T) in New London

County Highways along Gaps in Priority Trail Network

Motor vehicle speeds and volumes:

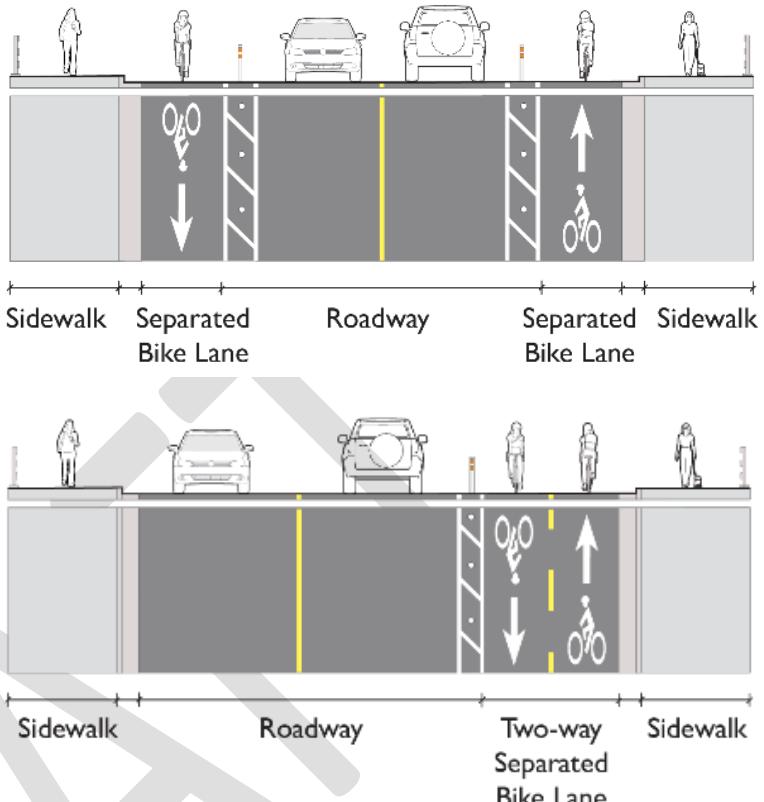
- Speeds of 35 mph or less
- Average Daily Traffic (ADT) is over 5,000 vehicles

Facilities for people walking:

Sidewalks provide a dedicated place for people walking. Sidewalks are recommended on all urban streets.

Facilities for people biking:

Not all County highways in urban cores need separated bike lanes. That said, some County highways in urban cores provide a critical connection between priority trails. For these areas, County highways can be re-built to provide a low-stress bikeway connection. Separated bike lanes are recommended in these locations.



Design considerations

Sidewalks: Sidewalks along downtown main streets should be at least 6 ft wide (8-10 ft preferred).

Separated Bike Lanes: FHWA's *Separated Bike Lane Planning and Design Guide* offers detailed planning and design guidance. Consider protected intersections for separated bike lanes. Providing a two-way separated bike lane or side path on one side of a street introduces a counterflow movement for bicyclists, which can be challenging to accommodate. Safety countermeasures are needed to manage conflicts at intersections and driveways, and special signals and signal phasing treatments will be required.

Acceptable modifications

Bike lanes or buffered bike lanes may be acceptable in locations that do not fill gaps between priority trails.

Implementation

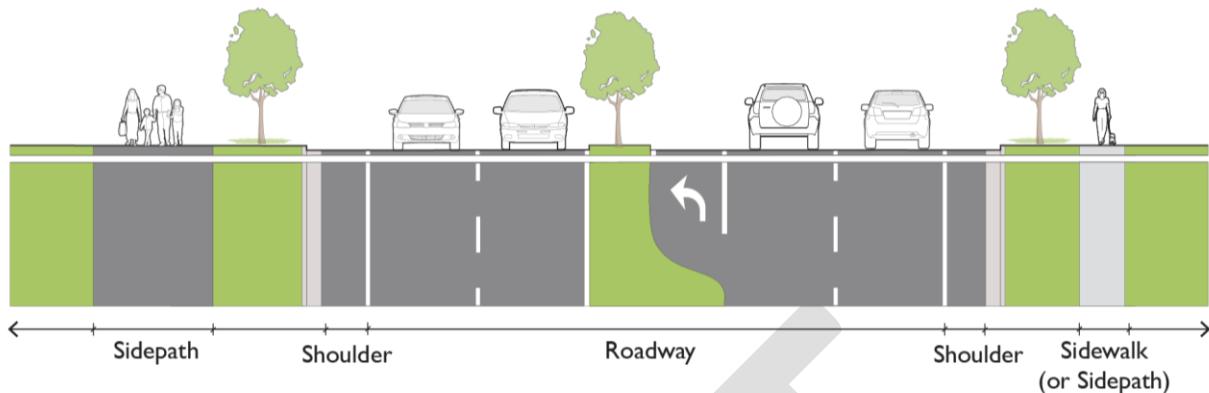
It is preferable to implement bike lanes through roadway reconfigurations ("road diets"). Road diets that reduce streets four-to-three motor vehicle lanes should be considered for roadways with less than 20,000 ADT and, in some cases, up to 25,000 ADT. Road diets have been proven to increase safety by reducing vehicle speeds and rear-end crashes.

If a road diet is not possible, it may be possible to implement bike lanes by removing on-street parking from one or both sides of the roadway and narrowing lane widths. Motor vehicle travel lane widths can be 10 to 11 ft, depending on the types of vehicles using the road.

Potentially suitable routes

- Washington Street (CTH N) from the Fox River to E College Ave (CTH CE)
- Hillcrest Drive (CTH Q) from Cleveland Avenue to CE Trail

County Highways in Suburban Context



Motor vehicle speeds and volumes:

- Speeds of 35 mph or more
- Average Daily Traffic (ADT) is over 6,000 vehicles

Facilities for people walking:

Pedestrians should be expected and accommodated on both sides of urban streets--including suburban throughfares--with either sidewalks or sidepaths.

Facilities for people biking:

Sidepaths are recommended on urban and suburban streets with high traffic speeds and volumes over 6,000 ADT.

Design considerations

Sidepaths require ample right-of-way to provide for separation and pathway area outside of the adjacent roadway. Preferred minimum separation width is 6.5 ft, although a physical barrier between the path and the roadway will allow for a narrower separation distance.

Operational and safety concerns exist where sidepaths cross driveways and intersections. Combine driveways and access points to reduce the number of turning conflicts with sidepath users. At road crossings along higher-speed, higher-volume roadways, sidepaths may need to shift as far as 16-24 ft from the adjacent street. See FHWA's *Small Town and Rural Multimodal Networks* and the AASHTO *Bike Guide* for design strategies.

If a sidepath is provided on only one side of a roadway, special attention needs to be provided for safe bicycle crossing infrastructure.

Implementation

It may be possible to gain space for sidewalks and sidepaths through roadway reconfiguration ("road diet").

Suburban multi-lane arterial corridors have high crash rates for all users due to high vehicle speeds. The County should rethink how these types of roads are designed, focusing on supporting both the transportation needs and adjacent land uses. ITE's *Designing Walkable Urban Thoroughfares: A Context Sensitive Approach* explains how land use planning can support corridor plans and provides detailed design parameters for suburban urban corridors.

Certain types of federal funding may be appropriate for planning and designing pedestrian and bicycle infrastructure on corridors with high crash rates. More information about federal funds will be provided in the Implementation chapter of the final Plan.

Potentially suitable routes

- CTH N from E College Avenue (CTH CE) to Calumet Street (CTH KK)
- W Edgewood Drive (CTH JJ) from Lynndale Drive (CTH A) to STH 47
- W College Avenue (CTH CA and STH 125) from the airport to Badger Avenue

County Highways in Rural Villages and Town Centers with Low Traffic and Low Speeds

Motor vehicle speeds and volumes:

- Speeds of 25 mph or less
- Average Daily Traffic (ADT) is under 3,000 vehicles

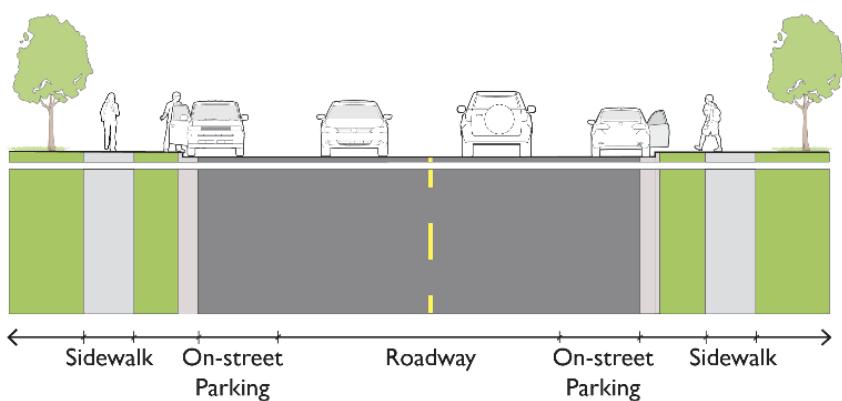
Facilities for people walking:

Sidewalks provide a dedicated place for people walking.

Sidewalks are recommended on all streets in built-up areas, including rural town community centers.

Facilities for people biking:

Dedicated bicycle facilities are not needed on streets with low traffic volumes and low speeds.



Design considerations	To encourage drivers to reduce their speeds as they enter rural villages, the County should consider graduated speed decreases, and installing gateway treatments or other traffic calming tools such as lane narrowing through curb extensions or median islands, roundabouts, or driver speed feedback signs.
Acceptable modifications	<p>Sidewalks should support land uses along the street and, as such, may only be necessary on one side of the street if destinations are only on one side of the street. In a situation like this, special attention needs to be provided for safe pedestrian crossing infrastructure.</p> <p>On-street parking may not be necessary on one or both sides of the street due to adjacent land uses or low demand.</p>
Implementation	<p>Add sidewalks in Highway Safety Priority Areas when highways are reconstructed or pursue federal funding for high-priority locations.</p> <p>Encourage or require sidewalks along County highways as part of subdivision regulations.</p> <p>Depending on available right-of-way, property may have to be purchased or easements granted to build sidewalks.</p>
Potentially suitable routes	<ul style="list-style-type: none">▪ CTH F in Nichols▪ CTH T in Dale▪ CTH M in Medina

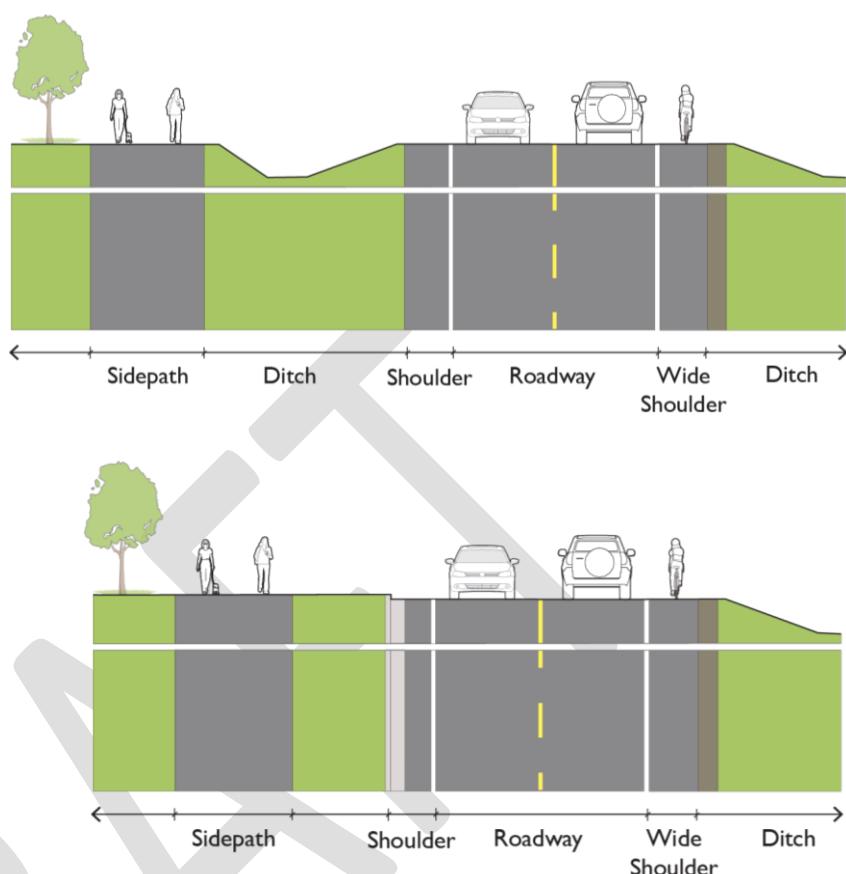
County Highways in Rural Town Centers with Higher Speeds near Schools and Parks

Motor vehicle speeds and other characteristics:

- Speeds of 35 mph to 55 mph
- No curb and gutter on existing road
- Where children may be present (routes to schools and parks)

Facilities for people walking and biking:

In newer residential areas in towns where the County highway has higher speeds and lacks curb and gutter, a sidepath can maintain rural character and is more appropriate for children than a paved shoulder. Wide shoulders can provide dedicated space for more confident bicyclists.



Design considerations

A sidepath on a rural highway requires a wide roadside environment (typically at least 30 feet from the edge of the traveled way) to allow for a 10 ft pathway outside the ditch. Adding curb and gutter may be necessary to fit the sidepath within the public right-of-way.

If curb and gutter infrastructure will be installed as part of highway reconstruction, a smaller roadside environment is required. It is recommended to have some kind of pedestrian facility on both sides of the road (sidewalks and/or sidepath).

FHWA's Small Town and Rural Multimodal Networks guide provides additional guidance on designing sidepaths, with attention to intersection treatments that increase safety.

Acceptable modifications

Sidewalks should support land uses along the street. As such, sidewalks may only be necessary on one side of the street if destinations only exist on one side of the street. In a situation like this, special attention needs to be provided for safe pedestrian crossing infrastructure.

Implementation

Add sidewalks in Highway Safety Priority Areas when highways are reconstructed or pursue federal funding for high-priority locations.

Encourage or require sidewalks along County highways as part of subdivision regulations.

Depending on available right-of-way, property may have to be purchased or easements granted to build sidepaths.

Potentially suitable routes

- CTH E in Freedom between STH 55 and Freedom Elementary school
- Edgewood Drive (CTH JJ) between Lightning Drive and N Cherryvale Avenue

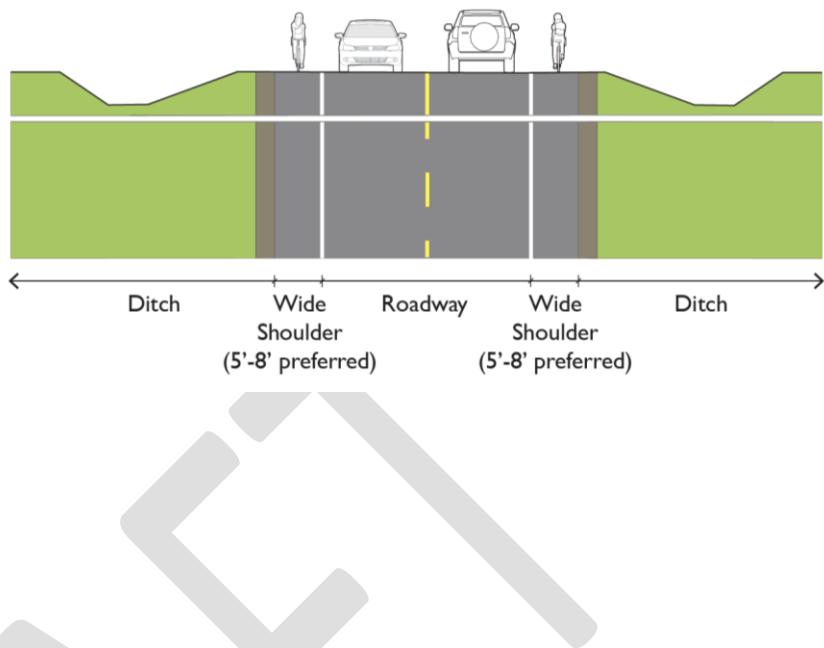
Rural Highway where Bicyclists Expected (Bike Routes)

Motor vehicle speeds and other characteristics:

- Speeds of 45 mph to 55 mph
- Average Daily Traffic (ADT) is between 1,000-8,500 vehicles
- Outside built-up areas where no pedestrians are expected
- Where confident bicyclists are expected

Facilities for people biking:

- Along popular bike routes, paved shoulders provide a dedicated space for confident bicyclists. Bicyclists need a **minimum** of 4 ft of usable or effective paved shoulder width (not including rumble strips) when traffic volumes exceed 1,000 ADT.
- **Preferred** paved shoulder widths on bicycling routes (exclusive of rumble strips) are wider than the 4 ft minimum, and increase as traffic volume increases:
 - » Where ADT is 1,000-2,000: preferred paved shoulder width 5 ft
 - » Where ADT is 2,000-3,000: preferred paved shoulder width is 6.5 ft
 - » Where ADT is 3,000-6,000: preferred paved shoulder width is 7 ft
 - » Where ADT is 6,000 to 8,500: preferred paved shoulder width is 8 ft



Design considerations

FHWA's *Small Town and Rural Multimodal Networks* guide provides detailed guidance on designing paved shoulders for people biking.

It may be appropriate to install rumble strips near the edge lines along rural high-speed highways. Refer to WisDOT's *Facilities Design Manual* section 11-15.8.1.2.2 for detailed guidance on when rumble strips are appropriate. With a 5-foot or more paved shoulder, the Type 1 shoulder rumble strips in the FDM's Standard Detail Drawing will provide the minimum 4 ft of usable space for bicyclists.

Acceptable modifications

In constrained locations where pavement width is limited, consider providing a wider shoulder on only one side of uphill roadway sections to give slow-moving bicyclists additional maneuvering space, reducing conflicts with faster motor vehicle traffic.

Implementation

Add paved shoulders when highways are reconstructed. Retrofitting highways with paved shoulders during highway repaving may also be possible in some locations.

Potentially suitable routes

- CTH MM between Hortonville and Stephensville
- CTH Z east of the city of Kaukauna

Policy and Program Recommendations

Outagamie County policies and programs are key ingredients to creating a place where walking and bicycling are connected, safe, and convenient: policies institutionalize and standardize constructing infrastructure and are the ways that this Plan will be effectively implemented. The following are a set of policy and program recommendations that can help Outagamie County meet the Plan's Vision, Goals, and Approach.

The policy and program recommendations are divided into the following categories for organizational purposes although, it should be noted, there may be overlap between the categories as policies and programs are implemented throughout the County:

- Highway Department
- Development and Land Services
- Parks
- Health and Human Services
- Sheriff
- Evaluation

Highway Department

The Outagamie County Highway Department constructs and maintains the county trunk highway system; provides roadway maintenance and construction services to the State of Wisconsin and local municipalities for state highways and local road systems; and plans, programs, and implements necessary county trunk highway improvements to efficiently accommodate increased traffic demand. Historically, most of the Highway Department's efforts have focused on creating safe and efficient roads for vehicular traffic.

The following policy and program recommendations are intended to help the Highway Department standardize their approach to designing multimodal facilities for people bicycling and walking and identify where these accommodations are most needed.

Recommendation	Description
Refer to HSPAs, the priority trail connections, and the typical cross section guidance in the Plan during highway reconstruction and repaving projects.	This Plan identifies HSPAs (County highway segments that are more likely to be used by people walking and biking) as well as priority trail connections along some County highways. As HSPAs are reconstructed, the County should consider the typical cross sections and guidance to communicate with the public and elected officials about possible multimodal alternatives. Where a low-stress bikeway or trail is recommended for a priority trail connection along a County highway, the County should attempt to build bikeways that are comfortable for all ages and abilities.
Implement safety infrastructure consistent with current design guidance and standards.	Design guidance provides direction and detailed specifications for building comfortable pedestrian and bicycle facilities, as well as other street design treatments intended to improve safety and accessibility. The County should ensure that it is following best practices and utilizing current design guidance available including, but not limited to the following: <ul style="list-style-type: none">▪ FHWA <u>Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations</u> provides specific crosswalk safety treatments for different road contexts (see Figure 2).▪ FHWA <u>Proven Safety Countermeasures Initiative (PSCI)</u> is a collection of 28 recommended countermeasures and strategies that research has found reduce roadway fatalities and serious injuries. There are eight measures specific to bicyclists and pedestrians.

Recommendation	Description
	<ul style="list-style-type: none"> ▪ FHWA <i>Small Town and Rural Multimodal Networks</i> guide is a design resource and idea book to help small towns and rural communities support walking and biking. ▪ National Association of City Transportation Officials (NACTO) <u>design guidance</u> offer insights and direction on topics specific to urban streets such as bikeways, intersection geometry, pedestrians, transit, and stormwater.² <p>AR10-02 was created in 2010 to limit the County's financial risk for the capital and maintenance costs of urban highway improvements within County highway right-of-way and related construction projects. This policy has resulted in many pedestrian and bicycle projects getting implemented with a local, instead of regional, focus, resulting in a disjointed network. AR10-02 should be updated to allow more flexibility to fund priorities identified in this Plan while still limiting the County's financial obligations for funding and maintaining projects that benefit individual municipalities.³</p>
Update Outagamie County Administrative Rule 10-02 (AR10-02).	
Pursue grant funding sources for pedestrian and bicycle facilities.	<ul style="list-style-type: none"> ▪ Identify and coordinate funding for pedestrian and bicycle facilities across departments as appropriate. ▪ Pursue federal, state, and regional grants, such as those identified in the to-be-completed Implementation Chapter.
Support communities in building Safe Routes to School (SRTS) infrastructure on County highways.	<p>XX schools are located within XX miles of County highways in Outagamie County, which means that students and families often need to travel on or across these roads to get to and from their home to school. Some schools in the County have worked with ECWRPC to create SRTS action plans with focused project lists. Outagamie County should support planning and implementation of SRTS projects along County highways or within the County right-of-way.⁴</p>

Development and Land Services

Land use and zoning policies help guide the planning and construction of bikeways and sidewalks, both through new development, and through planning and coordination with other agencies. The following recommendations focus on ways to institutionalize walking and biking into Outagamie County's development policies and programs.

Recommendations	Description
Adopt this Plan as an addendum to the Comprehensive Plan.	<p>The Comprehensive Plan 2040⁵ sets forth a vision, goals, recommendations, data, graphics, and maps related to housing, transportation, economic development, and natural resources (among others), which guide public land use, development, and infrastructure policy. The Comprehensive Plan identifies a suite of transportation projects that include pedestrian and bicycle components throughout the County.</p> <p>Adopting this Plan as an addendum to the Comprehensive Plan would allow these two efforts to be formally connected and ensure that the recommendations provided in this Plan apply to planning decisions made.</p>

² <https://nacto.org/program/design-guidance/>

³ More information and specific recommended language for updating AR10-02 can be found in a 2022 memo written as part of the ECWRPC Technical Assistance program available for request from Development and Land Services

⁴ A list of the ECWRPC SRTS plans can be found at <https://eastcentralsrts.org/local-programs>.

⁵ <https://www.outagamie.org/government/departments-a-e/development-and-land-services/comprehensive-plan>

Recommendations	Description
Review and update County subdivision regulations to better support connectivity and mobility for people walking and biking.	<p>County subdivision regulations should be reviewed and, if needed, updated to improve outcomes for people walking and biking. Potential updates may pertain to the following, among other topics:</p> <ul style="list-style-type: none"> ▪ Street connectivity requirements and language that discourages cul-de-sacs ▪ Requiring sidewalks on both sides of collectors and arterials, and on at least one side of local streets ▪ Minimum widths for sidewalks and paths (consider 5' minimum width for sidewalk and 11' minimum width for paths) ▪ Requiring commercial developments to have internal pedestrian walkways and connections to adjacent sites
Explore the need for, or interest in, establishing Complete Streets policy guidance (e.g., best practices) for the County or local municipalities to use if they choose.	<p>Complete Streets policies help guide design decisions to ensure that new streets and street reconstructions provide people walking and biking with safe, comfortable, and connected, facilities. Having an Outagamie County-specific Complete Streets policy would show stakeholders that the County is committed to improving its roadways for people walking and biking and would help to ensure that future improvements are built in a way that supports active transportation use.⁶</p>
Increase areas of focus and scope for the Greenways Committee.	<p>The Greenways Committee has provided oversight and guidance for the development of this Plan and oversees the selection of grants awarded under the Outagamie County Greenway Fund. Consider involving the Greenways Committee in the following areas:</p> <ul style="list-style-type: none"> ▪ Provide input on projects in the Capital Improvement Program, including County highway reconstruction projects. ▪ Review County grant applications related to bicycle or pedestrian facilities (prior to County Board approval).
Review and Evaluate Greenway Fund evaluation matrix and policies.	<p>The Outagamie County Greenway Fund offers about \$25,000 annually to assist local units of government to develop greenway networks that are regional in nature. The County, in collaboration with its Greenway Committee, should review and evaluate the current grant evaluation matrix and existing policy guidelines to determine if potential changes are needed to align with this plan.</p> <p>At minimum, the policy guidelines for the Greenway Fund should be updated to ensure that County is only funding trails or bikeways displayed in this Plan (or that have a strong nexus with projects listed in this Plan). Scoring criteria could also be updated, so that they align with the three goals of this Plan:</p> <ul style="list-style-type: none"> ▪ <i>Increase Walking and Biking.</i> Projects located in or near areas with high population would be given more points. ▪ <i>Prioritize Safety.</i> Projects addressing safety concerns on or near roads with high speeds or traffic volumes would be given more points.

⁶ An inventory of city, county, and regional Complete Streets policies can be found at <https://wisconsinbikefed.org/what-we-do/advocacy/milwaukee-complete-streets-for-all/#:~:text=In%202009%20the%20Wisconsin%20state,marked%20or%20unmarked%20bike%20lanes>.

Recommendations	Description
	<ul style="list-style-type: none"> ▪ <i>Promote Equity.</i> Projects located in areas with low-income or other vulnerable populations would be given more points. Work with ECWRPC to determine the definition and range of these “equity priority” areas.
<p>Partner with the Fox Cities Convention & Visitors Bureau and other municipalities to routinely update the printed map or brochure of trails in the area.</p>	<p>Providing printed maps of the trail network is one way to increase walking and biking by making the trail and bikeway system user-friendly, accessible, and easy to navigate. The Trails of the Fox Cities maps and brochures that are available in bike shops and in the Development and Land Services office are out of date, and do not reflect the many miles of trails and bikeways that have been constructed in recent years.</p>
<p>Continue internal staff coordination to provide interdepartmental feedback on upcoming infrastructure and policy projects.</p>	<p>The Outagamie County Bicycle and Pedestrian Plan recommendations, project list, and actions need to be kept alive and continually referenced as Outagamie County staff go about their day-to-day work. A regular meeting and cross-department group should be established to check in on plan progress, communicate about upcoming opportunities to implement pieces of the plan, and maintain momentum on plan actions.</p>
<p>Pursue grant funding sources for pedestrian and bicycle facilities.</p>	<ul style="list-style-type: none"> ▪ Coordinate funding for pedestrian and bicycle facilities across departments as appropriate. ▪ Pursue federal, state, and regional grants and funding, such as those identified in the to-be-completed Implementation Chapter.

Parks

The Outagamie County Parks Department maintains the several trails in Outagamie County, amounting to 40 miles of trail, including:

- CE Trail
- Newton Blackmour State Trail
- Old Stone Bridge Trail
- Wiouwash State Trail

Maintenance such as brush clearing and mowing of these trails is mostly performed by Parks staff. The County has a snow-removal agreement with local municipalities for the CE Trail. No other paths are plowed.. The Parks department also oversees the acquisition of new land for conservation and recreation throughout the County.

Recommendation	Description
<p>Begin a cross-agency discussion about eminent domain considerations and strategies that may be needed to create a complete pedestrian and bicycle network in Outagamie County.</p>	<p>Acquiring a right-of-way for a trail or greenway is rarely a simple, straightforward task. The process often requires multiple stages of groundwork, including conducting corridor research to determine who owns the right-of-way, undertaking environmental assessments, negotiating with the property owner, figuring out the value of the corridor, and securing financing or funding.</p> <p>Outagamie County should convene a group of internal staff and external stakeholders to begin a discussion on this topic, identify opportunities and constraints, and start to create a consistent path forward when situations present themselves or when property acquisition is needed. More details and resources for these discussions can be found in the</p>

	<p>spotlight below and in the Rail-to-Trails Conservancy's TrailNation Playbook.⁷</p>
<p>Evaluate a strategy and create structure for assigning maintenance responsibilities for recreational trails in rural areas.</p>	<p>Different organizations are best suited for certain types of maintenance, and efficiencies can be gained by having the most appropriate and experienced group(s) do an agreed upon scope of work to maintain pedestrian and bicycle facilities. The spotlight on the following page shows an example of how maintenance responsibilities could be assigned by location and by maintenance type.</p>
<p>Pursue grant funding sources for pedestrian and bicycle facilities.</p>	<ul style="list-style-type: none"> ▪ Coordinate funding for pedestrian and bicycle facilities across departments as appropriate. ▪ Pursue federal, state, and regional grants and funding, such as those identified in the to-be-completed Implementation Chapter.

Recommendation Spotlight: Strategies for Overcoming Eminent Domain Barriers

Wisconsin State Statute 32.015 prohibits using eminent domain for bicycle and pedestrian ways, which include sidewalks, and prohibits the use of eminent domain for pedestrian and bicycle facilities. Despite this, communities across Wisconsin have continued to successfully build new trails and bikeways. An informal survey of pedestrian and bicycle professionals in Wisconsin produced the following strategies for overcoming the prohibition on using eminent domain.

1. **Play the long game:** If your trail or sidepath is in an area that may eventually be developed or redeveloped as infill, wait and make it happen as part of the redevelopment proposal.
2. **Get public support:** Not being able to condemn is hard to overcome, so approaching it from the other direction and having early and robust public engagement to gain support for the project is important. It can be helpful to have a non-profit group (such as the Fox Cities Greenways) publicly champion the project during the early stages.
3. **Call them sidewalks:** In areas where WisDOT is in early design stages (prior to land acquisition), the agency has been calling some of its newly designed sidepaths "wide sidewalks," in their cross sections. Ostensibly, they may be doing this because providing pedestrian facilities is required by the Americans with Disabilities Act (ADA) and/or it may be easier to convince property owners that a sidewalk is more necessary than a sidepath.
4. **Be persistent:** A property owner may not be on board with a bicycle or pedestrian way at first, but may be later. For example, in the City of Madison, there were a couple of different properties where it took quite a few years to convince property owners to sell, but the City kept going back to them.
 - a. One property owner was always agreeable to selling but was busy and otherwise occupied, and it was hard to get them to respond. However, the City was successful in the end.
 - b. In the other instance, the City had been told a hard no, but they tried again a few years later and with new staff in place, the property owner instantly agreed to the project idea. The property owner pointed out a few concerns and after the City returned with a plan that addressed them, they began negotiating with the City's real estate agent.
5. **Address the concerns of property owners.** Sometimes property owners are reluctant to have pedestrian or bicycle ways near them because of addressable concerns. Preempting concerns by developing a budget for mitigation like plantings and fencing can help with property owner concerns.
6. **Be creative.** If your approach isn't working, you may need to find new ways forward. In the case of the connection of the Glacial Drumlin State Trail from Cottage Grove to Madison, the City of Madison had to throw out their entire approach, step back from the project, and let other agencies take over.
7. **Hire a good real estate acquisition agent, or lawyer who practices real estate law.** An expert in real estate acquisition can help negotiate unusual or alternative methods to acquire the corridor such as easements, land leases, and options to buy.

⁷ <https://www.railstotrails.org/our-work/trailnation/playbook/investment-strategy/>

Recommendation Spotlight: Assigning Maintenance Responsibilities

Different organizations are best suited to certain types of maintenance. Major maintenance (such as pavement patching, crack sealing, or bridge/culvert repairs) are best left to agencies such as the County's Highway Department and municipal public works departments. Tasks such as mowing and snow removal along paths can be performed by groups that typically perform similar work in parks or other public properties. Day-to-day maintenance such as litter removal and general upkeep can be assigned to volunteer organizations, such as a "Friends" groups, scouts, service organizations, and other non-specialized labor.

The table below shows an example of how maintenance responsibilities could be assigned by location and maintenance type.

	Major maintenance Patching, crack sealing, striping, sign replacement on an as-needed basis. All paths should be inspected biannually for maintenance needs and to ensure ADA compliance.	Intermediate maintenance Mowing on a biweekly or monthly basis, tree trimming as needed to maintain clearances, snow plowing of priority paths within 48 hours of snowfall.	Day-to-day maintenance Daily or weekly volunteer patrols with ongoing litter removal. Groups should report pavement, signage, and vegetation maintenance needs to appropriate agencies.
Paths along county/state highways	Highway department*	Parks division*	Volunteer groups
Paths along municipal roadways	Municipality	Municipality	Volunteer groups
Paths in independent alignments (e.g., former railroad)	Parks division*	Parks division*	Volunteer groups

Health and Human Services

County health departments are skilled in creating coalitions that work collaboratively across private and public agencies to promote healthy living. The County Health and Human Services staff can focus on efforts to promote walking and biking, especially as part of efforts to improve residents' mental health.

Recommendation	Description
Partner with ECWRPC and local hospitals or healthcare organizations to add wayfinding signage on trails and bikeways.	Providing wayfinding signage on bikeways is one way to increase walking and biking by making the trail and bikeway system user-friendly, accessible, and easy to navigate. ECWRPC and the Winnebago County Health Department successfully implemented wayfinding signage on their trails with funds from Affinity Health Systems.
Support walk and bike safety education for children.	Coordinate with ECWRPC and school districts throughout Outagamie County to support programs that educate children on how to walk and bike safely, such as "bike rodeos" or education programs in school.
Encourage local healthcare organizations to promote walking and biking.	The Outagamie County Health Department could consider convening a coalition or initiative to highlight the health benefits of walking and biking—both for fitness and mental health. One way to promote walking and biking could be to organize regular events (such as "Walk with a Doc").

Sheriff

Enforcement can play a role in both *educating* road users of all types about how to legally use the road network and *enforcing* rules and regulations. The following recommendations highlight a few ways that the County Sheriff can support people walking and biking in Outagamie County.

Recommendation	Description
Enforce posted speed limits.	The Outagamie County Sheriff should continue to enforce speed limits throughout the County, particularly in school zones, near trail crossings, and in areas where pedestrians are expected.
Enforce crosswalk yield laws.	The Outagamie County Sheriff should consider crosswalk enforcement to educate motorists about pedestrian right of way at key trail crossings and crosswalks.
Publicize enforcement efforts.	The Outagamie County Sheriff should work with local news agencies to publicize traffic enforcement efforts before the enforcement to raise awareness of traffic safety and compliance with traffic laws.

Evaluation

As Outagamie County builds new trails and installs sidewalks and bikeways, it will be essential to track its successes and, potentially, failures to ensure that progress is moving in the desired direction. The recommendations below focus on evaluation program tasks that will help the County measure the impact of newly built projects, assess current roadway safety, and allow residents to report their own experiences to the County.

Recommendation	Description
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Conduct pre- and post-implementation studies of pedestrian and bicycle projects.	As new pedestrian and bicycle facilities are built, the County should work with ECWRPC to conduct pre- and post-implementation studies of new projects to gauge use, safety benefits, and other measures of effectiveness.
Track miles of trail connections.	The County can keep track of the implementation of this plan by tracking the number of miles of “priority trail connections” [or other to be determined measure] that have been built to date.
Track trail user counts.	The County can keep track of whether usage is increasing on trails by working with ECWRPC to implement a trail user count program for both new and existing trails in the County.
Track bicycle and pedestrian crash data.	Use the state crash database to 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. Identify if any crash locations align with planned bicycle or pedestrian projects to help support project prioritization. Consider combining this effort with overall safety studies on County highways, which are already being completed.
Track projects in equity areas.	Work with ECWRPC to identify areas of the County that are equity priority areas and track the number of completed projects in these areas (relative to other areas).
Provide a tool to allow people to report issues with the walking and biking network.	People walking and bicycling in Outagamie County are best positioned to notice maintenance needs or issues on sidewalks, trails, and bikeways. The County should consider providing a tool, such as a simple online form or a dedicated email address, to allow people to report issues. The County should promptly address reported issues, as possible and practical.