

Waupaca County Bicycle and Pedestrian Plan 2018



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Table of Contents

Introduction	1
1.1 Plan Objectives and Recommendations	2
1.2 Background.....	3
1.3 Purpose	3
1.4 Vision and Goals	3
1.5 Waupaca County bicycle and Pedestrian Plan Process.....	4
Bicycling and Walking Background	6
2.1 The Case for Bicycling and Walking.....	7
2.2 Bicycle and Pedestrian Safety	9
2.3 Existing Conditions	11
Policy and Program Recommendations.....	17
3.1 Objectives.....	18
The Bicycle and Pedestrian Route System.....	21
4.1 Waupaca County Bicycle and Pedestrian Facilities.....	22
4.2 Regional Existing and Proposed Trails.....	22
Network and Facility Recommendations.....	23
5.1 Network and Facility Recommendations	24
5.2 Facility Recommendations	24
Implementation	34
6.1 Implementation.....	35
6.2 Funding.....	35
6.3 Maintenance and Considerations	38

Maps

Map 1	Waupaca County Crash Data
Map 2	Waupaca County Count Data
Map 3	Waupaca County Existing Bicycle and Pedestrian Facility Data
Map 4	Regional Bicycle and Pedestrian Facilities
Map 5	Waupaca County Recommended Facilities
Map 6	Average Annual Daily Traffic for Vehicles
Map 7	User Routes
Map 8	Waterway Routes

1 INTRODUCTION

1.1 | PLAN OBJECTIVES AND RECOMMENDATIONS

Motorists can expect to encounter bicyclists and pedestrians nearly anywhere on roadways in Waupaca County's outlying rural areas. These encounters are most frequent where nodes of significant rural development exist, such as the extensive residential and commercial development found along most lakeshores and riverfronts. Roadways in these areas receive particularly heavy use by pedestrians and bicyclists during the summer months and on weekends when Waupaca County's population swells with an influx of seasonal residents and vacationers. The concentration of cottages and other seasonal residences, resorts, campgrounds, and youth camps in these lake areas elevates the potential for conflict because, as a group, these visitors have high rates of participation in activities such as walking or bicycling. The safety issue is also magnified by peak traffic volumes at this time, with many of the motorists being infrequent visitors who are relatively unfamiliar with the local road system. For these motorists, the unexpected presence of other roadway users sharing the road surface can result in unanticipated "knee-jerk" corrective maneuvers, increasing the risk for themselves as well as pedestrians and bicyclists.

Another important component of bicycle activity in Waupaca County is the sizable number of touring bicyclists attracted to the area. Some of these are merely passing through but, for many, the county is their destination. Setting up their base at Hartman Creek State Park, a private campground, or any number of other locations, these visitors intend to spend several days exploring the county and its many attractions. In most outlying rural areas, local residents also make extensive use of the local road system to travel from one area to another.

Since trips taken on foot or by bicycle are often for the dual purpose of transportation and recreation in Waupaca County, the potential for creating a countywide network of both on- and off-road accommodations for bicyclists and pedestrians is important. With opportunities to promote bike touring and extended hiking trips, as the system grows, it will not only serve the needs of its residents but will also prove to be an effective tool in attracting additional tourism dollars. This belief is reflected not only in the overall vision, but also in the goals and objectives and specific strategies and implementation actions that are proposed in the plan.

1.2 | BACKGROUND

In 2008, Waupaca County approved its first bicycle and pedestrian plan, which arose from the need to efficiently move residents and visitors alike along with products and goods they grow, manufacture, and consume, which has always made a well-maintained system of streets and highways a priority in Waupaca County. This system historically has focused nearly entirely on the needs of motorized vehicles. In recent years, however, many Waupaca County residents have been buoyed by the enthusiasm shown by citizens in nearby counties following the completion of new bicycle and pedestrian facilities. As a result, there has been mounting public demand for county and local officials to place increased emphasis on integrating these alternate modes of transportation into their road and street networks.

1.3 | PURPOSE

The Waupaca County Bicycle and Pedestrian Plan represents a coordinated attempt to integrate the needs of bicyclists and pedestrians into the transportation fabric of Waupaca County and its communities. By providing a comprehensive approach to bicycle and pedestrian facility planning, the plan's purpose is to ensure that appropriate steps are taken to enable these modes of transportation to co-exist – and co-exist on an equal footing – with other transportation modes. The plan will also help the county and local municipalities coordinate the planning and development of facilities.

1.4 | VISION AND GOALS

VISION

The vision of the Waupaca County Bicycle/Pedestrian Plan is “an interconnected network of intra- and inter-community linkages developed; ultimately enabling bicyclists and pedestrians to travel safely and conveniently to destinations within and beyond Waupaca County.”

To achieve this vision, the following overall goals have been developed to serve as cornerstones to the effective implementation of this plan. Goals are broad common ideals that, through the individual or collective efforts of government leaders, private organizations, and individual citizens, provide the ingredients needed to make the vision a potential reality. The goals focus on the premise that providing safe and convenient opportunities for bicyclists and pedestrians is essential if bicycling and walking are to become universally accepted as alternative modes of transportation and recreation. A companion premise is that when these activities are accommodated, important environmental, health, and fitness benefits are also accomplished.

GOALS

- 1. CONSIDER THE ACCOMMODATION OF BICYCLES AND PEDESTRIANS ON ALL FUTURE ROAD AND STREET PROJECTS.***
- 2. PROMOTE BICYCLING AND WALKING AS VIABLE TRANSPORTATION CHOICES FOR TRAVELING FROM ONE PLACE TO ANOTHER.***
- 3. CREATE AN ENVIRONMENT FOR BICYCLING AND WALKING THAT ENGENDERS SAFETY AND CONFIDENCE AMONG ITS USERS.***
- 4. INCREASE THE NUMBER OF RESIDENTS WHO BICYCLE OR WALK ON A DAILY OR ROUTINE BASIS.***
- 5. PROVIDE ADEQUATE FUNDING FOR BICYCLE AND PEDESTRIAN FACILITIES AND PROGRAMS.***
- 6. BUILD MUTUAL AWARENESS, RESPECT AND ACCEPTANCE BETWEEN MOTORISTS, BICYCLISTS, AND PEDESTRIANS.***
- 7. UTILIZE ABANDONED RAILS AND ROADS AS PEDESTRIAN AND BIKE TRAILS.***
- 8. INCORPORATE THIS DOCUMENT INTO THE COUNTY'S AND PARTICIPATING UNITS OF GOVERNMENTS' COMPREHENSIVE PLANNING EFFORTS.***

1.5 | WAUPACA COUNTY BICYCLE AND PEDESTRIAN PLAN PROCESS

It was a more encompassing perspective that led Waupaca County officials to support the formation of a committee to undertake the development of a countywide bicycle and pedestrian plan. The 60-member committee, representing a broad spectrum of interests from communities throughout the county, brings a diversity of expertise, insight, and expectations of providing bicycle and pedestrian facilities. The committee's overall tasks were: 1.) to

develop a collective vision for the county plan, determine appropriate goals and strategies, and reach agreement on basic parameters for implementing the plan; and 2.) to identify appropriate local routes and their integration into the county network. The Waupaca County Bicycle and Pedestrian Plan was created and passed in 2008.

In 2016, Waupaca County applied to East Central Wisconsin Regional Planning Commission for a technical assistance award request to update the bicycle and pedestrian plan. The award was provided, and East Central provided updates to the plan. These updates involved two public input meetings to better understand what future facilities community members desired along with other non-engineering recommendations.

2 BICYCLING AND WALKING BACKGROUND

2.1 | THE CASE FOR BICYCLING AND WALKING

THE BENEFITS OF BICYCLING AND WALKING

There has been significant research completed over the last few years regarding the benefits and the impacts of bicycling and walking on not only on a personal level, but also on the benefits for the community.

Economic

The economic impact of bicycle and pedestrian facilities can benefit both the community and the individual. Across the country, communities have included parklets or bike lanes in downtown commercial areas and have not only increased the health of those residents, but they have also benefitted the local economy.

Walking and bicycling are affordable forms of transportation. When safe facilities are provided for residents, they are more likely to walk or bicycle to their destination. Walking is essentially free and everyone can do it.

While bicycling can be a bit more expensive depending on the choice of bike, it is still relatively inexpensive compared to operating a vehicle.

Health

The built infrastructure can play a crucial role in a community's or person's health. Bicycling and walking levels fell 66% between 1960 and 2009, while obesity levels increased by 156%. It has been noted that not only are adult obesity rates on the rise, but also childhood obesity continues to be on the rise. Over the past 40 years, rates of obesity have soared among children of all ages within the United States, and approximately 25 million children and adolescents – more than 33% - are now overweight or obese or at risk of becoming so.

Social

About 1/3 of the population does not drive. This includes the elderly, children, people who cannot afford a vehicle, and people who are unable to drive due to physical limitations. Designing roadways with only vehicles in mind creates unsafe situations for people who are not able to drive and limits opportunities for social activities, employment, education, shopping, and entertainment.

Safety

Bicycle and pedestrian facilities can help to reduce the number of injuries and fatalities by those that bicycle or walk. Bicycle and pedestrian infrastructure is crucial in providing accommodations to users. Seniors, children, and people of color are among the most vulnerable. Designing for the most vulnerable ensures that roadways are safer for all users.

Environmental

Bicycling and walking also reduces the number of vehicles on the roadways, and it also improves the air quality of an area. Americans use their cars for 87% of trips that are 1-2 miles in length. Bicycle or walking facilities can help provide transportation and recreational opportunities, and reduce the number of vehicles on roadways.

BICYCLE TRENDS

Use of the bicycle for trip-making by a broader segment of the population has increased during the past thirty years. Nationwide, the bicycle commuting rates increased by an average of 62% from 2000 to 2013¹.

UNDERSTANDING THE USER

Not everyone who walks or bikes has the same abilities. Age, experience, and a host of related factors dictate where and when individuals (or, in the case of children, parents) feel comfortable that they can safely and successfully co-exist in an environment with motor vehicles. Traffic volumes and speed, the amount of truck traffic, pavement width, time of day, and weather conditions are just some of the variables that impact an individual's perception of safety, which in itself is unique.

Since pedestrians are particularly vulnerable to vehicular traffic, they often experience some sense of intimidation when they must walk along a road shoulder where there is fast moving traffic, and few parents would want their children to be placed in such a setting. Less ambulatory pedestrians, such as those who are elderly or disabled (including those who are wheelchair bound), not only find it more difficult to co-exist with motor vehicles, they need

¹ League of American Bicyclists, Bicycle Commuting Data.
www.bikeleague.org/commutingdata

sidewalks and related facilities to be designed in a way that permits their unobstructed movement.

The same sense of security occupies the minds of bicyclists. Generally, bicyclists' operating skills grow in tandem with experience. As they gain experience, they become more comfortable in adapting to situations that require awareness and sound decision-making. Based on their bicycling skills and riding habits, four types of bicyclists are typically identified for planning purposes.

- The Strong and Fearless: Representing about 4% of the population, this group consists of experienced riders who are comfortable sharing lanes on higher speed and volume arterials.
- The Enthused and the Confident: Representing about 9% of the population, this group has some tolerance for traffic stress. These riders will share lanes with cars, especially on rural roads, but prefer separated bike lanes, paths, or paved shoulders on roads with higher traffic levels
- Interested but Concerned: This group represents about 56% of the population. These riders have little tolerance for traffic stress, and have major concerns for safety. They strongly prefer separation from traffic on arterials by way of protected bike lanes and paths.
- No Way, No How: This group represents 31% of the population, and are not interested in bicycling for transportation; however, they may ride for recreation if the right conditions exist.

2.2 | BICYCLE AND PEDESTRIAN SAFETY

Safety is often cited as the primary reason people do not bike or walk more. Creating a safer environment for these activities is an important focus that requires an understanding of safety issues and proven actions that can be taken to improve safety. Crashes involving motor vehicles that result in injuries or fatalities to bicyclists and pedestrians have been recorded at the state and federal levels for many years. Transportation safety officials prefer the term “crash” rather than “accident” to describe these incidents, as the latter implies that they are unavoidable. Today we know that nearly all encounters between

motor vehicles with each other or with bicyclists and pedestrians could have either been prevented or at a minimum significantly reduced.

Transportation safety experts acknowledge that statistical data and analysis at all levels is incomplete. Not all incidents are reported; these include: crashes that do not involve a moving vehicle, crashes that do not occur on a public roadway, incidents that aren't reported, and near-misses. When these non-reportable incidents are included, some experts believe that the actual number of crashes involving bicycles increases tenfold.

Another major limiting factor in conducting detailed bicycle crash analysis is that, unlike motor vehicle trips, very little is known about the trips people make by bicycle. Among the variables are the age of the bicyclists, the time they spend on their trips, trip distance, and trip frequency. Unlike motor vehicle crash rates, which can be easily calculated, crash rates for bicycles are difficult to determine because data is incomplete or unavailable.

While the database for crashes involving bicyclists and pedestrians has some shortcomings, it nonetheless contains some useful information for helping the committee develop appropriate recommendations and strategies. Some of this information is general in nature, perhaps even intuitive, and provides a statistical overview of crashes involving bicyclists and pedestrians. Other information, particularly that which relates to specific types and characteristics of bike crashes, enables us to focus our county and local priorities in addressing safety-related issues and determine effective strategies from the palette of engineering/design, educational, and enforcement tools available.

Seniors, children, and disabled residents are considered the most vulnerable users as it relates to bicycle and pedestrian facilities and safety. When designing facilities and routes, these users should be kept in mind; if bicycle and pedestrian facilities cater to vulnerable users, all for the bicycle and pedestrian accommodations should meet the needs of the average user.

FEDERAL HIGHWAY ADMINISTRATION (FHWA) STATISTICAL DATA

The FHWA maintains a composite record of crash records from each of the fifty states and the District of Columbia on an annual basis. According to its data, pedestrian and bicyclist fatalities comprised about 17% of all roadway-related fatalities each year. In 2014 4,884 pedestrians and 726 bicyclists were fatally injured in the United States.

PEDESTRIAN AND BICYCLE CRASH ANALYSIS: 2011-2013

Statewide, from 2006 to 2013, the number of bicyclists and pedestrians have increased while the risk of fatalities and injuries to these users has decreased; however, there are still a number of crashes reported that involved bicyclists and pedestrians. From 2011 and 2013, Wisconsin averaged more than 2,700 bicycle and pedestrian crashes per year. Of these crashes, 19% involving pedestrians and 10% involving cyclists were severe or fatal. Thirty-six percent (36%) of fatal pedestrian crashes occurred on rural roadways, and 33% of fatal bicycle crashes occurred on rural roadways.

WAUPACA COUNTY CRASHES

According to WisDOT records, during the period 2005-2015, there were 45 vehicle-pedestrian crashes and 38 vehicle-bicycle crashes in Waupaca County. These crashes resulted in the death of three pedestrians and two bicyclists.

A large majority of these crashes occurred in cities or villages; very few were in townships. Likewise, a majority of crashes happened on local roads.

Highway safety experts recognize that locations with multiple crashes are typically indicative of a probable safety issue that needs to be addressed. In identifying the site-specific location of past crashes involving bicyclists or pedestrians in Waupaca County, it was found that there were no locations in rural Waupaca County or its smaller communities where multiple crashes occurred during the ten-year interval. Each of the three larger communities, however, had at least one location with multiple crashes; these crashes are displayed in Map 1.

2.3 | EXISTING CONDITIONS

GEOGRAPHY AND ECONOMY

Waupaca County is adjacent to Outagamie, Winnebago, Waushara, Portage, and Shawano counties. With its proximity to the Chain-of-Lakes, Hartman Creek State Park, and its rural character, it is a tourism destination. A total of 1,303 jobs with

a total income of \$23.9 million were supported by visitors to Waupaca County in 2014².

DEMOGRAPHICS

The US Census estimates that as of July 1, 2016, Waupaca County has a population of 51,533. This is a slight decrease in overall population of 52,410 recorded in the 2010 US Decennial Census. A majority of residents fall within the 20-64 age range. Compared to Wisconsin overall, Waupaca County has more residents over the age of 65 and is less diverse. Figures 1 and 2 on the next page display the demographics of the county.

FIGURE 1: POPULATION PYRAMID FOR WAUPACA COUNTY, 2012 – 2016 ACS 5-YEAR ESTIMATES, S0101

² Wisconsin Department of Tourism: *Economic Impact of Tourism in Wisconsin*

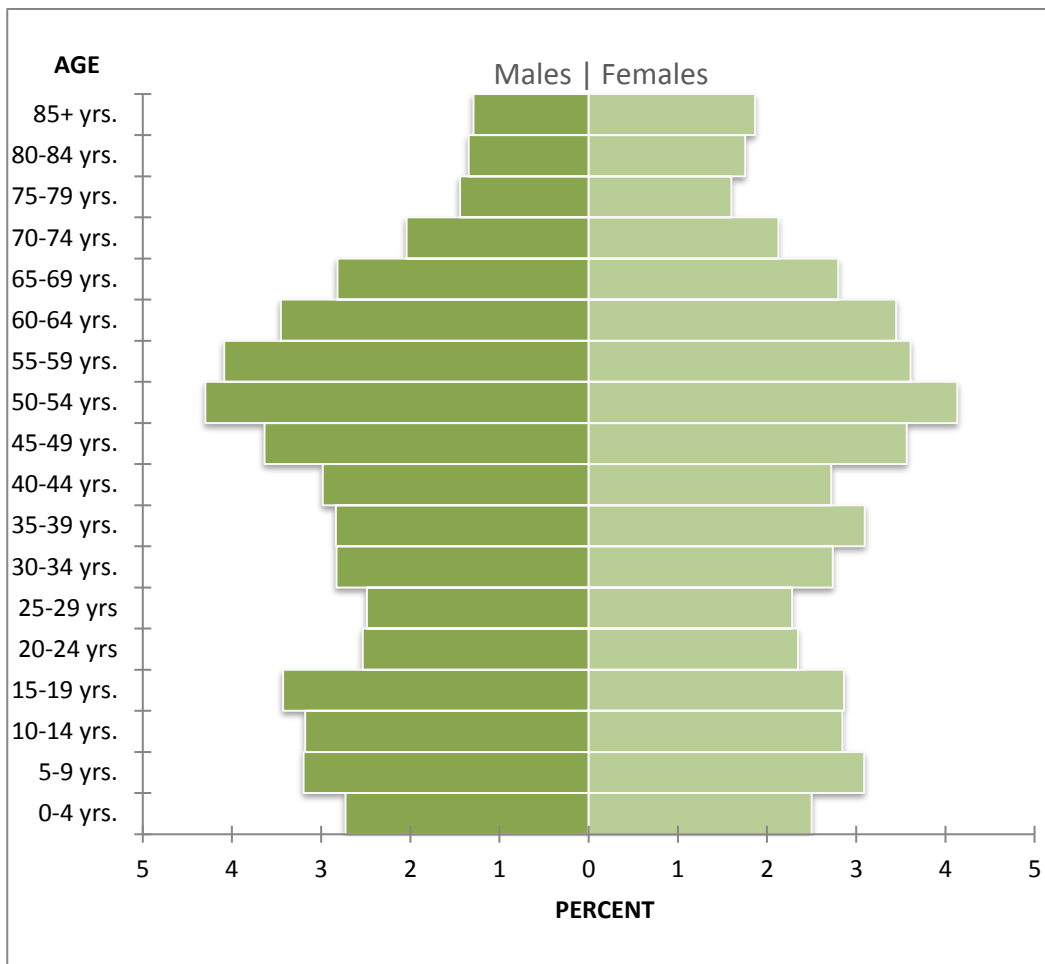


FIGURE 1: POPULATION PYRAMID FOR WAUPACA COUNTY. 2012-2016 ACS 5-YEAR ESTIMATES, S0101

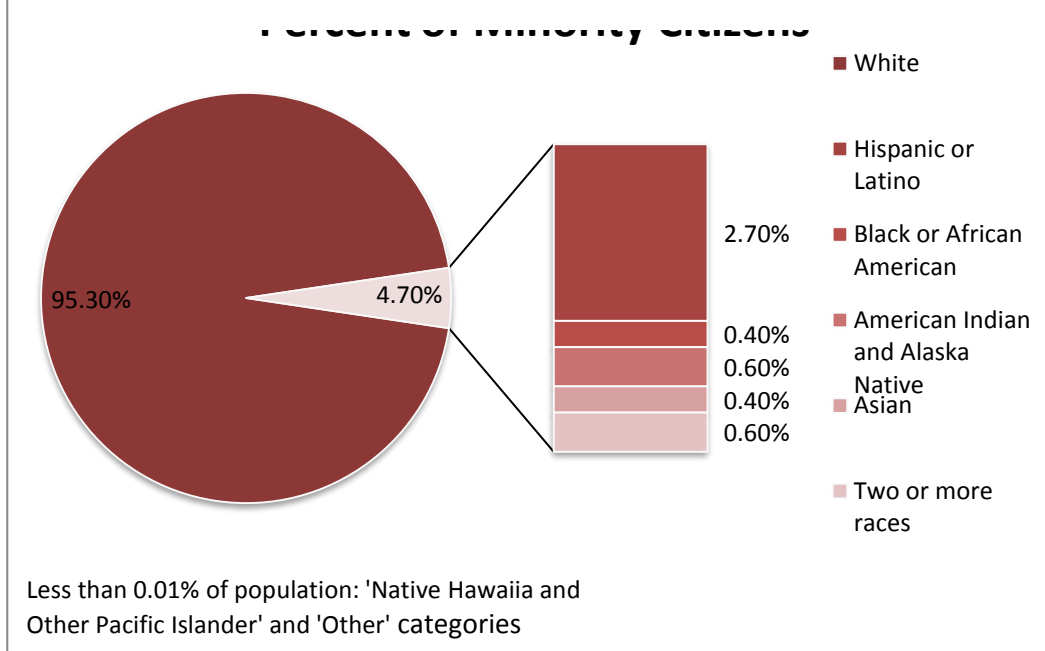


FIGURE 2: PERCENT OF MINORITY CITIZENS IN WAUPACA COUNTY, 2012-2016 ACS 5-YEAR ESTIMATES, B02001

PLANS, PROGRAMS, AND ORGANIZATIONS

In order to seek broader connectivity, it's important to consider what is happening throughout the region so plans and efforts can complement one another.

- *Appleton (Fox Cities) Transportation Management Area and Oshkosh Metropolitan Planning Organization Bicycle and Pedestrian Plan*. In 2014, East Central Wisconsin Regional Planning Commission adopted this plan to create a network of bicycle and pedestrian facilities and programs to create a cohesive network that transcends municipal boundaries. This study area includes the urbanized areas of the Appleton (Fox Cities) TMA and Oshkosh MPO.
- Outagamie County Greenways Plan
- Shawano County recently completed its first bicycle and pedestrian plan
- Winnebago County: In 2017, Winnebago County approved the Connecting Communities: Winnebago County Bicycle and Pedestrian Plan.
- Safe Routes to School: East Central Wisconsin Regional Planning Commission has a regional Safe Routes to School program. In Waupaca County, about 20 schools are participating in the program through various activities such as Walk to School Day.
- Waupaca County Natural Resources Foundation
- Community Health Improvement Plan – 2013
- Community Health Action Teams (CHAT) led through ThedaCare
- Trauma Informed Care

HEALTH

Waupaca County's health ranking based on health outcomes is 50 out of 72 counties in Wisconsin. This score is similar to Shawano, Waushara, and Winnebago counties (47, 53, and 41, respectively). However, Portage and Outagamie counties have higher health rankings (12 and 18, respectively).

BICYCLE AND PEDESTRIAN FACILITIES

Waupaca County has both on-road and off-road bicycle and pedestrian facilities. The most significant amount of miles is on sidewalks, which are located wholly

within the cities and villages in Waupaca County. Figure 3 displays the various types of facilities in Waupaca County.

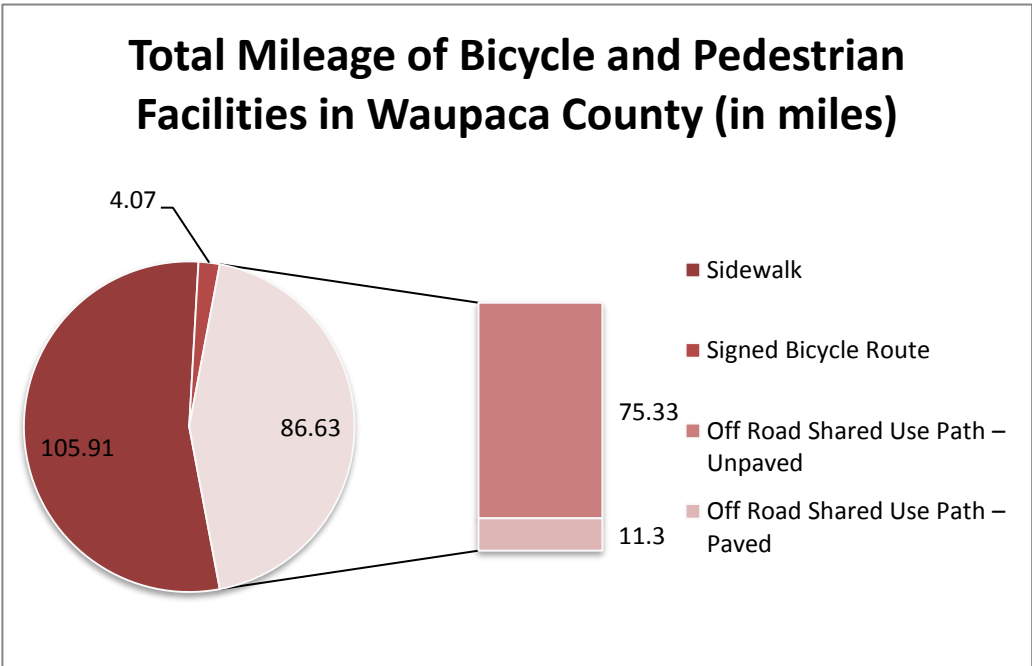


FIGURE 3: MILES OF BICYCLE AND PEDESTRIAN FACILITIES WITHIN WAUPACA COUNTY, ECWRPC

CURRENT LEVELS OF BICYCLING AND WALKING

It is challenging to estimate total levels of bicycling and walking; however, there are methods that attempt to quantify trips via walking or bicycling, including counts and data collected through surveys, like the American Community Survey

COUNTS

Infrared counters detect passersby (walkers, runners, cyclists) as they pass the device, which is typically mounted to a tree, post, or pole. Pneumatic (tube) counters are tubes stretched across a surface and are calibrated to count bicycles as they pass over the tubes.

In the summer of 2017, East Central Wisconsin Regional Planning Commission placed infrared and pneumatic counters throughout the roadways and trails in Waupaca County. Seventeen counters were placed on trails segments, roadways, and county/state highways in Waupaca County. In addition to the counters placed throughout the County, twelve counters were also placed in the downtown area of the City of Waupaca³. These counts are found on Map 2.

³ Counters were placed in downtown Waupaca to collect baseline data in anticipation of a future project.

COMMUTE MODE SHARE

Mode share is the percentage of trips made using specific modes of travel, such as driving, walking, or bicycling. The American Community Survey (ACS), administered through the U.S. Census Bureau, collects this information on an ongoing basis by asking a select group of participants, “Thinking about the previous week, what was your primary mode of transportation to work?” While this question only asks about the primary mode of transportation and only applies to those traveling to work, ACS is still considered to be one of the best resources available for collecting mode share because it is asked consistently year after year and over a period of time.

Figure 4 shows the breakdown of commuting to work for those aged 16 years and older.

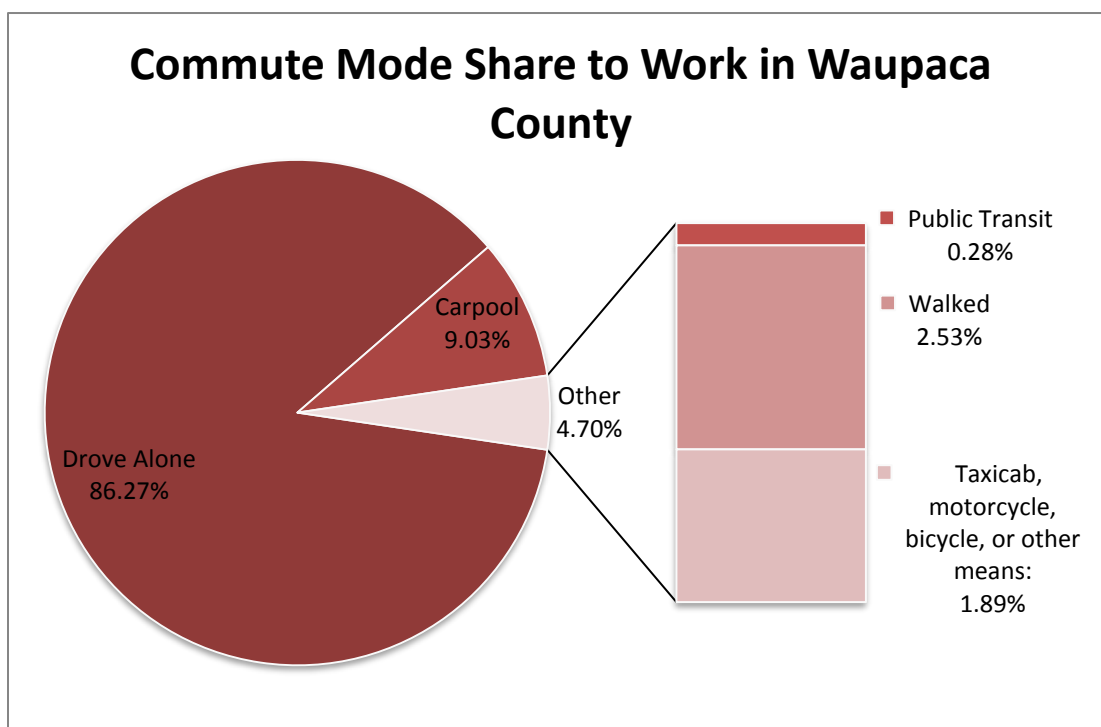


FIGURE 4: BREAKDOWN OF COMMUTING TO WORK FOR THOSE AGED 16 YEARS AND OLDER IN WAUPACA COUNTY, 2012-2016 ACS 5-YEAR ESTIMATES

3 POLICY AND PROGRAM RECOMMENDATIONS

3.1 | OBJECTIVES

The 6 E's of transportation safety that form the basis of primary objectives in Wisconsin's bicycle and pedestrian plans have been adapted to serve as framework objectives in the County's plan. The 6 E's include:

- | | |
|-------------------------------|------------------|
| 1) Engineering (and planning) | 4) Encouragement |
| 2) Education | 5) Evaluation |
| 3) Enforcement | 6) Equity |

The objectives describe the overall intentions in achieving one or more of the goals. Included with each objective is a set of companion strategies. These describe in greater detail how the objectives may be met, thereby providing an outline for proposing specific actions, activities, and programs to bring about the plan's implementation.

ENGINEERING AND PLANNING OBJECTIVES:

To plan and design new and improved transportation facilities to accommodate and encourage use by bicyclists and pedestrians.

Recommendations:

- Continue to increase the number of bicycle and pedestrian facilities throughout the County
- Provide water and restroom facilities at select trailheads, parks, and other strategic locations
- Create a maintenance plan for existing and future facilities
- Develop consistent signage of bicycle and pedestrian facilities (including a route system) in the County

To expand and improve a countywide network of safe and convenient routes for bicyclists and pedestrians for both day-to-day transportation purposes as well as touring, including safe and convenient access to and through communities.

Recommendations:

- Develop consistent signage of bicycle and pedestrian facilities (including a route system) in the County
- Work with local municipalities to update their comprehensive plans and Comprehensive Outdoor Recreation Plans to incorporate bicycle and pedestrian best practices

EDUCATION OBJECTIVE:

To expand educational activities such as driver licensing and training, bicycle safety education, traffic law enforcement, and provision of public service information to provide consistent safety messages and training to all roadway users.

Recommendations:

- Establish an informational website and/or smart phone app showing routes and locations of bicycle and pedestrian facilities
- Promote Winter Recreation Trail
- Educate drivers (including young drivers) about interacting/sharing the road with bicyclists and pedestrians (i.e. the Share and Be Aware Program)
- Calculate economic benefits of local projects that include bicycle
- Support bike rodeos to education children about safe bicycling through partnering with local organizations and the East Central Wisconsin Regional Safe Routes to School program.

ENFORCEMENT OBJECTIVE:

To improve enforcement of laws to prevent dangerous and illegal behavior by motorists, bicyclists, and pedestrians.

Recommendations:

- Partner with law enforcement in bicycle and pedestrian education efforts
- Work with law enforcement to provide positive reinforcements to community members and youth for “doing it right”

ENCOURAGEMENT OBJECTIVE:

To encourage more trips by bicyclists and pedestrians by promoting the acceptance and usefulness of these forms of transportation.

Recommendations:

- Provide bicycle parking at local businesses, employment centers, recreational facilities, etc.
- Bring together smaller trail advocacy organizations to form a Waupaca County Greenways organization
- Provide encouragement and promotional activities year round such as bike/walk to work/school, winter outreach, etc.
- Develop walking school bus programs with local schools

EVALUATION OBJECTIVE

Assess which approaches are the most successful and track the improvements made to walking and bicycling in Waupaca County

Recommendations

- Develop a local economic impact study for the County and integrate it with tourism data
- Update bicycle and pedestrian mileage as new facilities are added
- Work to achieve Bicycle Friendly Community status through the League of American Bicyclists or Walk Friendly Community Status
- Develop a bicycle and pedestrian count process and conduct bicycle and pedestrian counts on a regular basis

EQUITY OBJECTIVE

Ensure initiatives are benefitting all demographic groups regardless of race, color, nation of origin, income, or physical ability.

Recommendations

- Consider equity and any unintended consequences in all activities and recommendations

4 THE BICYCLE AND PEDESTRIAN ROUTE SYSTEM

4.1 | WAUPACA COUNTY BICYCLE AND PEDESTRIAN FACILITIES

Map 3 shows the network of on- and off-street bicycle and pedestrian facilities on local/town roads and county, state, and federal highways throughout Waupaca County as of October 2017. The current network consists of off-road facilities, including Tomorrow River State Trail (through central Waupaca County from the county line eastward through the Villages of Scandinavia and Ogdensburg to the City of Manawa, the Sturgeon Trail (west of the City of New London, the Wau-King Trail (southwest of the City of Waupaca), and the Ice Age Trail (segments on the Waupaca County/Portage County line). Of these facilities, the Wau-King trail and the Tower Trail are the only paved off-road facilities. Hartman Creek State Park also provides bicycle and walking trails, some of which are paved and others that are unpaved. Within Hartman Creek State Park is also approximately 10 miles of unpaved single track designed for recreational mountain biking.

4.2 | REGIONAL EXISTING AND PROPOSED TRAILS

Map 4 displays regional bicycle and pedestrian facilities in Waupaca County and its adjacent counties. When considering future bicycle and pedestrian accommodations, infrastructure in surrounding communities should be examined to see if further connections could be made in Waupaca County to connect facility users to other counties.

5 NETWORK AND FACILITY RECOMMENDATIONS

5.1 | NETWORK AND FACILITY RECOMMENDATIONS

Comprehensively planning for the needs of bicyclists and pedestrians requires that appropriate steps are taken to allow them to become viable modes of transportation. Therefore, there is an emphasis on strategies and recommendations that:

- 1) Identify existing routes where bicyclists and pedestrians already safely co-exist with motorized transportation
- 2) Suggest actions to improve other routes to make them safer
- 3) Seek out opportunities to create off-road routes and trails

For the most part, strategies and recommendations such as these address the plan's engineering/design objective. While they are essential to the creation of a more favorable and safer environment for bicyclists and pedestrians, they can only do so much. As is clearly evident from a review of crash types cited earlier, the vast majority of crashes involve a mistake or error in judgment on someone's part. The overwhelming conclusion to be drawn from this fact is that strategies and recommendations addressing the three other major plan objectives (education, enforcement, and encouragement) must share the load if a safer environment for bicyclists and pedestrians is to become a reality.

Successful implementation of the strategies and recommendations will require Waupaca County and its municipalities to use some discretion on how, when, and where dollars for bicycle- and pedestrian-related expenditures are targeted. Like most other services and facilities provided by government entities, it generally is not possible to determine an actual cost/benefit ratio for physical improvements that promote a safer environment for bicyclists and pedestrians. It is important to note that incorporating facility improvements, such as paving shoulders, into a larger road project would be less costly than undertaking it as a stand-alone project.

5.2 | FACILITY RECOMMENDATIONS

The following recommendations are proposed to provide guidance to Waupaca County and local communities in their efforts to create an interconnected network of safe and convenient intra- and inter-community linkages for bicyclists and pedestrians.

STATE AND FEDERAL HIGHWAYS (RURAL):

- Waupaca County should put WisDOT on notice that when additional right-of-way needs to be purchased to convert selected portions of the state highway network to four-lane divided facilities or address alignment considerations, sufficient width should be acquired to accommodate adjacent off-road paths. As part of this recommendation, Waupaca County would agree to seek funds for trail's physical development and future maintenance.

Listed below are the candidate projects:

- Highway 110 (Big Falls Area\Marion to Manawa)
- Highway 15 (New London to Hortonville)
 - a) Project lies in Outagamie Co. but is considered a potential and highly desirable option for extending the WIOUWASH Trail to Waupaca Co. (New London)
- Highway 45 Trail
 - a) Winnebago Co. line to New London
 - b) New London to Clintonville (optional location for WIOUWASH Trail)
 - c) Clintonville to Marion (optional location for WIOUWASH Trail)
 - d) Marion to Shawano Co. line (Split Rock) (optional location for WIOUWASH Trail)
- Highway 49 (Waupaca to Portage Co. line)
 - a) Waupaca to Scandinavia
 - b) Scandinavia to Iola
 - c) Iola to Portage Co. line
- On-road accommodations for bicyclists and pedestrians should generally be discouraged on rural state and federal highways with the following exception:

When no other options exist, it may be necessary to use short segments of state and federal highways to provide continuity of the Waupaca County bike route network. These segments are not acceptable as designated routes unless they include paved and striped shoulders at least five in width. In addition, they should be clearly marked with both route signage and warning signs.

COUNTY TRUNK HIGHWAY SYSTEM:

- On a long-term basis, the committee recommends that Waupaca County adopt a policy that would call for the inclusion of paved and striped shoulders on all future county trunk highway reconstruction projects. In addition to the obvious safety benefits for bicyclists and pedestrians, these shoulders improve safety for motorists and also have a long-term benefit in extending pavement life. It is generally recommended that a bike lane be five feet in width; however, four feet may be minimally acceptable⁴.
- Waupaca County should target the following roadways as candidate projects for the installation of paved/striped shoulders and/or signage on those segments of county highways that pass through areas of concentrated population, rural strip commercial development, key community connections, and/or high levels of pedestrian and bicycle activity. Listed below and in Map 5 are the candidate projects:

Roadway	From	To	Area
CTH J	Iola	CTH C	Towns of Iola/Harrison
CTH C	CTH J	Big Falls	Town of Wyoming
CTH S	Big Falls	Marion	Towns of Wyoming/Dupont
STH 110 *	Marion	Manawa	Towns of Dupont/Union/Little Wolf
CTH G	Iola	Scandanavia	Town of Scandanavia
CTH Q	Scandanavia	Golke Road	Towns of Scandanavia/Farmington/Dayton
CTH E	Ogdensburg	Waupaca	Towns of St. Lawrence/Waupaca
CTH E	Big Falls	Ogdensburg	Towns of Wyoming/Helvetia/St. Lawrence
CTH W	STH 96	New London	Towns of Caledonia/Mukwa
CTH H	CTH W	Fremont	Towns of Caledonia/Fremont
CTH E	Waupaca	Spencer Lake	Towns of Waupaca/Lind
CTH K	STH 22	Crystal River	Town of Dayton

*It is recommended to work with WisDOT to determine best facility for this route.

- Waupaca County should use traffic volumes (AADTs) and road widths as two of the criteria it uses in assessing (and prioritizing) the suitability of roadways for bicycling and the need to install paved/striped shoulders on specific segments of its county highway system. In general, rural roadways that have traffic volumes in excess of 1,000 vehicles per day need to be fitted with paved/striped shoulders to be considered safe for bicyclists and pedestrians, per the Federal

⁴ Federal Highway Administration's *Small Town and Rural Multimodal Networks*

Highway Administration’s guidance⁵. Figure 5 displays desirable road width and AADT. Map 6 displays roadway segments with AADTs of 1,000 or higher per the WisDOT’s counting program.



FIGURE 5: THIS TABLE ILLUSTRATES HOW STATE AND COUNTY HIGHWAYS ARE CLASSIFIED BY THEIR CONDITION FOR BICYCLING. DEEP GREEN – BEST CONDITIONS; LIGHT GREEN – MODERATE CONDITIONS; LIGHT RED – HIGHER VOLUMES, WIDER PAVED SHOULDER; RED – UNDESIRABLE; WISCONSIN RURAL BICYCLE PLANNING GUIDE

TOWN ROADS

Because the town road network forms the backbone of Waupaca County’s proposed bicycle route system, County policy should acknowledge that it has a stake in seeing town roads included on the system made safe for bicyclists. With this in mind, the County has an obligation to provide a certain level of technical and/or funding assistance to help ensure that specific projects proposed in the

⁵ Accommodating Bicycle and Pedestrian Travel: A Recommended Approach, https://www.fhwa.dot.gov/environment/bicycle_pedestrian/guidance/design.cfm

plan can be implemented. By the same token, as a rule, most town road segments, whether they are on the county system or not, are presently highly suitable to provide safe and enjoyable biking opportunities, requiring little investment specifically directed to improving conditions for bicycling. Therefore, no attempt was made during the course of this study to identify and inventory site-specific problem areas on town roads that are not proposed as part of the county bike route system. Rather, the committee felt it is more appropriate that they propose policy recommendations that focus on specific system-wide areas of concern. These policy recommendations are intended to help town officials develop an understanding of what to look for in identifying site-specific problems and the appropriate remedial actions they can take to eliminate or correct them. The identification of site-specific projects on town roads that will be part of the county's bike route system will be detailed in the following section.

- Waupaca County should provide technical assistance and help provide funds for undertaking spot safety improvements and, where needed, safety signage on town road segments that are components of the designated route system. Once these segments have been upgraded (and only then), the County should be responsible for installing and maintaining route signs.
- Encourage towns to install paved shoulders on their most heavily traveled roadways. The County's road files should be used to identify those local (town) road segments that have high traffic volumes. A benchmark of 1,000 vehicles per day is identified by the Federal Highway Administration as a transition where shoulders become a consideration from a safety standpoint; lower volumes could be considered by individual towns.
- Encourage towns to install paved shoulders on their road segments that pass through areas of concentrated population and/or pedestrian and bicycle activity such as resorts, campgrounds, and youth camps. On those roads that are functionally classified as "local" (and most are), these areas should be posted with reduced speed limits (35 mph or less recommended) and appropriate warning signage installed to alert motorists of potential bicycle and pedestrian activity.
- Encourage towns to widen pavement on road segments that have inadequate sight distance because of poor vertical or horizontal alignment. As with many of the recommendations, this type of action also makes the road safer for motorists.

STATE RECREATIONAL TRAILS

State Recreational Trails are typically either located on independent rights-of-way such as abandoned rail corridors or are only found as off-road accommodations along major highways. In some cases, however, DNR acknowledges that it may be necessary to use the roadway surface itself (shoulders) when other options are unavailable.

- Waupaca County should continue to work with DNR to acquire/develop segments of the State Trail Plan located within the county. The County should work with DNR to achieve a Memorandum of Understanding whereby DNR agrees to absorb acquisition costs while the County agrees to underwrite the cost and responsibility of trail development and ongoing maintenance. The potential for obtaining financial support for development and maintenance activities from the State or a “Friends” group should be sought at all times.

Listed below are candidate projects:

- WIOUWASH Trail (Oshkosh to Langlade Co.)
 1. Hortonville to New London segment (lies in Outagamie County)
 2. New London to Clintonville segment
 3. Clintonville to Marion segment
 4. Marion to Shawano Co./Split Rock segment (Shawano Co. link)
- Friendship Trail (Highway 10 Trail)(Lake Michigan to Central Wisconsin)
 1. Winnebago Co. line to Fremont segment
 2. Fremont to Waupaca segment
 3. Waupaca to Portage Co. line/Amherst segment (Tomorrow River link)
- Tomorrow River State Trail (Plover to New London)
 1. Manawa to New London segment
- Newton Blackmour Wildlife Trail - (New London eastward (lies in Outagamie and Brown Co.))

ICE AGE TRAIL

The Ice Age National Scenic Trail is a hiking trail that passes through western Waupaca County. When completed, the trail will extend from Potawatomi State Park in Door County to southern Wisconsin and northward again through Waupaca County, ultimately terminating at Interstate Park on the Minnesota border, making it the longest National Scenic Trail located entirely in one state. Although much of the trail generally wanders along and across the landscape,

portions of the trail – at least temporarily – are located along and on existing roadways. Along its route, the trail crosses numerous roads, a particular safety concern when important highways need to be crossed. One such crossing of major significance is U.S. 10 in the Sheridan area. The parallel right-of-way of the heavy-trafficked Canadian National Railway coupled with the four-laning of Highway 10 is a serious obstacle for users of the Ice Age Trail.

The need for considering the Ice Age Trail here and elsewhere as WisDOT planning decisions are made is clearly stated on page 82 of the *Wisconsin Pedestrian Policy Plan 2020*. *“WisDOT will specifically work with the Ice Age Park and Trail Foundation (a state organization representing a thousand-mile national and state scenic hiking trail located entirely in Wisconsin) in identifying Ice Age Trail needs along and across state highways. Even though relatively few locations exist where the trail runs along state highways, WisDOT will strongly consider shoulder enhancements (additional shoulder width or pavement) to better accommodate hikers when state highways are reconstructed. In some exceptional situations, especially for short segments with extensive trail use and high motor vehicle traffic on the highway, a separate path exclusively for walking may be considered. Ice Age Trail crossings will be assessed using WisDOT’s newly developed guidelines and cost share provisions for trail crossings.”*

- Waupaca County, the Ice Age Park and Trail Foundation (IAPTF), and WisDOT should cooperatively investigate both short- and long-term options for routing (and funding) the Ice Age Trail across Highway 10 and the railroad tracks on a grade-separated structure. In addition to cost, maintaining the integrity of the trail’s interpretive and scenic values should be considered.

CONNECTING ROUTES

Waupaca County should continue to work closely with adjacent counties to ensure that the location and timing of connecting on-road and off-road routes for bicyclists and pedestrians are coordinated.

RURAL OFF-ROAD ACCOMMODATIONS

Paved multi-use paths serving both bicyclists and pedestrians (minimum of 10’) are recommended to provide safe off-road accommodations to important destinations on the fringe of communities.

LOCAL SIDEWALK POLICY

Since sidewalks are not universal even in the County's three largest communities, sidewalk policy appears to be inconsistent across municipalities in Waupaca County. All incorporated communities in the county should adopt a sidewalk policy. Where sidewalks are not universally required, a policy should establish criteria for determining where they are needed as well as who will pay for and maintain them. When sidewalk requirements are selective (only required in certain locations), fairness suggests that a significant portion (if not all) of the cost be borne by the municipality. The policy should also address the allocation of costs for sidewalk replacement and excessively wide sidewalks, such are commonly found in downtown areas. Communities are encouraged to:

- give priority to the installation of sidewalks or off-road paths along major pedestrian routes (and vehicular) routes radiating from schools; it is recommended to work with the East Central Wisconsin Regional Safe Routes to School staff on these projects
- give priority to installing sidewalks in areas of heavy pedestrian/bicycle use, as evidenced by a worn path or sizable numbers of pedestrians using the road surface
- give priority to installing sidewalks to complete missing gaps between existing sidewalk segments
- have clearly defined sidewalk requirements as a component element of their subdivision ordinances
- make destinations within and radiating from their industrial parks accessible to bicyclists and pedestrians
- take advantage of WisDOT funding programs that minimize the local cost for sidewalk construction along state highways

SIGNAGE PROGRAM

- A standardized diamond warning sign that alerts motorists of the possible presence of bicyclists and pedestrians be installed in the following generalized locations:
 1. On all state, federal, and county highways prior to encountering roadway segments that are part of the designated county bike route system
 2. On roadway segments where heavy bicycle and pedestrian activity may be encountered
 3. On those roadway segments where inadequate sight distance exists

- The County should install and maintain these signs, even when the designated route system utilizes town roads.
- The County should solicit the design for a standardized sign that would denote a road's inclusion on the designated county bike route system. Directional and distance information to nearby communities and points of interest should be signage components. These signs should be installed on individual routes as they are brought into the system.
- The County should work closely with local communities to incorporate the County's signing program as connecting links are created. This will ensure that bicyclists can find their way safely and conveniently through the community.
- Map 7 displays routes already utilized by bicyclists in Waupaca County. Strava data⁶ as well as the County's *Silent Sports Guide*. It is recommended the County works with local communities to sign these routes and examine for potential other improvements when the roadways are slated for improvements in the CIPs.

BRIDGES

All new bridge structures should be constructed to provide adequate width for simultaneous use by both motor vehicles and bicycles/pedestrians. Sidewalks should be provided as part of the bridge design in all urban and urban fringe areas. In rural areas, adequate deck area should be provided to enable bicyclists to cross the structure outside of the travel lanes.

BICYCLE AND PEDESTRIAN AMENITIES

Communities should update the parking requirement component of their existing ordinances that relate to new industrial and commercial development to reflect the need for accommodating onsite bicycle parking (bike racks).

Communities should solicit funding support from the business community for amenities such as bike racks and sitting benches in downtown areas and other destinations.

UTILITY CORRIDORS

⁶ Strava collects user data from a web-based application. While the data is limited to only those who use the Strava platform, it provides insight to major routes utilized.

Waupaca County should evaluate these for potential off-road trails on an individual basis. However, most are probably not suitable for use as off-road trails as their linear nature typically does not correlate with topography. Many segments may also be used as active farmland.

WATERWAYS

Waupaca County has an extensive network of waterways. While largely recreational in nature, the County should consider enhancing segments of its waterways to encourage more people to paddle and enjoy recreational opportunities on the water. Map 8 displays waterways where communities are connected and amenities could be added or enhanced to encourage waterway travel.

6 IMPLEMENTATION

6.1 | IMPLEMENTATION

County trunk highway trail implementation should be addressed on an “as road projects arise” basis, when county trunk highways are considered for reconstruction, expansion, or repair. In addition to the facilities recommended in this plan, each roadway project should consider whether it would be appropriate to include bicycle and pedestrian accommodations. Other activities in this plan that do not involve roadway projects may be completed through county- and municipality-based activities as well as through local partnerships.

Funding and financing of a bicycle and pedestrian infrastructure project depends on the individual project and if it coincides with a roadway reconstruction project. It is recommended that Waupaca County funds bicycle and pedestrian facilities at the time of roadway reconstruction projects and build the cost of those facilities into their capital improvement program.

6.2 FUNDING

Funding and financing of bicycle and pedestrian infrastructure projects depend on the individual roadway project and if it coincides with a reconstruction or resurfacing project. Typically, it is more efficient at the county or local level to build the cost of bicycle and pedestrian accommodations into a reconstruction project rather than retrofitting. It is recommended that Waupaca County funds bicycle and pedestrian infrastructure through their local capital improvement programs and build the cost of the facility into the cost of the roadway project and works with local communities on local bicycle and pedestrian facilities.

State and federal funding may serve as opportunities for certain bicycle and pedestrian projects. When pursuing these funds, it is recommended the County coordinate with ECWRPC and the WisDOT North Central office to ensure the proposed project is eligible for those funds.

The following sections describe the potential funding sources.

COUNTY AND LOCAL CAPITAL IMPROVEMENT PROGRAMS (CIPs)

As roadways are scheduled for reconstruction or resurfacing, bicycle and pedestrian infrastructure accommodations should be considered as it is much

more cost effective to include these facilities as part of the project. These costs can be included in the CIP as part of the overall roadway project's cost.

SURFACE TRANSPORTATION BLOCK GRANT SET-ASIDE PROGRAM

The Fixing America's Surface Transportation (FAST) Act replaced the Transportation Alternatives Program (TAP) with a set-aside of funds under the Surface Transportation Block Grant Program (also known by the Federal Highway Administration as the TA Set-Aside). The funding is authorized for projects, including the construction of on- and off-road bicycle and pedestrian facilities. It should be noted these funds are a cost share, with up to 80% of the project being covered by the federal funds.

SURFACE TRANSPORTATION BLOCK GRANT PROGRAM – RURAL (STP-RURAL)

The Surface Transportation Program – Rural allocates federal funds to complete a variety of improvements to rural highways (primarily county highways) that are located outside of the urban areas. Communities are eligible for these funds on roadways classified as major collectors or higher.

HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP)

The Highway Safety Improvement Program (HSIP) is intended to develop and implement, on a continuing basis, stand-alone safety projects designed to reduce the number and severity of crashes on all streets and highways (both state and local). The federal funding ratio for the HSIP funds is usually 90% federal funds and a 10% match of state and/or local funds. The HSIP Program currently prioritizes sites that have experienced a high crash history with an emphasis on low-cost options that can be implemented quickly.

RECREATIONAL TRAILS AID PROGRAM (RTA)

The Recreation Trails Program provides funds to develop and maintain recreational trails and trail-related facilities for both non-motorized and motorized recreational trail uses. Project sponsors may be reimbursed for up to 50 percent of eligible project costs. (<https://dnr.wi.gov/Aid/RTP.html>)

CONGESTION MITIGATION AND AIR QUALITY IMPROVEMENT PROGRAM (CMAQ)

The Congestion Mitigation and Air Quality Improvement Program funds may be used to construct bicycle facilities, pedestrian walkways, and non-construction

projects related to bicycle and pedestrian activities in designated non-attainment areas. Currently, Waupaca County is not designated as a non-attainment area; however, if that designation should change, it could become eligible for funding.

STATE COMMUNITY DEVELOPMENT BLOCK GRANT PROGRAM

The CDBG program provides eligible metropolitan cities and urban counties (called “entitlement communities”) with annual direction grants that they can use to revitalize neighborhoods, expands affordable housing and economic opportunities, and/or improve communities’ facilities and services, typically to benefit underserved communities. Waupaca County is not designated an entitlement county; however, CDBG funding still exists through a state-administered program. Under the State CDBG Program, states award grants to smaller units of general local government that develop and preserve decent affordable housing, to provide services to the most vulnerable in our communities, and to create and retain jobs. Annually, each State develops funding priorities and criteria for selecting projects.
(<https://www.hudexchange.info/programs/cdbg-state/>)

EAST CENTRAL WI REGIONAL PLANNING COMMISSION’S TECHNICAL ASSISTANCE PROGRAM

The Technical Assistance Program is available to member counties and local municipalities within the East Central Region. This application-based program provides local municipalities and counties with staff resources and support for a variety of small-scale projects.

WISCONSIN DEPARTMENT OF NATURAL RESOURCES KNOWLES-NELSON STEWARDSHIP FUNDS

The Knowles-Nelson Stewardship Funds help fund land acquisition and recreational facility development. (<https://dnr.wi.gov/topic/stewardship/>)

THE ROBERT WOOD JOHNSON FOUNDATION

The Robert Wood Johnson Foundation seeks to improve the health and health care of all Americans. One of the primary goals of the Foundation is to “promote healthy communities and lifestyles.” Specifically, the Foundation has ongoing “Active Living by Design” grant programs that promote the principals of active living including non-motorized transportation. Other related calls for grant proposals are issued as developed, and multiple communities nationwide have

received grants related to the promotion of trails and other non-motorized facilities. (<https://www.rwjf.org/en/how-we-work/grants-explorer.html>)

LOCAL HOSPITALS AND HEALTHCARE ORGANIZATIONS

A majority of hospitals and health care organizations within the United States currently operate as nonprofit organizations and are exempt from most federal, state, and local taxes as a result of this status. To maintain this status, hospitals and health care organizations need to complete a number of requirements, including developing a Community Health Needs Assessment (CHNA) and support community initiatives that are consistent with their CHNA.

PUBLIC PRIVATE PARTNERSHIPS

As federal and state funds become more competitive for local communities, it is recommended that Waupaca County and local municipalities work with the private sector to help secure funds for various types of bicycle and pedestrian projects. The private sector could help to provide the 20% local match for state and federal grant program, making the local grant application more competitive for funding.

Additionally, local businesses have a vested interest in bicycle and pedestrian accommodations, as healthy active employees help reduce the business' health insurance costs and the employees are also more productive. Local health insurance companies are interested in having healthy employees, as it reduces their health insurance claims related to chronic diseases. Private and public partnerships should be explored by Waupaca County and local municipalities as the built environment as a direct correlation with the health of the local community members.

In Waupaca County, a number of trails and racing events are held, such as the Waupaca Triathlon. Waupaca County and local communities should consider partnering with these events, or identify potential new events, where part of the proceeds could be used toward implementation of the recommendations in this plan.

6.3 MAINTENANCE AND CONSIDERATIONS

- A maintenance plan should accompany each project. This plan should include the department primarily responsible for the maintenance.
- The Waupaca County Sheriff's Department should have primary responsibility for dealing with unauthorized trail activities, trespassing, and other issues that arise.
- Waupaca County should seek out "Friends" groups to help with routine policing (litter pickup) and the identification of site-specific problems.
- Waupaca County should consider establishing user fees to help underwrite the cost of maintaining the trail.
- Waupaca County should work with trail user groups to determine the most appropriate user "mix" for individual trails and trail segments. In addition to bicyclists and pedestrians, other potential user groups include snowmobilers and equestrians.
- Waupaca County should develop trailheads with parking facilities and other appropriate amenities in strategic areas. As a first step, the county should work with local communities to assess the suitability of their existing parks and other local sites to serve as trailheads.
- Year-round maintenance should be taken into consideration for existing and new bicycle and pedestrian facilities. Certain federal funds may require year-round maintenance of bicycle and pedestrian facilities.