

INTRODUCTION

## INTRODUCTION

### BACKGROUND

The need to efficiently move residents and visitors alike along with products and goods they grow, manufacture, and consume has always made a well-maintained system of streets and highways a priority in Waupaca County (Exhibit 1). 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.

County and community leaders alike have come to recognize that bicycle and pedestrian travel are viable forms of transportation in Waupaca County. In addition, they understand that there are other important benefits to be had when bicyclists and pedestrians can travel safely and conveniently within and between communities in the county. With its blend of pristine lakes and streams, tree covered hillsides, picturesque farms and small towns, and wealth of other cultural and natural resources, Waupaca County is both an attractive place to live and an appealing place to visit. The county's diverse landscape provides an exceptional environment for bicycling and hiking. Providing accommodations that enable the county's scenic beauty to be enjoyed at a more leisurely pace benefits local residents by expanding transportation and recreation options available to them. Equally important, it also makes economic sense, enhancing the county's \$90,000,000 tourism industry by making the county more attractive as a visitor destination.

With these thoughts in mind, some ten years ago the Waupaca County Parks and Recreation Department, working with a group of avid bicyclists, took the first steps to promote its secondary road system for bike touring. Their efforts focused primarily on identifying and evaluating about a dozen key loop routes connecting various communities and points of interest within the county. An informational brochure with a general description, map, and mileage information of each route was prepared and identified routes were included on the county's recreation map. These routes were viewed as independent loops and any interconnectivity between them was merely coincidental.

While these loops are still considered as the backbone of the county's rural bike "route" system, it has become increasingly clear that an expanded system was desirable. This expanded system would not only better accommodate bike touring, but would also encourage more people to view the bicycle as a viable transportation option for commuting to work, school, and shopping. To be fully functional, the system would need to link communities and points of interest throughout the county, connect with routes in surrounding counties, and also identify safe and relatively direct routes through the larger communities. At the local level, bike routes that provide safe and relatively direct access to major employers, schools, and other important destinations would be particularly desirable to promote short-trip bicycle use. As part of the county's plan, it was determined that the identification and implementation of a suitable route network within these larger communities would be their responsibility.

## **PURPOSE**

*The Waupaca County Bicycle/Pedestrian Plan* represents the first coordinated attempt to integrate the needs of the bicyclist and the pedestrian 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.

It is this 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. A listing of committee members can be found in Appendix A. The committee's overall task is twofold: 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.

**EXHIBIT 1**

**WAUPACA COUNTY OVERVIEW**

BICYCLING AND WALKING  
AS MEANS OF TRANSPORTATION

## **BICYCLING AND WALKING AS MEANS OF TRANSPORTATION**

Bicycling and walking are two of the most efficient ways to get around. Walking is ubiquitous; nearly everyone depends on walking for at least part of every trip, if only from the parking lot to the nearest building. Although some lament that “people just can’t seem to walk anywhere anymore”, the reality is that, given the opportunity, many people choose to walk from one place to another, particularly if they can do so safely and conveniently. During the past fifty years, however, there is no question that we Americans have become increasingly auto-dependent. This is partially by choice, but more often is the result of a development pattern and individual land uses that focus on the automobile. Retail stores, fast food establishments, and even schools on the periphery of communities not only are a long walk from where people live, they may be a half-mile or more from the nearest sidewalk. Conditions such as these not only discourage able-bodied pedestrians, they literally prevent access for pedestrians with special needs, a group that includes elderly, children, and people with disabilities.

Use of the bicycle for trip making by a broader segment of the population has increased during the past thirty years. National studies indicate that upwards of 40 percent of the population use bicycles, including over 50 million adults. Of this group, over 30 million bicycle on a weekly basis and five million regularly use their bicycles to commute to work. While the number of Wisconsin adults who regularly bike to work is small, for many other adults, the bicycle is their sole source of personal transportation. Another group that has traditionally relied on the bike nearly exclusively are children, who use their bikes not only to travel to school but throughout the summer for most of their transportation needs. A child’s bike ride to his soccer game is as much of a transportation trip as if he or she were driven there in the family’s minivan.

Although any trip taken with an intended purpose, even though it may be made spontaneously with no clear route or destination in mind, still serves a transportation function, not all trips are made exclusively for transportation purposes. Like the proverbial Sunday drive, many walking and bicycling trips, such as a weekend bike ride or an evening walk, are made primarily for recreational or fitness purposes, particularly in Waupaca County. Since even the county’s three largest communities are small enough that nearly all local destinations are within close proximity to most bicyclists and pedestrians, residents wishing to walk or bike for recreation or fitness find it easy to make these trips utilitarian as well.

### **GETTING STARTED**

The notion that bicyclists and pedestrians have an important role to play in the overall scheme of transportation planning is relatively new. From a national perspective, for example, the relationship between bicycles and pedestrians and the planning and design of transportation improvements first came to the forefront in 1991 with the enactment of the Intermodal Surface Transportation Efficiency Act (ISTEA). For the first time, this legislation required states and metropolitan planning organizations (MPOs) to “consider” the needs of bicyclists and pedestrians in the planning and development of street and highway projects that involved the use of federal funds. In addition, states and MPOs were required to include a bicycle and pedestrian element in their overall transportation plans.

In 1993, in response to the federally mandated ISTEA requirements, the Wisconsin Department of Transportation (WisDOT) published two documents providing guidance to MPOs and communities as they set about the task of preparing their local bicycle and pedestrian plans. These guidelines also provided local units of government with useful information for planning and designing specific facilities within their overall system. This was followed by the 1994 publication of *Translinks 21*, WisDOT's highly acclaimed multimodal transportation plan, which called for a seamless system of interconnectivity between modes, thereby reinforcing the role of bicycles and pedestrians in overall transportation planning and accommodations. This plan also called for WisDOT to prepare statewide bicycle and pedestrian plans, resulting in the publication of the *Wisconsin Bicycle Transportation Plan 2020* in 1998 and the *Wisconsin State Pedestrian Policy Plan 2020* in 2002. Both documents drew heavily on the input and expertise of advisory committees. Companion Best Practices Resource Guides (BPRG) are currently being prepared by WisDOT to assist MPOs and local units of government implement the goals, objectives, and actions contained in these two documents. *Safe Communities: Action Guides*, a report designed to help communities develop action strategies to address identified transportation safety concerns and build on identified strengths of the existing transportation network, was published by WisDOT in 1998 as a prelude to the present work effort.

An early leader in recognizing the bicycle as a growing means of transportation and recreation, Wisconsin was ahead of the curve when the ISTEA requirements were enacted in 1993. In the mid-1970s, WisDOT and the Wisconsin Department of Natural Resources (WDNR) had teamed together to publish two reports entitled *Guidelines for Developing Urban Bikeways* and *Guidelines of Developing Rural Bike Routes*. It was also about this time that WDNR launched its popular and extensive rails-to-trails program with the development of the Elroy-Sparta Trail. The 1970s also saw several counties establish bike route systems and fund the construction of a number of recreational bicycle paths.

One reason why planning for bicycles and pedestrians has become a priority is that documented results of extensive research compiled by national and state planning and engineering professionals over the past twenty to thirty years is now available. Their collective work provides a comprehensive understanding of safety issues and other needs of bicyclists and pedestrians and sets forth a variety of design standards, criteria, and other invaluable guidance that today is considered "best design practices" for accommodating bicyclists and pedestrians in both urban and rural areas. By identifying and quantifying specific measures that could be implemented to promote safer opportunities for bicyclists and pedestrians, this body of knowledge undoubtedly helped build support for efforts to integrate these users with other transportation modes. Two of the key documents were the *National Bicycling and Walking Study*, released by the U. S. Department of Transportation in 1994, and the *Guide for the Development of Bicycle Facilities*, last updated by the American Association of State Highway Transportation Officials (AASHTO) in 1999.

## **UNDERSTANDING THE CUSTOMER**

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 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, two types of bicyclists are typically identified for planning purposes.

Group A bicyclists (advanced or experienced riders) are adult bicyclists capable of operating in most traffic conditions. These individuals are not afraid to share streets and highways with motor vehicles and comfortably move with the flow of traffic. As a rule, they will use the most direct and expedient route between two points. Touring bicyclists and commuters generally fall into this category.

Group B bicyclists are casual or novice adult or teenage bicyclists who are less confident of their ability to operate in traffic on urban streets classified as collectors or arterials or on high speed rural roadways without special provisions for bicyclists. These individuals typically would be willing to use a more circuitous route between two points than share roads where traffic volumes or speeds are uncomfortable to them.

A third group, Group C bicyclists, is comprised of entry-level bicyclists at the youngest age levels. Since this group generally is not adequately skilled to ride on public roadways unless they are in the company of a parent or in some other way supervised, planning facilities with their needs in mind is not normally considered.

## **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. In Wisconsin, for example, since only bicycle crashes involving a moving motor vehicle that result in injury, death, or \$1,000 in property damage are reportable, many crashes are not recorded. Among these unreported incidents are all bicycle crashes that do not involve a moving vehicle, including a bicycle hitting a fixed object, another bicycle, or a pedestrian, and crashes that do not occur on a public roadway. 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.

### **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 15% of all roadway-related fatalities each year. In 1998, 5,220 pedestrians and 758 bicyclists were fatally injured. A more detailed look at FHWA's statistical data from 1998 is found in Appendix B.

### **WisDOT Crash Data (1989-1998)**

In preparing its *Wisconsin Bicycle Transportation Plan 2020*, WisDOT researched bicycle crash data for the preceding ten years. It was found that statewide, there was an annual average of 1,659 crashes involving at least one bicycle and a moving motor vehicle. Nearly 95% of the crashes involving bicycles and motor vehicles resulted in injury or death to the bicyclist. About 78% resulted in minor injury, 15% resulted in serious injuries, and 0.7% were fatal. A total of 115 fatalities were recorded in Wisconsin during this 10-year interval. Appendix C provides a more detailed look at the results of the study.

## Crash Types

Gaining a better understanding of the specifics involving crashes between bicyclists and motorists is probably the most useful information in addressing safety concerns. Studies have shown that it is possible to “type” crashes into distinct categories. A study undertaken by the FHWA of crashes involving bicycles and moving motor vehicles in six states has identified 38 different crash types (Appendix D). With a database of nearly 3,000 incidents, there are enough incidents in each crash type to provide a relatively good indicator of where, why, and how most crashes occur. The FHWA study found that the most common crash types were:

- 1.) ride out at stop sign (9.7%)
- 2.) drive out at stop sign (9.3%)
- 3.) ride out at intersection – other (7.1%)
- 4.) drive out at mid-block (6.9%)

Other nationally conducted studies to “type” crashes involving bicycles include the Cross-Fisher study (1977) and the more recent Hunter/Pein/Stutts/Cox study (1996). The latter segregated the data into fourteen generalized crash types. The top four, which together comprised 63% of all crashes, were:

- 1.) motorist turned/merged into path of bicyclist
- 2.) motorist failed to yield
- 3.) bicyclist failed to yield at mid-block (mid-block ride-out)
- 4.) bicyclist failed to yield at intersection (intersection ride-out)

The Fisher-Cross study and other studies have identified the three most common crash types involving children as:

- 1.) bicyclist mid-block ride-out
- 2.) bicyclist ride-out at controlled intersection
- 3.) bicyclist makes unexpected turn or swerves into traffic

Because crash typing provides an indicator of critical errors or actions that likely led to the crash rather than on assigning fault, potential options for reducing specific types of crashes can be identified. These options include better engineering and design, increased education, stronger enforcement, or a combination. As an example, the most frequent crash type involving children is mid-block ride out. Eliminating on-street parking would be one way (engineering/design) to reduce the incidence of this type of crash; however, educating parents and children to this danger may be more effective and less controversial. Similarly, while there are a number of engineering and design techniques that would be effective in reducing the number of bike crashes involving turning motor vehicles, using educational and enforcement techniques to alert both bicyclists and motorists of this concern should be a complementary strategy. These are but two of a litany of common causes for bike crashes and are cited because they demonstrate that there are multiple techniques that are available for improving safety for both bicyclists and pedestrians. At the same time, they show that having a clear understanding of how, where, and why crashes occur can be a crucial determinant in effectively targeting dollars for safety-related improvements.

## Waupaca County Crashes

According to WisDOT records, during the interval 1996-2000, there were 40 crashes involving bicycles and moving motor vehicles in Waupaca County and an additional 75 crashes involving pedestrians (Appendix E). These crashes resulted in injuries to 39 bicyclists and 81 pedestrians and the death of one pedestrian. On-road/on-street crashes included 36 that involved bicycles and 57 that involved pedestrians; the remaining four bicycle-related and 18 pedestrian-related incidents occurred in parking lots or on private property.

The overall numbers reveal that only three bicycle crashes and 16 pedestrian crashes occurred in outlying unincorporated communities. Waupaca County's three largest communities – New London, Waupaca, and Clintonville – accounted for 34 of the 40 bicycle crashes (85 percent) and 53 of the 75 incidents involving pedestrians (71 percent). The three communities also had all four off-road incidents involving bicycles and 15 of the 18 that involved pedestrians. The City of Waupaca, perhaps because of the large number of seasonal visitors, had 18 bike crashes and 23 pedestrian crashes. In total, there were 18 intersection-related bike crashes and an additional 18 intersection-related pedestrian crashes. Only one of each type occurred outside of an incorporated community.

Further analysis revealed that 29 of the 40 bicycle crashes (72.5 percent) occurred during the months of May through August. Pedestrian crashes were less predictable; perhaps somewhat surprisingly, January along with September had the most incidents (11), followed closely by August (10). Crashes occurring during hours of daylight included 34 involving bicycles and 56 involving pedestrians. Incidents involving periods of darkness (with lighted conditions) were second most common, with four bike and 14 pedestrian crashes. Only three bike and seven pedestrian crashes involved alcohol.

Since the Waupaca County database for crashes involving bicycles is relatively limited compared to the studies cited above, no attempt has been made to undertake a detailed analysis of these crashes at the county level. Rather, for planning purposes, it is reasonable to assume that the major crash types found nationally also occur in similar proportions in Waupaca County and that strategies that have proven effective elsewhere are viable here. This said, intuition suggests that crashes that involve an overtaking vehicle may comprise a somewhat higher percentage in Waupaca County, where open road bike touring is popular. Similar logic suggests that ride outs as a percent of total crashes may be somewhat lower than those suggested by national studies. This is likely because, even in the county's three larger communities, on-street parking is generally minimal compared to a more urban environment. Without parked vehicles restricting visibility, both bicyclist and motorist benefit from greater awareness and increased reaction times, thereby reducing the potential for this type of crash.

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 five-year interval. Each of the three larger communities, however, had at least one location with multiple crashes. The data also revealed that a high proportion of crashes in these communities occurred on streets that function as arterials or major collectors and that the highest concentration was at or near intersections in the downtown areas. The

locations with the most multiple crashes were the Pearl St./Wolf River Dr. intersection in New London (5); the N. Main St./12<sup>th</sup> St. intersection in Clintonville (4); and the N. Main St./Granite St. and S. Main St./Union St. intersections in Waupaca (3 each). All three crashes at the latter location were pedestrian-related while the other three locations had both bicycle- and pedestrian-related crashes.

In acknowledging that the safety issues making these specific locations dangerous deserve attention, a realistic assumption is that the underlying reasons why multiple accidents occur there can be found in similar locations elsewhere. It is considered relevant, therefore, that safety issues be addressed pro-actively at a macro-level, rather than concentrating on rectifying them on a site-specific "better late than never" basis after one or more serious incidents. This said, efforts to track the location of future bicycle and pedestrian crashes is still considered a worthwhile endeavor so that recurring problem locations can be given priority for remediation.

When the database is relatively small, site-specific information can distort the fact that some crash types occur at a certain location only because of happenstance. For example, two bicycle fatalities in Waupaca County and neighboring Winnebago County were the result of the motorist being blinded by the rising or setting sun. A condition most common to east-west roadways during the spring and fall equinox, this is a safety issue that ostensibly has no realistic engineering or design solution. In this particular case, airing public service announcements to coincide with those times of the year when this condition is at its worst may be the most appropriate way to address this issue.

A summary of Waupaca County Bicycle and Pedestrian Crash data from 1996 to 2000 is included in Table 1.

**TABLE 1**

**WAUPACA COUNTY BICYCLE AND PEDESTRIAN CRASH DATA  
(1996-2000)**

Municipality	Comb Total			Bicycles			Pedestrians			Combined Bike/Peds					Comb Intersections	Combined Conditions					Municipality		
	On	Off	Tot	On	Off	Tot	On	Off	Tot	1996	1997	1998	1999	2000		Dawn	Dayl	Dusk	Dark/L	Dark/U		Unkwn	
T Bear Creek	2		<b>2</b>	1		<b>1</b>	1		<b>1</b>				1	1								T Bear Creek	
T Caledonia	2		<b>2</b>				2		<b>2</b>		1			1				1				T Caledonia	
T Dayton	2		<b>2</b>				2		<b>2</b>			1	1									T Dayton	
T Dupont																						T Dupont	
T Farmington	4	1	<b>5</b>				4	1	<b>5</b>			1	3	1		3		2				T Farmington	
T Fremont																						T Fremont	
T Harrison																						T Harrison	
T Helvetia																						T Helvetia	
T Iola	1		<b>1</b>	1		<b>1</b>								1		1						T Iola	
T Larrabee	1		<b>1</b>	1		<b>1</b>					1					1						T Larrabee	
T Lebanon																						T Lebanon	
T Lind		1	<b>1</b>					1	<b>1</b>					1		1						T Lind	
T Little Wolf	1		<b>1</b>				1		<b>1</b>		1					1						T Little Wolf	
T Matteson																						T Matteson	
T Mukwa	1		<b>1</b>				1		<b>1</b>			1				1						T Mukwa	
T Royalton	1		<b>1</b>				1		<b>1</b>					1		1						T Royalton	
T St Lawrence																						T St Lawrence	
T Scandinavia																						T Scandinavia	
T Union																						T Union	
T Waupaca		1	<b>1</b>					1	<b>1</b>				1			1						T Waupaca	
T Weyauwega	1		<b>1</b>				1		<b>1</b>	1										1		T Weyauwega	
T Wyoming																						T Wyoming	
V Big Falls																						V Big Falls	
V Embarrass																						V Embarrass	
V Fremont	1		<b>1</b>	1		<b>1</b>						1				1						V Fremont	
V Iola	3		<b>3</b>	1		<b>1</b>	2		<b>2</b>	1		1	1			3						V Iola	
V Ogdensburg																						V Ogdensburg	
V Scandinavia	1		<b>1</b>				1		<b>1</b>				1			1						V Scandinavia	
C Clintonville	17	6	<b>23</b>	9		<b>9</b>	8	6	<b>14</b>	6	5	5	4	3		18		4	1			C Clintonville	
C Manawa																						C Manawa	
C Marion	2		<b>2</b>	1		<b>1</b>	1		<b>1</b>					2			2					C Marion	
C New London	18	5	<b>23</b>	6	1	<b>7</b>	12	4	<b>16</b>	6	2	6	6	3		19		3			1	C New London	
C Waupaca	33	8	<b>41</b>	15	3	<b>18</b>	18	5	<b>23</b>	6	8	10	6	11		31	1	8				C Waupaca	
C Weyauwega	2		<b>2</b>				2		<b>2</b>		1	1				2						C Weyauwega	
<b>Co. 5-yr Total</b>	<b>93</b>	<b>22</b>	<b>115</b>	<b>36</b>	<b>4</b>	<b>40</b>	<b>57</b>	<b>18</b>	<b>75</b>	<b>20</b>	<b>19</b>	<b>27</b>	<b>24</b>	<b>25</b>		<b>36</b>	<b>1</b>	<b>90</b>	<b>3</b>	<b>18</b>	<b>2</b>	<b>1</b>	<b>Co. 5-yr Total</b>

PLAN VISION, GOALS, AND OBJECTIVES

## PLAN VISION, GOALS, AND OBJECTIVES

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.

### 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 component 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 effort.*

## OBJECTIVES

The 4E'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 4E's include: 1) engineering (and planning), 2) education, 3) enforcement, and 4) encouragement. 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.*

#### Strategies:

- Encourage Waupaca County communities to augment the county plan by developing and implementing local bicycle and pedestrian transportation plans.

- Routinely consider the appropriateness of accommodating bicyclists and pedestrians when constructing and upgrading highways and streets.
- Establish criteria that Waupaca County and local units of government can use to determine an appropriate level of accommodation for bicycles and pedestrians.
- Encourage the Waupaca County Highway Department and local municipalities to adopt design standards that provide a basic level of service for bicycle and pedestrian use.
- Follow accepted AASHTO guidelines in designing and constructing bicycle and pedestrian accommodations whenever possible.
- Encourage communities to work with their business community, major employers, and other important destinations to provide support facilities such as bike racks in key locations.
- Encourage communities to address the need to accommodate bicycles and pedestrians in their zoning and subdivision ordinances, including establishing criteria for providing facilities in industrial park and commercial development proposals.

***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.***

Strategies:

- Identify and work toward establishment of a countywide network of interconnected on-road and off-road accommodations suitable for bicyclists and pedestrians.
- In addition to linking communities to each other, identify other important intra- and inter-city origins and destinations within the county.
- Provide an adequate level of connectivity between important origins and destinations within the county.
- Work with adjacent counties to ensure connectivity with their bicycle and pedestrian accommodations.
- Where consistent with the county plan, encourage WisDOT to purchase additional highway right-of-way to permit the development of parallel off-road trails.
- Aggressively pursue opportunities to acquire rail, utility, and drainage corridors for off-road trail development.
- Evaluate existing and potential routes and route alternatives to determine their present adequacy in providing safe and convenient bicycle and pedestrian accommodations.
  - Identify those routes that currently meet accepted standards and guidelines for safe bicycle and pedestrian use.
  - Determine site-specific and overall limitations of other existing and potential routes.

- Identify and estimate the cost of necessary improvements to provide safe accommodations and routes identified to be currently inadequate.
- Establish criteria for prioritizing improvements to inadequate routes.
- Develop a reporting mechanism/process that encourages bicyclists to bring site-specific problems or unsafe conditions (i.e., overhanging brush, potholes, debris) to the attention of the appropriate authority.

**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.***

Strategies:

- Provide and expand outlets where bicycle and motor safety information materials can be obtained.
- Encourage the State of Wisconsin to update motor vehicle training materials and testing to increase awareness of safety issues and associated conflicts between motor vehicles and bicyclists and pedestrians.
- Work with area schools to integrate bicycle and pedestrian safety education into their curricula at the elementary and middle school levels; where provided, make bicycle and pedestrian safety an integral part of driver's education courses.
- Solicit support from local civic and service organizations in promoting and providing bicycle safety programs.

**Enforcement Objective:**

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

Strategies:

- Encourage the Waupaca County Sheriff's and local enforcement agencies to compile and maintain a consistent database for analyzing bicycle and pedestrian crashes.
- Develop enforcement strategies directed at high incidence crash and accident types.
- Develop specific bicycling education and training for police officers.
- Encourage police departments in the county's three largest communities to establish a bike patrol.
- Target motorist infractions that result in a large number of crashes with bicyclists and pedestrians.

- Encourage the State of Wisconsin to update laws based on the Uniform Vehicle Code.

**Encouragement Objective:**

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

**Strategies:**

- Maintain an updated map of the county's bike route system.
- Take steps to ensure that county bike maps are widely distributed, easily obtainable, and user-friendly.
- Use the availability of safe and convenient bike and pedestrian routes in the county's promotional literature as well as in local promotional activities.
- Undertake a consistent signing program of safe routes, focusing on providing information to the bicyclist/pedestrian and increasing motorist awareness of these other modes of travel.
- Publicize effective examples used elsewhere to increase bicycle use and pedestrian activity.
- Make available technical information and assistance that leads to increased bicycling and pedestrian activity.
- Increase the awareness of the personal and community benefits of bicycling and walking.
- Encourage area schools to seek out a faculty advisor who would be interested in establishing a bicycle club as an extracurricular activity.
- Encourage health care providers to promote community fitness by sponsoring group bicycling and walking "clubs".
- Work with area bike clubs and local communities through their business/tourism organizations to sponsor an annual bike-to-work/school day.
- Solicit contributions from local businesses (i.e., free movie passes, ice cream cones, gift certificates) to reward youngsters who exhibit safe and/or courteous bicycling.

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THE BICYCLE AND PEDESTRIAN ROUTE SYSTEM

## THE BICYCLE AND PEDESTRIAN ROUTE SYSTEM

### **Waupaca County On-Street Bike/Pedestrian Facilities**

Exhibit 2 shows the network of on-street bicycle and pedestrian facilities on local/town roads and county, state, and federal highways throughout Waupaca County, as of January 2008.

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**EXHIBIT 2**

**WAUPACA COUNTY ON-STREET BIKE/PEDESTRIAN FACILITIES**

### **Waupaca County Off-Street Bike/Pedestrian Facilities**

Exhibit 3 shows the network of off-street bicycle and pedestrian facilities throughout Waupaca County, as of January 2008. These facilities include the:

- 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)
- Sturgeon Trail (west of the City of New London)
- Wau-King Trail (southwest of the City of Waupaca)
- Ice Age Trail (segments on the Waupaca County/Portage County line)

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**EXHIBIT 3**

**WAUPACA COUNTY ON-STREET BIKE/PEDESTRIAN FACILITIES**

## **Waupaca County Bicycling Conditions**

Exhibit 4 illustrates bicycling conditions on county, state, and federal transportation facilities throughout Waupaca County. These conditions were determined from 2004 traffic counts by the Wisconsin Department of Transportation. There are four bicycle conditions categories:

- Best Conditions for Bicycling (green)
- Moderate Conditions for Bicycling (blue)
- Higher Volume, Wide Paved Shoulders (yellow)
- High Volume, Undesirable Conditions (red)

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**EXHIBIT 4**

**WAUPACA COUNTY BICYCLING CONDITIONS**

## **Regional Existing and Proposed Trails**

Exhibit 5 illustrates existing (bold green line) and proposed (green dashed line) off-street trail facilities both within Waupaca County and the surrounding counties of Shawano, Outagamie, Portage, Waushara, and Winnebago, as of January 2008.

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**EXHIBIT 5**  
**REGIONAL EXISTING AND PROPOSED TRAILS**

STRATEGIES AND RECOMMENDATIONS

## STRATEGIES AND RECOMMENDATIONS

Adapting the four primary objectives of the state bicycle and pedestrian plans to derive both general and more detailed strategies and recommendations is viewed as the most direct and effective way to generate a broad base of support for this plan. Plan support and endorsement both by public officials and residents alike will greatly enhance the potential that key policy-based recommendations related to bicycle and pedestrian issues will be implemented. These recommendations are seen as an important first step in promoting uniform planning decisions throughout the county. Their acceptance would also herald the dawn of an era where decisions related to bicycle and pedestrian planning are made as a matter of course. In addition to the broader policy-based recommendations, this approach also enables recommendations that provide the County and its municipalities with sufficient direction to implement individual components of the plan. Where possible, the recommendations have been developed to establish priorities for undertaking specific actions. This will help decision-makers understand the value of their actions within the broader context of Waupaca County's overall plan.

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, and 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 (see Appendix D), 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.

While strategies and recommendations addressing engineering and design objectives generally lie at the heart of providing safe accommodations for bicyclists and pedestrians, for the most part, they call for actions that often entail physical improvements and therefore require capital expenditures. Since allocation of tax revenues have always been a "bottom line" business in Waupaca County, a strategy package that encompasses all four objectives provides the best opportunity for Waupaca County and its individual communities to realize maximum benefit from this plan.

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. Similarly, it may not be possible to measure the value of teaching youngsters to become more skilled and aware bicyclists. If each proposal is required to come under this type of scrutiny, little will be accomplished. On the other hand, it is important to recognize that some strategies and recommendations - including those that call for physical improvements - are more cost-

effective than others. Some of these, particularly those that meet the education, enforcement, and encouragement objectives, require little if any cost. The cost-effectiveness of physical improvements often can be influenced by when, where, and how specific projects are undertaken. As an example, incorporating the paving of shoulders into a larger road project would be less costly than undertaking it as a “stand-alone” project. Similarly, since rural roadways with traffic volumes under 1,000 vehicles per day are generally considered acceptably safe for bicycling, expenditures for paved shoulders or a parallel off-road trail would be difficult to justify when other more cost-effective projects could be undertaken.

## **POLICY RECOMMENDATIONS**

The following policy 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:

- Friendship Trail (Highway 10 across Waupaca County)
  - a.) Winnebago Co. line to Fremont
  - b.) Fremont to Waupaca
  - c.) Waupaca to Portage Co. line; link with Tomorrow River State Trail
- Highway 15 (New London to Hortonville)

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 4' 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. The committee recommends that a shoulder width of 4' or 5' should be established as standard; however, a paved shoulder of 3' would be acceptable on two-lane roadways with a 24' travel surface.
- On a shorter-term basis, Waupaca County should target as "stand-alone" projects the installation of paved/striped shoulders on those segments of county highways that pass through areas of concentrated population, rural strip commercial development and/or high levels of pedestrian and bicycle activity such as resorts, campgrounds, and youth camps. (The wisdom of this action in improving conditions for bicycles and pedestrians is clearly demonstrated by the recent paving and striping of shoulders along CTH "Q" in the Chain o'-Lakes area.) These areas should also be appropriately signed to alert motorists and reduced speed limits (i.e. 45 mph or less) considered.

Listed below in no particular priority are the potential candidate projects:

- CTH "E" in the Spencer Lake area
  - CTH "X" west of New London
  - CTH "H" in the Templeton Bayou area
  - CTH "QQ" between STH 54 and STH 22 through King (*completed up to Otter Drive*)
  - Portions of CTH "W" between Readfield and New London
  - CTH "J" north of Iola
  - CTH "Q" between STH 54 and STH 49
  - CTH "F" from Weyauwega to Gills Landing
  - CTH "G" between Iola and Scandinavia
  - CTH "E"/"G" through the Village of Big Falls
- Also on a shorter-term basis, Waupaca County should consider, as "stand-alone" projects, the paving of shoulders on county trunk segments that are or will be used as part of the designated route system. Once these segments have been upgraded (and only then), they should be appropriately signed as a part of the county's bike route system.

- Waupaca County should also consider installing paved/striped shoulders and signing county highway segments where vertical or horizontal alignment creates inadequate sight distance and results in reduced response times. The committee recommends that an inventory of these locations be compiled to identify the most critical sites as candidate projects. As these highways are re-constructed, the county should address these concerns in its design standards. On a short-term basis, a widened paved surface can be an effective way to improve the safety of all road users in situations where sight distance is limited.
- Waupaca County should use traffic volumes (AADTs) as one of the criteria it uses in assessing (and prioritizing) 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. Since the peak levels of traffic on most Waupaca County roads are significantly above their AADT, the committee recommends that the County adopt an AADT of 700 vehicles per day as a benchmark. In the county's unincorporated areas, only 16 percent (51 of 318 miles) of the county trunk system has AADTs of 700 or greater (Appendix F).

### **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 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. This is borne out by the fact that less than 16 miles of the county's 938 miles of town road have AADTs of 300 or more (see Appendix G). 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 State as a

transition where shoulders become a consideration from a safety standpoint; lower volumes could be considered by individual towns. Assuming that the traffic volumes on some town roads can experience significant seasonal fluctuations, town road segments with traffic volumes of 300 or greater are displayed on Appendix G.

- 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. As a first step, the towns are encouraged to identify candidate locations where these improvements should be considered.
- 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, the County should stress that this type of action also makes the road safer for motorists.) As a first step, the towns should inventory those road segments where these conditions presently exist.

### **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.)
  - a.) Hortonville to New London segment (lies in Outagamie County)
  - b.) New London to Clintonville segment
  - c.) Clintonville to Marion segment)
  - d.) Marion to Shawano Co./Split Rock segment (Shawano Co. link)
- Friendship Trail (Highway 10 Trail)(Lake Michigan to Central Wisconsin)
  - a.) Winnebago Co. line to Fremont segment
  - b.) Fremont to Waupaca segment
  - c.) Waupaca to Portage Co. line/Amherst segment (Tomorrow River link)

- Tomorrow River State Trail (Plover to New London)
  - a.) Scandinavia to Manawa segment (*to be completed in 2008*)
  - b.) Manawa to New London segment
  
- Newton Blackmour Wildlife Trail - (New London eastward (lies in Outagamie and Brown Co.))

These are the segments that relate to Waupaca County and possible options for their development.

WIOUWASH Trail (Oshkosh to Langlade Co)

Hortonville to New London segment (lies in Outagamie County)

- This rail right-of-way is being re-activated and probably will not be available for use as a trail.
- Possibly can have WisDOT get extra ROW as part of the Hwy 15 project. Would need commitment by both Outagamie and Waupaca Counties.
- Route trail through Hortonville on CTH "M" and then west on CTH "S". Provides direct access to Mosquito Hill. Joint Outagamie/Waupaca Co. project.

New London to Clintonville segment

- Right-of-way is owned by WisDOT. Joint Outagamie/Waupaca Co. project.
- If WisDOT looks at Hwy 45 as a four-lane facility, possibility of securing additional ROW. Not being considered in foreseeable future.

Clintonville to Shawano Co/Split Rock

- Right-of-way has reverted back to private ownership but probably would be less difficult to re-acquire than the New London/Clintonville segment. Extremely attractive scenery, particularly west of Marion.
- Assess present ROW width of Hwy 45 to see if it is adequate for an off-road trail.
- Options exist to use low volume town roads for the trail.

Highway 10 Trail (Friendship Trail)(Lake Michigan to Central Wisconsin)

Winnebago Co line to Fremont

- ROW being secured in preparation for this.
- Use paved/striped shoulders to route trail into and out of Fremont.

Fremont to Waupaca

Highway 10 right-of-way

- Future plans call for freeway; present ROW inadequate for trail. May have long term potential if additional ROW is acquired for upgrade to freeway status.

Alternative routing

- Railroad Grade Rd etc. may provide alternative option both short- and long-term.

#### Waupaca to Waupaca Co. line

##### Highway 10 right-of-way

- Future plans call for freeway; present ROW inadequate for trail. May have long term potential if additional ROW is acquired for upgrade to freeway status.

##### Alternative routing

- May need to assess alternate routing options both short- and long-term; once in Portage Co, the trail could access the Stevens Point area via the Tomorrow River State Trail.

#### Tomorrow River State Trail (Plover to Green Bay)

##### Portage Co line to Scandinavia segment – in place

##### Manawa to New London segment

- Next segment to be developed; need a good junction with the WIOUWASH Trail (or New London alternative). Trailhead and support facilities would be desirable at this location.
- Work with Outagamie Co to extend trail eastward to Black Creek and Seymour; linkage to Mosquito Hill desirable.

- The Waupaca County Parks Department should be responsible for maintaining the trail corridor to acceptable standards. In cases involving trail surface, the cooperation of the Waupaca County Highway Department should be sought.
- 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 pursue private funding (bequests, memorials, contributions, etc.) as a way of developing structures and other support facilities.
- 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.

## **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.

## **Other Policy Recommendations:**

### **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 12’ (10’ min.) multi-use paths (serving both bicyclists and pedestrians) 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 to non-existent in most 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.
- Communities are encouraged to 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.
- Communities are encouraged to give priority to installing sidewalks to complete missing gaps between existing sidewalk segments.
- Communities should have clearly defined sidewalk requirements as a component element of their subdivision ordinances.
- Communities are encouraged to make destinations within and radiating from their industrial parks accessible to bicyclists and pedestrians.
- Communities are encouraged to 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:
  - On all state, federal, and county highways prior to encountering roadway segments that are part of the designated county bike route system.
  - On roadway segments where heavy bicycle and pedestrian activity may be encountered.
  - On those roadway segments where inadequate sight distance exists.
- The County should erect 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.

#### 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.

#### Enforcement:

The committee encourages the Waupaca County Sheriff's Department and local police departments to work together to develop a standardized form for reporting crashes involving bicycles and/or pedestrians that can be utilized throughout the county to provide consistent information, particularly as it relates to "typing" crashes. As part of this effort, WisDOT's Office of Highway Safety should be contacted to assist with component entries on the form. A companion recommendation is that the County (or a group such as the Wisconsin Sheriff's Association) should request the State to develop this form as a way to building a database that could be used to enhance safety statewide.

Waupaca County and individual communities should plot the location of future crashes involving bicyclists and/or pedestrians and conduct an investigation to help identify specific problem areas and determine possible solutions to improve the safety of these areas.

Officers from communities with full-time police departments should take a training course in bicycle safety.

Police departments from the county's three larger communities (New London, Waupaca, and Clintonville) should consider the implementation of a bicycle patrol officer program. In addition to providing a presence and quick response times in key locations such as downtown business areas, these officers have been found to be very effective in education and enforcement of both bicycle and pedestrian related laws and safety issues.

### Education:

Encourage schools to form bike clubs with a faculty advisor.

Teach bicycle skills and safety as part of the curriculum at the elementary school level.

### Encouragement:

Include the designated county bike route system (as approved and signed) in the annual Waupaca County Visitor's Guide and update annually.

Develop a route guide that is more user-friendly for bicyclists while they are traveling.

Broaden the distribution of the guide to include chamber groups, municipal offices, police departments, etc.

Encourage school districts to take a more active role in assessing the impacts new facilities have on transportation-related issues. Their independent decision-making often plays havoc with sound land use planning decisions and can adversely create higher infrastructure costs for utilities, roads, etc.

### Utility Corridors:

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.

## **SITE-SPECIFIC RECOMMENDATIONS**

### **Waupaca County Recommended County Trunk Highway Trails**

Exhibit 6 illustrates county trunk highway trail facilities recommended for implementation throughout Waupaca County.

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**EXHIBIT 6**

**WAUPACA COUNTY RECOMMENDED COUNTY TRUNK HIGHWAY TRAILS**

### **Waupaca County Recommended State and Federal Highway Trails**

Exhibit 7 illustrates state and federal highway trail facilities recommended for implementation throughout Waupaca County. A recommended extension of the Tomorrow River State Trail is included, although it does not follow a state or federal highway.

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**EXHIBIT 7**

**WAUPACA COUNTY RECOMMENDED STATE AND FEDERAL HIGHWAY TRAILS**

IMPLEMENTATION

## IMPLEMENTATION

Tables 2 through 4 on the proceeding pages will identify an implementation schedule for the trails and trail segments discussed in this plan. County trunk highway trail implementation should be addressed on an “as opportunity arises” basis, when county trunk highways are considered for reconstruction, expansion, or repair. State and federal trail and trail segment implementation are categorized as:

- Optional (due to various alternatives being considered)
- Short-range (less than 5 years)
- Intermediate (5 to 10 years)
- Long-range (more than 10 years)

It is important to note that implementation is heavily reliant on the availability of sufficient funding and the attainment of right-of-way and/or land. In addition to Federal, State, and County trails, Waupaca County will also support the implementation of locally developed trails, especially those providing connections between communities throughout the County.

TABLE 2

COUNTY TRUNK HIGHWAY TRAIL RECOMMENDATIONS  
IMPLEMENTATION SCHEDULE

COUNTY TRUNK HIGHWAY TRAIL RECOMMENDATIONS	IMPLEMENTATION SCHEDULE *
<i>CTH "E" in the Spencer Lake area</i>	As Opportunity Arises
<i>CTH "X" west of New London</i>	As Opportunity Arises
<i>CTH "H" in the Templeton Bayou area</i>	As Opportunity Arises
<i>CTH "QQ" between STH 54 and STH 22 through King (completed up to Otter Drive)</i>	As Opportunity Arises
<i>Portions of CTH "W" between Readfield and New London</i>	As Opportunity Arises
<i>CTH "J" north of Iola</i>	As Opportunity Arises
<i>CTH "Q" between STH 54 and STH 49</i>	As Opportunity Arises
<i>CTH "F" from Weyauwega to Gills Landing</i>	As Opportunity Arises
<i>CTH "E"/"G" through the Village of Big Falls</i>	As Opportunity Arises
<i>Other county trunks as deemed feasible.</i>	As Opportunity Arises

\* And as funding and ROW/land become available.

TABLE 3

STATE AND FEDERAL HIGHWAY TRAIL (WITHIN R.O.W.) RECOMMENDATIONS  
IMPLEMENTATION SCHEDULE

STATE AND FEDERAL HIGHWAY TRAIL (WITHIN R.O.W.) RECOMMENDATIONS	IMPLEMENTATION SCHEDULE*
<b>Friendship Trail (Highway 10 across Waupaca County)</b>	
<i>Winnebago County line (Winchester) to Fremont</i>	Short range ( Less than 5 years)
<i>Fremont to Waupaca</i>	Long Range (More than 10 years)
<i>Waupaca to Portage County (Amherst); link Tomorrow River State Trail (Amherst)</i>	Long Range (More than 10 years)
<b>Highway 15 - WIOUWASH (Hortonville to New London)</b>	
<b>Highway 45 Trail</b>	
<i>WINNEBAGO COUNTY to New London</i>	Long Range (More than 10 years)
<i>New London to Clintonville (optional location for the WIOUWASH Trail)</i>	Long Range (More than 10 years)
<i>Clintonville to Marion (optional location for WIOUWASH Trail)</i>	Long Range (More than 10 years)
<i>Marion to Shawano County line (Split Rock) (optional location for WIOUWASH Trail)</i>	Long Range (More than 10 years)
<b>Highway 49 (Waupaca to Iola)</b>	
<i>Waupaca to Scandinavia</i>	Intermediate (5 to 10 years)
<i>Scandinavia to Iola</i>	Intermediate (5 to 10 years)

\* And as funding and ROW/land become available.

TABLE 4

STATE AND FEDERAL RECREATIONAL TRAIL (OFF-ROAD) RECOMMENDATIONS  
IMPLEMENTATION SCHEDULE

STATE AND FEDERAL RECREATIONAL TRAIL (OFF-ROAD) RECOMMENDATIONS	IMPLEMENTATION SCHEDULE *
<b>WIOUWASH Trail (Oshkosh to Langlade Co.)</b>	
<i>Hortonville to New London segment (lies in Outagamie County)</i>	Short Range (Less than 5 years)
<i>New London to Clintonville segment</i>	Short Range (Less than 5 years)
<i>Clintonville to Marion segment</i>	Intermediate (5 to 10 years)
<i>Marion to Shawano Co./Split Rock segment (Shawano Co. link)</i>	Short Range/Intermediate (Less than 5 years/5 to 10 years)
<b>Friendship Trail (Highway 10 Trail)(Lake Michigan to Central Wisconsin)</b>	
<i>Winnebago Co. line to Fremont segment</i>	Short Range (Less than 5 years)
<i>Fremont to Waupaca segment</i>	Long Range (More than 10 years)
<i>Waupaca to Portage Co. line/Amherst segment (Tomorrow River link)</i>	Long Range (More than 10 years)
<b>Tomorrow River State Trail (Plover to New London)</b>	
<i>Scandinavia to Manawa segment (to be completed in 2008)</i>	Short Range (Less than 5 years)
<i>Manawa to New London segment</i>	Long Range (More than 10 years)
<b>Newton Blackmour Wildlife Trail - (New London eastward through Outagamie and Brown Co.)</b>	As Opportunity Arises/Short Range (Less than 5 years)
<b>Ice Age Trail - Continue to support local chapter and foundation efforts.</b>	Ongoing

\* And as funding and ROW/land become available.

APPENDICES