



Grant County Bicycle Improvement Plan



SCHREIBER/ANDERSON ASSOCIATES, INC.
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Grant County Bicycle Improvement Plan

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Executive Summary

The purpose of this plan is to create a framework for accommodating bicycles on state, county and town roads, to identify routes between communities and to connect communities with popular tourism destinations. Plan recommendations, if implemented, will increase transportation safety for bicyclists and motorists. Infrastructure improvements such as designated bikeways, bike lanes, paved shoulders and traffic and information signs are among the type of facilities being recommended to improve conditions for bicyclists and motorists alike. Recommendations to educate bicyclists and promote bicycling as a viable mode of transportation are also included.

Recommendations to improve existing travel corridors for bicycling have been derived from planning and design considerations. Some facilities are presently suitable for bicycling and will require little or no improvement. Other corridors may benefit from facility improvements such as paved shoulders, directional signs or increased maintenance. It is further recommended that many of these on-street facilities, or bikeways, be formally designated by signing and/or mapping.

The main recommendations of this plan reflect the plan objective of providing connections between communities and major outdoor destinations and increasing the levels of bicycling within the County.

Key Recommendations to Enhance Bicycling in Grant County

- Improve bicycle safety along the Great River Road corridor by paving the road shoulders.
- Paved shoulders should be included for County Trunk Highways (CTH) identified in the plan when the highway is resurfaced. This is most important on the recommended routes but bike use should always be considered when repaving county highways to determine if a paved shoulder is needed.
- Because of the relatively low annual average daily traffic (AADT), the topography of the county and the traffic speeds, a key recommendation of this plan is to sign popular bike routes with caution signs to raise motorist's awareness of bicyclists on the highway.
- Bridges across the Mississippi and the Wisconsin River are gateways into Grant County. The needs of bicyclists must be considered in the design and maintenance of the bridges and their approaches.
- The final mile of state trunk highway or county trunk highway can be particularly busy approaching or leaving a village or a city. This plan recommends paving the shoulders of the main roads leading out of communities in Grant County to the first major intersection as other road improvements are made.

PART 1- INTRODUCTION

The purposes of this plan include:

- Inventory of existing conditions, including identifying existing bike routes in Grant County
- Listing road improvements to expand bicycling opportunities in the county
- Encouraging commuting and recreational bicycling in Grant County.

Plan recommendations will increase transportation safety for bicyclists and motorists.

Infrastructure improvements such as designated bikeways, bike lanes, paved shoulders, traffic and information signs are among the type of facilities recommended to improve conditions for the non-motoring public. Opportunities to educate bicyclists and promote bicycling as a viable mode of transportation are discussed. Recommendations to improve enforcement and education regarding traffic laws affecting bicyclists and to promote bicycling as a viable mode of transportation are also included. It will be useful to county officials and bicycle advocates to review the plan and its accomplishments each year. Key project objectives are listed below:

Project Objectives

Plan Objectives

1. Recommend a system that serves a variety of user types, ages and abilities.
2. Recommend policies and facilities that will increase user safety, using guidelines derived from the Wisconsin Bicycle Planning Guidance, 1993, the Wisconsin Bicycle Transportation Plan 2020, 1998, the AASHTO Guidelines for Developing Bicycle Facilities, 1999 and The National Bicycling and Walking Study, 1994.
3. Recommend educational procedures that emphasize the rights and responsibilities of motorists and bicyclists.
4. Recommend policies to better accommodate bicyclists on all county roads and rights-of-way.
5. Devise a realistic, yet optimistic, implementation strategy for the county's bicycle system. This strategy shall include a list of possible funding sources, an action plan and a short and long-term capital improvements plan.
6. Provide a map of the existing bikeway system, suitable for use by local commuter and recreational cyclists as well as by visitors to the county.

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Public Input Objectives

1. Work with broad-based community interest groups that will speak effectively for bicyclist and public health interests.
2. Facilitate public participation in the planning process to build consensus and to encourage plan implementation.

System Development Objectives

1. Direct development of facilities toward major destinations, such as large communities, major outdoor recreation destinations, tourist destinations and employment or government centers.
2. Emphasize a system that facilitates travel into and out of Grant County from the surrounding counties and states.
3. Identify key improvements to state, county and town roads that will complete loop routes or provide alternatives to county or state highway travel.

This plan is designed to be consistent with community and regional planning efforts. The Wisconsin Bicycle Map and the Wisconsin Bicycle Transportation Plan provided a framework for the preparation of Grant County's Bicycle Improvement Plan. These plans encourage the development of neighborhood, community and county level plans such as this one.

Why is this Plan Important?

Before the 1900's, bicycling and walking were common modes of transportation in the United States. Transportation infrastructure and land use patterns reflected the need to accommodate these travel modes. Compact communities allowed people to walk to most destinations. Interestingly, early American urban roads were originally paved to help bicyclists get around. As the pace of the American lifestyle quickened and automobiles were made affordable to a large portion of the population, bicycling and walking gradually dropped in priority as a mode of transportation. Since the late 1940's, motor vehicles have become the predominant influence on transportation and land use patterns. The convenience and flexibility of the automobile are easily recognized; however automobiles are not the most efficient modes of travel for some types of trips. The benefits of alternative modes of travel such as bicycling are particularly significant for short urban trips. The arguments for encouraging these modes of travel are both functional and philosophical:

Grant County Bicycle Improvement Plan

Rod Roggensack	Public Member		Marty Dawson	Public Member
Jerry Wehrle	Lancaster		Angie Freed	Lancaster Chamber of Commerce
Linda Parrish	Fennimore Chamber of Commerce		Karen Knox	Public Member
Tim Filbert	UW-Extension, Grant County (Project Coordinator)		Ken Lucht	Southwest Regional Planning Commission
Tom Schirz	Fennimore			

PART 2 - PLANNING PROCESS

The planning process began with the formation of an approach and objectives that were the basis for evaluating and guiding the overall plan. Plan objectives were refined through the planning process to suit the local conditions as determined by inventory and analysis of existing data. Inventories of conditions included historical data, field observations (conducted by driving most and bicycling some of the corridors), research of County planning documents and meetings with the public and government agency staff. Planning and design criteria derived from Wisconsin Bicycle Planning Guidelines, AASHTO Guidelines for Developing Bicycle Facilities and The National Bicycling and Walking Study were used as general analysis criteria. Following the analysis of planning considerations, county staff, the steering committee and the public reviewed the interim plan.

Inventory and Analysis

Inventory and analysis of factors affecting bicycle transportation include landscape character, population and transportation patterns, existing bicycle facilities, destination identification and census and accident data.

Landscape Character

Grant County is located in the southwest corner of Wisconsin. It is geographically one of the largest counties in the state. It is also one of the most rural, with a 1990 population of 49,622. 47% of the population live within six communities - the town of Jamestown and the cities of Platteville, Lancaster, Boscobel, Fennimore and Cuba City. Distance between destinations is Grant County's greatest challenges to providing viable bicycle transportation. The County enjoys

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a rural character that provides a beautiful setting but does not allow many rural residents to live within bicycling distance of daily destinations such as schools, libraries, shopping facilities and local parks.

The second greatest challenge is topographic. The topographic challenge of a county untouched by glaciers is apparent to motorists and non-motorists alike. The hills and bluffs that cover the county and give it its unmistakable character also challenge cyclists to steep long climbs and speedy descents. Also, the hilly nature of the county means the road right of ways are often narrow and this makes adding paved shoulders to roadsides more difficult.

The rural nature of the county brings with it increased farm-related traffic. Tractors and trucks pulling wagons typically use the shoulder and extreme right hand side of the road. Improving the shoulder can reduce maintenance and increase the safety for farmers and motorists.

Despite the distances and the topography, residents do commute to work and school in Grant County via bicycle and both locals and visitors enjoy the opportunity to bike the beautiful and lightly traveled country roads. The County is already a popular place to bicycle and improvements to the bicycle transportation system can only help to moderate some of these challenges.

Main Highway Transportation Corridors

Several main highways serve Grant County. These state and US highways generally have paved shoulders and wide traffic lanes but carry high volumes of traffic at speeds of 45 miles per hour and higher. While these highways carry high traffic volumes, they also provide direct routes to important destinations within the county and bicycle accommodations should be considered.

USH 151 from Platteville to Dubuque

USH 18 is an east/west route between Montfort to Prairie du Chien

USH 61 is a north/south route across the entire length of the county (Dubuque to Boscobel)

STH 80 is a north/south route along the eastern edge of the county (Hazel Green to Highland)

STH 35, from the southwest corner of the county north to Patch Grove and the Wisconsin River

STH 81 runs between Cassville, Lancaster and Platteville

STH 133 is a north/south route that follows the Mississippi and Wisconsin River corridor closely and forms part of the Great River Road (Potosi to Muscoda)

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The northern boundary of the county is formed by the Wisconsin River and the western boundary is formed by the Mississippi River, therefore bridges into and out of the county could be impediments to bicycle travel unless allowances are made for bikes. The design and maintenance of the bridges should consider bicycle accommodations.

USH 151 crosses the Mississippi in the extreme southwest corner of the state, near Dubuque
The Cassville Ferry provides a crossing of the Mississippi seasonally in Cassville

STH 80 crosses the Wisconsin near Muscoda

CTH T crosses the Wisconsin near Blue River

USH 61 crosses the Wisconsin near Boscobel

USH 18 crosses the Wisconsin near Bridgeport

Existing Bicycling Conditions

The existing bicycle facilities map found in the back cover pocket was created using information from the Wisconsin Bicycle Map and information gathered from local bicyclists, touring by bike and car and discussions with local road authorities.

The Wisconsin Bike Map indicates most county highways in Grant County offer “best conditions” to “moderate conditions” for bicycling. The few county highway exceptions, categorized as “High Volume; Undesirable Conditions” are listed below:

CTH H from Cuba City to CTH Z

CTH B from Platteville to Whig Rd

CTH B from West Rd to USH 61

CTH F from CTH E in Stitzer to USH 18 near Fennimore

Two state trunk highways currently offer good bike conditions. New pavement along STH 133 from Dickeyville to CTH N provides a wide paved shoulder to accommodate bikes. STH 81 northeast of Cassville was also recently reconstructed with paved shoulders. These paved shoulders not only provide needed width for touring and commuting bicyclists, but reduce maintenance and increase the safety for all highway users (WisDOT Facilities Development Manual, 11-45-10).

Very popular roads with local bicyclists include CTH B and CTH O just west of Platteville, Old Potosi or Stage Road from Potosi to Lancaster, Green River Road from CTH K to STH 61 and Old CTH C from Blue River to Boscobel.

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Despite the fact that most state trunk and US highways have paved shoulders, high traffic volumes and speed cause most in the county to be categorized as “High Volume; Undesirable Conditions” on the Wisconsin State Bicycle Map.

Census Data

Census data is included to demonstrate that there currently are commuter bicyclists in Grant County. 0.3% is a small percentage but keep in mind that the census is taken in March of the year, which does not always offer the best weather for bicycling. It is interesting to note that 33.5% of the population has less than 10 minutes travel time to work. This is the population segment that has the greatest potential to increase bicycle use for commuting purposes.

Table 1: Census Data

1990 Bureau of Census Data	United States	Wisconsin	Grant County
Means of Travel to Work			
Total Population 16 and Over	110,507,274	2,349,691	22,875
Drove Alone	84,215,298 73.2%	1,750,791 78.3%	14,146 61.8%
Bicycled	466,856 0.4%	11,802 0.5%	61 0.3%
Walked	4,488,886 3.9%	130,132 5.8%	2,475 10.8%
Travel Time to Work			
< 5 Minutes	NA	130,968 5.9%	2641 11.5%
< 10 Minutes	18,257,921 15.9%	517,076 22.0%	5089 22.2%

Crash Data

From 1993 to 1999 there were 41 bicycle crashes reported in Grant County. It is commonly believed that only 1/2 of all bicycle or pedestrian accidents are reported to police, therefore this table created from WisDOT data does not represent an accurate count of these accident types. As one might expect, the crashes are clustered around the densely populated areas of Grant County. Platteville, with a larger population than all other Grant County communities and a higher number of bicyclists and pedestrians due to the university, had the highest number of crashes during the reporting period. The City of Platteville is large enough to justify a city bicycle/pedestrian plan of its own. The cities of Lancaster, Fennimore and Boscobel might consider completing a joint plan that would address detailed bike routes in each city. The cities of Platteville, Lancaster, Fennimore and Boscobel account for the majority of the bike/ped related crashes in Grant County. (See map)

Grant County Bicycle Improvement Plan

Table 2: Grant County Bicycle and Pedestrian Crash Data

Year	Travel Mode	No.
1994	Bicycle	8
	Pedestrian	17
1995	Bicycle	8
	Pedestrian	9
1996	Bicycle	4
	Pedestrian	9
1997	Bicycle	12
	Pedestrian	6
1998	Bicycle	5
	Pedestrian	11
1999	Bicycle	4
	Pedestrian	7

Public Input

Informal user surveys undertaken as part of this study included discussions with local residents during various public meetings and interviews with city, state and county government officials.

Bicycle transportation issues that concern residents of Grant County are as follows:

- Increasing educational activities for motorists and bicyclists
- Providing safe facilities that encourage the use of bicycles as a transportation mode
- Providing facilities that are attractive to recreational users from inside and outside of Grant County
- Providing route signage to guide bicyclists along rural highways and to local highlights and services in cities and villages
- Providing "family friendly route" identification to help novice riders identify shorter, less hilly routes
- Connecting Platteville to the Pecatonica State Trail
- Accommodating bikes on the various major bridge crossings
- Improving linkages, and identifying alternative routes along the Great River Road, the Lower Wisconsin Riverway and to Wyalusing State Park

Use Patterns

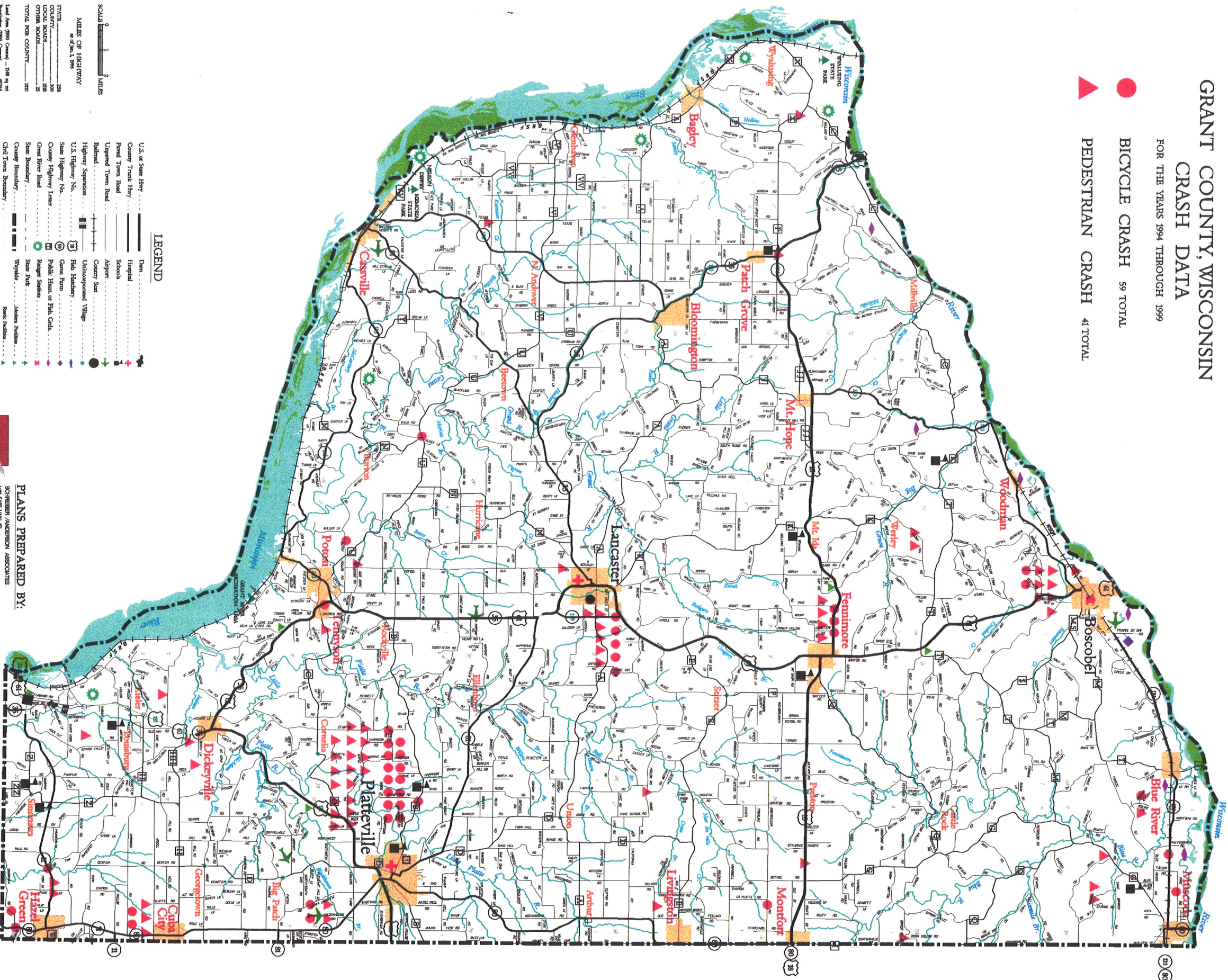
Bicyclists use all urban streets and rural roads, with the possible exception of expressways and freeways, at one time or another. To the greatest extent possible, all highways must "serve as the base system to provide for the travel needs of bicyclists" (AASHTO, 1991). This plan outlines policy recommendations intended to improve the safety of the county roads. Recommendations for designated facilities will be limited to corridors that serve the major county-wide destinations and these include communities, major outdoor recreation areas and government or employment centers. The intent of this section is to identify the primary corridors that will be used for

GRANT COUNTY, WISCONSIN CRASH DATA

FOR THE YEARS 1994 THROUGH 1999

● BICYCLE CRASH 59 TOTAL

▲ PEDESTRIAN CRASH 41 TOTAL



LEGEND

- U.S. or State Hwy
- County Trunk Hwy
- Parad Town Road
- Unimproved Town Road
- Railroad
- Highway Separation
- U.S. Highway No.
- State Highway No.
- County Highway Letter
- Great River Road
- State Boundary
- County Boundary
- Chil Town Boundary
- Section Line
- Dam
- Hospital
- Schools
- Airport
- County Seat
- Unincorporated Village
- Fish Hatchery
- Game Farm
- Public Hunt or Fish Club
- Ranger Station
- State Park
- Wisconsin Wildlife
- Public Camp & Picnic Area
- Public Camp & Picnic Area
- Public Camp & Picnic Area

SCALE 1" = 1 MILE

MILES OF HIGHWAY

STATION

COUNTY

LOCAL ROAD

OTHER ROAD

TOTAL FOR COUNTY

Land Area (1990 Census) - 148 sq mi

Population (1990 Census) - 19,544

County Seat - Lancaster

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Map compiled from 1:25,000 Quadmaps

100,000 Series

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bicycling. Perhaps the best indicator of use patterns for bicyclists is the existing transportation system. Generally, motorized and non-motorized transportation users share similar origins and destinations - merely using different modes to accomplish their goal of arriving at a destination safely and efficiently. The arterial and collector roads that effectively deliver many motorists also provide the most direct and continuous routes that serve many bicyclists. These systems, however, are not always designed to accommodate the special needs of the average bicyclist. When roadway conditions are unsuitable for bicyclists, infrastructure design treatments may be used to improve the roadway, or an alternative corridor may be selected.

Potential use patterns are not always reflected by the existing transportation system, but can be estimated by locating trip generators (origins and destinations) and projecting areas of population growth and future land use patterns.

Generally speaking, people are less willing to commute to work by bicycling and walking if the travel time is more than 20 minutes. Directness of the route, physical condition of the bicyclist, number of stops and availability and proximity of parking facilities will affect how far one is able to travel in 20 minutes. The average adult cyclist commonly travels 3 to 4 miles in 20 minutes (Appendix A provides an overview of trip length and other characteristics for different types of bicyclists). From a bicyclist's standpoint, this 3-4 mile trip defines the service area of each destination and helps to define commuting use patterns. Recreational riders will ride much farther in a day - trips of 30 to 40 miles are not unusual and tours of 80 to 100 miles are offered regularly during the biking season in Wisconsin. Fitness riders and bike racers will travel 30 to 50 miles in a typical training ride.

At the regional level, other communities and major recreational destinations are the prime trip generators. This plan will analyze the benefits of improved connections to Wyalusing State Park, Governor Nelson Dewey State Park, Sinsinawa Mound, Stonefield Village, Dubuque and Prairie Du Chien.

Significant Findings

The rural nature of the county leads to long trip distances, most likely too long for the majority of rural commuters. However, census data indicates many residents live less than 10 minutes from work, which is a "bikable" distance.

Providing less challenging loops for families where possible may lessen topographic challenges faced by bicyclists.

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Due to heavy average daily traffic counts near cities and villages, paving the county highway shoulders to the first town road or county trunk highway out of town should be considered. Signing for local destinations (school, courthouse, shopping), would be helpful to visitors as well.

Connections between each community and between communities and major outdoor recreation areas should be provided to serve local riders and visitors to the county.

PART 3 – PLAN RECOMMENDATIONS AND IMPLEMENTATION

Corridor Evaluations and Facility Improvements

The design considerations listed across the top of Table 3 were used to evaluate selected corridors, recommend design treatments (facility recommendations, Column 11) and prioritize travel corridors for improvements.

A “Yes” in Column 4 indicates that the Annual Average Daily Traffic (AADT) exceeds 1,000 cars per day. The motor vehicle AADT, traffic speed and traffic mix affect the safety and therefore the suitability, of corridors for bicycling and walking. These factors may affect individuals differently depending on their level of experience and personal preference. Appendix A provides several general characteristics of different types of users that help to analyze the suitability or desirability of travel corridors for different people. Three types of bicycle users are generally recognized: the experienced adult cyclist, the average adult cyclist and the child cyclist. This plan, like the state and national guidelines, recommends facilities designed for the average adult cyclists. The Wisconsin Bicycle Transportation Plan 2020 recommends that any intercity or rural roadway with a AADT of greater than 1,000 should provide paved shoulders when the roadways are reconstructed. There are a number of Grant County Highways currently carrying traffic volumes of 1,000 or more.

Column 5 indicates if paved shoulders are present on the stretch of road in question, “yes” indicates the shoulders are paved. Paved shoulders are usually a minimum width of 3 feet but are sometimes as much as 6 feet.

Column 6 indicates if the stretch of highway contains a bridge that connects Grant County to surrounding counties and states. Bridges across the Mississippi and the Wisconsin are considered in this table as well as roads that lead directly to the bridges.

Column 7 indicates if a road segment was specifically mentioned in public discussion or by county officials. It is also noted if the road segment is part of one of the three bicycle tours that traveled through Grant County during the summer of 2000.

GRANT COUNTY, WISCONSIN
COMPILED BICYCLE FACILITY
IMPROVEMENT RECOMMENDATIONS

WISCONSIN BICYCLE TRANSPORTATION PLAN 2020

PRIORITY CORRIDORS AND KEY LINKAGES

RECOMMENDED IMPROVEMENTS FROM GREAT
RIVER ROAD CORRIDOR PLAN DRAFT 12/1999

COUNTY ROADS WITH ADT > 1,000

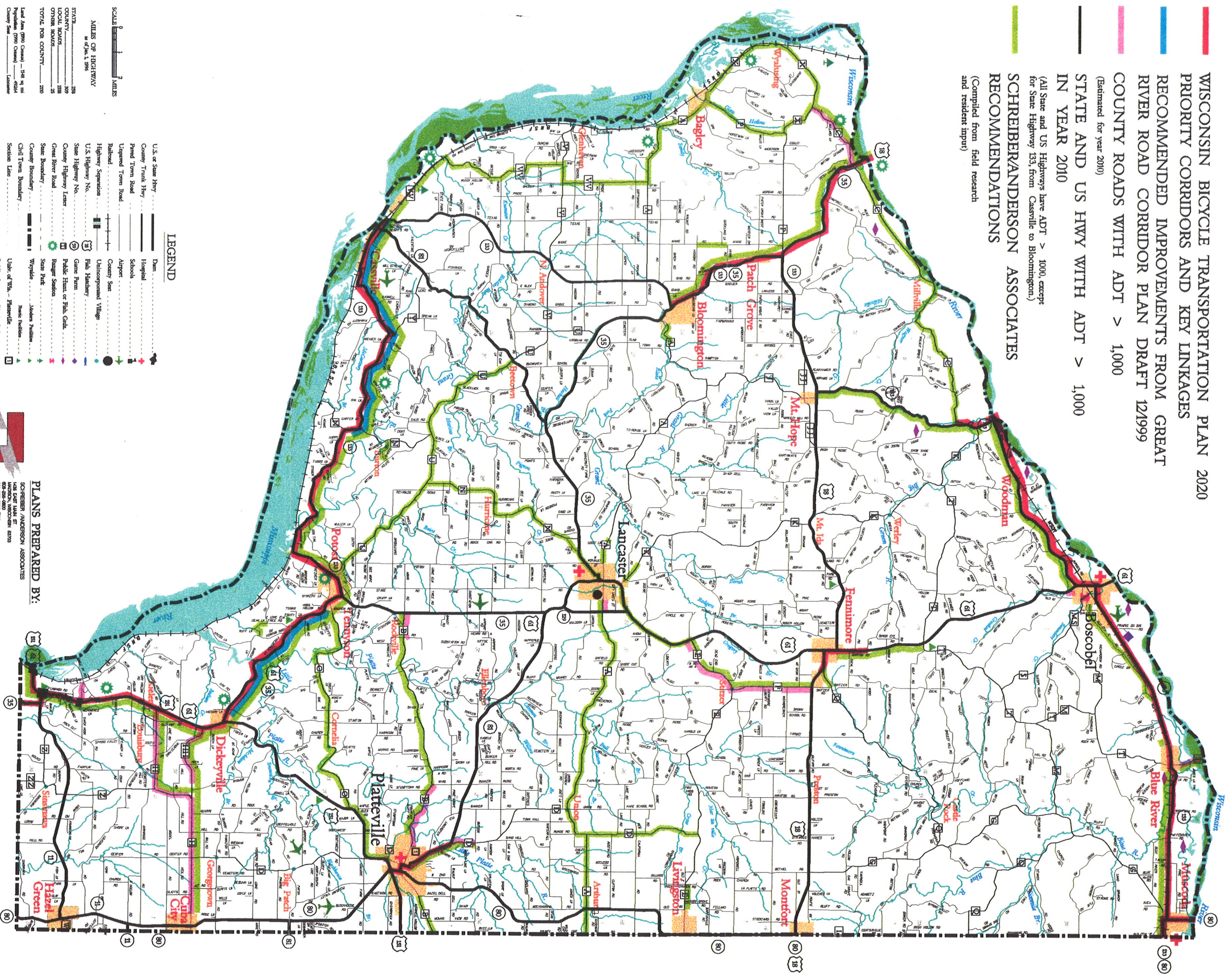
(Estimated for year 2010)

STATE AND US HWY WITH ADT > 1,000
IN YEAR 2010

(All State and US Highways have ADT > 1000, except for State Highway 133, from Cassville to Bloomington.)

SCHREIBER/ANDERSON ASSOCIATES
RECOMMENDATIONS

(Compiled from field research
and resident input)



Corrected for January 1999
Data compiled from U.S.G.S. Quadrangles
1:250,000 Series

U.S. or State Hwy.

County Trunk Hwy.

Paved Town Road

Unpaved Town Road

Railroad

Highway Separation

U.S. Highway No.

State Highway No.

County Highway

Green River Road

State Boundary

County Boundary

Civil Town Boundary

Section Line

Dam

Hospital

School

Airport

County Seat

Unincorporated Village

Rail, Haulway

Game Farm

Public Hatch or Park, Outpost

State Park

Wildlife

Modern Pasture

Game Reserves

Univ. or Wm., Private

Public Camp & Public Gnd.

Please contact the Department of Natural Resources

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The Wisconsin Bike Map assessment result for each corridor is provided in Column 8. A letter designation has been assigned to indicate the assessment:

- A: Best Conditions for Bicycling
- B: Moderate Conditions for Bicycling
- C: Highways with Wider Paved Shoulders with Higher Volumes
- D: High Volume: Undesirable Conditions
- E: Town Road, Not Assessed by the Wisconsin Bike Map Project

Column 9 and 10 summarize a review of the December 1999 Draft of Wisconsin's Great River Road Corridor Bikeway Plan and the 1998 Wisconsin Bike Transportation Plan 2020 respectively. If a recommendation was made in either plan for the specific segment of road being discussed, the recommendation is summarized here.

Column 11 provides the recommended improvement for each road segment. Column 12 lists the planned improvements for state trunk highways. This information is from the Wisconsin Department of Transportation March 1999 *2000 – 2005 Six Year Highway Improvement Program*.

This table provides an overview of all factors taken into consideration while making recommendations for improvements to highway corridors in Grant County and the recommendations themselves. Tier One or top priority projects are listed in bold type, while Tier Two projects are listed in regular type.

Since bicyclists will use all of the roads in Grant County at some time, recommendations have been made regarding improvements to state trunk highways, county trunk highways and town roads. Most town roads are currently well suited for bicycle use due to low traffic volumes, although many are not paved. As such, the report only suggests improvements to a couple of town roads that play a key role in making connections along the Mississippi River to provide bicyclists with an alternative route to STH 133.

Project Priorities

Implementation priorities were established for Grant County after considering the factors that affect bicycling safety and facility costs. The projects have been divided into Tier One projects (those indicated by the double underline) and Tier Two projects (those with a single line). Some corridors were considered for improvements but are considered bike compatible and therefore, no improvements were recommended at this time. The following criteria were considered in prioritizing the projects:

- Mitigates an existing safety problem
- Facilities that will provide the most immediate benefit

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- Serves a known population of bicyclists, such as a local popular route, or a large tour route
- Corridor is part of the Great River Route or the Lower Wisconsin Riverway routes (The Great River Road is part of the National Scenic Byways program and a Millennium Trail. Because of this status, federal grant money is available to make improvements to this corridor.)
- Corridor is near a large population base, (this applies mostly to Platteville)

All other recommended projects are Tier Two projects.

Facility Improvements Defined

Recommendations to improve existing travel corridors for bicycling are derived from planning and design considerations. Some corridors within the County are presently suitable for bicycling and require little or no improvement to the pavement, signing is desired. Other corridors require facility improvements such as paved shoulders, widened curb lanes, or bike paths to provide a safe and attractive infrastructure for bicyclists. It is further recommended that many of these on-street facilities or bikeways be formally designated by signing and/or mapping.

Paved Shoulders

There are many ways to improve a road to enhance bicycle transportation; one of the most popular methods for rural highways is to pave the shoulder. The proper width of the paved shoulders varies depending on the type of highway, the amount of daily automobile traffic and the amount of expected bicycle traffic. When shoulder bikeways are provided on four-lane divided expressways, the paved shoulder width should be 10 feet. On rural two lane state trunk highways with less than 1,000 ADT, no paved shoulder for bike use is necessary. For rural two lane state trunk highways with an ADT of over 1,000, WDOT recommends a 5 foot wide paved shoulder. WDOT also recommends a 5 foot wide paved shoulder for all roads designated as part of the Great River Road system. When paved shoulder bikeways are located on county trunk highways or town roads, the paved width, if any, should be determined by the local government. This plan recommends a 4 foot wide paved shoulder for all county trunk highways with an ADT over 1,000. In addition, paved shoulders are recommended in certain special circumstances such as approaches to cities or villages.

Signing

Only currently suitably designed bikeways should be signed as "bike routes." Segments of the proposed system that require improvements should not be designated with signs or mapping until improvements are complete. It is recommended that all suitable bikeways in the County be eventually mapped and signed. Signage should follow the Manual of Uniform Traffic Control Devices.

Grant County Bicycle Improvement Plan

Signing systems for bicycle transportation include basic "route" signs and pavement markings. The design, placement, operation and maintenance of these systems should be developed according to the Manual of Uniform Traffic Control Devices, 1988 (MUTCD). Standard bicycle route markers should be used on all designated bikeways and designated shared facilities. On bikeways serving visitors, the signing systems should incorporate directional information such as direction, location and distance.

In addition to signing, the County should publish maps of current biking conditions. Maps should be made available at locations such as convenience stores, motels and bed and breakfasts, visitor information centers and public libraries. As part of this project a Grant County Bicycle map has been provided for publication and distribution.

Pavement Markings

Pavement markings should be used to designate bicycle lanes and delineate paved shoulders from the travel lane. The pavement markings may give the motorists the feeling of a narrower traffic lane and may slow traffic speeds. Because these pavement markings indicate restricted and shared rights-of-way they must be consistent with all traffic patterns. Refer to the following sources for designing specific pavement marking systems:

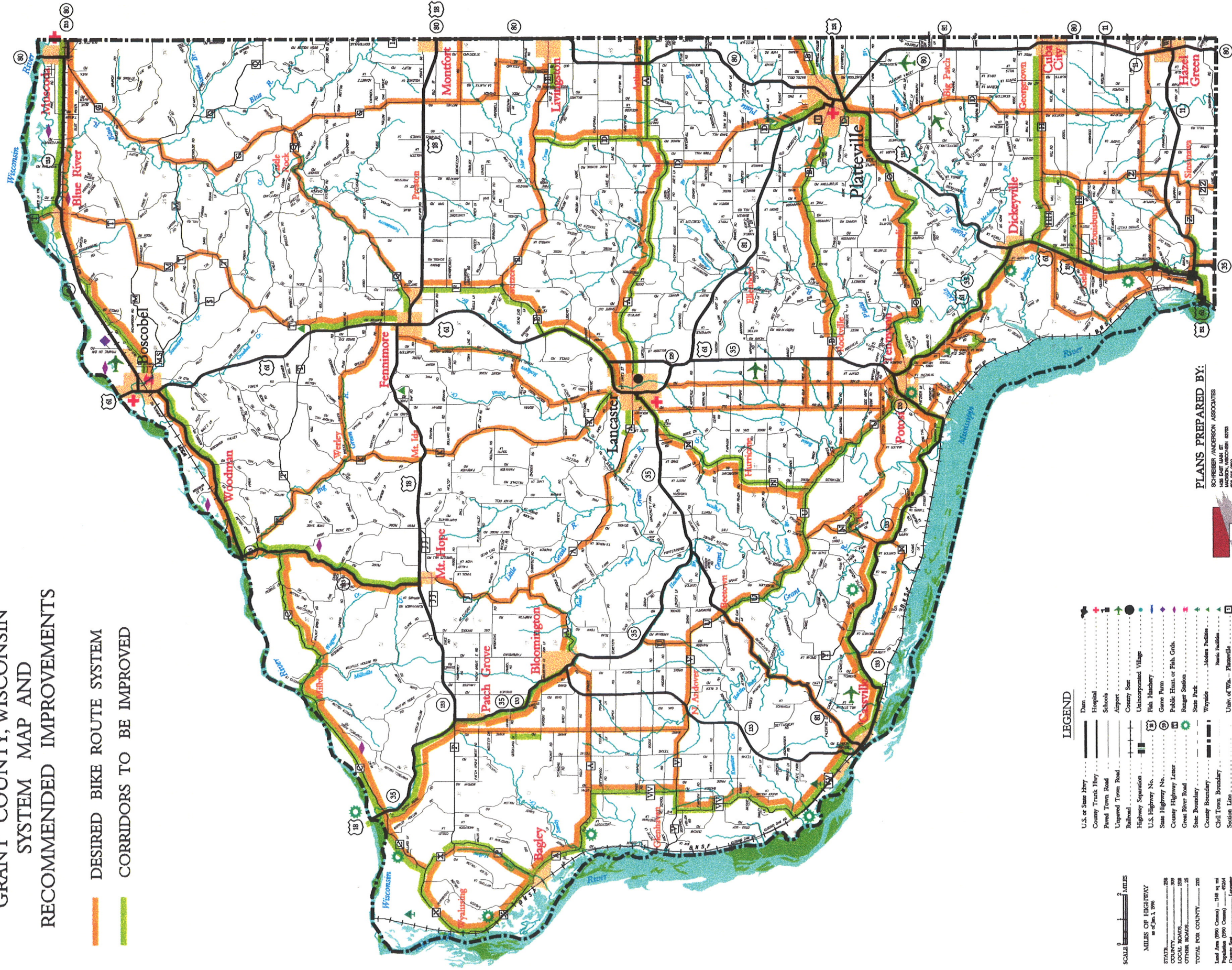
- Manual of Uniform Traffic Control Devices (MUTCD)
- Wisconsin DOT Facilities Development Manual (FDM)

Bicycle Road Hazard Identification Program

This plan recommends that Grant County consider implementing a Bicycle Road Hazard Identification Program. This program is designed to increase bicycle safety and enjoyment through the identification and repair of road conditions that are hazardous to bicyclists. Communities voluntarily implement the program as a benefit to their citizens. The program works by allowing bicyclists, employees involved with roadwork in some capacity, other state/county/local employees (such as police officers) and or concerned citizens to report road conditions that are hazardous to bicyclists. The hazards are reported to participating municipalities for inclusion in the local maintenance program. The implementation of the bike hazard identification program does not mean that a municipality is responsible for fixing all hazards immediately. A plan to repair hazards can be developed within a capital improvement budget and/or maintenance budget.

GRANT COUNTY, WISCONSIN
SYSTEM MAP AND
RECOMMENDED IMPROVEMENTS

- DESIRED BIKE ROUTE SYSTEM
— CORRIDORS TO BE IMPROVED



LEGEND

- U.S. or State Hwy
County Trunk Hwy
Paved Town Road
Unpaved Town Road
Railroad
Highway Separation
U.S. Highway No.
State Highway No.
County Highway Letter
Great River Road
State Boundary
County Boundary
Civil Town Boundary
Section Line
- Dam
Hospital
Schools
Airport
County Seat
Unincorporated Village
Fish Hatchery
Game Farm
Public House or Fish Crk.
Ranger Station
State Park
Wildlife
Modern Facilities
Basic Facilities
Univ. of Wis. - Platteville
Public Camp & Picnic Grd.

SCALE 0 1 2 MILES

MILES OF HIGHWAY
as of Jan. 1, 1996

STATE..... 258
COUNTY..... 309
LOCAL ROADS..... 898
OTHER ROADS..... 25
TOTAL FOR COUNTY..... 210

Land Area (1990 Census)..... 146 sq. mi.
Population (1990 Census)..... 49,044
County Seat..... Lancaster

Compiled by January 1999
Data compiled from U.S.G.S. Quadangles
1:50,000 Series



PLANS PREPARED BY:

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CIVIL ENGINEERS

Corridor Evaluation and Facility Improvement Recommendations

Project Number	Highway or Road Name	Segment	AADT > 1,000	Paved Shoulders	Bridge Connection	Public Input	Wis. Bicycle Map Assessment	Great River Road Report Recommendation	Wisconsin Bike Transportation Plan 2020	Grant County Bicycle Improvement Plan Facility Recommendations	DOT Scheduled Improvements
1	CTH A	Bloomington to Slab Town Rd.	No	No	N/A	Popular Route	A	N/A	No Recommendation	4' paved shoulders	Not Applicable
2	CTH A	Slab Town Rd. to Lucey Lane	No	No	N/A	Popular Route	A	N/A	No Recommendation	No improvements recommended	Not Applicable
3	CTH A	Lucey Lane to Lancaster	No	No	N/A	Popular Route	B	N/A	No Recommendation	4' paved shoulders	Not Applicable
4	CTH A	STH 133 to Texas Road	No	No	N/A	No Comment	B	N/A	No Recommendation	No improvements recommended	Not Applicable
5	CTH A	Texas Road to CTH VV	No	No	N/A	No Comment	A	N/A	No Recommendation	No improvements recommended	Not Applicable
6	<u>CTH A</u>	<u>CTH VV to Dugway Rd</u>	No	No	N/A	Popular Route	A	No Recommendations	Potential Local Bicycle Route Connections	5' paved shoulders, sign GRR/Bike Route	Not Applicable
7	<u>CTH A</u>	<u>Dugway Rd to Bagley</u>	No	No	N/A	Popular Route	B	No Recommendations	Potential Local Bicycle Route Connections	5' paved shoulders, sign GRR/Bike Route	Not Applicable
8	<u>CTH A</u>	<u>Lancaster to Eastern Co. Line</u>	No	No	N/A	Large Tour Route	A	N/A	No Recommendations	4' paved shoulders	Not Applicable
9	CTH B	Platteville to Eastern Co. Line	No	No	N/A	No Comment	A	N/A	Potential Local Bicycle Route Connection	3' paved shoulders	Not Applicable
10	<u>CTH B</u>	<u>Platteville to Whig Rd.</u>	Yes	No	N/A	Popular Route	D	N/A	No Recommendation	4' paved shoulders, install "Caution Bikes" sign	Not Applicable
11	<u>CTH B</u>	<u>Whig Rd to West Rd.</u>	No	No	N/A	Popular Route	A	N/A	No Recommendation	4 paved shoulders, install "Caution Bikes" sign	Not Applicable
12	<u>CTH B</u>	<u>West Rd to USH 61</u>	Yes	No	N/A	Popular Route	D	N/A	No Recommendation	4' paved shoulders, install "Caution Bikes" sign	Not Applicable
13	<u>CTH C</u>	<u>CTH X to USH 18, STH 35</u>	Yes	No	USH 18 Bridge	Popular Route	A	No Recommendation	Potential Local Bicycle Route Connection	Caution signs; topography makes paved shoulders difficult	Not Applicable
14	<u>CTH C</u>	<u>USH 18 to STH 133</u>	No	No	USH 18 Bridge	Large Tour Route	A	N/A	Potential Local Bicycle Route Connection	Caution signs; topography makes paved shoulders difficult	Not Applicable
15	CTH D	CTH A to CTH E	No	No	N/A	Large Tour Route	A	N/A	No Recommendation	No improvements recommended	Not Applicable

Note: Double underline indicates a priority project.

Wisconsin Bike Map Key:
A: Best Conditions for Bicycling
B: Moderate Conditions for Bicycling
C: Highways with Wider Paved Shoulders with Higher Volumes
D: High Volume: Undesirable Conditions
E: Town Road

Corridor Evaluation and Facility Improvement Recommendations

Project Number	Highway or Road Name	Segment	AADT > 1,000	Paved Shoulders	Bridge Connection	Public Input	Wis. Bicycle Map Assessment	Great River Road Report Recommendation	Wisconsin Bike Transportation Plan 2020	Grant County Bicycle Enhancement Plan Facility Recommendations	DOT Scheduled Improvements
16	CTH D	STH 81 to Butson Rd.	Yes	No	N/A	Popular Route	A	N/A	No Recommendation	4' paved shoulders	Not Applicable
17	CTH D	College Farm to CTH H	No	No	N/A	No Comment	A	N/A	Potential Local Bicycle Route Connections	4' paved shoulders	Not Applicable
18	CTH E	Livingston to Rock Church Rd.	No	No	N/A	No Comment	A	N/A	No Recommendation	4' paved shoulders	Not Applicable
19	CTH E	Rock Church Rd to Pine Knob Rd	No	No	N/A	No Comment	A	N/A	No Recommendation	No improvements recommended	Not Applicable
20	CTH E	Pine Knob Rd to CTH F	No	No	N/A	No Comment	B	N/A	No Recommendation	No improvements recommended	Not Applicable
21	CTH E	CTH F to STH 61	Yes	No	N/A	Popular Route	B	N/A	No Recommendations	4' paved shoulders	Not Applicable
22	CTH F	CTH E to USH 18	Yes	No	N/A	Popular Route	D	N/A	No Recommendations	4' paved shoulders	Not Applicable
23	CTH G	CTH Q to Muscoda	No	No	N/A	No Comment	A	N/A	Potential Local Bicycle Route Connections	4' paved Shoulders	Not Applicable
24	CTH H	CTH Z to Cuba City	Yes	No	N/A	Important Connection	D	N/A	No Recommendation	4' paved Shoulders	Not Applicable
25	CTH H	USH 51/USH 61 to CTH Z	Yes	No	N/A	Important Connection	B	N/A	No Recommendation	4' paved Shoulders	Not Applicable
26	CTH HH	CTH H to Dickeyville	Yes	No	N/A	Important Connection	B	N/A	No Recommendation	4' paved shoulders	Not Applicable
27	CTH K	Lancaster to Knob Rd	No	No	N/A	Popular Route	B	N/A	No Recommendations	4' paved Shoulders	Not Applicable
28	CTH N	CTH U to STH 35	No	No	N/A	Large Tour Route	A	N/A	No Recommendation	Caution Bikes Signs	Not Applicable
29	CTH O	USH 151 to Tennyson	No	No	N/A	Popular Route	A	N/A	Potential Local Bicycle Route Connections	4' paved shoulders	Not Applicable
30	CTH P	Bagley to CTH X	No	No	N/A	Popular Route	A	N/A	Potential Local Bicycle Route Connections	Bike Route, Caution Sign	Not Applicable
31	CTH Q	Fennimore to Switzer Road	No	No	N/A	No Comment	A	N/A	No Recommendations	4' paved shoulders	Not Applicable
32	CTH Q	Switzer Road to CTH G	No	No	N/A	Very Popular Local Route	A	N/A	No Recommendations	"Caution Bike" Signs	Not Applicable
33	CTH Q	E. County Line to CTH G	No	No	N/A	No Comment	A	N/A	Potential Local Bicycle Route Connctions	4' paved shoulders	Not Applicable

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Corridor Evaluation and Facility Improvement Recommendations

Project Number	Highway or Road Name	Segment	AADT > 1,000	Paved Shoulders	Bridge Connection	Public Input	Wis. Bicycle Map Assessment	Great River Road Report Recommendation	Wisconsin Bike Transportation Plan 2020	Grant County Bicycle Enhancement Plan Facility Recommendations	DOT Scheduled Improvements
34	CTH T	Blue River to Richland Co.	Yes	No	Crosses the Wisconsin	No Comment	D	N/A	No Recommendation	Accommodate bikes when bridge is reconstructed, meanwhile sweep bridge regularly	Not Applicable
35	CTH U	Beetown to CTH N	No	No	N/A	Large Tour Route	A	N/A	No Recommendation	Caution Bikes Signs	
36	CTH U	CTH N to Potosi	No	No	N/A	Popular Route	A	N/A	No Recommendation	No improvements recommended	Not Applicable
37	CTH VV	Cassville to CTH A	No	No	N/A	Popular Route	A	No Recommendations	Potential Local Bicycle Route Connections	Caution Bikes Signs, GGR Bike Route Signs	Not Applicable
38	CTH X	Bagley to CTH P	No	No	N/A	Popular Route	A	No Recommendations	Potential Local Bicycle Route Connections	Caution Bikes Signs, GGR Bike Route Signs	Not Applicable
39	STH 11	From CTH Z to STH 35	Yes	No	N/A	Necessary Connection	D	No Recommendations	No Recommendations	Caution Bike Signs, 5' paved shoulders	None
40	STH 35/133	Bloomington to Patch Grove	Yes	No	USH 18 Bridge	No Comment	D	N/A	Priority Linkage	4' paved shoulders	None
41	STH 133	Muscoda to Blue River	Yes	No	STH 80 Bridge	Large Tour Route	D	N/A	Priority Linkage	4' paved shoulders	Recondition roadway by widening pavement to 24' and shoulders to 6'
42	STH 133	Blue River to Boscobel	Yes	No	USH 61 Bridge and CTH T Bridge	Large Tour Route	D	N/A	Priority Linkage	4' paved shoulders	Recondition roadway and replace the bridges. New pavement to be 24', shoulders to be 6' with 3' paved.
43	STH 133	Boscobel to CTH C	Yes	No	N/A	Popular Route	B	N/A	Priority Linkage	4' paved shoulders	Recondition roadway to provide 24' wide pavement with minimum 6' shoulder. Replace structure B.22.20. Mill and overlay. Pave 3' of shoulder.
44	STH 133	CTH C to Mt. Hope	Yes	No	N/A	No Comment	B	N/A	No Recommendations	4' paved shoulders	None
45	STH 133	Cassville to Chaffee Hollow Rd	Yes	No	Connection to Ferry	Popular Route	D	Improvement Recommended	Priority Linkage	3' Paved shoulders, sign as Great River Rd Bikeway	None
46	STH 133	Chaffee Hollow Rd to CTH N (going north)	Yes	No	N/A	Popular Route	B	Improvement Recommended	Priority Linkage	5' Paved shoulders, sign as Great River Rd Bikeway	Reconstruct and provide 24' pavement and 6' shoulders. Pave 5' of shoulders for bike lanes.
47	STH 133	CTH N (north) and CTH N (south)	Yes	No	N/A	Popular Route	D	No Recommendations	Priority Linkage	5' Paved shoulders, sign as Great River Rd Bikeway	None
48	STH 133	CTH N (south) to Potosi	Yes	Yes	N/A	Important Connection	A	Improvement Recommended	Priority Linkage	5' Paved shoulders, sign as Great River Rd Bikeway	None

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Project Number	Highway or Road Name	Segment	AADT > 1,000	Paved Shoulders	Bridge Connection	Public Input	Wis. Bicycle Map Assessment	Great River Road Report Recommendation	Wisconsin Bike Transportation Plan 2020	Grant County Bicycle Enhancement Plan Facility Recommendations	DOT Scheduled Improvements
49	STH 80	Muscoda to Richland Co.	Yes	Yes	Wisconsin River Bridge	No Comment	D	N/A	No Recommendation	Sweep bridge regularly during the warm months	None
50	<u>STH 81</u>	<u>Platteville to CTH D</u>	<u>Yes</u>	<u>Yes</u>	<u>N/A</u>	<u>Popular Route</u>	<u>D</u>	<u>N/A</u>	<u>Priority Linkage</u>	<u>Install Cautions Bicycles signs</u>	<u>Resurface worn pavement and pave 5' of shoulders.</u>
51	STH 35/ USH 18	Patch Grove to the Wisconsin River	Yes	Yes	USH 18 Bridge	No Comment	D	N/A	Priority Linkage	Sweep bridge regularly during the warm months	None
52	<u>USH 151</u>	<u>Platteville to CTH O</u>	<u>Yes</u>	<u>Yes</u>	<u>N/A</u>	<u>Important Connection</u>	<u>D</u>	<u>N/A</u>	<u>Priority linkage</u>	<u>4' paved shoulders</u>	<u>Upgrade existing 2 lane Hwy with 4 lane divided Hwy. It includes bypasses around the communities of Platteville and Dickeyville.</u>
53	USH 151	Bridge to Dubuque	Yes	Yes	Mississippi River Bridge	No Comment	C	N/A	Priority Linkage	Sweep bridge regularly during the warm months	None
54	USH 151/61	STH 61 to the Mississippi	Yes	Yes/ rumble strip	Connection to Iowa	Important Connection	C	No Recommendation	Priority linkage	Caution signs	Refurbish guide signs; Project is coordinated with State of Iowa and icnludes a concrete deck overlay, repainting various bridge members and various other work.
55	USH 18	Bridge to Prairie du Chien	Yes	Yes	Wisconsin River Bridge	No Comment	D	N/A	Priority Linkage	Sweep bridge regularly during the warm months	Resurface worn pavement and pave 5' of shoulders.
56	USH 61	Boscobel to Crawford Co.	Yes	Yes	Wisconsin River Bridge	No Comment	D	N/A	No Recommendation	Sweep bridge regularly during the warm months	None
57	USH 61	Fennimore to CTH T	Yes	Yes	N/A	No Comment	D	N/A	No Recommendations	4' paved shoulders, install "Caution Bikes" sign	Replace existing concrete pavement with new concrete pavement.
58	USH 61	Lancaster to CTH E	Yes	Yes	N/A	Popular Route	D	N/A	No Recommendations	Install Cautions Bicycles signs	N/A
59	USH 61/STH 35	Dickeyville to Potosi/Tennyson	Yes	Yes	N/A	No comment	D	Improvement Recommended	Priority linkage	Install Cautions Bicycles signs, and Great River Road Bikeway signs	N/A
60	<u>Old CTH C</u>	<u>Blue River to Boscobel</u>	<u>No</u>	<u>No</u>	<u>N/A</u>	<u>Popular Route</u>	<u>N/A</u>	<u>N/A</u>	<u>N/A</u>	<u>Wayfinding signs to assist bicyclists in finding the road that connects Blue River to Boscobel</u>	<u>N/A</u>
61	Center Rd.	CTH H to Hiview	No	No	N/A	No Comment	N/A	N/A	Potential Local Route Connection	No improvements recommended	N/A
62	Dean Lane	Long Branch Rd to E. Lone Elm Tree Rd.	No	No	N/A	Popular Route	N/A	N/A	N/A	Pave "link" road to provide alternate route for the Great River Road Bikeway	N/A
63	Dugway Road	N. Dutch Hollow Rd. to CTH N	No	No	N/A	Popular Route	N/A	N/A	N/A	Pave "link" road to provide alternate route for the Great River Road Bikeway	N/A
64	Maine Rd	Hying Road to Hickory Road	No	No	N/A	Alternate Route to STH 35/133	N/A	N/A	N/A	Pave short unpaved section of road to provide an alternate route to STH 133 and STH 35	N/A
65	HiView	Fairplay to 11/80	No	No	N/A	No Comment	N/A	N/A	Potential Local Route Connection	No improvements recommended	N/A
66	Sandy Hook Rd.	Fairplay to 151	No	No	N/A	No Comment	N/A	N	Potential Local Route Connection	No improvements recommended	N/A

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Additional Design Considerations

Other bicycle-safe design factors that require attention are drainage grates and railroad crossings. Drainage grates with bars that are parallel to the line of travel can catch bicycle tires and cause the bicyclist to fall. Utility covers that are not flush with the surrounding pavement can be hazardous to bicyclists as well.

Where possible the bikeway should cross railroad tracks at or near a right angle. This minimizes the potential for a bicyclist's front wheel becoming caught by the tracks and causing loss of steering control. If the crossing angle is less than 45 degrees, consider widening the outside lane, shoulder or bicycle lane to allow the bicyclists to improve the angle of approach with moving into traffic.

Implementation Costs

The cost of improving bicycle systems is an important factor in recommending facility improvements. In general, the cost of bicycle routes ranges from \$7,500 to \$75,000 per mile and paths from \$45,000 to \$300,000 per mile. The following construction unit costs were developed by comparing the average statewide costs provided by WDOT and past projects to Kerr's Manual of Cost Estimating, 1998. At this level of planning it is not possible to give site-specific estimates. Each mile of trail or paved shoulder within the County will have a different construction cost associated with it, depending upon the specific terrain it passes through. These unit costs are conservative - i.e. on the high end of the average rather than the low end, because of many unknown factors. As engineering is completed for each of these projects, more specific engineering cost estimates will be determined. Estimated costs provided here are intended for planning purposes only and will be used later in the report to estimate the cost of recommended facilities.

Estimated Construction Costs per Mile (1998)

- Three foot paved bituminous shoulders (incidental to construction) - \$18,000
- Four foot paved bituminous shoulders (incidental to construction) - \$24,000
- Bike lanes/wide curb lanes (1' extra width of concrete) \$25,000
- Ten foot wide limestone path on railroad grade \$48,000 - \$52,000
- Ten foot bituminous path (rural) \$137,500 - 165,000
- Urban path, basic to full amenities \$198,000 - \$360,000
- Signs \$100 each or \$500/mile
- Striping/restriping \$5,500/mile
- Bicycle racks, \$100 per bike

Grant County Bicycle Improvement Plan

Too often, bicycle facility planning is synonymous with planning separate bikeways. As seen in the costs above, separate bike lanes and bike/pedestrian paths are the most costly of all facility improvements. Because of their direct costs and the amount of public rights-of-way needed to accommodate these systems, separate bikeways seldom form a complete bicycle and pedestrian system. As a result, it is more efficient to make use of established transportation rights-of-ways. Signing, shared roadways, bicycle parking, a strong education system and policy improvements are perhaps the best, most cost effective means of improving conditions for bicycling and walking.

Funding Strategies

Grant County should appropriate annual funds for bicycle improvements just as it does for other roadway projects. In addition, projects mentioned in the Capital Improvement Program may be eligible for state or federal funding.

As part of the state and federal initiatives to enhance bicycle transportation modes, several grants and funding sources are available to Grant County for planning, facility development and land acquisition. Although some grants may be available for improving on-street facilities, opportunities to fund off-street facilities (such as bicycle paths) are substantial - particularly if the facility is intended to provide both utilitarian and recreational benefits (See Appendix B for a discussion of potential funding sources).

The Federal ISTEA Program, now called TEA-21, has helped fund many bicycle transportation activities throughout the United States. Similarly, Wisconsin has approved the funding of many community projects. A Wisconsin component of TEA-21, the Statewide Multimodal Improvements Program (SMIP), is intended to encourage multimodal projects that are "above and beyond" current transportation activities and focuses on county highways and local roads. One of the main funding strategies is to incorporate paved shoulders with reconditioning and reconstruction work on the CTH system. SMIP funds can be used for retrofitted paved shoulder work.

Off-street paths may have overlapping recreational and transportation value. For these bicycle improvements, the Wisconsin Department of Natural Resources' Stewardship Program may be an appropriate source of funding. County officials should work with the DOT District office to assure that pedestrians and bicycles are accommodated on STH projects both urban and rural. The Wisconsin DOT has funding to complete these types of improvements.

In addition, impact fees provide a potential source of funding for bike paths both within and connecting residential subdivisions. Current ordinances permit the use of impact fees for

Grant County Bicycle Improvement Plan

transportation improvements as well as for parks and recreational facilities. Bike paths serve both a transportation and recreational function and therefore the fees are an appropriate source of funding.

Alternate funding strategies through private interests should also be considered. Local private interests will benefit from an improved transportation system that offers transportation choices. Private agencies that share Grant County's vision for a bicycle system may be willing to invest in development or maintenance of facilities. These private partnerships should be explored to provide better bicycle facilities.

Appendix C contains the capital improvement program for improvements to the county trunk highways and includes the costs of recommended improvements for selected corridors. This capital improvement program serves as a planning tool to develop suitable facilities for Grant County bicycle system.

Maintenance

Maintenance procedures are important for all forms of transportation. Poorly maintained facilities can increase the County's liability by being unsafe or unsuitable for use. Periodic and consistent removal of debris, resurfacing and patching of deteriorated pavement are important procedures for insuring that users are provided with safe and reliable transportation facilities. Signs and pavement markings should be regularly inspected and maintained. Travel corridors should be kept clear of trees and other vegetation. Per-mile maintenance costs of several bicycle facilities differ according to environmental conditions (snow removal) and economic factors, but the following estimated costs were derived from various state and city sources:

- Bike Lanes and Wide Curb Lanes: \$1,500 per mile, including signs, striping, stencils and street sweeping. (Arizona Highway Dept.)
- Paved Paths: \$600 - \$900 per foot, including barriers, spot repairs, vandalism, striping stencils, clean-up and shoulder grading. (MinDOT and Madison DOT)
- Gravel Paths: \$1,200 - \$1,500 per foot, depreciation and spot repairs, signs, litter clean-up and mowing ditches. (WisDNR)
- Shared Roadways: Negligible costs (Less than 1% of the routine road costs, including sign repair, vegetation pruning and extra litter clean up).

Grant County Bicycle Improvement Plan

*These per-mile costs are generalized and do not include the maturation costs of reconstruction or the costs of snow removal activities.

These maintenance costs can be offset through cooperative agreements with private agencies. Adopt-a-Bikeway programs and other similar programs can provide reliable routine clean up and repair activities.

Policy Issues

County policies are needed to regulate the use and development of all infrastructure improvements that affect bicycling. Although the facilities proposed in this plan will accommodate many of the County's bicycling needs, these planned travel corridors are only part of the system that will ultimately be used. In fact, most roads and sidewalks will be used on occasion for various kinds of human transportation. Designated facilities cannot be planned for all County roads, but undesignated roads and corridors can help to connect individuals to the designated transportation system and often don't require special improvements. The following policy approaches are recommended to improve the safety of all roads and travel corridors for bicyclists and pedestrians:

1. Require, by ordinance, that new county and subdivision roads and new bridges meet AASHTO Guidelines for Bicycle Facilities, 1999.
2. Future updates to local planning documents such as the "land use plan" and "park and open space plan" should incorporate recommendations for enhancing bicycling.
3. Establish a schedule and a capital improvement program to maintain paths and roads.
4. Incorporate some level of bicycle accommodations on all new transportation infrastructure projects.

Continually enforce vehicle operating rules and regulations for bicyclists and motorists

PART 4 - OPERATIONAL RECOMMENDATIONS

The development of facilities as outlined above is only one component of enhancing bicycling. Operational procedures such as education, maintenance of facilities, enforcement of vehicle codes, promotional activities and even land use planning play a complementary role. Attention to operational procedures is critical if Grant County wants to improve the level of safety and convenience for local bicyclists as well as for people who travel to the county to bicycle and enjoy its great scenery and warm hospitality.

This section examines what is commonly referred to as “the three Es”—education, engineering and enforcement. A fourth ‘E’—encouragement—examines ways to promote bicycling for transportation and recreation in Grant County. The four Es are integral to one another, as it is difficult to address one effectively without also addressing the other three elements. Further, if one element is ignored, then the impact of the remaining three is reduced.

In 1991, the United States Department of Transportation began to place new emphasis on and devote more funding to bicycle travel. The National Bicycling and Walking Study, completed in 1994, announced the goal of doubling the percentage of bicycling and walking trips from 7.9% to 15.8% while simultaneously reducing the number of bicyclists and pedestrians killed or injured in traffic crashes by 10%. The U.S. DOT sponsored 24 case studies to develop ways to achieve the goals set out in the National Bicycling and Walking Study by addressing each of the four Es.

The Wisconsin Department of Transportation (WisDOT) offers excellent resource people who can assist Grant County on an ongoing basis with education, engineering, enforcement and encouragement initiatives. The Bicycle Federation of Wisconsin (BFW) is available to help with education and encouragement.

For safety and enforcement information, contact:

Pedestrian/Bicycle Safety Program Manager

Wisconsin Department of Transportation

Bureau of Transportation Safety, Room 933

Phone: 608-267-3154

FAX: 608-267-0441

Mailing address:

4802 Sheboygan Avenue, P.O. Box 7936

Madison, WI 53707

Email: joanne.pruitt-thunder@dot.state.wi.us

Grant County Bicycle Improvement Plan

For engineering and encouragement information, contact:

- Mike Rewey
Chief, Design Section
Wisconsin Department of Transportation, District 1
Phone: 608-246-3860
FAX: 608-246-3819
Mailing address: 2101 Wright Street, Madison WI 53704-2583

Email: michael.rewey@dot.state.wi.us

- Tom Huber
Bicycle/Pedestrian Coordinator
Wisconsin Department of Transportation
Phone: 608-267-7757
FAX: 608-267-0294
Mailing address:
4802 Sheboygan Avenue, P.O. Box 7913
Madison, WI 53707
Email: thomashuber@dot.state.wi.us

For education and encouragement assistance, contact:

- Jeanne Hoffman, Executive Director
Bicycle Federation of Wisconsin
Phone: (608) 251-4456
FAX: (608) 251-4594
Mailing address:
106 E. Doty Street, Suite 10, P.O. Box 1224
Madison, WI 53701-1224
Email: info@bfiw.org

Bicycle Advisory Committee

To help implement the ideas presented in this plan the Steering Committee recommended that a county-wide Bicycle Advisory Committee (BAC) be formed. The BAC will work with the county and with communities to ensure that the Grant County Bikeway Plan is implemented. The role of the BAC is to work with the governmental body to ensure that bicycling is considered when roadway improvements are made, emphasize safety considerations and safety education, seek and promote funding for bicycle improvements, and encourage

Grant County Bicycle Improvement Plan

partnerships to promote other activities such as bike safety fairs, family riding opportunities, and bike tourism. The BAC should include a representative from the highway committee, sheriff's department, tourism council, bike shop, school districts, park board, bicycle clubs, each population center, and other citizens interested in promoting bicycling in Grant County. It should be staffed by a county representative, perhaps from the University of Wisconsin Extension, to send out meeting notices and provide support. The meetings of the BAC should be announced on the county's web site and open to the general public for additional input.

Education

A bicyclist who understands the rules of the road is more likely to be a safe bicyclist. A motorist who understands that bicycles are also vehicles and treats them as such is more likely to drive safely around bicyclists. In Grant County, bicyclists and motorists must comprehend fully that they may encounter each other around any turn or over any hill. Focused educational efforts are necessary to make motorists and bicyclists aware of this reality so that they can operate their respective vehicles safely.

An effective, ongoing educational initiative has a different message and different techniques to deliver the message depending upon the audience. Grant County can target three groups:

- child bicyclists and their parents
- average adult bicyclists
- motor vehicle operators

Children are quick learners and will copy what they see demonstrated. Basic bike safety courses for children will reach most children if offered through public and private elementary schools in Grant County. The Wisconsin DOT offers curriculum for teachers, such as the Basics of Bicycling, aimed at fourth and fifth graders. Physical education teachers can teach this hands-on curriculum that will increase a child's cycling abilities, teach them the rules of the road and help them avoid danger. WisDOT Bureau of Transportation Safety (BOTS) offers funding of up to \$2,000 to public schools to buy bikes and other material for this course. Public and private school teachers are urged to attend the Wisconsin DOT's Teaching Safe Bicycling training courses. Contact WisDOT BOTS for more information.

Some communities in Wisconsin offer bicycle safety education during popular, optional summertime classes such as Safety Town or Safety Camp, which are coordinated by civic groups, such as Junior Women's Clubs and conducted by law enforcement officers.

Park and recreation departments around the state are beginning to sponsor bike safety classes taught by instructors certified by the League of American Bicyclists (LAB). A course for children K-3 requires that one parent attend. It covers bike and helmet fit, safety checks and basic bike

Grant County Bicycle Improvement Plan

handling skills. A course for children in fourth, fifth and sixth grades teaches basic traffic laws, in-depth bike handling, group riding and how to select the safest route. It includes on-road riding to both test student comprehension and allow for practice of the skills learned in the classroom and parking lot exercises. The Bicycle Federation of Wisconsin can provide a list of instructors.

By involving parents in bicycle education classes, adults learn that bicycling is different from a kid's eye view. Adults are reminded that children under the age of 10 cannot judge vehicle speed accurately and have a narrower range of peripheral vision, which may prevent them from seeing danger. Most parents know that their children are easily distracted and do not always pay attention. Parents can help their children practice the stop, look and listen behaviors learned in a bike safety class and by learning what to teach their children, parents learn to model positive behaviors themselves. The Wisconsin DOT offers the video "A Kid's Eye View" free of charge. Adult cyclists are much more difficult to reach with a safety message. LAB offers safety classes for this age group, but most adults believe they know how to ride a bike even as they ride the wrong direction on the road or ignore stop signs. Effective ways to educate adults include point of sale safety information, presentations at bike club meetings and organized bike rides that emphasize bike safety (wearing a helmet, stopping at stop signs, riding on the right, correct lane position, signaling, etc.). Public education campaigns, discussed below, are also effective. An excellent, free brochure, "Two-Wheeled Survival in a Four-Wheeled World", is available from the Wisconsin DOT (see appendix G for brochure and order form). A handy wallet card developed by the Bicycle Federation of Wisconsin highlights Wisconsin's Bicycle Laws (see appendix G for wallet card).

Young people enjoy mountain bicycling, which is an extremely challenging and sometimes dangerous sport. Knowing how to handle a mountain bike safely on isolated, tricky trails is critical. Schools can invite an amateur or professional mountain bike competitor to speak annually at school assemblies to reach kids with a safety message. Ideally, the speaker would also be a bicycle commuter and would cover the basic rules of the road. A local bike shop can be encouraged to offer a course on mountain bike techniques (and safety) that will appeal to children and young adults.

Brand new motorists can learn about bike safety during driver's education classes, provided the instructor has the necessary information to teach the subject. Other motorists can learn about bike safety through public information campaigns. Senior centers often sponsor safe driving classes for older adults. The free WisDOT brochure, "Sharing the Road: Survival of the Smallest" (see appendix G for brochure and order form) and other basic bike safety materials should be included in such courses.

Ideas for public information campaigns include:

- Publicizing safe driving tips during bicycle season (via newspaper articles, public service announcements)

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- Distributing WisDOT brochure: Sharing the Road (see appendix G for brochure and order form)
- Distributing “Share the Road with Bicyclists” bumper stickers (see appendix G for bumper sticker and order form)
- Asking service groups, injury prevention groups or local hospitals to sponsor and staff bike safety booths at public events or to sponsor a bike safety fair.
- Asking the Public Health Department to hold a summer safety fair and include bike safety materials and demonstrations
- Asking state parks with bike trails to distribute safety information
- Asking libraries to display and distribute safety materials during the bicycling season and encouraging libraries to purchase educational videotapes and books about bike safety and maintenance
- Distributing bike safety materials in other locations such as city, village and town halls, motor vehicle registration office, bike shops and local libraries

Engineering

Aside from designating and signing routes and making capital improvements that provide for bike lanes or wide shoulders, other engineering considerations that provide safe conditions for bicycling need attention. These include periodic street and bridge sweeping to remove glass, gravel and other debris and installation of drain grates that do not impede bicycle tires. The Wisconsin DOT is promoting the Road Hazard Program that involves local cyclists in reporting roadway hazards to the appropriate municipal agency. Grant County can work with Mike Rewey in WisDOT District 1 to implement this program.

Enforcement

Law enforcement officers play an important role in educating bicyclists and motorists about safety. Officers have the greatest impact when they speak to young people in a school environment or when they demonstrate safety practices to children. Many communities sponsor bicycle rodeos or Safety Towns that emphasize the importance of wearing a helmet and riding on the right side of the road. In this setting, children learn that they should not ride on the roadway until they understand and practice all of the rules of the road.

By involving law enforcement in delivering the bicycle safety message to motorists and bicyclists alike, officers are more apt to see that their responsibility includes the enforcement of laws that promote bike safety.

Officers can reinforce bicycle safety messages by stopping bicyclists they observe ignoring the rules of the road. A verbal or written warning is very effective. Along with the warning, officers should be encouraged to give the cyclist information about sharing the road with motorists and Wisconsin’s bike laws (see appendix G for brochure and order form and wallet card).

Grant County Bicycle Improvement Plan

By stopping motorists who exhibit dangerous driving practices around bicyclists, an officer is helping to prevent a future tragedy. Such a stop is a “teachable moment” and the officer can give the motorist information about sharing the road with bicyclists (see appendix G for brochure and order form).

A growing number of Wisconsin communities have bicycle patrols. Although it may not be feasible for Grant County to have an officer on a bike during the entire riding season, having a trained bike patrol officer available during special events, such as the county fair, would help to make Grant County’s commitment to bicycling more visible to its residents. The Wisconsin DOT offers bike patrol training and it is recommended that Grant County send one or more officers to such a course.

Encouragement

Encouragement can only occur after the foundation of the other three Es is strong. A bicyclist who understands how to bicycle safely in traffic is more likely to feel comfortable riding on the road and will bike more places more often. If cyclists know that the community’s roadway maintenance practices take bicycling into consideration, they will be more likely to use their bicycle for more types of trips. Bicyclists who believe that law enforcement will both protect them and motorists will operate their bicycles in a safe manner.

One way that Grant County can encourage new bicyclists to go for a bike ride is to ensure that safety classes are offered and that safety materials are widely available. Then, Grant County can promote family rides by suggesting bike routes that appeal to all age and skill levels through distribution of its Bike Map.

As an employer, Grant County can encourage its employees to bike to work by providing information about bicycle commuting, installing bicycle parking, offering incentives and making showers available.

Grant County can participate with other groups or local governments to sponsor “Bike Week” in the early summer to encourage people to ride their bike at least once during that week to a nearby destination. The Bicycle Federation of Wisconsin can help by providing information about how to plan a Bike Week. Many communities encourage different activities on different days. Some examples of fun events include Monday - Bike to the School Day, Tuesday - Bike to the Library Day, Wednesday - Bike to Work Day, Thursday - Bike to the Swimming Pool Day, Friday - Bike to the Store Day, Saturday - Bike to the coffee shop Day, Sunday - Bike to Church Day. Grant County can distribute its bicycle map and encourage local chambers of commerce to develop and distribute “around town” bicycle maps. The county can also partner with bicycle tour operators to make sure that all of the routes and communities are ready for bicyclists. Finally, Grant County can partner with local bike shops to sell Wisconsin’s 4-section state bike map. This map highlights the most favorable bicycling conditions and rates all roadways for ridability. The map also includes mountain bike trails and state bike paths.

Making the Plan Work: An Implementation and Action Plan

The success of this plan is largely dependent on the actions and support of local people. The implementation of highway improvements, bike facilities and programs is the responsibility of local individuals, businesses, towns, cities and villages, the County and the State. The following matrix proposes a plan for how local interests can be generated to enhance bicycling in Grant County:

Grant County Bicycle Improvement Plan

Table 4: An Implementation Action Plan for Local Interests

Local Interest	Action Plan – How to Improve Local Bicycling and Walking Opportunities
Individuals	<ul style="list-style-type: none"> • Increase the frequency of bicycling or walking trips per week and then encourage family members to do the same. • Wear a helmet when bicycling and respect the rules of the road. • Talk to employers about providing incentives and bicycle parking facilities. • Form a local bicycle focus group. The purpose of this group would be to influence local policies and capital improvement project decisions.
Commercial Businesses	<ul style="list-style-type: none"> • Encourage employees to bicycle and walk to work by offering incentives and by providing needed facilities at the workplace such as bicycle parking and improved connections. • Sponsor bicycling promotional activities like “Bike Rodeos” and “Bike-to Work Days” to show support.
Educational Institutions	<ul style="list-style-type: none"> • Offer bicycling and pedestrian educational curriculums. • Survey students to determine methods to increase bicycling activities.
Municipalities	<ul style="list-style-type: none"> • Integrate bicycling into overall transportation and land-use plans. • Promote bicycling through special events. • Improve facilities for bicyclists and integrate improvements into the Capital Improvement Plan for the Town. • Provide mapping and signing that helps bicyclists get around the community.
A Future County Bicycle Advisory Committee	<ul style="list-style-type: none"> • Act as a “clearinghouse” for bicycle related information. • Annually monitor the progress of projects and evaluate existing facilities, plan for new development and explore funding sources.
Grant County	<ul style="list-style-type: none"> • Integrate bicycling into the overall county transportation, recreation and land use plans. • Maintain a committee that will act as a clearinghouse for bicycle information at the county level. • Provide bike facilities that will connect communities and regional destinations. • Provide mapping and signing that helps bicyclists find their way around the county.
State	<ul style="list-style-type: none"> • Respond to the needs of local bicyclists and pedestrians by providing appropriate accommodations on state truck highways. • Provide technical information to local units of government.

Increasing Bicycle Tourism in Grant County

Touring by bicycle brings tourism dollars into communities. From the small group of friends or family group traveling through Grant County to the large organized tours such as GRABAAWR and SAGBRAW, they all spend money on food, drinks, over night stays and the occasional bike repair. It is difficult to track the tourism dollars of individual bicycle tourists, but the large, organized tours track spending by their participants. Bike Wisconsin has provided us with this information on tourist spending.

The 2000 SAGBRAW bicycle tour had an estimated economic impact on Wisconsin of nearly \$1 million, a figure that included substantial revenues for communities on the event route. The estimate is based on the \$127,000 event budget plus an estimated minimum spending of \$192,465 by the 705 participants while attending the event, and a multiplier of 3 to rate the number of times those dollars turn over before leaving the local economy.

Participant spending levels were determined by questionnaires that asked how much individual riders spent for lodging, food and beverages, bicycle repairs and miscellaneous purchases during the event. Participants reported spending an average of \$39 per day during SAGBRAW, or \$273 per participant for the seven day event. With 705 riders that amounts to \$27,495 in spending per day and a total of \$192,465 in participant spending for the week.

Multipliers track the turnover of dollars in the local economy. The turnover rate ranges from 3 to 5 times. If the minimum multiplier of three is applied to SAGBRAW related spending of \$319,465, the actual economic impact of the event was \$958,395.

Of the \$27,495 spent by participants each day, most occurred in the communities that host the ride. With the multiplier effect of 3 times, those communities became the recipients of at least \$82,485. The GRABAAWR has over 1,000 riders spending an average of \$39 per day. Using the multiplier of 3 the GRABAAWR has a \$117,000 economic impact in the communities it overnights in.

Grant County is already well known by the bicycle touring community. It is a favorite destination for weekend rides and week long rides. Getting the word out and encouraging more bicycle touring in Grant County will be an exercise in building on a solid foundation. The Grant County Bicycle Improvement Plan Steering Committee strongly encourages the marketing of Grant County as a bicycling destination and suggested several ideas to increase bicycle tourism in Grant County.

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Designing and Promoting Grant County Bike Tours

Working with the Existing Bike Conditions Map created as part of this planning process interested citizens can develop specific bike tours around Grant County. Some tour ideas include Potosi Point, the Green River Loop, Lead Mine Tour, etc. The tours can use specific sections of the entire county map at a larger scale to guide visitors and provide tour specific information such as interesting sights, places to get food and water, places to stay overnight and travelers assistance suggestions like bike shops and hardware stores. Members of the steering committee expressed interest in putting this information on the web, through links from the Grant County web site, so potential visitors and county residents could plan their tour at home and download maps before they leave for their tour. We have attached a map of several tour ideas to Appendix E.

Lancaster Criterium Race around the County Courthouse

The Lancaster Court House Square provides an excellent opportunity for a criterium race. A criterium race is a race around a very short course; the racers may circle the course up to 20 to 30 times in one race. This makes for a very spectator friendly race, one that is easy to watch and enjoy from one location. The racers usually stay in a large pack, ride closely together and provide a very exciting race experience. An obstacle to this idea is that STH 60, which circles the court house is a state highway, therefore it may be difficult to get permission to reroute auto traffic for race day, but with advanced notice the DOT may be willing to cooperate.

Existing Bike Conditions Map

As part of this planning process a map of the entire county has been produced that depicts the bicycle friendly roads, as well as those that cyclists should avoid. The map includes tips on safety, contact information and other useful information to those planning bike tours. The key to the success of a map such as this is proper distribution. The map should be available in as many public and private places as possible, including, libraries, city halls, tourist information centers, bed and breakfast places, motels and hotels, bike shops and the county offices. In addition, information of the map's availability will bring requests to have the map mailed to people from outside Grant County, the Bicycle Federation of Wisconsin can help with this publicity through their newsletter.

Working with Existing Tours

A local club has held a successful tour to raise money for Badger Camp over the last few years. Members of the steering committee have expressed interest in expanding on the existing tour and sponsoring a larger tour in the fall of 2001. Partners in this project could include the local bike club, the tourism committee, the county public health office, local hospitals, local bike shops and

Grant County Bicycle Improvement Plan

the sheriff's department. There are many communities that currently run large tours to increase tourism in their area. It is possible that Grant County could invite one of the organizers to a meeting to share what works and what does not in a project such as this.

In the summer of 2000 three large tours passed through Grant County, the Ride for Strong Hearted Women (about 50 riders), the GRABAAWR (about 1,100 riders) and the SAGBRAW (about 750 riders). For the comfort of the riders and to maximize the ability of local businesses to best serve the riders as they come through town, the steering committee has suggested better communication between the tour organizers and the local business representatives. One example is the people of the City of Lancaster this summer felt somewhat unprepared to assist the SAGBRAW riders as they came through and the demand for sports drinks and deli sandwiches suddenly increased. A week or two notice would allow the restaurants, convenience stores and local service clubs to prepare to welcome the riders with signs and have the services and goods ready for them. As the routes for these rides are planned well in advance, a simple form letter with the ride dates, planned overnight locations and a map of towns passed through delivered to the local chamber of commerce should help everyone be prepared.

Ongoing Path Planning in the County

The WDOT and WDNR are planning to construct an 8 foot wide paved bicycle and pedestrian path along the new USH 151 (scheduled for reconstruction in 2003 to 2005). This path will be west of Platteville, completely separate from the highway and will be constructed between CTH D and CTH O. This path will connect the City of Platteville with an existing trailer park near CTH O.

The WDOT and WDNR are also currently investigating opportunities for constructing a bicycle/pedestrian path along the new USH 151 to the east of Platteville. This path would connect the City of Platteville with the existing Pecatonica Trail in Belmont. This trail will be separate from the road. Many planning, path design and private property issues need to be discussed and resolved on this trail before it is a reality. No time frame has been set for this trail.

Finally, there are short line railroad right of ways between Lancaster and Fennimore and Fennimore and Montfort that were abandoned long ago and reverted to private property. However, some steering committee members expressed interest in starting a grass roots movement to obtain trail right of way, through easements or acquisitions, to recreate the old railway routes for use as an off road bicycle and pedestrian path system. This is an exciting prospect because the old rail grade was not as straight and flat as most due to Grant County's unusual terrain and would make an interesting bike ride. In addition, the new trail would connect some of the more populated cities and villages of the county. It would provide opportunities for

Grant County Bicycle Improvement Plan

family bike riding in a “car free” setting and would be relatively flat compared to the roadway system.

Summary

The intent of this plan is to improve and increase utilitarian bicycle trips such that the primary benefit of the trip is to travel safely and efficiently from origin to destination. The plan will also enhance recreation and economic development opportunities. Where open space corridors are involved, bicycle systems raise adjoining property values and when linked with a region's prime natural and cultural resources, they become highly desired tourist attractions.

Until recently in the United States, bicycling and walking have not been considered serious transportation modes. This neglect has evolved with the development of sprawling land use patterns and transportation facilities that are predominately designed for motor vehicles. Increasingly, the benefits of developing multi-modal systems that afford greater transportation choices are being appraised and the advantages of bicycling and walking are being recognized beyond their recreational values as viable, healthy, cost efficient and environmentally benign means of travel. This plan has focused on many of the County's greatest opportunities to enhance bicycling and walking including:

- Proposing safe bicycle routes traversing the entire county to serve all communities and major outdoor recreation areas.
- Recommending on-road bicycle route improvements that are eligible for current funding sources administered by the WisDOT.
- Recommending procedures to strengthen or add to existing education and enforcement activities.
- Involving the community in the planning process.

By capturing these and other opportunities, Grant County is in a position to develop the bicycle transportation system recommended in this plan as a means toward enhancing the quality of life and providing better mobility to county residents and visitors.

Appendix A: Generalized Characteristics of Different Types of Bicyclists

Generalized characteristics of different types of bicyclists

Variables	Experienced Cyclists, Type A	Average Adult Cyclists, Type B	Child Cyclists, Type C
Percent of all cyclists ¹	6%	52%	42%
Maximum average speed ²	15 miles per hour	8-10 miles per hour	5 miles per hour
Maximum average trip length ³	20 minutes or 5 miles	20 minutes or 2.4 miles	10 minutes or 1 mile
Common type of trip/geographic topography	Utilitarian and some recreational/subregional, regional, neighborhood	Recreational and some utilitarian/regional-non destination, neighborhood	Largely recreational however may make utilitarian trips to school/neighborhood
Preferred facilities	Arterial and collector streets	Bikeways such as bike lanes, routes and paths; also residential streets	Sidewalks, bicycle paths and residential streets
Common concerns	Curb width, number of stops and directness of route	Motor vehicle traffic	Motor vehicle traffic
Common accident types ⁴	Overtaking	Crossing patterns	Drive-outs
Education and Experience	Knows the rules of the road and generally obeys them. Knows methods to avoid accident situations.	Knows the rules of the road but often disregards them. Often unfamiliar with proper methods of avoiding accidents.	Generally unfamiliar with the rules of the road.
Physical ability	Generally physically fit.	Varies widely	Physical disabilities such as poor peripheral vision and poor judgment of traffic speed, traffic gaps, and direction of sounds.
Environmental effects	Accustomed to different terrain, weather and other environmental conditions.	Generally affected by steep terrain and poor weather or road conditions.	Affected by environmental conditions.

¹ Bicycle manufacturer's Sales Data, 1980

² Average Speeds for level terrain. Bicyclist speed may vary according to purpose of trip, condition of bikeway, environmental conditions and ability of individual cyclists.

³ Several studies have shown that 20 minutes is the average high travel distance for adult cyclists traveling for utilitarian purposes. Pennsylvania and Tennessee studies showed average trip length to work to be 2.55 miles.

⁴ General analysis of Cross-Fisher Study

Appendix B: Potential Funding Sources

Short Takes on Major Sources of Funding for Bicycle and Pedestrian Projects

Transportation Enhancement Program (part of the Statewide Multi-modal Improvement Program (SMIP))

Program Description: Transportation enhancements (TE) are transportation-related activities that are designed to strengthen the cultural, aesthetic, and environmental aspects of transportation systems. The transportation enhancements program provides for the implementation of a variety of non-traditional projects, with examples ranging from the restoration of historic transportation facilities, to bike and pedestrian facilities, to landscaping and scenic beautification, and to the mitigation of water pollution from highway runoff. Most of the requests and projects awarded in Wisconsin have been for bicycle facilities. Examples of bicycle projects include multi-use trails (in greenways, former rail trails, etc.), paved shoulders, bike lanes, bicycle route signage, bicycle parking, overpasses/underpasses/bridges, and sidewalks.

Transportation enhancement activities must relate to surface transportation. Federal regulations restrict the use of funds on trails that allow motorized users, except snowmobiles. TEA 21 expanded the definition of transportation enhancements eligibility to specifically include the provision of safety and educational activities for pedestrians and bicyclists, which had not been clearly eligible under ISTEA.

Next Funding Cycle: Applications will be due in Spring, 2002 as part of the SMIP process.

Contact: Dave McCosh at the Wisconsin DOT District One Office at 608-246-5445. John Duffe at 608-264-8723 is the State Coordinator.

Surface Discretionary Grant Program (part of the Statewide Multi-Modal Improvement Program (SMIP))

Program Description: This program makes grants primarily to local governments, transit or transportation commissions, etc. in areas with a population of greater than 5,000 for projects that promote non-highway use or supplement existing transportation activities. Priority is given to projects that promote alternatives to single-occupancy vehicle trips. Funding has gone evenly to transit and bicycle/pedestrian projects in past years. Nearly every bicycle project eligible under the Transportation Enhancement program is also eligible for this program, unless the project will clearly not reduce single-occupant vehicle trips. Unlike the Transportation Enhancement program, bicycle and pedestrian planning is eligible.

Next Funding Cycle: Applications will be due in Spring, 2002 as part of the SMIP process.

Contact: Dave McCosh at the Wisconsin DOT District One Office at 608-246-5445. John Duffe at 608-264-8723 is the State Coordinator.

Congestion Mitigation and Air Quality Program (CMAQ)

Program Description: The primary purpose of the Congestion Mitigation and Air Quality Improvement Program (CMAQ) is to fund projects and programs that reduce travel and/or emissions in areas that have failed to meet air quality standards for ozone, carbon monoxide (CO), and small particulate matter. Bicycle and pedestrians projects are eligible for CMAQ if they reduce the number of vehicle trips and miles traveled. Almost all bicycle projects eligible for Transportation Enhancements and STP-D are likely to be eligible (see examples above), but a higher burden of proof that the project will reduce air pollution will be required. Non-construction activities such as maps and brochures are also eligible. CMAQ is NOT a statewide program, only bicycle projects in Milwaukee, Kenosha, Racine, Ozaukee, Waukesha, Washington, Sheboygan, Kewaunee, Manitowoc, Walworth and Door counties are eligible.

Next Funding Cycle: Another cycle of funding will be held in Spring, 2001.

Contact: Mary Frigge with District 2 or Cindy O'Connor (920-492-5679) with District 3.

Other Funding Sources

Hazard Elimination Program - Bicycle and pedestrian projects are now eligible for this program. This program focuses on projects intended for locations that should have a documented history of previous crashes.

Contact program coordinators at District DOT offices first for more details. Chucke Thiede at 608-266-3341 is the statewide coordinator.

Surface Transportation Urban Funds - Metropolitan areas receive an allocation of funds annually. These funds can be used on a variety improvement projects including bicycle and pedestrian projects. Most of the Metropolitan Planning Organizations (MPOs) that administer this program, have been using these funds to integrate bicycle and pedestrian projects as larger street reconstruction projects are taken on. Contact MPOs for more information.

Incidental Improvements - Bicycle and pedestrian projects are broadly eligible for funding from most of the major federal-aid programs. One of the most cost-effective ways of accommodating bicycle and pedestrian accommodations is to incorporate them as part of larger reconstruction, new construction and some repaving projects. Generally, the same source of funding can be used for the bicycle and pedestrian accommodation as is used for the larger highway improvement, if the bike/ped accommodation is "incidental" in scope and cost to the overall project. Overall, most bicycle and pedestrian accommodations within the state are made as incidental improvements.

Appendix C: Capital Improvements Plan

Grant County Bicycle Enhancements Plan

Capital Improvements Plan

Project Number	Highway or Road Name	Segment	AADT > 1,000	Paved Shoulders	Grant County Bicycle Enhancement Plan Facility Recommendations	Cost Per Mile	Miles	Total Cost
1	CTH A	Bloomington to Slab Town Rd.	No	No	3' paved shoulders	\$25,000	1	\$25,000
2	CTH A	Slab Town Rd. to Lucey Lane	No	No	No improvements recommended	\$0	0	\$0
3	CTH A	Lucey Lane to Lancaster	No	No	3' paved shoulders	\$25,000	1	\$25,000
4	CTH A	STH 133 to Texas Road	No	No	No improvements recommended	\$0	0	\$0
5	CTH A	Texas Road to CTH VV	No	No	No improvements recommended	\$0	0	\$0
6	CTH A	CTH VV to Dugway Rd	No	No	3' paved shoulders, sign GRR/Bike Route	\$25,500	2.5	\$63,750
7	CTH A	Dugway Rd to Bagley	No	No	3' paved shoulders, sign GRR/Bike Route	\$25,500	2.25	\$57,375
8	CTH A	Lancaster to Eastern Co. Line	No	No	3' paved shoulders	\$25,000	14.75	\$368,750
9	CTH B	Platteville to Eastern Co. Line	No	No	3' paved shoulders	\$25,000	1.75	\$43,750
10	CTH B	Platteville to Whig Rd.	Yes	No	3' paved shoulders, install "Caution Bikes" sign	\$25,500	2.75	\$70,125
11	CTH B	Whig Rd to West Rd.	No	No	3' paved shoulders, install "Caution Bikes" sign	\$25,500	6.25	\$159,375
12	CTH B	West Rd to USH 61	Yes	No	3' paved shoulders, install "Caution Bikes" sign	\$25,500	1	\$25,500
13	CTH C	CTH X to USH 18, STH 35	Yes	No	Caution signs; topography makes paved shoulders difficult	\$500	2.75	\$1,375
14	CTH C	USH 18 to STH 133	No	No	Caution signs; topography makes paved shoulders difficult	\$500	12.5	\$6,250
15	CTH D	CTH A to CTH E	No	No	No improvements recommended	\$0	0	\$0

Continued

Grant County Bicycle Enhancements Plan

Capital Improvements Plan

Project Number	Highway or Road Name	Segment	AADT > 1,000	Paved Shoulders	Grant County Bicycle Enhancement Plan Facility Recommendations	Cost Per Mile	Miles	Total Cost
16	CTH D	STH 81 to Butson Rd.	Yes	No	3' paved shoulders	\$25,000	1	\$25,000
17	CTH E	Livingston to Rock Church Rd.	No	No	3' paved shoulders	\$25,000	1	\$25,000
18	CTH E	Rock Church Rd to Pine Knob Rd	No	No	No improvements recommended	\$0	0	\$0
19	CTH E	Pine Knob Rd to CTH F	No	No	No improvements recommended	\$0	0	\$0
20	CTH E	CTH F to STH 61	Yes	No	3' paved shoulders	\$25,000	6.25	\$156,250
21	CTH F	CTH E to USH 18	Yes	No	3' paved shoulders	\$25,000	3.25	\$81,250
22	CTH H	CTH Z to Cuba City	Yes	No	3' paved shoulders	\$25,000	6.25	\$156,250
23	CTH H	USH 51/USH 61 to CTH Z	Yes	No	3' paved shoulders	\$25,000	3	\$75,000
24	CTH HH	CTH H to Dickeyville	Yes	No	3' paved shoulders	\$25,000	3	\$75,000
25	CTH K	Lancaster to Knob Rd	No	No	3' paved shoulders	\$25,000	1	\$25,000
26	CTH N	CTH U to STH 35	No	No	Caution Bikes Signs	\$500	9.5	\$4,750
27	CTH O	USH 151 to Tennyson	No	No	3' paved shoulders	\$25,000	10	\$250,000
28	CTH P	Bagley to CTH X	No	No	Bike Route, Caution Sign	\$500	3.75	\$1,875
29	CTH Q	Fennimore to Switzer Road	No	No	3' paved shoulders	\$25,000	1	\$25,000
30	CTH Q	Switzer Road to CTH G	No	No	"Caution Bike" Signs	\$500	8.75	\$4,375
31	CTH T	Blue River to Richland Co.	Yes	No	Accommodate bikes when bridge is reconstructed, meanwhile sweep bridge regularly	?	1	

Continued

Grant County Bicycle Enhancements Plan

Capital Improvements Plan

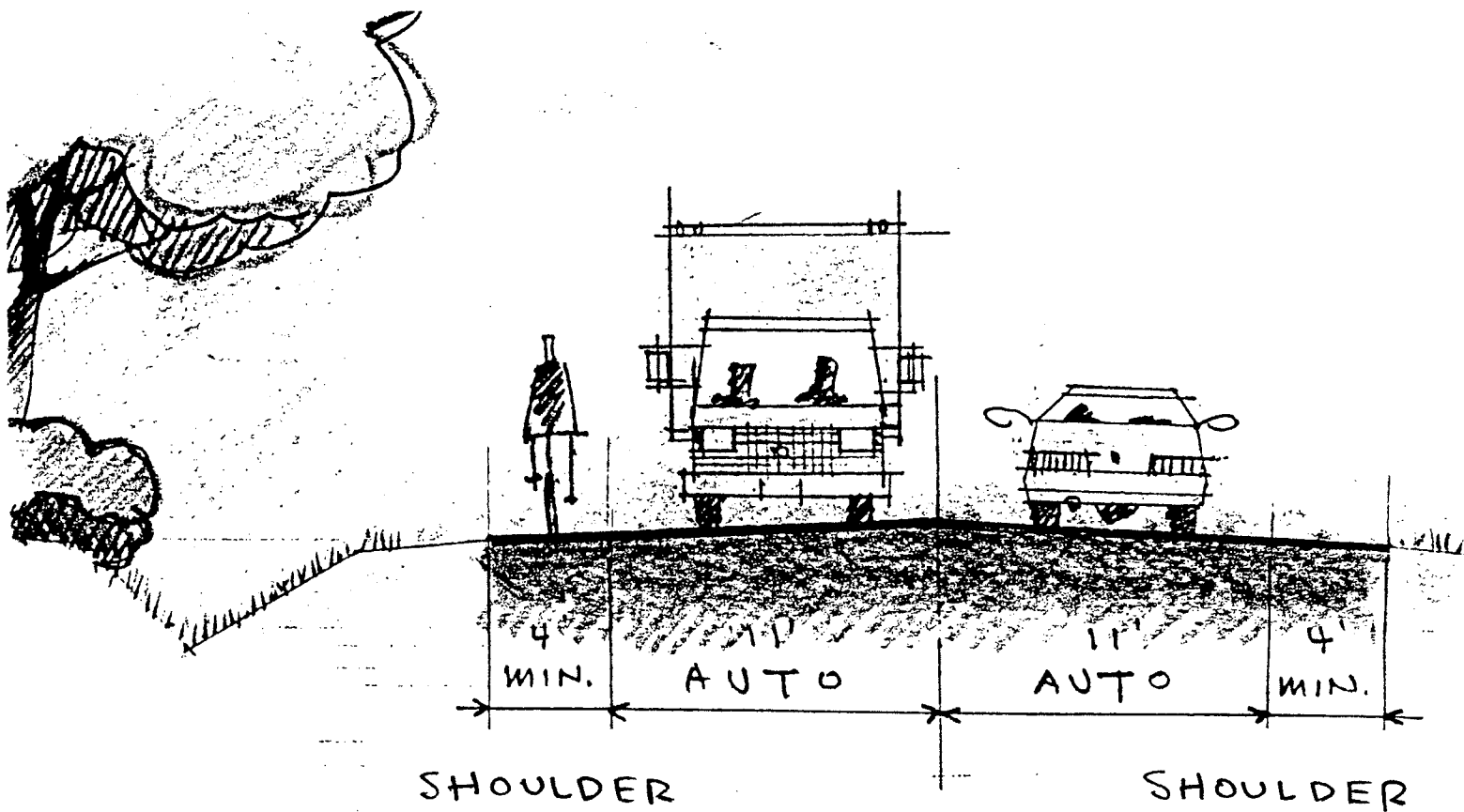
Project Number	Highway or Road Name	Segment	AADT > 1,000	Paved Shoulders	Grant County Bicycle Enhancement Plan Facility Recommendations	Cost Per Mile	Miles	Total Cost
32	CTH U	Beetown to CTH N	No	No	Caution Bikes Signs	\$500	7	\$3,500
33	CTH U	CTH N to Potosi	No	No	No improvements recommended	\$0	0	\$0
34	CTH VV	Cassville to CTH A	No	No	Caution Bikes Signs, GGR Bike Route Signs	\$500	11.75	\$5,875
35	CTH X	Bagley to CTH P	No	No	Caution Bikes Signs, GGR Bike Route Signs	\$500	8.25	\$4,125

Total for All Projects

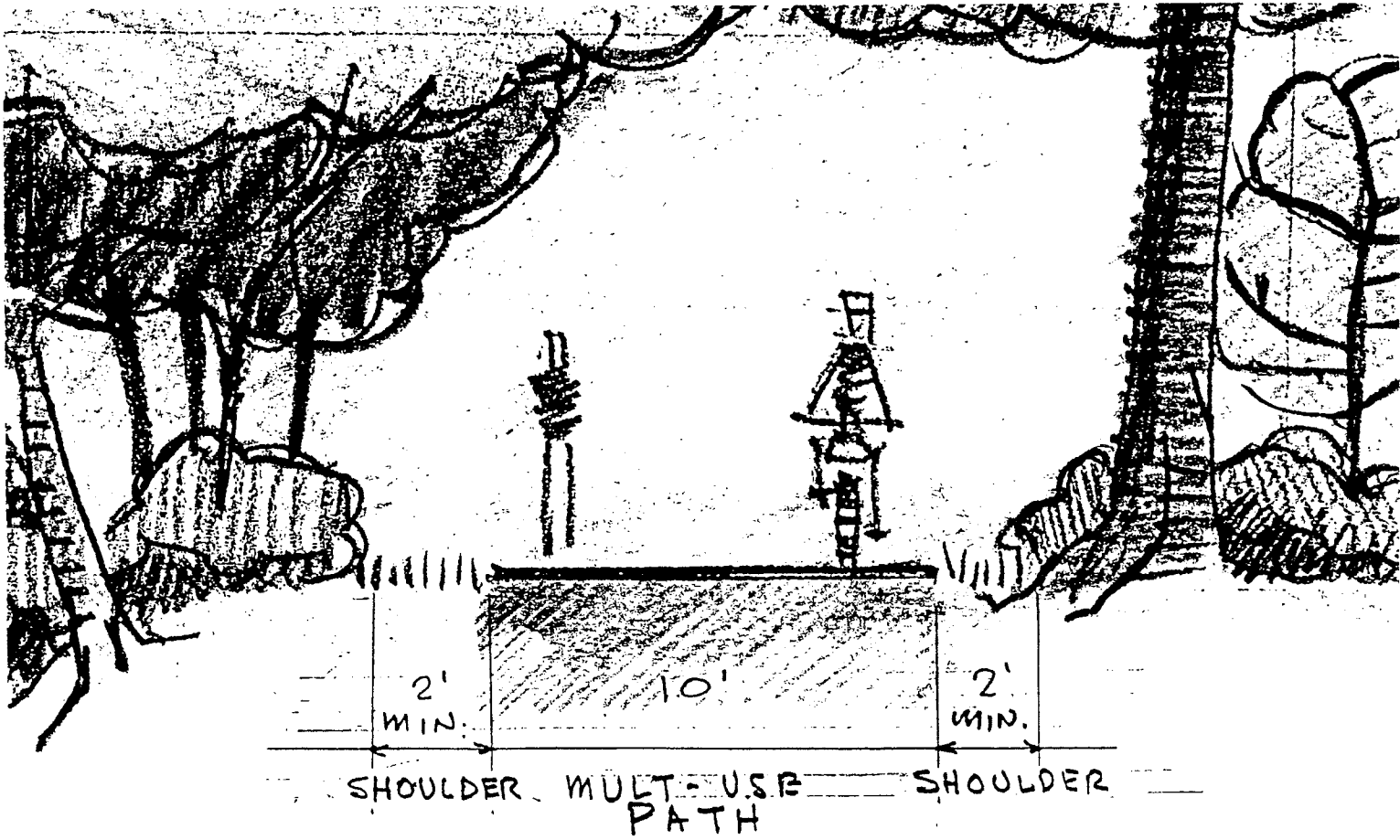
TOTAL \$1,764,500

Total for Priority Projects Only

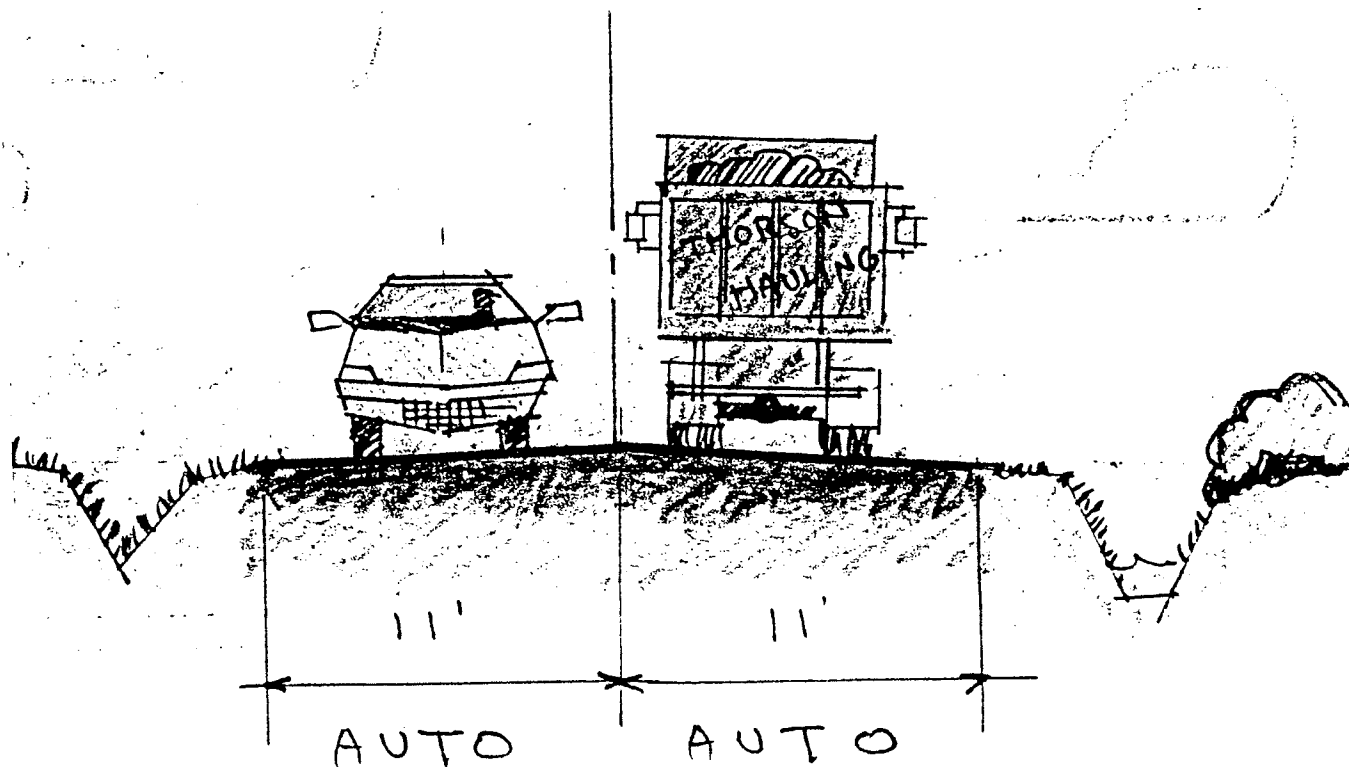
TOTAL \$1,350,000



RURAL COUNTY HIGHWAY W/PAVED SHOULDER
Allows a motorist to pass a cyclist without moving into oncoming traffic.

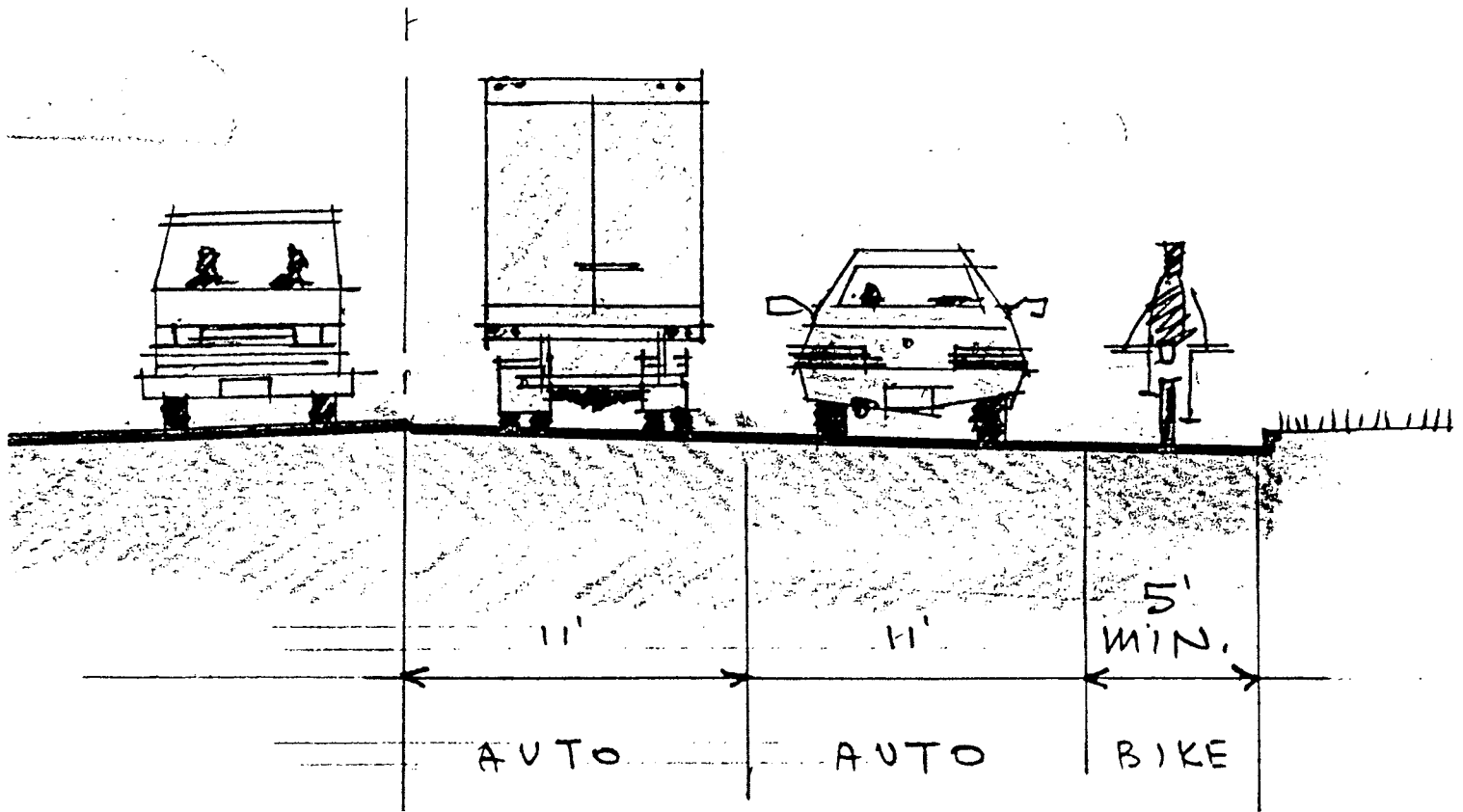


OFF ROAD MULTI-USE PATH



RURAL COUNTY HIGHWAY W/O PAVED SHOULDERS

The most common road configuration encountered. Not a difficult situation until a motorist tries to pass a cyclist into oncoming traffic.



FOUR LANE STATE HIGHWAY W/PAVED SHOULDERS

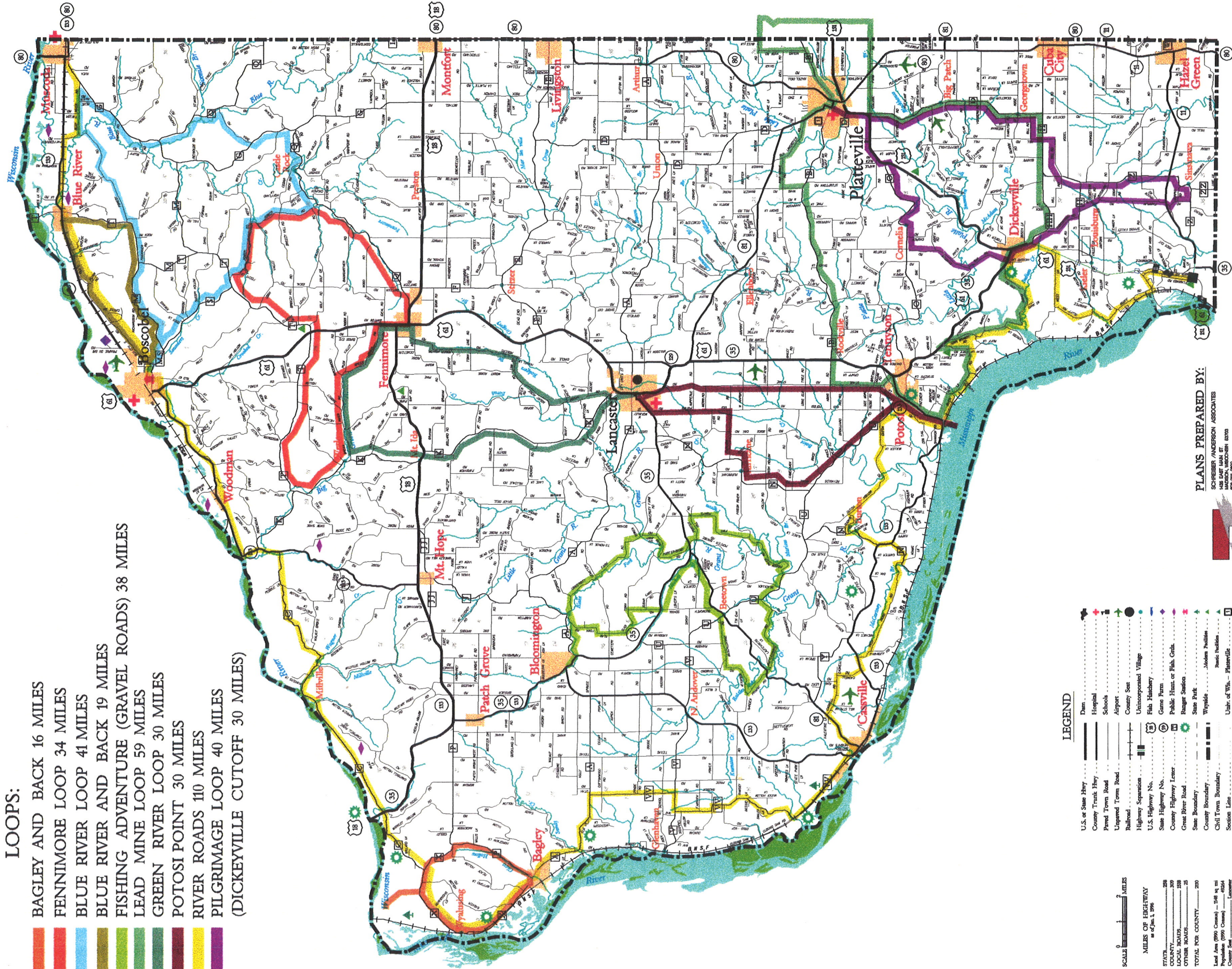
A marginally safe environment for cyclists. There may be a safe amount of space, but the high speed of adjacent traffic, windblast from large trucks, and the fact that people do not expect to have to give space for a cyclist on the shoulder, create an unenjoyable experience for cyclists at best.

Appendix E: Map of Potential Grant County Bicycle Tours

GRANT COUNTY, WISCONSIN PRELIMINARY LOOP RIDE MAP

LOOPS:

- BAGLEY AND BACK 16 MILES
- FENNIMORE LOOP 34 MILES
- BLUE RIVER LOOP 41 MILES
- BLUE RIVER AND BACK 19 MILES
- FISHING ADVENTURE (GRAVEL ROADS) 38 MILES
- LEAD MINE LOOP 59 MILES
- GREEN RIVER LOOP 30 MILES
- POTOSI POINT 30 MILES
- RIVER ROADS 110 MILES
- PILGRIMAGE LOOP 40 MILES
- (DICKKEYVILLE CUTOFF 30 MILES)



- ### LEGEND
- U.S. or State Hwy
 - County Trunk Hwy
 - Paved Town Road
 - Unpaved Town Road
 - Railroad
 - Highway Separation
 - U.S. Highway No.
 - State Highway No.
 - County Highway Letter
 - Great River Road
 - State Boundary
 - County Boundary
 - Civil Town Boundary
 - Section Line
 - U.S. or State Hwy
 - Hospital
 - School
 - Airport
 - County Seat
 - Unincorporated Village
 - Fish Hatchery
 - Game Farm
 - Public Hunt or Fish Crd.
 - Ranger Station
 - State Park
 - Wildlife
 - Modern Facilities
 - Basic Facilities
 - Unit of Wm. - Platteville
 - Public Camp & Picnic Crd.

SCALE 0 1 2 MILES

MILES OF HIGHWAY

as of Jan. 1, 1990

STATE 288

COUNTY 299

LOCAL ROADS 358

OTHER ROADS 25

TOTAL FOR COUNTY 290

Land Area (1990 Census) - 148 sq. mi

Population (1990 Census) - 49,654

County Seat - Lancaster

Compiled for January 1990

Base compiled from U.S.G.S. Quadangles

100,000 Scale

PLANS PREPARED BY:

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CIVIL ENGINEER

SEA DRAWING TITLE LOOP.DGN

LAST REVISED: 8/88

Appendix F: Abbreviations Definitions

Definitions

AASHTO:	American Association of State Highway and Transportation Officials
ADT:	Average Daily Traffic
BCI:	Bicycle Compatibility Index
CMAQ:	Congestion Mitigation and Air Quality Improvement Program
COS:	Cost of Service
CTH:	County Trunk Highway
DNR:	Department of Natural Resources
DOT:	Department of Transportation
FDM:	Wisconsin Department of Transportation Facilities Development Manual
ISTEA:	Federal Intermodal Surface Transportation Efficiency Act
LOS:	Level of Service
MPO:	Metropolitan Planning Organization
MUTCD:	Manual for Uniform Traffic Control Devices
SEWRPC:	Southeastern Wisconsin Regional Planning Commission
SMIP:	Statewide Multimodal Improvements Program
TE:	Transportation Enhancements
TEA – 21:	Federal Transportation Equity Act for the 21st Century
STH:	State Trunk Highway
STP:	Surface Transportation Program
USH:	United States Highway
WEPCO:	Wisconsin Electric Power Company

Appendix G: Share the Road with Bicyclists Bumper Sticker

Wisconsin Bicycle Laws Wallet Card

Sharing the Road: Survival of the Smallest

**Two-Wheeled Survival in a Four-Wheeled
World**

How a State Highway Project Moves from

Concept Through Construction in Wisconsin

