City of West Allis Bicycle and Pedestrian Master Plan

Bicycle Federation WISCONSIN

Prepared by the Bicycle Federation of Wisconsin
For the City of West Allis, Wisconsin

CITY AT THE CENTER
WEST ALLIS

City of West Allis Bicycle and Pedestrian Master Plan

The Bicycle Federation of Wisconsin

Table of Contents

Foreword & Acknowledgements

We would like to thank the City of West Allis for taking the initiative to incorporate bicycle and pedestrian facilities into its planning process. This demonstrates that the City identifies bicycling and walking as important forms of transportation and recreation of the future.

Invaluable information and support was provided by Planning Manager of the City of West Allis Development Department, Steve Schaer; Chris St Clair and Pete Daniels, Engineers for the City of West Allis; Marty Weigel, Alderman for the City of West Allis; Bicycle Federation of Wisconsin executive director Jack Hirt; Roger Retzlaff and all attendees of public input meetings.

We would also like to thank the Mayor of West Allis, Dan Devine, who started his term in April of 2008, and former Mayor Jeannette Bell who served as Mayor for 12 years.

The Bicycle Master Plan was authored by Catrine Lehrer-Brey of The Bicycle Federation of Wisconsin. This plan was funded by the City of West Allis.

The Bicycle Federation of Wisconsin is a statewide nonprofit bicycle education and advocacy organization with over 2,900 members. The Bicycle Federation of Wisconsin's mission is to make Wisconsin a better place to bicycle. Bicycling is a viable, healthy, and environmentally sustainable means of transportation, recreation, and sport. The Bicycle Federation of Wisconsin provides bicyclists of all ages with information on recreational rides, safety tips, and commuting skills while educating decision makers about the importance of bicycling to our communities.
Learn more at www.bfw.org.

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Executive Summary

Bicycling is an effective mode of transportation that is quiet, non-polluting, versatile, healthy, and fun. Bicycling is also a transportation mode available to all ages and income levels. In addition to the social, environmental, health, and transportation benefits, bicycling has a positive economic impact. Federal, state, and regional policies and plans have firmly established that the safe accommodation of bicycling and walking is the responsibility of state and local transportation agencies. The City of West Allis Bicycle and Pedestrian Master Plan serves as the local framework for implementing those policies and plans.

The City of West Allis Bicycle and Pedestrian Master Plan serves as a blueprint for continuous improvement of pedestrian and bicycling conditions and safety by addressing the "four E's" – Engineering (bicycle and pedestrian facility creation and improvement), education, encouragement, and enforcement (of the rules of the road for all road users – pedestrians, motorists and bicyclists). When combined with facility improvements, enforcement, education and encouragement can dramatically increase both the levels of bicycling and walking and their safety. Studies have shown a correlation between higher numbers of bicycles in the traffic stream and lower crash rates for bicyclists. [1]

The City of West Allis Bicycle and Pedestrian Master Plan identifies existing and desirable bicycle routes within the City of West Allis, including connections to neighboring municipalities. The City of West Allis Bicycle and Pedestrian Master Plan identifies and prioritizes bicycle facility project needs, and provides references for best practices in planning, designing, implementing and maintaining those facilities.

The City of West Allis Bicycle and Pedestrian Master Plan serves as a stand-alone document. It should be included as part of any larger, comprehensive plan adopted in the future.

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[1] *Bicycle Transportation Plan for the Madison Urban Area and Dane County*, WI, Madison Area Metropolitan Planning Organization, September 2000.

Chapter 1 - Introduction

The streets of West Allis connect the city's neighborhoods and citizens; they provide a route of transportation for pedestrians, bicyclists and automobiles to and from work, school, shopping and other activities. The proper design of the street system is an important element of making a community livable. The design of the street should accommodate all users comfortably with a pleasant environment for pedestrians as well as an efficient means of moving bicycles, vehicles and public transit.

A walkable community allows for pedestrians to exercise, run errands, walk to school, work or simply visit with others. These activities become more attractive by foot when the sidewalks are safe and accessible.

The bicycle is an effective means of transportation that is quiet, non-polluting, versatile, healthy, and fun. Bicycling is a healthy recreation opportunity and an important element of a transportation system. Increasing and improving bicycle opportunities improves the efficiency of the transportation system, and therefore increases environmental benefits. It improves neighborhood livability by reducing motor vehicle traffic and its associated problems.

1.1 Purpose of Plan

The *City of West Allis Bicycle and Pedestrian Master Plan* serves as a stand alone document that serves as a blueprint for continuous improvement of bicycling and pedestrian conditions and safety. The plan goal is to increase levels of bicycling through guidelines for planning, designing, and maintaining bicycle facilities, and increase the perception of safety and convenience for pedestrians through design, education, encouragement and enforcement.

Any future update of the *West Allis Comprehensive Land Use Plan* should incorporate the *City of West Allis Bicycle and Pedestrian Master Plan* and any updates to it.

The *City of West Allis Bicycle and Pedestrian Master Plan* shall identify existing and desirable bicycle routes within the City of West Allis, including making connections to neighboring municipalities. The plan identifies and prioritizes bicycle facility project needs, and recommends specific policies and educational, promotional, and enforcement activities to improve the practicality and safety of bicycling for transportation on a daily basis.

1.2 Plan Scope

The *City of West Allis Bicycle and Pedestrian Master Plan* focuses on bicycling for transportation as opposed to recreational purposes. For bicycle transportation, trip origins, destinations, and trip purpose are of utmost importance (e.g. commuting to work or school, shopping, attending a social event, etc.), and the bicycle is simply the means to the end. Conversely, recreational bicycling trips are made expressly for the enjoyment of bicycling, and the destination, if there is one at all, is of minor importance. The reality is that most trips (and many facilities) serve both functions, but the bicycle facility (including roadways suitable for bicycling) must be complete in order to serve the needs of transportation bicyclists.

In order to be eligible for funding under most Federal aid programs, bicycle projects must be primarily for transportation purposes (the Recreational Trails Program is a notable exception). In general, federal guidelines consider any bicycle path or trail other than a closed loop trail as being principally for transportation and eligible for federal funding.

The pedestrian element to the plan brings the engineering and design of the street around full-circle to serve the needs of all potential users. By looking at the sidewalk and streetscaping elements of the street, pedestrian needs can be met along with those of the bicyclist and motorist.

The plan is a comprehensive approach to bicycle and pedestrian transportation planning in that it encompasses the "four E's" – Engineering (bicycle and pedestrian facility creation and improvement), education, encouragement, and enforcement (of the rules of the road for all road users – pedestrians, motorists and bicyclists). Education and encouragement are used to increase knowledge and awareness while also improving safety by increasing the skills and confidence of bicyclists to ride safely with traffic and pedestrians to safely navigate the street. This is crucial for increasing both bicyclists' and walkers' mobility. When combined with facility improvements, education and encouragement can dramatically increase both the levels of bicycling and walking and their visibility to motorists.

Educating motorists on how to share the road safely with bicyclists and pedestrians is also important. Education of elected officials, planners, engineers, and others involved in land use development will help insure that bicyclists' and pedestrians' needs are considered and accommodated when planning and designing the redevelopment of neighborhoods and roadways.

The plan identifies existing facilities and recommends new pedestrian and bicycle facilities, programs, policies and projects. Implementation of the plan will encourage the use of these practical, non-polluting, and affordable modes of transportation and recreation.

Existing roadways in the city were analyzed for their suitability for bicycling, to identify corridors that serve as bicycle transportation routes or barriers to cycling. The bicycle facility recommendations are those necessary for bicyclist safety, mobility, and access to important destinations such as schools, employment centers, commercial areas, public buildings, and recreational areas. Recommendations are prioritized to fill in gaps first in order to maximize the existing network, and then augment the existing bicycle transportation network in the City and its connections to other municipalities.

Sidewalks and intersections were surveyed for their safety and design. Crash data was analyzed and intersections and corridors were identified for immediate pedestrian improvements. Pedestrian facilities and design are recommended for all pedestrian areas, with the focus being on implementing changes first in problematic intersections and corridors.

1.3 Summary of Public Input

Steering Committee
A Steering Committee was designated to inform and make accessible the input of specific governmental units that have distinct interest in a successful plan. The committee was convened by Marty Weigel, a member of the Common Council, and with other Alderpersons, including representatives of the Police Department, Schools, Department of Engineering, Department of Development, Wisconsin State Fair Park and the Mayor.

The committee members included:

- Marty Weigel, Alderman/Convener, City of West Allis
- Jerry Braun, WAWM Public Schools
- Dan Devine, Mayor, City of West Allis
- Brian Havican, City of West Allis, Police Department

- Michael May, Engineer, Traffic Analysis and Design, Inc.
- Shaun Mueller, Development Planner, City of West Allis
- Randy Prasse, Wisconsin State Fair Park
- Dan Roadt, Alderman, City of West Allis
- Sabley Sabin, WAWM Public Schools
- Chris St Clair, Engineer, City of West Allis
- Steve Schaer, Planning Manager, City of West Allis Development
- Susan Stuckert, WAWM Public Schools

Public Meeting Information

Four public meetings were held to allow the residents of West Allis to become better informed about the plan's processes and progress, as well as to provide a forum for public comments about the plan. The first meeting was held on June 9, 2008 at City Hall. Ten residents signed in, four of which were steering committee members. General information about the need for the plan and the planning process was presented. Meeting turnout was low due to widespread flooding problems in the region. The second meeting was held on July 9, 2008 at Mitchell Elementary School. Fourteen residents signed in as attendees and feedback was collected on the preliminary draft map of the proposed West Allis bicycle network. Two final public meetings were held at the West Allis Farmers Market on July 28 and August 13, 2008. Fifteen attendees signed in at the August meeting. The West Allis bicycle network and suggested pedestrian and bicycle facilities were described to attendees. Again, feedback was collected on these suggested facilities and routes. Generally, attendees were interested in facilities recommended and which roads they were placed along. Attendees reacted positively to the extensive network as the majority of cyclists were able to imagine their bicycle trips along these routes. There were a few attendees hesitant to bike on the arterial roadways and commented that they either preferred using the sidewalk or residential streets. Comments often included routing suggestions and notations of hazardous conditions along the roadways (potholes, speeding vehicles, etc.).

Bicycling and Walking Surveys

A survey was prepared to seek input from residents of the city. Responses from the survey were used to determine: 1) How well the existing biking and walking network currently works, 2) How much bicycling and walking currently occurs, both for transportation and recreation, and 3) How much growth can be expected.

The survey was a guideline survey, not a statistical sampling. Collecting the guideline information is common for this type of planning. Pedestrian and bicycling surveys were available online, distributed at public meetings and were included in the summer issue of the *City of West Allis Community Newsletter* on June 19. The full results are attached in the appendix.

The pedestrian survey had a small response of only 49 respondents. Among those respondents the majority walked for exercise, relaxation and shopping a few times each week. The leading factor that prevents people from walking was reported to be perceived hazardous traffic conditions. A lack of sidewalks and pathways was the second leading reason why respondents did not walk. Highway 100 and its intersections was the most common entry when respondents were asked to list which roadways and intersections they thought were unsafe. Stretches and intersections along both Greenfield Avenue and National Avenue were the next most common responses.

The biking survey received a much larger number of responses totaling 260. This is an excellent response rate for a city the size of West Allis. Survey takers reported using their bicycles more for recreation than transportation. The things that most discouraged people from riding were motorists not following the laws of the road and bicycle unfriendly roadways. Survey respondents

reported that they would cycle more with more on-street facilities and greenway trails. They also responded that more enforcement of laws applying to motorists and cyclists and having a map of bicycling facilities for planning routes would also strongly affect their decision to bicycle more. Finally, the majority of respondents reported that they felt comfortable biking most places (streets containing bike lanes, streets signed as designated bike routes, low traffic neighborhood streets, rural thoroughfares and greenway trails) except main city thoroughfares, which currently do not have complete bike lanes or signed routes.

Chapter 2 –The Importance and Relevance of Bicycling and Walking

2.1 Social and Health Benefits

Bicycling offers low cost mobility. For those who do not use or have access to an automobile, bicycling is particularly important. While bicycling may not replace all trips by motor vehicle, it can be a practical mode for many trips, and part of multi-modal trips as well (such as a trip to a park-and-ride carpool facility, or transit stop). A reduction in trips by motor vehicle will help reduce problems with air quality. As part of Milwaukee County, an ozone non-attainment and maintenance county, West Allis is eligible for grant money for projects that encourage transportation alternatives that improve air quality.

- The average person loses 13 lbs. their first year of commuting by bike.
- Just three hours of bicycling per week can reduce your risk of heart disease and stroke by 50%.
- A 140 lb. cyclist burns 508 calories while pedaling 14 miles in an hour.

-- From 1 World 2 Wheels, Trek Bicycle Corporation 2007.

Increasing bicycling levels along with increased quality and quantity of bicycle facilities can benefit the community by providing those unable to drive or without access to a car with more independence. This can reduce the need for parents to chauffeur their children to school, social, and recreational activities, allowing households to meet their transportation needs with fewer cars. It also increases recreational opportunities and, by extension, improves public health.

Improving bicycle facilities for transportation purposes benefits those who bicycle for recreation and fitness as well. Recreational bicycle rides can begin at home and be combined with other, often utilitarian, trip purposes. When linked with a larger bikeway system, off-street paths can provide important transportation linkages, and a complete bikeway network benefits everyone, regardless of how they use the road.

West Allis survey respondents reported that they would be encouraged to cycle more if more on-street and trail bicycle facilities existed. By investing in bicycle infrastructure, the City of West Allis is investing in its citizens' health.

2.2 Environmental and Transportation Benefits

Bicycling is an important mode of transportation that is available to all ages and socioeconomic groups. It is quiet, non-polluting, versatile, healthy and fun. Bicycling is a convenient and efficient form of transportation, and for some, the main mode of transportation. Bicycling is also a popular mode of transportation because, like the automobile (but unlike public transit), a bicycle provides its user with autonomy and flexibility regarding travel schedules and destinations, including multiple destinations (or "trip-chaining"). Bicycling is the most energy efficient form of transportation, and is often faster than driving for shorter trips (up to five miles). Bicycling is an important element of a transportation system. Multi-modal trips allow commuters to use their bicycles to reach a bus stop or ride to their destination from a convenient parking area. Bicycling levels are much higher during the warmer months, but the development of inexpensive, more versatile bicycles and clothing have increased both the appeal and the practice of bicycling in wetter and colder weather.

25% of all trips are made within a mille of the home, 40% of all trips are within two miles of the home, and 50% of the working population commutes five miles or less to work.

-- From 1 World 2 Wheels, Trek Bicycle Corporation 2007.

Travel within Southeastern Wisconsin is predominantly by personal motor vehicle. Walking and bicycle travel represent the next largest

percentage of internal weekday travel by resident households of the region, and that percentage has doubled since 1991.

The Milwaukee County Transit System (MCTS) runs along many of the main corridors in West Allis. Most of the residential areas in West Allis are served by transit. The MCTS buses are slated to have bike racks installed on the entire fleet by spring of 2009.

Increasing bicycle opportunities improves the efficiency of the transportation system, and therefore increases environmental benefits. It improves neighborhood livability by reducing motor vehicle traffic and its associated pollution and congestion, reducing the need for motor vehicle parking, and reducing motor vehicle crashes, injuries, and property damage.

When compared to a motor vehicle, bicyclists take up very little roadway space. In most urban traffic conditions, bicyclists do not significantly limit traffic flow. Therefore, converting motorists to bicyclists will increase roadway capacity, reduce congestion, and decrease trip times for everyone.

2.3 Economic Opportunities

Improving the bicycling environment can provide non-transportation related benefits as well. The community benefits from bicycle riders who purchase food and other needs locally. The tourism industry benefits as more bicyclists are attracted from outside the community. Most importantly, the quality of life of the community is enhanced by the presence of bicyclists and pedestrians, for example, when social interactions occur spontaneously, or when people feel safer being outdoors.

Photo provided by WI Dept of Tourism

Bicycle facilities have been shown to have a positive effect on both nearby property values[2], and an increase in business reported by owners of businesses near bicycle facilities.[3] A study by North Carolina's Department of Transportation of bicycle facilities in the Outer Banks reveals an annual economic impact of the facilities of 600% of the (one-time) capital costs.[4] A study in East Central Wisconsin showed 39% of responding businesses indicated increased business as a result of users of the Fox River Trail. The same study showed that a bicycle facility had positive effects on real estate values (and therefore property tax revenues). Lots adjacent to the Mountain Bay Trail in Brown County, WI, sold faster and for an average of 9% more than similar property not located next to the trail. The study also suggests that, by providing workers an alternative to driving to work, the trail became an inexpensive alternative to increasing road capacity.[5] The conclusion that trail facilities generate increased revenue through higher property values is corroborated by the Consumer's Survey on Smart Choices for Home Buyers. In that survey, trails ranked the second most important amenity out of a list of 18 choices.[6]

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[2] National Association of Realtors and National Association of Builders, *Consumer's Survey on Smart Choices for Home Buyers*, April 2002.
[3] Runge, Cole. Fox River Trail Study, Prepared for the Brown County Planning Commission, December 2001.
[4] Lawrie, Judson, John Guenther, Thomas Cook, and Mary Paul Meletiou. *The Economic Impact of Investments in Bicycle Facilities: A Case Study of the North Carolina Outer Banks*, summary report, April 2004.
[5] Runge, Cole. Fox River Trail Study, Prepared for the Brown County Planning Commission, December 2001.
[6] National Association of Realtors and National Association of Home Builders, *Consumer's Survey on Smart Choices for Home Buyers*, April 2002

Chapter 3 – Existing Policies and Plans Related to Bicycling and Walking

3.1 Federal

The *Guide for the Development of Bicycle Facilities* by the American Association of State Highway and Transportation Officials (AASHTO) is commonly accepted as the "best practices" for building bicycle facilities. The *Wisconsin Bicycle Facility Design Handbook*, by Wisconsin Department of Transportation, however, meets or exceeds all AASHTO guidelines.

The *Manual on Uniform Traffic Control Devices* (MUTCD) by the US Department of Transportation (USDOT) Federal Highway Administration (FHWA) contains currently acceptable signage for use on bicycle facilities, as well as experimental signs. A new edition of the MUTCD should be officially released during 2009. Experimental bike signs and markings, including sharrows recommended in this plan, have been recommended to be upgraded from experimental to official status. If accepted, this change will occur in the new release.
http://mutcd.fhwa.dot.gov/

Congress firmly established the principle that the safe accommodation of bicycling and walking is the responsibility of state and local transportation agencies, and that this responsibility extends to the planning, design, operation, maintenance, and management of the transportation system in federal transportation law, including the Intermodal Surface Transportation Efficiency Act (ISTEA), its reauthorization, the Transportation Equity Act for the 21st Century (TEA-21), and its reauthorization, the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU).

The Federal Highway Administration Program guidance on the federal transportation bills states that "In the planning, design, and operation of transportation facilities bicyclists and pedestrians should be included as a matter of routine and the decision not to accommodate them should be the exception rather than the rule. There must be exceptional circumstances for denying bicycle and pedestrian access either by prohibition or by designing highways that are incompatible with safe, convenient walking and bicycling." More information on this federal legislation can be found here:
www.americabikes.org/resources_policy_biyclefriendly.asp

In response to the Transportation Equity Act the U.S. Department of Transportation published a policy statement for integrating bicycle and walking into transportation infrastructure titled: *Design Guidance Accommodating Bicycle and Pedestrian Travel: A Recommended Approach*. It provides a policy statement that "bicycling and walking facilities will be incorporated into all transportation projects unless exceptional circumstances exist" along with providing an approach to achieving this policy proven at state and local levels and finally action items public agency, professional association, or advocacy group can take. The document is available here:
http://www.fhwa.dot.gov/environment/bikeped/design.htm

The Financial Rescue package passed in the fall of 2008 included what was widely known as the Bicycle Commuter Act. A bicycle commuter tax provision will begin January 1, 2009 and will essentially add bicycling as a mode of transportation that can benefit from tax free employer benefits. Currently, employers are allowed to fully or partially subsidize parking and public transit costs to employees. With the passing of this legislation, cyclists are now included as a reimbursable activity under this provision, up to $20 per commuting month. Details on exactly what is covered and how the program will work have yet to be finalized. The League of

American Bicyclists website should be consulted for more information and timely updates of how this act will be executed and implemented.
http://www.bikeleague.org/

3.2 State

Wisconsin Department of Transportation (WisDOT)
The *Wisconsin Bicycle Transportation Plan 2020* (WisDOT September 1998) is intended "to establish bicycling as a viable, convenient, and safe transportation choice throughout Wisconsin." The role of the state plan is "ensuring an interconnected transportation system across government boundaries and highway jurisdictions that can work safely for bicyclists..."
www.dot.state.wi.us/projects/state/bike2020.htm

The *Wisconsin Bicycle Facility Design Handbook* meets or exceeds federal (AASHTO) guidelines and should be used preferentially over the *AASHTO Guide for the Development of Bicycle Facilities*. It is available from the state bicycle and pedestrian coordinator, Tom Huber, (thomas.huber@dot.state.wi.us), and also online at
www.dot.wisconsin.gov/projects/state/docs/bike-facility.pdf

Although intended for larger communities, the *Wisconsin Bicycle Planning Guidance: Guidelines for MPOs and Communities in Planning Bicycle Facilities* still contains useful information about the importance of planning a complete bikeway network.
www.dot.state.wi.us/projects/bikes.htm

Additionally, the Department of Transportation has published a similar document for pedestrian planning called the *Wisconsin Pedestrian Planning Guidance: Guidance for MPOs and Communities in Planning and Developing Pedestrian Facilities* published in September of 1993.
www.dot.wisconsin.gov/projects/state/docs/ped2020-guide.pdf

3.3 Regional

Southeastern Wisconsin Regional Planning Commission (SEWRPC)
The *Regional Transportation System Plan for Southeastern Wisconsin: 2035 (SEWRPC Planning Report No. 49)* includes SEWRPC's vision for transportation in the region:
"A multimodal system with high quality public transit, bicycle and pedestrian, and arterial street and highway elements which add to the quality of life of Region residents and support and promote expansion of the Region's economy, by providing for convenient, efficient, and safe travel by each mode..." Also useful is chapter IV: Regional Travel Habits and Patterns, which can serve as a baseline (e.g. for measuring local progress in goals such as WisDOT's to double the number of trips by bicycle).
www.sewrpc.org/regionalplans/regionaltransysplan.shtm

The Amendment to the Regional Bicycle and Pedestrian Facilities System Plan for Southeastern Wisconsin: 2020 (SEWRPC) "seeks to remove existing impediments to bicycle travel related to the lack of bicycle paths, the lack of safe accommodation on streets and highways, and the lack of support facilities such as bicycle parking and storage lockers. The plan recommends that improvements such as extra-wide outside travel lanes or paved shoulders be considered to be provided whenever an arterial street or highway is constructed or reconstructed to better accommodate shared roadway use by bicycles and motor vehicles." pp 2.
www.sewrpc.org/transportation/amendmentbikeped.asp

In West Allis the plan recommends two major east-west bike routes, two north-south routes and a diagonal route along Beloit Road. One of the east-west routes is the off-street and on-street connection known as the Cross-Town Connector. Bikeways along Cleveland, 84th, Beloit, Lincoln, Mitchell, 116th and 70th were proposed. These recommendations were taken into consideration with the creation of this plan's proposed bicycle network.

3.4 Local

West Allis Comprehensive Land Use Plan 1990-2010
While this Comprehensive Plan does not specifically address bicycle needs, the plan does address pedestrian orientated services. In the description of existing land use the plan reports that 1,856 acres of the city's total land are infrastructure services that include pedestrian orientated services. In recommendations for the future of the transportation network system the plan reports that most of the transportation network is in and that most of the future work will be in maintaining the existing network as it is. This Comprehensive Plan will be updated shortly and it is recommended in the **5.3 Recommended Action** section that the new plan incorporate this Bicycle and Pedestrian Master Plan into its Transportation chapter.

West Allis Comprehensive Outdoor Recreation Plan, 1996
This plan calls out specifically that:

> The City should plan for accommodating bicycles not only as a form of recreation but as an alternative mode of transportation. An expanded bicycle network of "on-street" facilities should be planned to link neighborhoods with recreational facilities and the "76 Bike Trail".

The "76 Bike Trail" is now known as the Oak Leaf Trail. In the Bicycle Facilities section of the plan reasons why cycling is important to West Allis are outlined and general recommendations to take bicycle accommodations into consideration with any future roadwork, safely linking major activity generators within the city. The plan references the SEWRPC plan and notes that it is difficult for the city to acquire right-of-way for the creation of any significant new off-street paths because the city is essentially 100% developed. Therefore, on-street facilities are the recommended bicycle accommodation. The West Allis Bicycle and Pedestrian Master Plan builds upon the thinking of the Comprehensive Outdoor Recreation Plan and takes the planning further into creating the bicycle network and laying out the steps toward full implementation.

Existing City Code for Sidewalks:

> The City Code of West Allis requires a standardized concrete sidewalk to be built "Upon all streets which are improved by grading, paving, macadamizing and curbing" (11.07 (2)(a)).
>
> 10.20 RIDING BICYCLE ON SIDEWALK.
> (a) Pursuant to sec. 346.92(1) of the Wisconsin Statutes, the operation of bicycles upon a sidewalk is permitted in the City. The person operating a bicycle on a sidewalk shall follow all other applicable rules of the road.
> (b) Every bicycle being operated on a sidewalk and passing a pedestrian proceeding in the same direction shall be equipped with a device such as a horn, bell or buzzer to give the audible signal required by sec. 346.804 of the Wisconsin Statutes, or the bicyclist shall

The residents of the City of West Allis are benefiting from the improved pedestrian areas around the school. The goals of the SRTS program are in line with recommendations this plan is making city-wide. Partnership with the city in its efforts to do the same pedestrian and bicycle safety enforcement as well as a public relation program city-wide should be paired with the West Allis – West Milwaukee School District's efforts to minimize costs for all. Not every element of the SRTS proposal was awarded. It should be noted that the SRTS grant only awarded a third of the requested funding for enforcement. Partnership with the City of West Allis could supplement the difference. Finally, two bike racks were requested for each school, at $1,500 a piece, $15,000 was requested. However, only a third of this was awarded. This is another situation where perhaps the city could step in and using the purchasing power of scale, order additional racks for the schools if or when a large bike rack order is made for bike racks city-wide. It is possible both the city and school district can find more affordable bike racks. See section **6.1 Bicycle Parking** for more detail.

Bicycle and Pedestrian Education Programs
Bike Rodeos can be effective tools for teaching kids safe bicycling basics, but only when those running the rodeos know what the most common kinds of child bicyclist crashes are, and what skills kids need to avoid them. Teaching Safe Bicycling is a free course, coordinated by Larry Corsi, the Bicycle & Pedestrian Safety Program Manager for WisDOT's Bureau of Transportation Safety, which will provide an instructor with these critical skills. Contact Larry.Corsi@dot.state.wi.us, or 608-267-3154 or view course information here:
http://www.dot.wisconsin.gov/safety/vehicle/bicycle/docs/tsb-brochure.pdf

Bike Ed is a group of courses developed by the League of American Bicyclists (LAB) to suit the needs of any cyclist. LAB certifies, insures and equips League Cycling Instructors (LCIs) to teach anything from basic skills to college level courses. LCIs are the experts in bicycle education and safety. Courses offered include: Road I, Road II, Commuting, Motorist Ed, Kids I and Kids II. LCIs can also offer modified versions of these courses and design bike rodeos and provide general safety consulting. Residents can take these classes on their own, or community centers, senior centers, schools and employers can coordinate and host classes for groups.

Road I
This class gives cyclists the confidence they need to ride safely and legally in traffic or on the trail. The course covers bicycle safety checks, fixing a flat, on-bike skills and crash avoidance techniques and includes a student manual. Recommended for adults and children above age fourteen, this fast-paced, nine-hour course prepares cyclists for a full understanding of vehicular cycling.

Road II
For more advanced students with an understanding of vehicular cycling principles, this twelve-hour course includes fitness and physiology, training for longer rides, advanced mechanics, paceline skills, advanced traffic negotiation, foul weather riding and night riding. Student manuals are included with each class.

Commuting
This class is for adult cyclists who wish to explore the possibility of commuting to work or school by bike. This three hour follow-up to Road I covers route selection, bicycle choice, dealing with cargo and clothing, bike parking, lighting, reflection, and foul weather riding. Included with the class are handouts and student materials.

Motorist Education
A 3-hour classroom session, this course can be easily added to a driver's education curriculum,

such as diversion training for reckless drivers or a course designed local bus drivers. Directed towards motorists in general, topics covered include roadway positioning of cyclists, traffic and hand signals, principles of right-of-way and left and right turn problems. Materials include Share the Road literature for bicyclists and motorists as well as other fact sheets.

Kids I
In this course designed for parents, instructors explain how to teach a child to ride a bike. Topics covered include how to perform a bicycle safety check, helmet fitting and bike sizing. The course includes the 10-minute 'Kids Eye View' video and a brochure for parents.

Kids II
This 7-hour class is for 5th and 6th graders and it covers the same topics as Road I, including on-bike skills as well as choosing safe routes for riding.
The Bicycle Federation of Wisconsin has trained dozens of people in Wisconsin to teach the League of American Bicyclist courses. For more information on Bike Ed in Wisconsin visit the Bicycle Federation's website: www.bfw.org. To find the closest LCI, visit the League of American Bicyclists website: http://www.bikeleague.org/cogs/resources/findit.

4.2 Encouragement

Publicizing bicycling and walking is both education and encouragement. By producing and distributing bicycle and pedestrian education material, the City of West Allis can provide bicyclists, pedestrians, and potential bicyclists and pedestrians, with the information they need to bicycle and walk safely and comfortably. WisDOT provides a range of safety materials for free to anyone requesting them by their publication number.

Of the safety materials WisDOT provides related to bicycling and walking, the best materials include:

- Wisconsin Bicycle Laws (card HS 221)
- Wisconsin Pedestrian Laws (card HS 244)
- Bicycle Safety-What Every Parent Should Know (HS 239)
- From A to Z by Bike (HS 214, for ages 11-adult)
- Bicycle Safety: A 'Wheely' Good Idea (HS 213, handbook for ages 8-11)
- Bicycles & Traffic - Get Over Your Fear (brochure HS 238)
- Two-Wheeled Survival (brochure HS 227)
- Sharing The Road: Survival of the Smallest (brochure HS 228)
- Street Smarts (updated brochure HS 207)
- Share the Road with Bicycles (bumper sticker HS 237)
- I Stop for Pedestrians (bumper sticker HS 233)

Request materials from WisDOT by publication number using the form found at www.dot.wisconsin.gov/forms/docs/dt1265.doc.

Partnering with other agencies and organizations will help deliver bicycle information more effectively. For example, bicycle education should be integrated into school curricula and park programs so that many more children learn to bicycle more safely and frequently. Partnering with media outlets and the private sector will further increase the reach of education campaigns. The City could also make use of the website www.Streetshare.org to promote bicycling and walking and to educate citizens about bicycling and walking in the community. Contact Dave Schlabowske, the City of Milwaukee's Bicycle & Pedestrian coordinator, to set up a partner link for West Allis on www.StreetShare.org.

Bike to Work Week
Bike to Work Week (BTWW) is a promotional campaign that has succeeded in increasing the numbers and safety of individuals who bike to work, shop, school, or wherever they need to go in the communities where it has taken place. A recent Bike to Work Week campaign in Sheboygan County resulted in a 7% mode shift. The Bicycle Federation of Wisconsin provides information for concerned citizens and employers to start encouraging bicycling in their community through Bike to Work promotions, available online at http://bfw.org/coordination/index.php.

Bicycle Map
Producing and distributing a City map for bicyclists can go a long way towards encouraging and educating citizens. An overwhelming 86% of respondents to the West Allis Bicycle Survey indicated that a bicycle map of the area would positively (44% "strongly," 42% "moderately") affect their decision to bicycle more. The Bicycle Federation of Wisconsin has produced a bicycle map for Milwaukee County, and has the capability of producing a bicycle map specifically for West Allis. Such a map could not only educate citizens about the best routes for bicycling, but could also help teach them to safety share the road with motor vehicle traffic by using safety tips and illustrations on the reverse of the map itself.

The bicycle facilities in the City of West Allis will be included in the next printing of the *Milwaukee by Bike* map produced by the City of Milwaukee in partnership with Milwaukee County Parks. The next edition is expected to be printed in the next few years, as the most recent printing occurred this year (2008). Bike route and lane information (existing and planned) should be submitted to the City of Milwaukee for printing coordination.

If the City of West Allis is interested in producing its own bicycle map, it will be extremely important to gather more information from the public regarding the map content. From previous bicycle mapping projects completed by the Bicycle Federation of Wisconsin, map users have expressed that it is very important to include the following characteristics:

- All bicycle facilities, including signed routes, bike lanes, and bike trails, depicted
- Public amenities, such as restrooms, parks, emergency services, and private amenities, such as bike shops, should all be displayed.
- Map scale should be appropriate for users to easily determine travel distance, and the map should have as many roads as feasible labeled.
- A digital version of the map should be available on-line

Geographical Information Systems (GIS) technology would be the best method to create the bicycle map. Bicycle and Pedestrian has provided a digital version of the facilities network map of proposed bike routes and lanes. As these facilities are implemented, annual map versions should be produced and updated. Using GIS is the most expedient means for updating the map and the plan in the future.

The cost of creating a bicycle route map can be divided into two parts: the cartography work and the printing and distribution. An itemized list of specific tasks and related costs can be found in the appendix, but a summary cost for cartography work is estimated at about 150 hours. Consulting rates range from $60 to $120 and higher per hour.

Printing can be difficult to estimate since choice of color, paper stock, and number of copies printed all have a significant affect on price. In 2008 the City of Milwaukee in partnership with Milwaukee County Parks updated their bicycle map. The cost for a standard paper stock and a four color double sided 26"x36" map was quoted to cost $9,230 for 50,000 maps. Enough maps for about 10% (estimated need for maps for 3 years) of residents of West Allis would be about 6,000

copies, and could cost close to $1,000, although printing smaller quantities sometimes costs more per unit than printing larger quantities.

Often at least some of the funds for a bicycle map can be procured from advertising fees from local businesses wanting representation on the map. The City could also charge for each copy of the map, but the administrative costs of charging for each copy may exceed the revenue gained. A bicycle map is also more likely to be an effective educational strategy if it is available for free.

Other Public Education Opportunities
In addition to a bicycle map and education programs described above, there are other ways to get the word out that bicycling and walking are viable means of transportation and recreation.

A page on the City of West Allis website should be created to highlight the functions and locations of new pedestrian improvements in the city. This could also be a place where laws and ordinances could be posted to educate pedestrians and drivers. Additionally these improvements, laws and ordinances could be published in a flyer included in a city newsletter or posted in public areas.

Smart Trips
Smart Trips is a commuter incentive plan, a new and effective targeted marketing program. Targeted marketing programs are comprehensive, individualized programs that encourage people to take fewer car trips by making it easier for them to choose transit, walking, and bikes. First, residents of targeted neighborhoods are contacted and grouped into one of three categories:

1) Currently walk/bike/take transit
2) Interested in walking/biking/taking transit
3) Not interested

No further contact is made to those indicating no interest, while the other two groups receive an order form that can be used to request materials and incentives for walking, biking and transit. Materials available frequently include transit schedules, walking maps to neighborhood scale, bike maps, individualized route planning, home visits from bike commuters or transit operators, bike and walk calendar of events. Incentives include coupon books, umbrellas and pedometers. As order forms are received, materials are gathered for each individual and delivered by bike to each person's doorstep within a matter of days. Delivering the materials by bike is not only faster and less expensive than delivering them by car; it reinforces how accessible biking for transportation can be.

For the duration of the program, participants are contacted on average of five times, although in some cases as many as ten instances have occurred. The personal relationships that targeted marketing programs create are just one of the benefits of the programs. The real benefit lies in the increased mode-shift away from automobile use to walking, biking or transit trips. Of all the programs represented at a national bicycle and pedestrian conference, Pro Walk/Pro Bike, an 8 to 12% mode-shift was realized upon implementation. In fact, post surveys from Portland's SmartTrips program show an 18% decrease in drive-alone trips and a 142% increasing in biking.

The City of West Allis could work with the West Allis Chamber of Commerce, and also with Wisconsin's Department of Tourism to publicize bicycling. Television and/or radio Public Service Announcements about safe bicycling and motorists safely sharing the road with bicycles could be produced and aired. Advertising in newspapers, on billboards, and on buses can gain bicycling

exposure. The Bicycle Federation has experience with public awareness campaigns and could provide a package of billboard design, public service announcements, posters, literature and brochures for an estimated $5,000.

When bike racks are installed on the MCTS buses next spring, brochures about how to use the racks could be distributed with bus schedules and route maps. "Earned media," e.g. a press release in conjunction with a ribbon cutting ceremony, is always a great way to get publicity, and also to generate more interest in expanding the bikeway network.

4.3 Enforcement

For enforcement to be effective, law enforcement officers need to know which illegal behaviors are the most common factors in crashes. Wisconsin's Pedestrian and Bicycle Law Enforcement training course, available through Larry Corsi through the Wisconsin Department of Transportation (WisDOT) Bureau of Transportation Safety, provides this education for law enforcement officers. The course also qualifies towards the training hours required of most law enforcement agencies. Contact Larry.Corsi@dot.state.wi.us, or 608-267-3154.

The rules for riding bicycles on the road (and rules for motorists sharing the road safely with bicycles) are online at www.dot.state.wi.us/safety/vehicle/bicycle/rules.htm.

WisDOT also distributes, for free, printed safety materials such as a Summary of Wisconsin Bicycle Laws (HS226), and a Bicycle Law Card (HS221) mentioned in the Education section.

WisDOT's Division of Motor Vehicles *Motorist Handbook* includes nearly ten pages of information on bicycling safely and on motorists sharing the road safely with bicyclists.

In addition to training police in law enforcement for bicycle safety, training drivers of commercial vehicles to model behavior can bolster enforcement by police officers. The cities of Madison and Milwaukee, for example, educate all drivers of city vehicles about the state statutes that require drivers to yield to pedestrians in crosswalks and to give all vehicles (including cyclists) 3 feet of clearance when passing. In concert with this idea, West Allis should not only educate its City fleet, but also encourage the Milwaukee County Transit System to educate the drivers of its fleet about the state statutes as well.

Chapter 5 – Existing Conditions, Goals, and Performance Measures

5.1 Existing Conditions

Currently, the City of West Allis contains the Oak Leaf Trail and a few bicycle lane markings near the Farmer's Market on National Avenue and on 116th street north of Greenfield Ave. In addition to existing facilities, West Allis has approved funding and is in the engineering phase of an off-street/on-street trail that would run through the City as an east-west connection. Construction of the proposed "Cross-town Connector" has been held up due to the complications of crossing major railroad lines.

The Hank Aaron State Trail currently runs from Lake Michigan to the Veterans Administration Hospital in West Milwaukee. Plans are in place to continue the trail to the western border of West Allis, connecting to the Oak Leaf Trail to the south. Currently the corridor is owned by the State, open to the public and cleared of debris. However, paving and on-street connections are slated for completion along the northern edge of West Allis by 2012.

Residential streets in West Allis with low traffic volumes are safe and recommended for bicycling with no additional facilities. The arterial streets that hold higher and faster traffic and serve popular destinations are in need of better and safer facilities to accommodate bicycle transportation. In these cases, critical corridors connecting neighborhoods and destinations are recommended for either bicycle routes or lanes. Some arterial streets are wide enough to accommodate bike lanes without any additional pavement. In areas where there is not enough width, bicycle routes are recommended. Bicycle parking at key destinations is also currently lacking.

Residential streets are also currently serving the needs of pedestrians. Areas that will need additional pedestrian accommodations are at major arterial intersections and along commercial and arterial corridors. Crossing light times have been reported to be too short for some pedestrians along Greenfield Ave. Landscaping, streetscaping and other pedestrian accommodations can be made in these areas, in continuation with implementing the existing City of West Allis sidewalk code.

Chapter 6 – Recommended Bicycle and Pedestrian Facility Plan

6.1 Recommended Bicycle Facilities

Shared-Use Neighborhood Streets

Residential streets in West Allis with low traffic volumes and speed are safe and recommended for bicycling with no additional facilities. These streets provide the connections necessary for bicyclists to reach the bicycle lanes and routes in the network to and from their destinations. These streets do not need to be marked on the map because these routes are often unique to each user and marking every street would clutter a map and provide unnecessary information. These streets are an important part of the pedestrian and bicycle network and should therefore be cleared of hazards and considered for pedestrian and bicycle improvements, in accordance with the recommended "Complete Streets" policy.

Bicycle Routes and Lanes

Designated bicycle lanes and routes are made on higher speed and traffic volume streets that provide major connections within West Allis and to neighboring municipalities. These bicycle facilities provide more direct linkages to major destinations than a route only carried out on shared-use city streets.

86% of respondents to the West Allis Bicycle Survey stated that "bicycle unfriendly roadways" "strongly discouraged" (64%) or "moderately discouraged" (22%) them from bicycling in West Allis. Similarly, 93% of respondents reported that "more on-street facilities (bike lanes, paved shoulders, wide travel lanes, etc.)" would "strongly affect" (72%) or "moderately affect" (21%) their decision to bicycle more. A map of recommended on-street facilities follows in **section 6.4**.

Both bicycle routes and lanes have been recommended in West Allis. Bike lanes will not fit within the current right of way on every street, nor are they needed. The roadway cross section must have 10-12 feet for each regular travel lane, 5-6 feet for the bike lane and 7-8 feet for parking lanes (where parking is allowed). Bike lanes do not eliminate travel lanes for motor vehicles, nor do they eliminate parking. Roads that are important routes for cyclists but not wide enough to accommodate bike lanes can be signed as bike routes. For the purposes of this plan, parking was not thoroughly analyzed for conflicts with recommended bike lanes and routes. It is recommended a parking study be done to determine present and future parking demand, with consideration for right of way space needed for bicycle accommodations.

Bicycle routes are roadways with a wide enough curb lane to accommodate bicycle traffic. In situations where the curb lane becomes limited or too narrow, bicyclists are encouraged to take the lane. The signage of a bicycle route alerts motorists that they are on a roadway frequently used by bicyclists, who operate as legal vehicles on the road. Further detail can be found in the facility design **section 6.5**. Roads currently recommended to become bicycle routes may be eventually upgraded to bicycle lanes if adequate width exists or is created.

Off-Street Paths

71% of respondents to the West Allis Bicycle Survey stated that "lack of greenway trails" "strongly discouraged" (35%) or "moderately discouraged" (36%) them from bicycling in the community. 93% of respondents reported that "more greenway trails" would "strongly affect" (66%) or "moderately affect" (27%) their decision to bicycle more. As mentioned earlier, the City of West Allis has limited opportunities to attain property for the creation of off-street trials. Utility and old rail corridors remain as options. A map of recommended off-street facilities follows in **section 6.4**.

Two major corridors have been recommended for newly developed off-street trails. The first is the already planned "Cross-town Connector" that is currently being implemented as the City negotiates the location and design of railroad crossing points. Additionally, a north-south connection is proposed to begin at the Hank Aaron State Trail, run south on the east side of Interstate 894, to eventually connect with the City of Greenfield's proposed path in the utility corridor just north of Cold Spring Rd. This north-south connection will connect the "Cross-Town Connector" with many miles of off-street trails. During the reconstruction of this interstate corridor, it is imperative this trail be considered in the planning and design of the new roadway and during construction so that bicycle transportation can help to alleviate construction congestion. Particular attention should be paid to the safe design of on and off-ramp crossings when they approach or intersect bicycle facilities.

Sidewalks
Sidewalks are not recommended to be used as bicycle facilities for safety purposes. Bicyclists traveling at speeds in excess of 15 mph are a hazard to pedestrians, and are at risk themselves to being hit by vehicles entering and exiting driveways and intersections. Drivers crossing the sidewalk are looking for pedestrians. It is difficult to see and gauge the speed of a rapidly moving cyclist on the sidewalk. They are not expected, nor should they be. A notable exception to this is for young children and bicyclists traveling at pedestrian speeds (4-5 mph). The lower speed makes these users visible in the driver's line of sight for longer periods of time and provides increased security to pedestrians. Additionally, it is not advisable for young children under 10 to bicycle in the street until they are capable and knowledgeable of the rules of cycling in the road. See Milwaukee ordinance and recommended policy in **section 6.3**.

Bicycle Parking
For bicyclists to feel comfortable getting off and leaving their bicycles to run errands or bike to work, secure and convenient bicycle parking or storage must be available. Having a bike rack available to cyclists is just the first step to providing bicycle parking; the bike rack type and location are additional critical factors to creating an inviting bicycle parking facility.

The inverted-u bike rack design is the preferred recommendation for bicycle parking. This design provides support to keep the bike from falling and allows for secure locking of the bike frame and tires, without placing the bicycle in a situation where the bicycle can be easily damaged. Often bike rack designs put the bicycle at risk for bent rims and other damage. These inverted U racks, when placed properly, allow for compact, secure bicycle parking without wasted space or frequent misuse. **Section 6.3** contians more information on rack location and ordinances.

6.2 Recommended Pedestrian Facilities
The City of West Allis currently has 278 miles of sidewalks along 194 miles of streets. Sidewalks are a critical piece of a pedestrian infrastructure. However, an inviting place to walk is made up of more than just sidewalks. A pedestrian should feel safe and that they belong walking to and from their destination. They should feel comfortable at intersections and walking between businesses. Pedestrians should not feel isolated, and the neighborhood or businesses around them should be interesting to look at. These can be elusive qualities to create; however, they become more approachable when broken down into elements like continuous sidewalks, lighting, snow-removal, landscaping, public art and building design. Four goals have been set for the City of West Allis to guide steps forward to achieve a walkable and inviting pedestrian infrastructure.

Pedestrian Goals:

- *Provide a continuous network of sidewalks connecting city residents to schools, businesses, parks, workplaces and each other.*

- *The City of West Allis should work to ensure a safe walking environment.*

  Maintenance of sidewalks should be year-round. Pedestrian scale lighting and trash receptacles should be placed where appropriate.

- *Area businesses, developers and the City of West Allis should work together to create a pedestrian oriented environment.*

  This will require cooperation among city government, business owners and the residents of the City of West Allis. Elements as large as building design and as small as flowerbeds are important to creating an environment inviting to pedestrians.

- *Finally, the City of West Allis needs to provide routine education and enforcement of traffic, bicycle and pedestrian rules and regulations.*

  Education and enforcement has begun with the Safe Routes to School programming in five West Allis public schools. It should extend into the adult pedestrian and driving community through the elements described in **Chapter 4**.

Pedestrian Improvement Zones
Greenfield Avenue east of State Fair Park and west of 60th Street, and south along 60th Street from Greenfield Avenue to Lapham Street, has been designated as a Pedestrian Improvement Zone. This is an area with many retail stores, restaurants and other businesses that are already abutting the sidewalk. It is recommended that this area undergo a detailed traffic study to survey the needs of pedestrians, bicyclists, transit and motorists. This area holds a lot of traffic of each type and an in-depth study will help to discern how the restricted space can be maximized safely for all users.

A second pedestrian improvement zone is along 60th Street from Burnham Street, crossing Beloit Road south to the railroad tracks. This area is another commercial area with restaurants and other service oriented commercial uses, high traffic and narrow pedestrian accommodations. To relieve pressure, 60th Street is slated for reconstruction in 2010 with an expanded terrace and pedestrian accommodations. This critical north-south connection carries four lanes of traffic and is expected to increase in usage in future years. This area is currently not recommended as a bicycle route or lane because of the narrow roadway, high traffic volume and limited right-of-way. If traffic decreases in speed and volume in the future, this street could become a signed bicycle route.

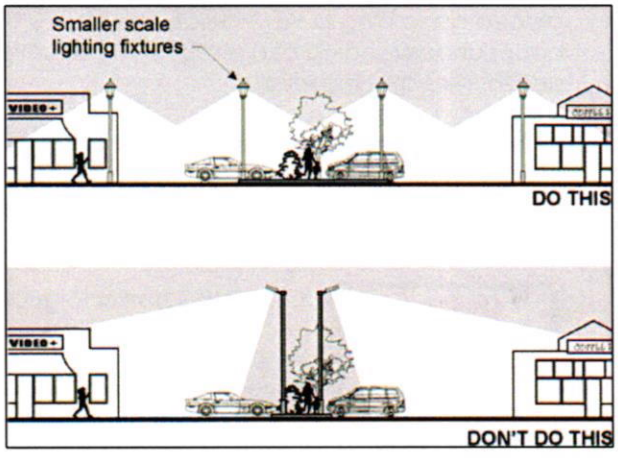
A third pedestrian improvement zone is along Mitchell Street between 65th and 56th Street. This area is much the same as the other zones, with a commercial corridor, heavy traffic and narrow sidewalks. This area would benefit similar streetscape improvements, like those already made in the commercial district along Greenfield by the Business Improvement District. These include trash receptacles, benches and pedestrian scaled lighting.

Local Commercial Districts

Generally speaking, areas that are anticipated to be heavily used by pedestrians, such as a downtown commercial district, should be landscaped with moveable tables and chairs, trash receptacles, public art and signage. This is ideal for encouraging a "Park Once" area where visitors will park their vehicle once and walk to multiple businesses in one trip. The City of West Allis already allows a variance of their off-street parking requirements to allow businesses in certain areas to have joint use of parking areas (12.19 (7)(a)).

Moveable tables and chairs, placed in an area with adequate room, sometimes referred to as "the furniture zone", provide a setting for people to meet, visit and rest. Studies have shown that visitors like to adjust their space according to their needs, moveable chairs allow for this. Trash receptacles are helpful with keeping the area clean and inviting. Lighting should be of pedestrian scale to adequately shed light on the sidewalk in a manner that minimizes light pollution and is aesthetically pleasing.

Moveable chairs -- from Project for Public Spaces



Pedestrian scaled lighting recommendations -- From the City of Woodinville Comprehensive Plan

Residential Districts

In residential areas sidewalks should look on to porches, doors and windows as opposed to garage doors. This can be required as a particular residential zoning requirement or simply designated as a design guideline to suggest preferred methods of residential site layout for residential redevelopment or new development in West Allis.

It is suggested that the city allow citizens to meet as a neighborhood or street and decide if they want speed humps, curb extensions, etc. on their neighborhood roads. The suggested design of various traffic slowing devices can be found at the Traffic Calming website of the Pedestrian and Bicycle Information Center http://www.walkinginfo.org/engineering/calming.cfm. Citizens have local knowledge and inclinations that can provide a much smaller and more detailed pedestrian plan customized to their neighborhood needs, dangers and preferences.

Intersections

Pedestrian countdown signals display readouts showing the countdown until the next signal change, when it is unsafe to cross. Public feedback from the public meetings and surveys has indicated that some intersections feel unsafe because of the limited amount of time available to pedestrians crossing the

From walkinginfo.org

crosswalk. Increasing crossing time for pedestrians lies within the realm of the traffic engineers of the city – and affects the entire flow of traffic along the street. A pedestrian countdown signal in and of itself, however, does not affect traffic flow; it simply provides pedestrians with an exact count of how much time they will have to safely cross.

Pedestrian countdown signals should be fitted next to the "Walk/Don't Walk" indicators in busy intersections in the City of West Allis. The "Intersections for Immediate Pedestrian Improvement" reported in the public participation process and marked on the Bicycle and Pedestrian Plan Map should be the first priority for installation. Eventually, they should be installed at all signaled intersections with crosswalks.

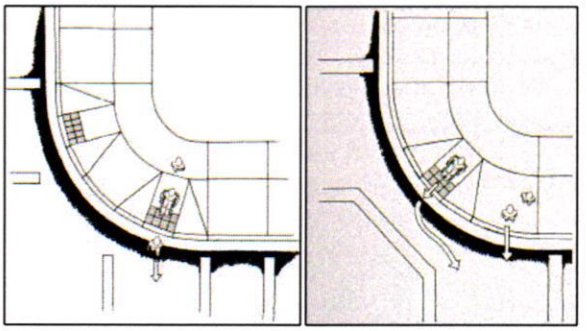
At crossings where pedestrians can push a button to cross, also called actuated signals, the push buttons should be located/relocated and placed according to ADA guidelines for use by wheelchair users and better understanding of direction. This will improve crossings for both pedestrians and bicyclists.

At intersections where a pedestrian may not have time to completely cross an intersection in the time allotted, a median refuge with push buttons (ADA accessible) should be constructed in the middle of the intersection. If a constructed median refuge has a raised curb, this curb should be cut flush with the roadway and allow pedestrians, bicycles, wheelchairs and strollers to cross.

Side Sign

Yield to Pedestrian Signage can also improve pedestrian awareness and safety. These signs can be placed in the middle or side of the road. Middle of the road signage has increased visibility but is also at greater risk for damage and therefore has an increased maintenance cost. It is possible for a business improvement district to form an agreement with the city to offset the financial cost of this sign maintenance.

Middle Sign



Type 1 Type 2

Ramps that are ADA compliant are designed to provide a safe transition from the sidewalk to the road at intersections. The ADA currently certifies Type 1 and 2 curb ramps. When new curb ramps are installed is recommended that Type 2 curb ramps (one ramp per direction of travel, or two per typical corner) are installed as opposed to Type 1 curb ramps (one ramp per corner) at intersections. Type 1 ramps are safer for wheelchair users, provide better direction for pedestrians and better safety for the visually impaired.

Regional Commercial Corridors
The redesign of regional commercial corridors will require an intensive, holistic effort comprising of roadway re-engineering, high quality urban design elements such as first floor windows and minimal setbacks as opposed to parking lots in neighborhood commercial areas.

Highway 100 was often mentioned in surveys, public meetings and had the most dangerous intersections in the crash analysis. Hwy 100 is an important transit and commercial corridor for residents to work, shop and commute. Because this corridor is a State Connecting Highway, the City of West Allis cannot redesign and re-engineer the road for both pedestrian and bicycle facilities on its own. The state works with local municipalities to determine local needs and design recommendations. It is recommended that any redesign of Hwy 100 follow the policy recommendation in **Section 6.3** that plans for construction of all new roads, or any reconstruction of existing roads, shall include appropriate accommodations for bicyclists and pedestrians in line with the *Wisconsin Bicycle Transportation Plan 2020* goal of "ensuring an interconnected transportation system across government boundaries and highway jurisdictions that can work safely for bicyclists". The condition of the sidewalk along Hwy 100 in West Allis was a concern of several public meeting attendees. Resurfacing and leveling of the sidewalk and driveways is recommended with the highest priority.

Additional changes to the "commercial strip" nature of the corridor can be completed through site design as new development occurs and redevelopment replaces old. Phased reconstruction of commercial corridors like Hwy 100 is recommended where there are many driveways and parking lots. As new businesses are built they can be required to build adjacent to the sidewalk and have the parking lots in the back of the building. Bike lanes and sidewalks can be implemented along the corridor until they form a continuous network. Limits can be placed on new curb cuts to minimize the number of duplicative and unnecessary access points and driveways. When traffic on the corridor reaches a low enough level, a travel lane can be removed to allow for sidewalk and bike lane in areas where street width was a limiting factor.

6.3 Recommended Bicycle and Pedestrian Policies

There are many things that the City of West Allis can do to encourage walking and biking; and make these activities safer and more convenient that are not specific to any particular street or trail. The following policy actions are recommended.

Complete Streets
Create a City policy for "complete streets," i.e., that plans for construction of all new roads, or any reconstruction of existing roads, shall include appropriate accommodations for bicyclists and pedestrians. Examples of language include: "The safety and convenience of all users of the transportation system, including pedestrians, bicyclists, transit users, freight and motor vehicle drivers shall be accommodated and balanced in all types of transportation and development projects and through all phases of a project ..." from the City of Chicago's Complete Streets Policy. Or, from the City of Madison's Long Range Transportation Plan: "Provide bicycle and pedestrian accommodations along and across all streets and roadways in conjunction with construction and reconstruction where feasible and appropriate in accordance with the U.S. Department of Transportation Design Guidance on Integrating Bicycling and Walking into Transportation Infrastructure." These policies are supported by the Federal Highway Administration; their language can be found online at www.fhwa.dot.gov/environment/bikeped/design.htm.

Bicycles on Sidewalks
The sidewalk code allowing the operation of a bicycle on sidewalk is recommended to be amended to only allow children under the age of 10 or bicyclists operating at pedestrian speeds (4-5 mph).

City of Milwaukee Ordinance Example with additional speed condition:

> 102-8. Bicycle Regulations. 2. RIDING ON PUBLIC WAYS. No bicycle shall be operated upon any public sidewalk, pedestrian paths in the public parks, or upon any public school grounds or public playgrounds. This subsection shall not apply to bicycles when operated on school grounds or playgrounds when officially sanctioned functions are in progress; bicycles operated by police officers in the discharge of their official duties; vehicles propelled by the feet acting on pedals and having 2 or more wheels with an overall diameter of 14 inches or more when operated by children of the age of 10 years or under; to bicycles operated by deaf persons; **bicycles operated at pedestrian speeds (4-5 mpg)***; or to sidewalks or sidewalk areas where the commissioner of public works, authorized by common council under s. 102-14, has posted signs indicating that the riding of bicycles of wheel diameters greater than 14 inches is permitted on the sidewalk or sidewalk area on that portion of the highway. When operating a bicycle on a sidewalk in accordance with this subsection, every driver shall yield the right-of-way to any pedestrian and shall exercise due care and give an audible signal when passing a bicycle driver or pedestrian proceeding in the same direction.
>
> *bold text is not part of the Milwaukee Ordinance, it was added to provide example text for allowing bicycles operating at pedestrian speeds

Intergovernmental Cooperation
Encourage intergovernmental cooperation, through memoranda of understanding, to complete and coordinate bicycle and pedestrian facility connections and create maintenance agreements from the City of West Allis to adjacent municipalities.

New Development and Redevelopment
In new developments, sidewalks must be built in the first phase of construction along the entire property. An area that becomes rich with destinations is much more likely to attract pedestrians. Compact, mixed-use development that is closely connected to the street can encourage people to arrive and do their business on foot. The City of West Allis should encourage infill development to increase the density of pedestrian and bicycle destinations in the Central Business District, neighborhood and community commercial districts.

Pedestrian connections should be considered as part of the site plan review. The site plan can be reviewed for pedestrian circulation plans and access for both pedestrians and vehicles. Many driveways along a street create hazards for all users of the road, including pedestrians and bicyclists. A site design that provides cross-access between properties, and minimizes duplicative driveways is preferred. Pedestrian friendly accommodations to connect pedestrians from the public sidewalk and transit stops to the business entrance should also be encouraged (as guidelines) or required (as adopted standards). A well presented example of site plan requirements and design standards was developed in Lincoln, Nebraska called *Design Standards for Pedestrian Circulation in Commercial and Industrial Areas*. It could be used as a template to create similar design standards or guidelines for West Allis.
http://lancaster.ne.gov/city/attorn/designs/ds3105.pdf

Pedestrian Specific Policies for West Allis

Existing City Code for Sidewalks:

The City Code of West Allis requires a standardized concrete sidewalk to be built "Upon all streets which are improved by grading, paving, macadamizing and curbing" (11.07 (2)(a)).

This code sets West Allis ahead in pedestrian planning by providing the city with a nearly complete network of sidewalks throughout the city. The city needs to focus on implementing this current policy and looking to additional policy that will reinforce the pedestrian friendly nature of West Allis. It is recommended that the current policy be strictly implemented. If, and only if, this is not politically possible, adopting a sidewalk requirement policy on variances is recommended. Below is an example recommendation and list of requirements to take into account when considering a sidewalk variance.

> On an existing street without sidewalks that is improved by grading, paving, macadamizing and/or curbing, sidewalks must be installed. Exceptions may be made if the street is not currently wide enough to accommodate sidewalks and more than 50% of the property owners do not support the installation of sidewalks. However, if the street is within a quarter mile of a school or park, is a missing link between stretches of continuous sidewalk or carries greater than 3,000 vehicles per day – sidewalks must be installed for pedestrian safety.
>
> Checklist for sidewalk requirement variance:
> - ☐ Existing street
> - ☐ ROW is currently too narrow for the addition of sidewalks
> - ☐ > 50% of residents oppose sidewalk installation
> - ☐ Street is NOT within ¼ mile of a school or park
> - ☐ Street is NOT a missing link between stretches of existing sidewalk
> - ☐ Street has < 3,000 count ADT (Average Daily Traffic)

Decision makers should consider an appropriate action based primarily upon pedestrian safety and secondarily upon street width limitations and available public right of way (and the associated cost of land acquisition).

Snow and Ice Removal

During the winter months sidewalks often become impassable for pedestrians due to snow accumulation. The City of West Allis, its residents and businesses hold the responsibility to remove snow from the sidewalk (City of West Allis Code 11.2 (1-2)). West Allis can augment this policy by enforcing the regulation that residents hold the responsibility to remove snow from their sidewalks. Enforcement is often complaint driven, as it is difficult to utilize city staff time to monitor all sidewalks. As winter weather approaches, it may be helpful to widely announce the contact number with the city and perhaps augment that with an email address for residents to report a problem. Additionally, businesses may need clarification and reminders of their snow clearing responsibilities. Bridges, pedestrian medians and right turn islands are areas of concern under the city's responsibility.

Bicycle Parking

West Allis should enact an ordinance requiring an adequate amount of biking parking in an appropriate location for all new commercial, multi-family and industrial development and

redevelopment. It is important that this ordinance specify policy regarding the type and location of bike parking to minimize inconsistencies and unnecessary deliberation over each installation.

Just as ordinances and development codes require off-street parking for motor vehicles, bicycle parking should be required of all new commercial, multi-family and industrial development and redevelopment. The majority (77%) of respondents to the public input survey responded that "more bicycle parking" would "strongly affect" (34%), or at least "moderately affect" (43%) their decision to bicycle more. Over half of respondents (58%) said that "no bicycle parking at destinations" either "strongly" (26%) or "moderately" (32%) discouraged them from bicycling.

The amount of bicycle parking provided can be determined as a percentage (e.g. 10%) of the amount of motor vehicle parking required, square footage of the building, or other methods can be used. It is important that in all cases where any bicycle parking is required, no fewer than two bicycle parking spaces should be required. In the case of bicycle parking in industrial areas, a maximum amount should also be considered if square footage is used to make sure requirements are reasonable. Bicycle parking requirements can be fulfilled by lockers, racks, or equivalent structures in or upon which a bicycle may be locked by the user. The design and location of bicycle parking racks should be recommended to make them safe, secure, and convenient. Without these recommendations bicycle parking can be dangerous for the bicycle and the bicyclist and useless for the purpose of parking bicycles.

The cities of Madison and Milwaukee have excellent parking requirements and ordinances, along with great information about the design and location of facilities to meet their requirements. Ordinances are available in **Appendix F** or online at www.ci.madison.wi.us/transp/z2811bik.pdf.

The city of Madison's bicycle parking type and location parameters that contractors use as base guidelines to best meet the needs of cyclists and other users of the public way are *The Madison Bicycle Parking Rack Requirements*
http://www.ci.madison.wi.us/trafficEngineering/documents/MadisonBikeParking.pdf

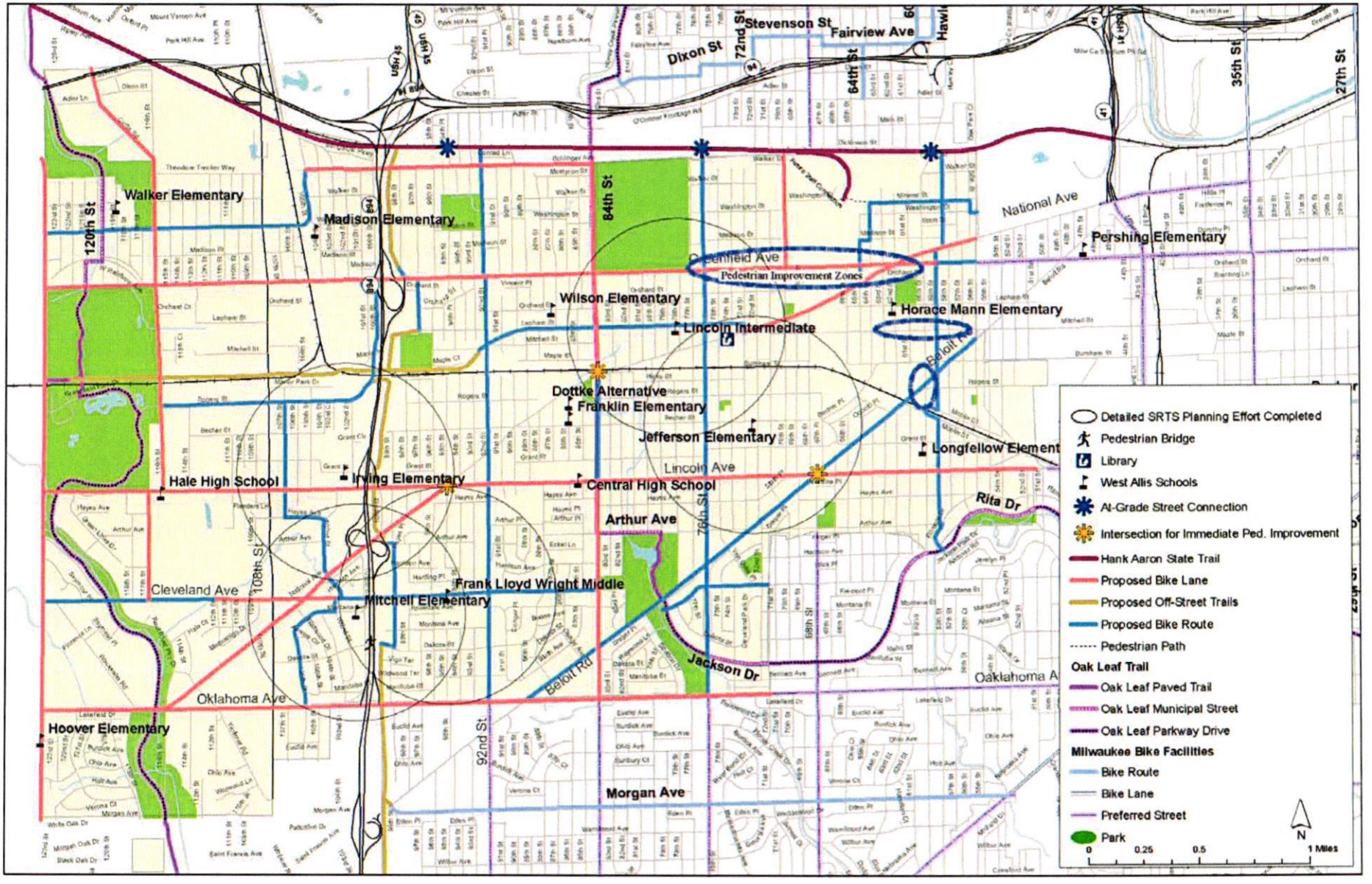
Also helpful is the *Bicycle Parking Guidelines* published by the Association of Pedestrian and Bicycle Professionals.
http://www.bfbc.org/issues/parking/apbp-bikeparking.pdf

CITY AT THE CENTER
WEST ALLIS

City of West Allis Bicycle and Pedestrian Master Plan

The Bicycle Federation of Wisconsin

6.4 Map of proposed Bicycle and Pedestrian Network



6.5 Design Guidelines and Signage

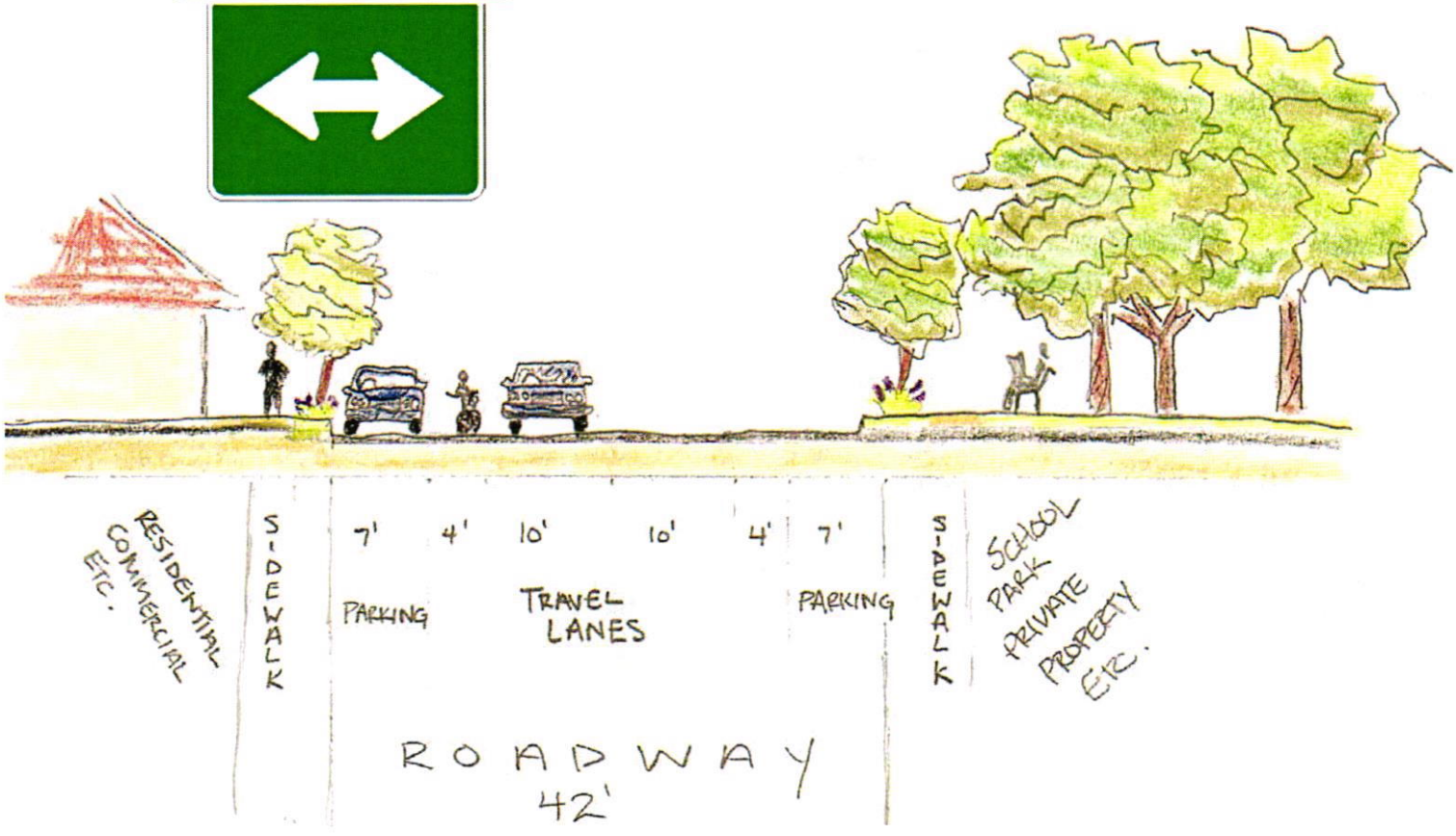
WisDOT's *Wisconsin Bicycle Facility Design Handbook* should be the standard used by the City of West Allis for the design and construction of bicycle facilities or bicycle accommodations on roadways. The *Wisconsin Bicycle Facility Design Handbook* can be found on the WisDOT website at: www.dot.wisconsin.gov/projects/state/docs/bike-facility.pdf. The WisDOT guidelines meet federal standards and are further specified to meet the needs of our Wisconsin climate.

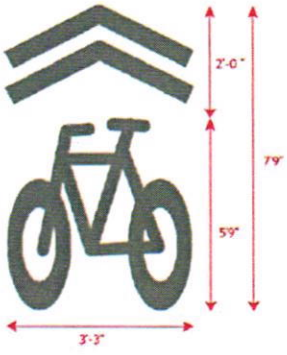
Removal of Hazards

For the most part, the removal of hazards is the most inexpensive and easily accomplished within routine maintenance schedules and minor roadway improvement budgets. All city streets should be cleared of hazards, with prioritization on the designated bicycle network. Basic hazards to bicyclists include drainage grates that are angled so that the slotted holes run parallel to a bicycle tire traveling along a street, rough at- grade railroad crossings, unresponsive traffic signals, pot holes, longitudinal seams in pavement, and a lack of maintenance attention focused on the right-hand edge of roadways. Drainage grates can be turned 90 degrees upon installation. Pavement can be installed in a manner that avoids a seam along the edge of the roadway and parking lane or gutter.

Bicycle Route and Route Signage

For Signed Bike Routes, the AASHTO Guide recommends signing a shared roadway as a bike route every 1/4 mile (500m), before and after every turn (both to mark the turn and to confirm that the rider has made the correct turn) and at the beginning and ending of the route. Arrows below the standard bike route sign aid cyclists in following a route that changes streets. An example street cross-section is included to further illustrate an example of a bicycle route.



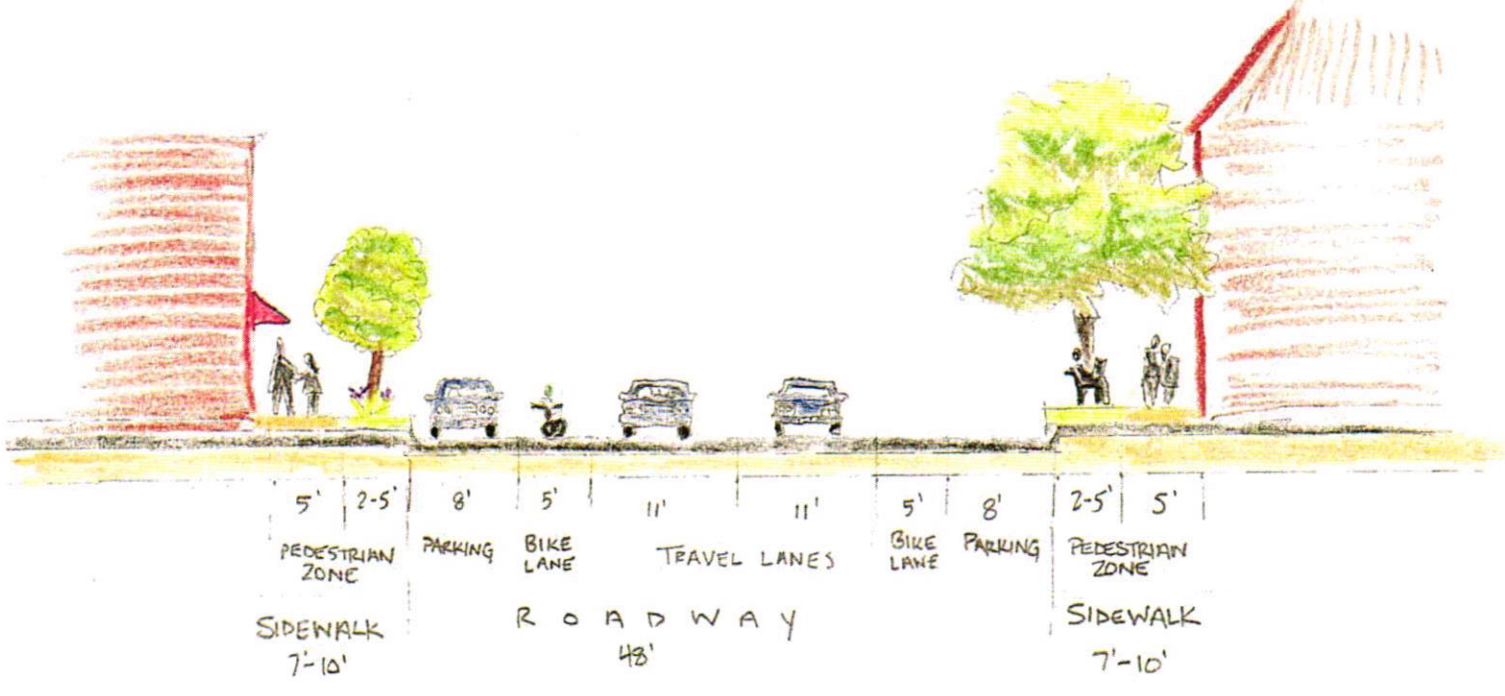


Sharrows

A "sharrow" is the symbol pictured to the right. This symbol is painted on a road that is too narrow to accommodate a bicycle lane. In West Allis, sharrows are recommended to supplement a Bicycle Route on a road that also carries a large volume of traffic. The increased traffic volume warrants an increased need for motorists to be aware of potential cyclists sharing the road with them. A sharrow is placed adjacent to the curb or parking lane, far enough away to keep cyclists separated from opening car doors (3 feet). The image reminds drivers that cyclists use the road they are driving and they have the right to be there. It also reminds cyclists the appropriate direction and placement for biking. Sharrows currently have experimental use status from the MUTCD, however they are recommended to be included as standard in the upcoming version of the Manual.

Bicycle Lane Striping

An example of a general layout for a bicycle lane is shown below, but there are many more examples in the *Wisconsin Bicycle Facility Design Handbook* and the *Milwaukee Bike Lane Design Guide*.



Off-Street Bicycle Path
An off street path should be designed as a multi-use trail. Runners, joggers, dog walkers, walkers, in-line skaters, etc will also use this off-street connection and with the appropriate width, this trail can be safe for many types of users. According to the *Wisconsin Bicycle Facility Design Handbook* the paved with for a two-way shared use path is 10 feet under most conditions. In many cases higher usage may warrant a 12 to 14 ft wide path. This wider width will also accommodate maintenance vehicles for maintenance, emergency access and snow removal.

Crosswalks
Crosswalks are a critical junction point where many different roadway users cross paths and enter potentially dangerous situations. Crosswalks should be located in areas of high pedestrian use and where there is an actual or perceived conflict between pedestrians and motorists. The intersections marked for "Immediate Pedestrian Improvement" as well as intersections that ranked high on the crash list should be considered for crosswalk additions or improvements (such as repainting or upgrading to a more visible pattern.

Crosswalk locations should be convenient for pedestrian access and highly visible. Materials vary, but should be reflective and non-skid. Various crosswalk marking patterns are given in the MUTCD; however, the "ladder" or "zebra" markings are strongly recommended because they are more visible. Crosswalk markings must be placed to include the ramp so that users do not have to leave the marked crosswalk to access the ramp. Additionally the use of a "stop bar" has been effective to suggest where a car should stop at an intersection. They are located a distance before the crosswalk, further separating pedestrian and automobile traffic.

Sidewalks
A minimum width of 5 ft is recommended for a sidewalk, which allows two people to pass comfortably or to walk side-by-side. Wider sidewalks should be installed near schools, at transit stops, in downtown areas, or anywhere high concentrations of pedestrians exist and where space allows. Sidewalks should be continuous along both sides of a street and sidewalks should be fully accessible to all pedestrians, including those in wheelchairs by being ADA compliant. A buffer zone of 1.2 to 1.8 m (4 to 6 ft) is desirable and should be provided to separate pedestrians from the street. Placement of street furniture such as trash receptacles or bicycle parking should not impede the flow of pedestrian traffic.

6.6 Construction and Maintenance Cost Estimates

Pedestrian Facilities
Crosswalk markings are 12 inches wide and generally applied with a walk-behind machine. The last bid that the City of Milwaukee was given for epoxy was $7.40 per linear foot. Stop bars are 24 inches wide and Milwaukee's last bid was $10/ft. Countdown timers have been recently priced at $1,600 per countdown timer for the City of Milwaukee, including engineering and installation. At a four-way intersection 8 would be needed, totaling $12,800.

Off-Street Trails
For estimated costs of the off-road bicycle path the estimated costs of a bike path from WisDOT's Bicycle Transportation Plan are helpful. Wisconsin uses the "marginal cost" approach. In the marginal cost approach, the per-unit costs of bicycle improvements are those costs over and above the costs of the project without bicycle accommodation. Typically, right-of-way costs and the costs of relocating utilities are not included in these cost estimates for bicycle facilities. Following are some examples of costs to construct various bicycle facilities from various sources.

From WisDOT's Bicycle Transportation Plan:

Bike path (final limestone surface):	$10,000/mile
Bike path (asphalt, 12 feet, landscaped etc):	$200,000/mile (minimum)

On-Street Bike Lanes and Routes

Where bicycle accommodations can be made simply by changing the pavement markings on the road, the costs are obviously much lower. The following is a cost estimate, including labor costs for the area, for a bike lane striping project in Milwaukee, WI, in the summer of 2008. Water borne paint has a life expectancy of 1 year. From observation, however, much of the paint will last more than 1 year. In areas where Milwaukee's city buses constantly crossed the stripes, the paint did actually wear away in 1 year:

4" stripe paint:	$0.11/linear foot
4" stripe epoxy:	$0.90/linear foot
6" stripe paint:	$0.17/linear foot
6" stripe epoxy:	$1.20/linear foot
Bike lane arrows paint:	$33/symbol
Bike lane arrows epoxy:	$75/symbol
Bike lane symbols paint:	$25/symbol
Bike lane symbols epoxy:	$75/symbol
Sharrow paint:	$30/symbol
Sharrow epoxy:	$75/symbol
Bike Route Sign:	$60/sign (includes post and installation costs)

A bike lane consists of one 4" stripe and one 6" stripe on both sides of the street, this ends up costing $0.28 (paint) or $2.10 (epoxy) per side per foot. With arrows and bike symbols painted at least one every 330 feet, the total costs ends up being $4,813 per mile for paint and $26,796 per mile for epoxy. The epoxy cost estimate may be a bit high based upon the recent cost estimate for the lane striping of 116th street north from Greenfield Ave. to Theodore Trucker Way done by West Allis. It was reported this half-mile stretch cost the city $6,800. This is roughly half of what epoxy painting cost Milwaukee. Costs can fluctuate, it is important to receive up-to-date price quotes specific to the needs of each project.

For Signed Bike Routes, the AASHTO Guide recommends signing a shared roadway as a bike route every 1/4 mile (500m) and before and after every turn (both to mark the turn and to confirm that the rider has made the correct turn). Costs per sign for the City of Green Lake were around $60 per sign, including $16-$20 per sign, $18 for a post and $15-$20 for sign installation. Numbers of signs were estimated for the planned network of Bicycle Routes in West Allis with a sign at each potential decision point, intersection and exit/entry point along the bike route on both sides of the street. There were also signs along longer stretches to assure the rider they were still on route. The total one-time cost estimate for all bike route signs for West Allis is $10,500, with additional paint costs for sharrows on the busier bicycle routes.

The city should budget for engineering costs, including a contingency for cost overruns. Often the federal and state funding is awarded for a fixed amount, and will not cover cost overruns, so budgets should be made carefully. For example, an MPO elsewhere in the Midwest has, in the past, budgeted 20% of every project for engineering plus contingencies.

Phasing is recommended in **section 7.1** to complete the proposed bicycle network in West Allis within the goals of the plan. Budgeting ahead for maintenance and new installation is critical, as well as for consideration for infrastructure grants. There is often a 20% local fund match requirement.

City of West Allis Bicycle and Pedestrian Master Plan

The Bicycle Federation of Wisconsin

Recommended on-street bike facilities – Approximate Cost Estimates					31 October 2008				
Street	**Length**	**Facility type**	**Purpose/Connectivity**	**Road Length (Miles)**	**Road section (bold – suggested modifications to existing)**	**Paint Costs**	**Epoxy Costs**	**Sign Count**	**Sign Costs**
58th	HAST to National	Bike route	Provides east perimeter connection for east-west recreational courses and other east-west streets with bike lanes and routes. Provides parallel route for access to businesses along 60th St. Approximates similar north-south route shown by SEWRPC.	0.44	2 travel, 2 parking.			6	$ 360
59th	National to Mobile	Bike route	Continuation of above.	0.74	2 travel, 2 parking.			10	$ 600
Mobile	59th to 60th	Bike route	Transfer of bike route around rail road tracks.	0.07	2 travel, 2 parking.			2	$ 120
60th	Mobile to Mobile	Bike route	Brief routing on 60th St to cross RR tracks.	0.03	4 travel (future planned)			2	$ 120
Mobile	60th to 59th	Bike route	Return to 59th St parallel access route to 60th.	0.06	2 travel, 2 parking			2	$ 120
59th	Mobile to Arthur to Fillmore to KK River Parkway	Bike route	Route parallel to 60th St extending south to city limits.	0.63	2 travel, 2 parking.			8	$ 480
								Total:	**$ 1,800**

Street	Length	Facility type	Purpose/Connectivity	Road Length (Miles)	Road section (bold – suggested modifications to existing)	Paint Costs	Epoxy Costs	Sign Count	Sign Costs
70th	HAST (north city limit) to Greenfield	Bike lanes	Provides access to MATC, other adult educational facilities and business park. 70th is continuous north to Milwaukee and Wauwatosa.	0.52	4 travel, 2 parking.	$ 2,503	$ 14,028		
76th	Full length	Bike route with sharrows	Provides calm north-south direct route through east-central portion of city, adjacent to downtown.	2.47	2 travel, 2 parking; Median from Main to Greenfield; 4 travel lanes north of Main; 4 travel, median, frontage roads south of Beloit. **Sharrows in travel lane (26).**	$ 1,560	$ 3,900	30	$ 1,800
84th	Schlinger to Greenfield	Bike lanes	Provides designated route for Oak Leaf Trail.	0.51	Segment of street heavily traveled. 2 travel; parking on southbound side except during State Fair.	$ 2,455	$ 13,758		
84th	Greenfield to National	Bike lanes	Provides designated route for Oak Leaf Trail.	0.45	Segment of street heavily traveled. 2 travel; parking on southbound side.	$ 2,166	$ 12,139		
84th	National intersection	Bike lanes	See description for National Ave., below.		2 travel, left turn, no parking. Special protection (buffers) needed for bikes to make turn transitions.				
84th	National to Lincoln	Bike route	Provides designated route for Oak Leaf Trail.	0.46	2 travel, 2 parking; **25 MPH speed limit; Sharrows in travel lane (4).**	$ 240	$ 600	6	$ 360

Street	Length	Facility type	Purpose/Connectivity	Road Length (Miles)	Road section (bold – suggested modifications to existing)	Paint Costs	Epoxy Costs	Sign Count	Sign Costs
84th	Lincoln to Arthur	Bike lanes	Provides designated route for Oak Leaf Trail.	0.25	2 travel, 2 parking.	$ 1,203	$ 6,744		
84th	Arthur to Beloit	Bike lanes	Provides designated route for Oak Leaf Trail.	0.52	4 travel, 2 parking.	$ 2,503	$ 14,028		
84th	Beloit to Oklahoma	Bike lanes	Provides designated route for Oak Leaf Trail.	0.23		$ 1,107	$ 6,204		
					Total:	**$ 9,673**	**$ 53,473**		**$ 360**
92nd	Full length	Bike route	Continuous north-south route through residential areas linking to hospital, high school and middle school.	2.55	4 travel, median, 2 parking Adler to Greenfield; 2 travel, parking Greenfield to Lincoln; 4 travel, median, 2 parking Lincoln to Oklahoma.			28	$ 1,680
107th	Rogers to Lincoln	Bike route	Access to shopping and businesses in the 108th St (Highway 100) corridor.	0.4	2 travel, 2 parking			4	$ 240
107th, Hays, 102nd	Lincoln to Cleveland	Bike route	Access to shopping and businesses in the 108th St (Highway 100) corridor.	0.7	2 travel, 2 parking			15	$ 900
102nd	Cleveland to Montana	Bike route	Access to shopping and businesses in the 108th St (Highway 100) corridor.	0.64	2 travel, 2 parking			4	$ 240
Montana	102nd to 106th	Bike route	Access to shopping and businesses in the 108th St (Highway 100) corridor.		2 travel, 2 parking			2	$ 120
106th	Montana to Oklahoma	Bike route	Access to shopping and businesses in the 108th St (Highway 100) corridor.		2 travel, 2 parking			4	$ 240
								Total:	**$ 1,740**

Street	Length	Facility type	Purpose/Connectivity	Road Length (Miles)	Road section (bold – suggested modifications to existing)	Paint Costs	Epoxy Costs	Sign Count	Sign Costs
116th	NCL to Theodore Trecker Way	Bike lanes	Access to industrial park.	0.59	2 travel, 2 parking	$ 2,840	$ 15,916		
116th **Complete**	Theodore Trecker Way to Greenfield	Bike lanes	Linkage between industrial park and Greenfield Park	0.51	3 travel, 2 parking	$ 2,455	$ 13,758		
116th	Greenfield to Lincoln	Bike lanes with buffers	Access to Greenfield Park, industrial park, Cross-Town Connector and New Berlin Trail.	0.95	4 travel, median, 2 parking, **Reduce to 2 travel with painted buffer because of significant truck traffic**	$ 4,572	$ 25,627	buffer extra	
					Total:	**$ 9,866**	**$ 55,301**		
117th	Lincoln to Cleveland	Bike lanes	Access to high school and athletic fields	0.5	2 travel, **1 parking (east only):** pavement improvement needed to remove safety hazard.	$ 2,406	$ 13,488		
124th	Washington to Oklahoma	Bike lane (east side of road)	Western city limit north-south connection on road bordering with New Berlin.	3.04	2 travel, no parking. Road section must be coordinated with adjoining municipality.	$ 7,315	$ 41,004		
Beloit	56th to Oklahoma	Bike route	Diagonal access through residential areas with pockets of commercial, reaching parks and continuing through Hales Corners to the Oak Leaf Trail along the Root River.	2.65	4 travel, 2 parking; median, Lincoln/86th to Oklahoma			24	$ 1,440
Cleveland	71st to 84th	Bike route	Through-city, mostly residential, route with light motor vehicle traffic. Access to schools and parks.	0.53	2 travel, 2 parking			6	$ 360

Street	Length	Facility type	Purpose/Connectivity	Road Length (Miles)	Road section (bold – suggested modifications to existing)	Paint Costs	Epoxy Costs	Sign Count	Sign Costs
Cleveland	Reroute southwest on Beloit to 84th; north on 84th to Cleveland	Bike route	Necessary reroute at McCarty Park.		Beloit and 84th are part of the bike network.				
Cleveland	84th to 92nd	Bike route	Through-city, mostly residential, route with light motor vehicle traffic. Access to schools and parks.	0.5	4 travel, median, 2 parking			5	$ 300
Cleveland	92nd to 103rd	Bike route	Through-city, mostly residential, route with light motor vehicle traffic. Access to schools and parks.	0.71	2 travel, 2 parking			7	$ 420
Cleveland	103rd to 112th	Bike lane	Through-city, mostly residential, route with light motor vehicle traffic. Access to schools and parks. Lanes needed because of intersections with 108th and National.	0.54	4 travel (no parking)	$ 2,599	$ 14,567		
Cleveland	112th to 124th	Bike route	Through-city, mostly residential, route with light motor vehicle traffic. Access to schools and parks.	0.81	2 travel, 2 parking			10	$ 600
					Total:	**$ 2,599**	**$ 14,567**		**$ 1,680**
Curtis	Full length	Bike lane	Access to industrial workplaces. Leads to Bluemound Rd.	0.53	2 travel, 2 parking	$ 2,551	$ 14,297		

Street	Length	Facility type	Purpose/Connectivity	Road Length (Miles)	Road section (bold – suggested modifications to existing)	Paint Costs	Epoxy Costs	Sign Count	Sign Costs
Schlinger	State Fair Park	Bike route	access road to State Fair Park, northern boundary		Gate 5 access road through State Fair Park. **Bike chicane needed at Gate 9.**				
Schlinger	84th to 105th	Bike lanes	East-west connection through residential areas at north perimeter of city tying north south routes together from 76th St. to 105th St.	1.31	2 travel, 2 parking	$ 6,305	$ 35,339		
105th St.	Schlinger to Washington	Bike route	Access to/from existing bike-ped railroad underpass at Madison Park.	0.3	2 travel, 2 parking			6	$ 360
Washington St.	106th to 124th	Bike route	Access west through residential areas and intersecting with on-street portion of Oak Leaf Trail – Root River leg.	1.17	2 travel, 2 parking			12	$ 720
					Total:	**$ 6,305**	**$ 35,339**		**$ 1,080**
Greenfield	56th to 59th	Bike route	Primary route through downtown business district and to State Fair Park.	0.18	2 travel, 2 parking			4	$ 240
Greenfield	59th to 6 Points Crossing	Bike lanes	Primary route through downtown business district and to State Fair Park and Greenfield Park.	0.19	59th to National, 48' National to 6 Points; 2 travel, 2 parking	$ 914	$ 5,125		
Greenfield	6 Points to 70th	Bike lanes	Primary route through downtown business district and to State Fair Park and Greenfield Park.	0.5	**2 travel, center LTL**, no parking	$ 2,406	$ 13,488		
Greenfield	70th to 78th	Bike lanes	Primary route through downtown business district and to State Fair Park and Greenfield Park.	0.48	2 travel, 2 parking	$ 2,310	$ 12,948		

Street	Length	Facility type	Purpose/Connectivity	Road Length (Miles)	Road section (bold – suggested modifications to existing)	Paint Costs	Epoxy Costs	Sign Count	Sign Costs
Greenfield	78th to 82nd	Bike lanes	Primary route through downtown business district and to State Fair Park and Greenfield Park.	0.24	3 travel, LTL, 1 swing parking (eastbound)	$ 1,155	$ 6,474		
Greenfield	82nd to 84th	Bike lanes	Primary route through downtown business district and to State Fair Park and Greenfield Park.	0.16	4 travel, LTL, RTL, 1 swing parking (eastbound)	$ 770	$ 4,316		
Greenfield	84th to 92nd	Bike lanes	Primary route through downtown business district and to State Fair Park and Greenfield Park.	0.5	2 travel, 2 parking	$ 2,406	$ 13,488		
Greenfield **State Funded?**	92nd to 124th	Bike lanes	Primary route through downtown business district and to State Fair Park and Greenfield Park.	2.04	4 travel, 2 parking, median w/ LTL	$ 9,818	$ 55,031		
					Total:	**$ 19,781**	**$ 110,871**		**$ 240**
Lincoln	51st to Beloit	Bike lanes	Most central east-west route through the city with access to high and middle schools, hospital. Mostly residential with some business.	1	4 travel, 2 parking	$ 4,813	$ 26,976		
Lincoln	Beloit to 84th	Bike lanes	Most central east-west route through the city with access to high and middle schools, hospital. Mostly residential with some business.	1.01	4 travel, 2 parking	$ 4,861	$ 27,246		
Lincoln	84th to National	Bike lanes	Most central east-west route through the city with access to high and middle schools, hospital. Mostly residential with some business.	0.69	4 travel, no parking	$ 3,321	$ 18,613		

Street	Length	Facility type	Purpose/Connectivity	Road Length (Miles)	Road section (bold – suggested modifications to existing)	Paint Costs	Epoxy Costs	Sign Count	Sign Costs
Lincoln	National to 97th	Bike lanes	Most central east-west route through the city with access to high and middle schools, hospital. Mostly residential with some business.	0.12	4 travel, 2 parking	$ 578	$ 3,237		
Lincoln	97th to 117th	Bike lanes	Most central east-west route through the city with access to high and middle schools, hospital. Mostly residential with some business.	1.26	4 travel, boulevard, 2 parking	$ 6,064	$ 33,990		
Lincoln	117th to 124th	Bike lanes	Most central east-west route through the city with access to high and middle schools, hospital. Mostly residential with some business.	0.49	2 travel, 2 parking	$ 2,358	$ 13,218		
					Total:	**$ 21,994**	**$ 123,280**		
National	56th to 73rd	Bike lanes	Dominant NE – SW diagonal road accessing most residential areas, with business, retail and commercial occupancies all along the route.	1.15	2 travel, 2 parking	$ 5,535	$ 31,022		
National	Lincoln to Oklahoma	Bike lanes	Dominant NE – SW diagonal road accessing most residential areas, with business, retail and commercial occupancies all along the route.	1.69	4 travel, 2 parking, median with left turns	$ 8,134	$ 45,589		
National	National/I-894 junction	Bike lanes	High speed freeway access and exit.		2 travel, no parking, LTL; **right turns merging with bike lane, signed *yield to thru-bike travel* at ramps**				

Street	Length	Facility type	Purpose/Connectivity	Road Length (Miles)	Road section (bold – suggested modifications to existing)	Paint Costs	Epoxy Costs	Sign Count	Sign Costs
National	National/ Oklahoma junction	Bike lanes	Intersection designed for high-speed motor vehicle movement. Reconstruction and realignment of intersection currently being completed.		4 travel, no parking; **1 separated, right turn for eastbound National**				
					Total:	**$ 13,668**	**$ 76,612**		
Oklahoma **County Funded?**	72nd to 99th	Bike lanes	South east-west boundary road connecting residential areas to 108th St. business corridor with intermittent businesses at primary intersections.	1.75	4 travel, 2 parking, median w/ LTL; intermittent residential frontage roads, 68th to 84th and 96th to 99th	$ 8,422	$ 47,208		
Oklahoma	99th to 103rd	Bike lanes – pavement improvement needed	Intersection with I-894.	0.21	4 travel, 3 turn/merge lanes; **right turns merging with bike lane; left and right turns at ramps signed *yield to thru-bike travel***	$ 1,011	$ 5,665		
Oklahoma	103rd to 106th	Bike lanes	South east-west boundary road connecting residential areas to 108th St. business corridor with intermittent businesses at primary intersections.	0.16	4 travel, 2 parking, median w/ LTL	$ 770	$ 4,316		
Oklahoma	106th to National	Bike lanes	South east-west boundary road connecting residential areas to 108th St. business corridor with intermittent businesses at primary intersections	0.71	4 travel, 2 parking, median w/ LTL, **right turns merging with bike lane, signed *yield to thru-bike travel* at ramps**	$ 3,417	$ 19,153		

Oklahoma	National to 124th	Bike lanes	South east-west boundary road connecting residential areas to 108th St. business corridor with intermittent businesses at primary intersections	0.54	4 travel, 2 parking, median	$ 2,599	$ 14,567		
					Total:	**$ 16,219**	**$ 90,909**		
			Total:	41.38					
			Lane:	24.83					
			Route:	16.04					
Bike Route Costs			Assumptions:						
Sign = $16-20			a sign at each decision point, intersection and exit/entry point along the bike route on both sides of the street						
Post = $18			also a sign along longer stretches to assure rider they are still on route						
Sign Post Install = $15-20		**High estimate total $60 per bike route sign.**							
Lane Striping Costs per foot based upon Milwaukee's recent costs									
	Paint	Epoxy							
4"	$0.11	$0.90			Priority for year one implementation		2009	$14,526	
6"	$0.17	$1.20				year 2	2010		
Bike Lane (4" & 6")	$0.28	$2.10	per side per foot			year 3	2011		
Bike	$25	$75	at least one every 330 feet (16/mile)			year 4	2012		
Arrow	$33	$75	same as above			year 5	2013		
Sharrow	$30	$75	sharrow - 1 every 500 feet, one on each side						
Bike & Arrow	$116	$1,856	per mile			Paint	Epoxy	Signs	
(epoxy)	$300	$4,800	per mile		Maintenance	Annual Cost	5-10 years	One-Time	
0.28/ft with bike and arrows		**$4,813**	per mile	5,280	**Grand Total:**	**$114,881**	**$671,763**	**$10,140**	
2.10/ft with bike and arrows		**$26,976**	per mile						

6.7 Potential Funding Sources

Many different funding sources are available for accommodating bicycles and pedestrians through on-street or off-street facilities. In order to be eligible for funding under most federal aid programs, bicycle projects must be primarily for transportation purposes. In general, federal guidelines consider any bicycle path or trail other than a closed loop trail as being principally for transportation and eligible for federal funding. State funding for the construction of on-street and off-street bicycle facilities is available through programs administered by the Wisconsin Department of Transportation (WisDOT), and includes funds provided directly by the state and "pass-through" funds provided by the Federal government as part of the Federal-aid Highway, Transit, and Highway Safety Programs.

Transportation-Based Funding Sources

The following is a summary of potential transportation-based funding sources for accommodating bicycles, from WisDOT:

Local Transportation Enhancement (TE) Program, Bicycle and Pedestrian Facilities Program (BPFP)

Transportation enhancement (TE) program funds projects that increase multi-modal transportation alternatives and enhance communities and the environment. Federal funds administered through this program provide up to 80% of costs for a wide variety of projects such as bicycle or pedestrian facilities, landscaping or streetscaping and the preservation of historic transportation structures. Examples of bicycle projects include multiuse trails (in greenways, former rail trails, road rights-of-way, etc.), paved shoulders, bike lanes, bicycle route signage, bicycle parking, overpasses/underpasses/bridges, and sidewalks.

The Bicycle and Pedestrian Facilities Program (BPFP) joined the TE program starting in the calendar year 2008 application cycle. As the name implies, BPFP funds bicycle and bicycle/pedestrian facilities. Per state statute, BPFP cannot fund exclusively pedestrian projects or streetscaping projects even if they include some bicycle and pedestrian elements. Because the TE program also extensively funds bicycle and pedestrian facilities, the two programs share the same application, review and selection process.

Central Office Contact: John Duffe, 608-264-8723, john.duffe@dot.state.wi.us
SE Region Contact: Scott Ahles, (262) 548-8789, scott.ahles@dot.state.wi.us

Congestion Mitigation and Air Quality Program (CMAQ)

The primary purpose of the Congestion Mitigation and Air Quality (CMAQ) Improvement Program 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 pedestrian projects are eligible for CMAQ if they reduce the number of vehicle trips and miles traveled. Approved projects are reimbursable at 80% of the cost, and a local match of 20% is required. Almost all bicycle projects eligible for Transportation Enhancements are likely to be eligible (see examples above), but a higher burden of proof that the project will reduce air pollution will be required for CMAQ funding. CMAQ is not a statewide program; only bicycle projects in Milwaukee, Kenosha, Racine, Ozaukee, Waukesha, Washington, Sheboygan, Kewaunee, Manitowoc, and Door Counties are eligible.

Contact: John Duffe, 608-264-8723, john.duffe@dot.state.wi.us.

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 WisDOT SE Region Bike & Ped Coordinator Jill Mrotek, 262-548-8794, jill.mrotek@dot.state.wi.us, for more details before contacting the statewide coordinator, Chuck Thiede, 608-266-3341.

Surface Transportation Program - Urban
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. SEWRPC is the MPO for Southeast Wisconsin.
Contact Chris Hiebert of SEWRPC, 262-547-6722 x281, chiebert@sewrpc.org.

Recreation-Based Funding Sources

The following information for potential recreation-based funding sources was culled from the Wisconsin Department of Transportation website.

Funding for the Recreational Trails Program (RTP) is provided through federal gas excise taxes paid on fuel used by off-highway vehicles. Towns, villages, cities, counties, tribal governing bodies, school districts, state agencies, federal agencies and incorporated organizations are eligible to receive reimbursement for development and maintenance of recreational trails and trail-related facilities for both motorized and non-motorized recreational trail uses. Eligible sponsors may be reimbursed for up to 50 percent of the total project costs.
Eligible projects include:

- Maintenance and restoration of existing trails
- Development and rehabilitation of trailside and trailhead facilities and trail linkages
- Construction of new trails (with certain restrictions on Federal lands)
- Acquisition of easement or property for trails
- Projects are ranked in order of funding priority
- Rehabilitation of existing trails
- Trail maintenance
- Trail development
- Trail acquisition

Wisconsin Department of Natural Resources (DNR) regional staff review and rank eligible projects. Projects are then ranked in a statewide priority listing. The highest ranking projects will be funded to the extent that funds are available.

Following you will find general program information for programs that provide up to 50% funding assistance to acquire land or conservation easements and develop facilities for outdoor recreation purposes – the Stewardship Local Assistance Grant Programs, the Federal Land & Water Conservation Fund Program, and the Federal Recreation Trails Program. Any project application submitted will be considered for each of the following programs that it is eligible for.

Under the Knowles-Nelson Stewardship Local Assistance Grant Program, the following programs provide 50% funding assistance to acquire land and easements and develop trails, facilities, etc. for nature-based outdoor recreation purposes.

Aids for the Acquisition and Development of Local Parks (ADLP)
ADLP helps to buy land or easements and develop or renovate local park and recreation area facilities (e.g. trails, fishing access, and park support facilities). Applicants compete for funds on a regional basis.

Urban Green Space Grants (UGS)
UGS helps to buy land or easements in urban or urbanizing areas to preserve the scenic and ecological values of natural open spaces for outdoor recreation, including non-commercial gardening. Applicants compete for funds on a statewide basis.

Acquisition of Development Rights Grants (ADR)
ADR helps to buy development rights (easements) for the protection of natural, agricultural, or forestry values, that would enhance outdoor recreation. Applicants compete for funds on a statewide basis.

Land and Water Conservation Fund (LWCF)
LWCF provides 50% funding assistance for the acquisition and development of public outdoor recreation areas and facilities. Similar to the Stewardship ADLP program above except that active outdoor recreation facilities are eligible for grant assistance and school districts may be eligible project sponsors. Applicants compete for funds on a statewide basis.

Recreational Trails Act (RTA)
RTA provides 50% funding assistance for the development and maintenance of recreational trails and trail related facilities for both motorized and non-motorized recreational trail uses. Applicants compete for funds on a statewide basis.

These programs are administered by the Wisconsin Department of Natural Resources. The Stewardship Advisory Council, with representatives from local units of government and nonprofit conservation organizations (NCOs), advises the department on matters relating to the Stewardship program. Similarly the State Trails Council advises the department on matters relating to the Recreational Trails Program. The National Park Service plays the major role in working with the Department on the Land & Water Conservation Fund Program and the Department of Transportation plays a role with the Recreational Trails Program. Key components of the programs are cooperation and partnership between the Wisconsin Department of Natural Resources, the federal government, local units of government, and NCOs. The programs recognize the important role each partner plays in meeting the conservation and recreation needs of Wisconsin residents and is designed to assist groups working to meet those needs. The application deadline for all of the programs is May 1 each year. Complete applications should be submitted to the regional Community Services Specialist (CSS) on, or be postmarked by, May 1.

Pedestrian Specific Funding

Traffic Signing and Marking Enhancement Grants Program
The Traffic Signing and Marking Enhancement Grants Program provides funds to local units of government for the installation of traffic signing and roadway marking enhancements, with the goal of improving visibility to assist elderly drivers and pedestrians. The program distributed approximately $3.8 million in state funding in 2005 and 2006. Funding for the TSMEGP was

eliminated in the 2007-2009 State Biennial Budget, but continues by Wisconsin State Statute 85.027 through June 30, 2009. For more information contact Michael Erickson, michael.erickson@dot.state.wi.us, or (608) 266-0194.

Other potential funding sources

In addition to the funds administered by the state, funding for public bicycle and pedestrian projects can come from federal highway traffic safety programs, federal traffic safety (section 402) funds, the County (Milwaukee County Department of Public Works), impact fees required of new development or redevelopment, public/private partnerships, or wholly from the private sector. This city has utilized TIF funding and Block Grants in the past, and should continue to do so. TIF funding can be leveraged as local matching funding for state and federal grants.

Chapter 7 – Conclusion

7.1 Priority of Implementation

The City of West Allis should budget $12-20,000 per year for infrastructure costs for painting bike lanes and signing bike routes. Eventually funding will need to be budgeted to leverage potential grants. Many transportation grants require 20% local matching with a total budget minimum of $200,000.

Phase 1

To complete the proposed bicycle network in West Allis within the goals of the plan the following first phase is recommended: Installing a bike lane on National Avenue between 56th and 73rd Street. This will build upon the current smaller stretches of bike lane already on National and begin an important Northeast to Southwest connection across West Allis. Additionally, the eastern portion of Greenfield between 59th and 78th Street should be striped with bike lanes. This will be the first step in this pedestrian improvement zone. Finally, 76th Street should be signed as a bicycle route. This will be a one-time cost for the city with a highly visible result and the completion of an important north-south bicycle connection for the city.

Phase 2

In future years and phases the rest of the network should fill in incrementally with attention being made to evening out connections across the city. Important north-south, east-west connections should be made first, and then additional connections secondarily filled in. Initially, paint can be used, but after new construction or resurfacing it is more cost-effective to use a more durable material like epoxy or thermoplastic. To prevent an uncoordinated mish-mash of bike routes and lanes due to construction, implement the full bike lane or route using paint before construction or resurfacing, and epoxy or thermo plastic after. This is ideal because paint requires annual re-application depending on weather conditions and street wear, and is therefore more cost effective for short term marking. Epoxy and thermoplastic tape requires significantly less upkeep. With correct installation it can last up to 10 years before reapplication is needed.

It should be noted that bicycle facilities are always less costly to build in conjunction (and concurrently) with road or other construction projects. It is always advisable to include segments of planned or even proposed facilities whenever plans for bicycle facilities coincide with construction or reconstruction projects for roads.

Streets not part of the proposed bicycle network mentioned here should include appropriate accommodations for bicyclists and pedestrians as they are resurfaced, reconstructed, etc. in accordance with the Complete Streets policy recommended for West Allis. Appropriate accommodations can be defined as those not requiring the acquisition of a significant amount of right of way, resulting in excessive and prohibitive costs to a project.

7.2 Concluding Vision

Safe and convenient accommodations for bicyclists and pedestrians can provide access to recreation, goods and services; just as the surface transportation network has provided that for motorists. Increasing levels of bicycling and walking can decrease the need for roadway expansion, travel times for all road users, the community's health care costs resulting from sedentary lifestyles, and the negative environmental consequences of motor vehicle use. Supporting an expanded bicycling network and pedestrian facilities can have myriad positive effects, including social, environmental, health, and economic benefits in addition to the obvious transportation benefits.

Appendices

A: Resources

American Association of State Highway and Transportation Officials (AASHTO)
Guide for the Development of Bicycle Facilities, 1999.

Association of Pedestrian and Bicycle Professionals (APBP) Bicycle Parking Guidelines
http://www.apbp.org/pdfsanddocs/Resources/Bicycle%20Parking%20Guidelines.pdf

Bicycle Federation of Wisconsin, including the BTWW toolbox:
www.bfw.org

Bicycle Parking In Madison,
www.ci.madison.wi.us/transp/z2811bik.pdf

Manual on Uniform Traffic Control Devices (FHWA)
www.mutcd.fhwa.dot.gov

National Complete Streets Coalition
www.completestreets.org

Pathways to Prosperity - The Economic Impact of Investment in Bicycle Facilities: A Case Study (NCDOT)
www.ncdot.org/transit/bicycle/safety/safety_economicimpact.html

Predicting Demand for Non-motorized Travel (Pedestrian and Bicycle Information Center)
www.bicyclinginfo.org/pp/predicting/index.htm

Safe Routes to School (National Center for Safe Routes to School clearinghouse)
www.saferoutesinfo.org/index.cfm

Safe Routes to School (USDOT FHWA) http://safety.fhwa.dot.gov/saferoutes/

Safe Routes to School (WisDOT), including the SRTW toolbox:
www.dot.wisconsin.gov/localgov/aid/saferoutes.htm

SEWRPC Regional Bicycle and Pedestrian System 2020 Plan for SE WI
www.sewrpc.org/transportation/amendmentbikeped.asp

SEWRPC Regional Transportation System Plan for Southeastern Wisconsin: 2035 (SEWRPC Planning Report No. 49) www.sewrpc.org/regionalplans/regionaltransysplan.shtm

StreetShare (Motorist, Bicyclist, and Pedestrian Education website for Wisconsin)
www.streetshare.org

Wisconsin Bicycle Facility Design Handbook (WisDOT) January 2004
www.dot.state.wi.us/projects/bikes.htm

Wisconsin Bicycle Laws (in plain language, not the State Statutes verbatim)
www.dot.state.wi.us/safety/vehicle/bicycle/rules.htm

Wisconsin Department of Transportation - Bureau of Transportation Safety, Bicycle & Pedestrian Safety Program Manager, Larry.Corsi@dot.state.wi.us, 608-267-3154.

Wisconsin Department of Transportation Bicycle & Pedestrian Statewide Coordinator, Thomas.Huber@dot.state.wi.us, 608-267-7757.

Wisconsin Department of Transportation Bicycle & Pedestrian Southeast Region Coordinator, Jill Mrotek, 262-548-8794, jill.mrotek@dot.state.wi.us.

Wisconsin Department of Transportation, Transportation Enhancements Program Manager John Duffe, 608-264-8723, john.duffe@dot.state.wi.us.

Wisconsin Bicycle Planning Guidance: Guidelines for MPOs & Communities in Planning Bicycle Facilities
www.dot.state.wi.us/projects/bikes.htm

Wisconsin Bicycle Transportation Plan 2020
www.dot.state.wi.us/projects/state/bike2020.htm

Wisconsin Bicycle Travel Information (including the 1999 bicycle transportation survey)
www.dot.state.wi.us/travel/bike-foot/bike-index.htm

Wisconsin DOT Major Sources of Funding for Bicycle & Pedestrian Projects
www.dot.wi.gov/localgov/docs/potential-funding.pdf

Wisconsin State Bicycle Maps (by County)
www.dot.state.wi.us/travel/bike-foot/countymaps.htm

B: Public Comments

West Allis Bike Plan Survey
Summary of Results

A total of 260 surveys were collected and 87% (222) of those surveys were completed by residents of West Allis. Overall, survey takers found bicycle issues in the City of West Allis to be very important (57%) and somewhat important (18%). There were 47 respondents (18%) that marked bicycle issues in West Allis as very unimportant in the city's transportation planning process. Around half of the respondents reported that they ride their bicycles multiple times a week. The rest of the respondents were equally divided between biking daily, once a week, once a month and never.

Survey takers reported using their bicycles more for recreation than transportation. 34% commute to work 0-3 times per week and 44% cycle for recreation and exercise 0-3 times per week. 27% never commute by bicycle, while 26.7% commute 3-6 times a week and 12% commute 7 or more times per week. 46% of respondents fell into the categories of bicycling for recreation and exercise 3-6 and 7 or more times per week.

66% of respondents strongly agreed with the Wisconsin State Law that bicycles are considered vehicles of the road and have the right to be driven on the street. Additionally 17% responded that they somewhat agreed. There were several write-in responses that said their answer depended upon the age of the cyclist. A few respondents reported that they also valued their ability to bicycle on the sidewalks of West Allis.

69% of survey takers responded that they would consider riding their bicycle ten or more miles, and another 21% responded they would consider riding 5-10 miles. The things that most discouraged people from riding were motorists not following the laws of the road and bicycle unfriendly roadways. They responded that they were only moderately affected by lack of greenway trails and slightly discouraged by not having parking at destinations or lacking interest in riding.

Survey respondents reported that they would cycle more with more on-street facilities (72%) and more greenway trails (66%). They also responded that more enforcement of laws applying to motorists and cyclists and having a map of bicycling facilities for planning routes would also strongly affect their decision to bicycle more. 45% of respondents answered that bicycle education programs would not affect their decision to bicycle more. 43% of respondents answered that increased bicycle parking facilities would moderately affect their decision to bicycle more.

The most popular destination that respondents would like to or currently bicycle to was the park, followed closely by trails and greenways. The next most popular was shopping and retail, followed by entertainment, place of employment and restaurants. School and transit were the two lowest responses.

Finally, the majority of respondents reported that they felt comfortable biking most places (streets containing bike lanes, streets signed as designated bike routes, low traffic neighborhood streets, rural thoroughfares and greenway trails) <u>except</u> main city thoroughfares.

5. How often do you use your bicycle for recreation/exercise?

	Response Percent	Response Count
Never	11.0%	28
0-3 times a week	43.5%	111
3-6 times a week	34.5%	88
7 or more times a week	11.4%	29
answered question		255
skipped question		5

6. Which statement below best describes your feelings about the Wisconsin State Law that bicycles are considered vehicles of the road and have the right to be driven on the street?

	Response Percent	Response Count
strongly disagree	6.3%	16
somewhat disagree	4.7%	12
no opinion	5.5%	14
somewhat agree	17.2%	44
strongly agree	66.4%	170
answered question		256
skipped question		4

7. What's the longest distance you would consider riding a bicycle?

	Response Percent	Response Count
0-1 miles	2.7%	7
1-5 miles	7.8%	20
5-10 miles	21.0%	54
10 or more miles	68.5%	176
answered question		257
skipped question		3

8. What factors discourage you from bicycling?

	Slightly	Moderately	Strongly	Response Count
Motorists not following the laws of the road	21.4% (52)	34.2% (83)	**44.4% (108)**	243
Bicycle Unfriendly roadways	13.9% (35)	21.8% (55)	**64.3% (162)**	252
No bicycle parking at destinations	**41.9% (101)**	32.0% (77)	26.1% (63)	241
Lack of greenway trails	29.4% (72)	**36.3% (89)**	34.7% (85)	245
Lack of interest	**82.1% (138)**	10.7% (18)	7.1% (12)	168
answered question				253
skipped question				7

9. How would the factors below affect your decision to bicycle more?				
	Not at all	Moderately	Strongly	Response Count
More on-street facilities(bike lanes, paved shoulders, etc.)	6.4% (16)	21.2% (53)	**72.4% (181)**	250
More greenway trails	6.9% (17)	26.7% (66)	**66.4% (164)**	247
More bicycle parking	24.8% (60)	**42.6% (103)**	33.5% (81)	242
Increased enforcement of laws applying to motorists and cyclists	17.6% (43)	41.0% (100)	**41.4% (101)**	244
Education programs for bicycle safety	**45.1% (107)**	33.3% (79)	21.5% (51)	237
A map of bicycle facilities for planning routes	13.6% (33)	42.4% (103)	**44.0% (107)**	243
			answered question	250
			skipped question	10

10. What destinations would or do you bicycle to? Check all that apply.		
	Yes	Response Count
Place of Employment	**100.0% (149)**	149
School	**100.0% (64)**	64
Restaurant	**100.0% (140)**	140
Shopping/Retail	**100.0% (171)**	171
Entertainment	**100.0% (153)**	153
Park	**100.0% (238)**	238
Trails and Greenways	**100.0% (235)**	235
Transit	**100.0% (94)**	94
	answered question	247
	skipped question	13

11. Where do you feel comfortable bicycling? Check all that apply.

	Yes	No	Response Count
Streets containing bike lanes	**89.1% (221)**	11.3% (28)	248
Streets signed as designated bike routes	**75.4% (184)**	24.6% (60)	244
Low traffic Neighborhood streets	**98.8% (248)**	1.2% (3)	251
Main village thoroughfares	33.6% (80)	**66.4% (158)**	238
Rural thoroughfares	**63.5% (155)**	36.5% (89)	244
Greenway trails	**97.6% (239)**	2.4% (6)	245
		answered question	**251**
		skipped question	**9**

12. How important do you think it is to include bicycle issues in the City's transportation planning process?

	Response Percent	Response Count
very unimportant	18.4%	47
somewhat unimportant	4.3%	11
no opinion	2.4%	6
somewhat important	17.6%	45
very important	**57.3%**	146
	answered question	**255**
	skipped question	**5**

13. Where do you live?		Response Percent	Response Count
City of West Allis		87.1%	222
Milwaukee County, but outside of West Allis		11.4%	29
Outside Milwaukee County, but in WI		2.4%	6
	answered question		255
	skipped question		5

West Allis Pedestrian Plan Survey
Summary of Results

There were a total of 49 respondents to the pedestrian plan survey, 33 of which were residents of West Allis. 54% found pedestrian activities to be a very important part of the city's planning process. 26% reported pedestrian activities to be important, while 8 individuals (19%) found it very unimportant.

Over half of the survey respondents walked in West Allis to run an errand rather than using their car either daily (20%) or a few times each week (35%). A greater amount walk for exercise, recreation or enjoyment daily (31%) or a few times each week (43%). Respondents walk for exercise (85%), for relaxation (75%) and shopping (56%). A lesser amount reported walking to get to the bus (33%), to get to work (23%), walking pets (19%). The lowest was to get to school (5 respondents).

Hazardous traffic conditions was the leading factor in preventing people from walking to their destinations (80%) however it was closely followed by lack of sidewalks and pathways (76%). Also problematic was the weather (52%), crime (37%) and poor health (13%).

Following is a list of roadways and intersections respondents considered unsafe. Highway 100 was the most reported, followed by numerous intersections along Hwy 100. Intersections along Greenfield Ave. were the second most common listing.

Multiple Responses	List any roadway or intersections that you do not feel safe walking along or crossing.
11	Hwy 100
4	70th St from Greenfield to I-94. Particularly at the RR tracks (east side of 70th); the whole stretch is a misery in winter.
4	National Ave and Greenfield Ave. (6 points intersection)
3	84th St. between Greenfield Ave and Schlinger (east side)
3	Hwy 100 and Greenfield
3	National & Cleveland
2	Beloit and Lincoln Avenue

2 Greenfield Ave
2 Hwy 100 and Lapham
2 Hwy 100 and Mitchell
2 National and 60th
2 National and 894/Hwy 45; people do not stop at the end of the off ramp going southbound
2 National, Lincoln intersection. Short crossing time.
124th (the whole thing)
76th street Lincoln Ave to Greenfield Ave too narrow for biking with parked cars
84th Street
Beloit and 60th
Beloit and Grant
Beloit Rd. (would be nice to have a bike lane)
Cleveland by the parkway
Greenfield and 68th
Greenfield and 70th
Greenfield Ave and 104th and 103rd
Greenfield Ave and 76th Street
Greenfield Ave from 98th St - 111th St
Greenfield Ave. (west of I-894)
Hwy 100 / Cleveland
Hwy 100 and Dakota
Hwy 100 and Orchard
Hwy 100 at W National Av
Hwy 100 between Lincoln and Greenfield
Hwy 45 and Greenfield Ave
I-94 and pedestrian bridge near 74th St
KK parkway and 76th
National
National & Oklahoma (TBD)
National and 68th
National and 76th
National and 84th
National Ave and 104th
National Ave between 76 and 70th
National Ave. 76th - 84th, especially by 81st St.
National, 90th & Becher
Pedestrian overpass at southside of I-94 near 74th St. and frontage road
W. Oklahoma Ave.
Walking around McCarty Park

Pedestrian Survey Numbers

1. How often do you walk in West Allis to run an errand rather than using your car?

	Response Percent	Response Count
Daily	20.4%	10
A few times each week	34.7%	17
A few times each month	14.3%	7
Seldom (less than once a month)	26.5%	13
Never	4.1%	2
answered question		49
skipped question		0

2. How often do you walk in West Allis for exercise, recreation or enjoyment

	Response Percent	Response Count
Daily	30.6%	15
A few times each week	42.9%	21
A few times each month	10.2%	5
Seldom (less than once a month)	12.2%	6
Never	4.1%	2
answered question		49
skipped question		0

3. What types of activities do you engage in when you walk?

	Response Percent	Response Count
shopping	56.3%	27
to get to work	22.9%	11
to get to the bus	33.3%	16
to get to school	10.4%	5
walking pets	18.8%	9
for exercise	85.4%	41
for relaxation	75.0%	36
other	27.1%	13
answered question		48
skipped question		1

4. What factors prevent or discourage you from walking?

	Response Percent	Response Count
no sidewalks or pathways	76.1%	35
hazardous traffic conditions	80.4%	37
poor health	13.0%	6
weather	52.2%	24
crime	37.0%	17
answered question		46
skipped question		3

Article II. Membership

The membership of this Task Force shall be in accord with Resolution File Number 930071 and Resolution File Number 010472 and shall consist of eleven members appointed by the Mayor of the City of Milwaukee and confirmed by the Common Council for three-year terms. One member shall be a safety professional involved with City concerns, such as a member of the Police Department, Fire Department, Health Department or Safety Commission, one shall represent the Department of Public Works, and one shall represent the Department of City Development.

Article III. Voting

Each member of the Task Force shall be entitled to one vote on all matters brought to a vote during a regular or called meeting in which said member is present, providing a quorum is present at the time as specified in Article IV.

Article IV. Quorum

A majority of the membership of the Task Force officially holding appointments from the appointing authority shall constitute a quorum, and a quorum shall be necessary for the transaction of any official business by the Task Force.

Article V. Election of Officers

Section 1. The officers of the Task Force shall be a Chair and Vice-Chair, and shall be selected in accordance with Section 2. of this Article.

Section 2. Officers shall be nominated from the floor and elected at the Annual Meeting, pursuant to Article IV, and as specified in Article VIII.

Section 3. All elected officers shall serve for a term of one year or until their successors have been elected. Officers are eligible to succeed themselves.

Article VI. Duties of Officers

Section 1. The Chair shall preside at all meetings of the Task Force and is eligible to vote on all matters coming before the Task Force. The Chair shall appoint all subcommittees. Meetings can be scheduled by the Chair or by the agreement of three members of the Task Force with proper and due notice pursuant to Article VII to the other members of the Task Force.

The Chair shall have the responsibility for the meeting agendas and for conducting all meetings as provided by these by-laws.

Section 2. The Vice-Chair shall perform all duties and assume all the responsibilities of the Chair in his or her absence.

Section 3. City of Milwaukee staff shall keep accurate records on all proceedings of the Task Force and shall be responsible for issuing all necessary meeting notices, copies of agendas, and special informational materials.

Article VII. Meeting Dates

The Bicycle and Pedestrian Task Force shall by motion establish a regular meeting schedule. Sufficient notice as agreed upon by the members shall be given of all meetings. Agenda, minutes and special informational materials shall accompany meeting notices.

Article VIII. Annual Meeting

An annual meeting of the Task Force shall be held at the last regularly scheduled meeting in each calendar year. During this annual meeting the following activities shall take place:

A. A summation of progress made and activities accomplished as required by Chapter 320-1 of the City of Milwaukee Ordinances.

B. Goals formulated for the coming year.

C. Officers for the coming year shall be elected.

Article IX. Amendments to By-Laws

Section 1. The By-Laws of the Task Force, as officially adopted, shall be amended only in accordance with the following procedure:

A. All members holding official appointments to the Task Force shall be furnished a copy of the proposed changes and/or amendments to the By-Laws at least thirty (30) days prior to any official vote on said proposed changes and/or amendments.

B. Any changes and/or amendments to the By-Laws of the Task Force shall be read at the meeting prior to presenting the change to the Task Force for a vote, said meeting to be a regular meeting held in accordance with the provisions of the By-Laws presently in effect.

C. A simple majority of the total membership of the Task Force shall be deemed sufficient to adopt any changes and/or amendments to the By-Laws, providing that other provisions of this Article have been complied with.

The By-Laws, as set forth herein, are hereby adopted by the City of Milwaukee Bicycle and Pedestrian Task Force to be the official By-Laws of the City of Milwaukee Bicycle and Pedestrian Task Force pursuant to a unanimous vote of the members present.

Done this _____ (month & date), _____ (year).

By: _____
Chair

_____ _____
Member Member

_____ _____
Member Member

Member

Member

Member

Member

E: Bicycle Parking Ordinance Examples

Milwaukee Bicycle Parking Zoning Code Section 295-403-2-c:

For a newly-constructed building or building addition with over 2,000 square feet of floor area, one bicycle parking space shall be provided for each 2,000 square feet of floor area, up to a maximum of 10 spaces.

c. Bicycle Parking Spaces. For each required bicycle parking space, a stationary object shall be provided to which a user can secure the frame and both wheels of a bicycle with a 6-foot cable and lock. The stationary object may be either a freestanding bicycle rack or a wall-mounted bracket, shall be located within 60 feet of the main entrance of the building it serves, and may be located between the street curb and the building, subject to the approval of the commissioner of public works. As an alternative, the following alternative bicycle parking facilities may be provided:

c-1. Enclosed bicycle lockers. c-2. A 3-point bicycle rack which secures the frame and both wheels of each bike. c-3. A fenced, covered, locked or guarded bicycle storage area. Such area shall be large enough that each of the required bicycle parking spaces can accommodate a bicycle with a 3-foot handlebar width, a height of 3.5 feet from the bottom of the wheel to the top of the handlebar, and a length of 6 feet from the front of the from wheel to the back of the rear wheel.

City of Madison General Ordinances (excerpts taken for sections regarding bicycle parking)

28.11 OFF-STREET PARKING AND LOADING FACILITIES.

(1) Statement of Purpose. The purpose of this section is to provide for the regulation of accessory off-street parking and loading facilities, and to specify the requirements for off-street parking and loading facilities for different uses. The regulations and requirements which follow are established to promote the safety and general welfare of the community by:

(a) Increasing the safety and capacity of public streets by requiring off-street parking or off-street loading facilities to be provided.

(b) Minimizing adverse effects of off-street parking and off-street loading facilities on adjacent properties through the requirement of design and maintenance standards.

(c) Lessening congestion and preventing the overtaxing of public streets by regulating the location and capacity of accessory off-street parking or off-street loading facilities.

(d) Providing adequate and safe facilities for the storage of bicycles.

(Am. by Ord. 9426, 3-11-88)

(2) General Regulations.

(a) Scope of Regulations. The off-street parking and loading provisions of this ordinance shall apply as follows:

1. For all buildings and structures erected and all uses of land established after the effective date of this ordinance, accessory parking and loading facilities shall be provided as required by the regulations of the districts in which such buildings or uses are located.

However, where a building permit has been issued prior to the effective date of this ordinance, and provided that construction is begun within ninety (90) days of such effective date and diligently prosecuted to completion, parking and loading facilities in the amounts required for the issuance of said building permit may be provided in lieu of any different amounts required by this ordinance.

2. When the intensity of use of any building, structure or premises shall be increased through addition of dwelling units, gross floor area, seating capacity or other units of measurement specified herein for required parking or loading facilities, parking and loading facilities as required herein shall be provided for such increase in intensity of use.

3. Whenever the existing use of a building or structure shall hereinafter be changed to a new use, parking or loading facilities shall be provided as required for such new use. However, if the said building or structure was erected prior to the effective date of this ordinance, additional parking or loading facilities are mandatory only in the amount by which the requirements for the new use would exceed those for the existing use if the latter were subject to the parking and loading provisions of this ordinance.

4. Bicycle parking facilities shall be provided as required for all new structures and uses established as provided in Sec. 28.11(2)(a)1. or to changes in uses as provided in Secs. 28.11(2)(a)2. and 3.; however, bicycle parking facilities shall not be required until the effective date of this paragraph. Notwithstanding Secs. 28.08(1)(i), 28.09(1)(i) and 28.09(5)(a), bicycle parking facilities shall be provided in all districts including districts in the Central Area. (Cr. by Ord. 9426, 3-11-88)

(3) Off-Street Parking Facilities. Off-street parking facilities accessory to uses allowed by this ordinance shall be provided in accordance with the regulations set forth herein as well as in subsection (2) above.

(a) Utilization.

1. In the residence district, accessory off-street parking facilities provided for uses listed herein shall be solely for the parking of passenger automobiles (including passenger trucks) and bicycles of patrons, occupants or employees. Such vehicles are limited in size to less than one (1) ton in capacity.

(e) Size. . . . Required bicycle parking spaces shall be at least 2 feet by 6 feet. An access aisle of at least 5 feet shall be provided in each bicycle parking facility. Such space shall have a vertical clearance of at least 6 feet. (Am. by Ord. 11,205, Adopted 3-21-95)

(h) Design and Maintenance.

2. d. Bicycle Parking Facilities. Accessory off-street parking for bicycle parking shall include provision for secure storage of bicycles. Such facilities shall provide lockable enclosed lockers or racks or equivalent structures in or upon which the bicycle may be locked by the user. Structures that require a user-supplied locking device shall be designed to accommodate U-shaped locking devices. All lockers and racks must be securely anchored to the ground or the building structure to prevent the racks and lockers from being removed from the location. The surfacing of such facilities shall be designed and maintained to be mud and dust free. (Cr. by Ord. 9426, 3-11-88) (Sec. 28.11(3)(h)2. R. & Recr. by Ord. 4556, 5-13-74)

(i) Location. All parking spaces required by this ordinance shall be located on the same zoning lot as the use served except that parking facilities may be located on land other than the zoning lot on which the building or use served is located, provided:

3. Bicycle parking facilities shall be located in a clearly designated safe and convenient location. The design and location of such facility shall be harmonious with the surrounding environment. The facility location shall be at least as convenient as the majority of auto parking spaces provided. (Cr. by Ord. 9426, 3-11-88)

Off-Street Bicycle Parking Guidelines

Land Use	Bike Space
Dwellings/Lodging rooms	1 per dwelling unit or 3 lodging rooms
Clubs/lodges	1 per lodging room plus 3% of person capacity
Fraternities/sororities	1 per 3 rooms
Hotels/lodging houses	1 per 20 employees
Galleries/museums/libraries	1 per 10 auto spaces
Colleges/universities/junior and high schools	1 per 4 employees plus 1 per 4 students
Nursery/elementary schools	1 per 10 employees plus students above second grade
Convalescent and nursing homes/ institutions	1 per 20 employees
Hospitals	1 per 20 employees
Places of assembly, recreation, entertainment and amusement	1 per 10 auto spaces
Commercial/manufacturing	1 per 10 auto spaces
Miscellaneous/other	To be determined by the Zoning Administrator based on the guideline for the most similar use listed above.

(l) Schedule of Required Off-Street Parking Facilities. Accessory off-street parking spaces shall be provided as required hereinafter for the following uses. . . .

1. Bicycle parking facility spaces shall be provided in adequate number as determined by the Zoning Administrator. In making the determination, the Zoning Administrator shall consider when appropriate, the number of dwelling units or lodging rooms, the number of students, the number of employees, and the number of auto parking spaces in accordance with the following guidelines:

a. In all cases where bicycle parking is required, no fewer than two (2) spaces shall be required.
b. After the first fifty (50) bicycle parking spaces are provided, additional bicycle parking spaces required are 0.5 (one half) space per unit listed.
c. Where the expected need for bicycle parking for a particular use is uncertain due to unknown or unusual operating characteristics of the use, the Zoning Administrator may authorize that construction and provision of not more than fifty (50) percent of the bicycle parking spaces be deferred. Land area required for provision of deferred bicycle parking spaces shall be maintained in reserve. (Sec. 28.11(3)(l)1. Cr. by Ord. 9426, 3-11-88)

F: Summary of Wisconsin Bicycle Laws

from http://www.dot.state.wi.us/safety/vehicle/bicycle/rules.htm

Rules for riding bicycles on the road
General rules

- Bicycles are vehicles. They belong on the road. [emphasis added]
- Ride at least three feet from the curb or parked vehicles or debris in curb area and in a straight line. Don't swerve in and out around parked vehicles.
- Always ride in the same direction as traffic.

- Sidewalk riding for bicyclists past the learning stage and being closely supervised by adults can be more dangerous than on the road, obeying traffic laws. It is also illegal unless the community has passed an ordinance specifically permitting sidewalk riding. This can be age-restricted, location-restricted or based on the type of property abutting the sidewalk.
- Obey all traffic laws.
- Be predictable! Let other users know where you intend to go and maintain an understood course.

Narrow lanes
- Ride in the center of the lane.
- Keep at least three feet between yourself and passing or parked traffic.

Wide lanes
- Ride just to the right of the actual traffic line, not alongside the curb.
- Keep at least three feet between yourself and the curb or from parked vehicles. Motorists should be passing you with at least 3 feet of clearance.

Don't get the door prize!
- Ride in a straight line three feet out from parked cars. You'll avoid car doors that open in front of you and you'll be more visible to other drivers.
- Don't pull into the space between parked cars. Ride just to the right of the actual traffic line, not alongside the curb.
- Ride straight, three feet from parked cars - don't get "doored"

Take the lane

You will fare better with other road users if you function like a legal vehicle operator, which you are.
- Right turning motorists can be a problem, but taking the lane or more of the right portion of the wide curb lane can prevent this. Take an adult bicycling course to learn skills and develop confidence in traffic.
- Left turning motorists are the cause of most adult bicyclists' crashes. Motorists claim not to see the cyclist who is traveling in a straight path in the opposite direction.
  Bicyclists, when making your own left turn look over your left shoulder for traffic, signal your left turn and change lanes smoothly, so you are to the left side or center of the through lane by the time you reach the intersection. If a left turn lane is present, make a lane change to center of that lane. Do not move to left of that lane as left-turning motorists may cut you off.
- Do not wait until you reach the crosswalk, then stop and try to ride from a stop across other traffic. If you need to cross as a pedestrian, leave the travel lanes, then get into the crosswalk, walking or riding your bicycle like a pedestrian travels, not fast, and with pedestrian signals.

Lane positioning can be especially important in approaching a downhill intersection. Moving to the center makes you more visible to intersecting and left turning motorists in opposing lanes.
- Going downhill, your speed is likely to be closer to traffic speeds or posted speed limits. Hugging the curb when there are visual barriers increases your chance to be struck by a bigger vehicle, or of hitting a pedestrian or sidewalk riding bicyclist.
- Take the lane, be seen and see other traffic better if you are close to traffic speeds

How to ride

- Wear bright colors during the day and retro-reflective items at night along with headlight and taillight to increase your visibility to other road users.
- Wear a bicycle helmet on every ride to reduce your chance of head injury in event of a fall or crash. Most serious injuries from a fall or crash are to the head and most frequently, the forehead, so wear helmet level with the ground, just above the eyebrows.
- Be aware of changing road surfaces, new construction or unusual barriers on the roadway, distracters for both you and other vehicle operators.
- Leaves can be slippery in the early morning and are a hazard even when slightly damp. Distractions such as dogs, wild animals and even humans can draw attention from the roadway and lead to a crash. Expect them.

Motorist reminders
- Bicycles are vehicles. They belong on the road.
- Cyclists need room to get around potholes, sewer grates and other obstructions.
- Leave at least three feet when passing bicycles, more room at higher speeds.
- Change lanes to pass any bicycle traveling in a narrow lane.
- Train yourself to scan for fast moving (it's hard to tell speed) bicycles and motorcycles in the opposing lane to you when turning left, and scan sidewalks and crosswalks for pedestrians and bicyclists using the sidewalk and crosswalk as a pedestrian. Always scan to your right side sidewalk before you leave a stop light or stop sign. And to the left and right side sidewalks when on a one-way street.

From: http://www.bfw.org/projects/bicycle_laws.php

Wisconsin State Bicycle Laws

[numbers in brackets refer to State Statutes]

A. Vehicular Status
• The bicycle is defined as a vehicle. [340.01(5)]
• The operator of a vehicle is granted the same rights and subject to the same duties as the driver of any other vehicle. [346.02(4)(a)]

B. Lane Positioning
• Always ride on the right, in the same direction as other traffic. [346.80(2)(a)]
• Ride as far to the right as is practicable (not as far right as possible). [346.80(2)(a)]
• Practicable generally means safe and reasonable. 346.80(2)(a) lists a few situations when it is not practicable to ride far to the right:
• When overtaking and passing another vehicle traveling in the same direction;
• When preparing for a left turn at an inter-section or driveway;
• When reasonably necessary to avoid unsafe conditions, including fixed or moving objects, parked or moving vehicles, pedestrians, animals, surface hazards or substandard width lanes [defined as a lane that is too narrow for a bicycle and a motor vehicle to travel safely side by side within the lane].

C. One Way Streets
Bicycles on a one-way street with 2 or more lanes of traffic may ride as near the left or right-hand edge or curb of the roadway as practicable (in the same direction as other traffic). [346.80(2)(b)]

D. Use of Shoulders
Bicycles may be ridden on the shoulder of a highway unless prohibited by local authorities. [386.04(1m)]

E. Riding 2-Abreast
Riding 2 abreast is permitted on any street as long as other traffic is not impeded. When riding 2 abreast on a 2 or more lane roadway, you both have to ride within a single lane. [346.80(3)(a)]

F. Hand Signals
- Bicyclists are required to use the same hand signals as motorists [346.35].
- Hand signals are required within 50 feet of your turn. It is not required continuously if you need both hands to control the bicycle [346.34(1)(b)]

G. Passing
- A motorist passing a bicyclist in the same lane is required to give the bicyclist at least 3 feet of clearance, and to maintain that clearance until safely past. [346.075]
- A bicyclist passing a stopped or moving vehicle is also required to give at least 3 feet of clearance when passing. [346.80(2)(c)]

H. Use of Sidewalks
- State Statutes allow local units of government to permit vehicles on sidewalks through local ordinances. [346.94(1)]
- When bicycles are allowed to be operated on sidewalks, bicyclists must yield to pedestrians and give an audible warning when passing pedestrians traveling in the same direction. [346.804]
- At intersections and other sidewalk crossings (alleys, driveways), a bicyclist on the sidewalk has the same rights and duties as pedestrians. [346.23, 24, 25, 37, 38]

I. Bicycling at Night
- Bicycling at night requires at least a white front headlight and a red rear reflector. The white front light must be visible to others 500 feet away. The red rear reflector must be visible to others between 50 and 500 feet away. A red or amber steady or flashing rear light may be used in addition to the required reflector. These are required no matter where you ride--street, path or sidewalk. [347.489(1)]

J. Duty to report accident. [346.70]
- The operator of a vehicle involved in an accident resulting in injury to or death of any person, or total damage to property owned by any one person of $1,000 or more shall immediately give notice of such accident to the police.
- "injury" means injury to a person of a physical nature resulting in death or the need of first aid or attention by a physician or surgeon, whether or not first aid or medical or surgical treatment was actually received;
- "total damage to property owned by one person" means the sum total cost of putting the property damaged in the condition it was before the accident, or the sum total cost of replacing such property.
- This section does not apply to accidents involving only vehicles propelled by human power.

For more information contact:
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