



Village of Shorewood Bicycle Implementation Plan



Village of Shorewood
3930 N. Murray Ave
Shorewood, WI 53211

Adopted- October 1, 2012



Shorewood Bicycle Implementation Plan

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Introduction

In 2008 a comprehensive bicycle study was prepared for the Village of Shorewood.¹ The study identified a current bikeway network of 2.3 miles of pathway trails and 3.4 miles of bicycle accommodations and bike lanes on existing roadways to total 5.7 miles of bikeways. The village consists of approximately 31.8 miles of roadway.

In 2011 Shorewood's Pedestrian & Bicycle Safety Committee (the committee) lead the final review of the study with input from the League of American Bicyclists and village residents. The League of American Bicyclists awarded Shorewood with a Bicycle Friendly Community designation in 2011. The committee drafted recommendations based on findings in the Bike Study that was developed into a formal Bicycle Implementation Plan.

Bicycle Study Summary

A Bicycle Study was completed in 2008 as part of the planning stages for the Capitol Drive street reconstruction project and later updated in 2011. The intent of the study was to establish plan objectives and planning criteria; identify safe and effective bike travel corridors; establish an educational component to assure bicycle safety; and create an implementation process for future bicycle facilities.

The following is a summary of the bike study.

- *Inventory of Existing Facilities & Usage.* An assessment of bikeway conditions, assessment of current bicycle use within the study area, and analysis of bicycle crashes was completed. Bikeway conditions were evaluated using the Bicycle Compatibility Index, detailing what roads can support what kind of bicycle facilities. Bicycle use counts were done throughout Shorewood during one weekday in the month of July. Bicycle crashes were also compiled over a five year period and analyzed.
- *Identify Bicycle Travel Corridors.* The study mapped bicyclists' destinations, existing bikeways and recommended bikeways. Travel habits of bicyclists are similar to motorists within a community, with major trip generating centers around schools, commercial areas, parks and major employers.
- *Route Alternatives.* The street network was evaluated, considering use, directness, accessibility, spacing, continuity, barriers, safety, and costs for determining the recommended bikeway facilities.
- *Safety Component.* The safety component identified bicycle education and encouragement opportunities, local law enforcement efforts, and outreach suggestions.

¹ Study prepared by Graef using Wisconsin Bicycle Planning Guidance processes produced by the Wisconsin Department of Transportation

Goals and Objectives

Making Shorewood's streets safer and more accessible for bicyclists is an essential part of the village's objective of being a walkable and bicycle-friendly community. It also is a way to address many serious health problems that are on the rise. Shorewood has recently paid significant attention to improving its bike and pedestrian infrastructure. These efforts include recently opening a new bike and pedestrian bridge over Capitol Drive that has become the Village's grand gateway.

Implementing recommendations from the Bike Study specified the following goals:

- 1 Better Street Design
- 2 Safer Routes to School
- 3 Improve Bicycle Education
- 4 Expand Encouragement Programs
- 5 Measure and Evaluate the Plan

As 28% of all trips are less than a mile from home, Shorewood is uniquely positioned to get more residents to make these trips by bicycle instead of car. The Implementation plan builds on Shorewood's current facilities by recommending additional bike lanes and accommodations, more bicycle parking, as well as continued encouragement and education of residents.

2008 BIKE STUDY GOALS & OBJECTIVES

1. Plan a village wide network of safe and convenient routes for bicycle transportation within the community.
2. Provide a network that promotes bicycle use within the Village.
3. Provide opportunities to educate the citizens, particularly children, on bike safety through the creation of bicycle safety programs, neighborhood outreach, and law enforcement.
4. Increase bike usage within the Village through promotion of safe routes.

Plan Implementation

1 Goal One: Better Street Design

Implementing best practices for designing and maintaining bike lanes, intersections, signals, and signs and markings is key to improve bicycle safety. Many of the following street enhancements in the plan are low cost and are minimal of what is available. Safer facilities will directly result in more people riding bikes.

North - South Street Bike Routes

Area A: Lake Drive

- Post *Share the Road* signs to alert automobile drivers that Lake Drive is a shared roadway.

Opportunity for enhanced accommodations when road is due for repaving.



Area B: Downer Avenue

- Edgewood Avenue, north to Capitol Drive:** Explore adding fog lines on Downer Avenue.

Benefits: (1) extends City of Milwaukee bike route to Shorewood's business district, (2) provides direct route to/from University of WIS-Milwaukee for university staff and students, and (3) reduces automobile lane width to improve pedestrian safety in crossing Downer Avenue.

Area C: Murray Avenue

- Designate a preferred route on future Bike Map (Goal 4)
Murray Avenue is a lower-volume, lower speed street that connects the entire village from Edgewood Ave. to Glendale Ave.

- Explore the feasibility of enhancing Murray Avenue to a Bicycle Boulevard.

Murray already exhibits many traits of a Bicycle Boulevard. Minor traffic calming and design improvements could transform Murray Avenue into a major bicycling route through the village.

Benefits include: (1) provides safe crossings at major streets, (2) improves safety for pedestrians, (3) encourages motorists to travel at speeds appropriate for residential streets,

BIKE TERMINOLOGY

Bicycle Lane - a portion of the roadway which has been designated by striping, signing and pavement marking for the preferential or exclusive use by bicyclists. Bicycle lanes make the movements of both motorists and bicyclists more predictable and as with other bicycle facilities there are advantages to all road users in striping them on the roadway. Bicycle Lanes have a minimum width of 5 feet.

Bicycle Fog Line Accommodation - is a painted white edge line that provides a physical marking to separate the traffic lane from the bicycle accommodation area when 3'-4' are available.

Bicycle Sharrow Lane - are standard pavement markings used on roads that are designated bike routes where there is not enough pavement to include a bike lane or accommodation. The sharrows provide guidance to the cyclists on where to ride on the road. These pavement markings also help to alert drivers that this is a designated bike route, and to be on the lookout for the presence of cyclists.

Contraflow Bike Lane - when bicyclists travel against the normal flow of traffic, or to travel in both directions on a one-way street

Bicycle Boulevard - is a lower-volume, lower-speed street that has been optimized for bicycle traffic. The purpose is to provide bicyclists a safer and more relaxing place to ride. While many residential streets are already favorable to most bicyclists, a bicycle boulevard goes the extra step to provide safe crossings at major streets and encourage motorists to travel at slow speeds, while reducing the frequency of stop signs.

(4) could catch rainwater to help prevent basement flooding if include storm water treatments in the bicycle boulevard design, (5) provides safe bicycle access route to schools and key village buildings like village hall and the library, and (6) provides safe, easy access to much of the business district for those not comfortable riding on busier streets.

Area D: Oakland Avenue

- Provide bicycle parking (racks) to all businesses along Oakland upon request. More bike parking will remove disincentives for making the trip by bicycle.²
- **Oakland Avenue, north of Capitol Drive:** Add Bicycle Fog Line Accommodation along all of Oakland Avenue.

A fog line accommodation was added in July 2011 from Edgewood to Shorewood Blvd.

Benefits include: (1) links Shorewood business district to Oak Leaf Trail and City of Milwaukee bike route, (2) provides safe and convenient bike route to access Shorewood's major shopping and entertainment district, and (3) improves bicycle parking. *Exception areas along Oakland that need special accommodations.

- **Jarvis Street, north to Wood Place:** Paint a Bicycle Sharrow symbol on Oakland Ave. between Jarvis St. and Wood Pl.

This section of road is too narrow to accommodate a separate lane with a fog line. Bicycle Sharrow signs alert motorists of the shared roadway.

If the western side of Oakland Ave. between Jarvis St. and Wood Pl is redeveloped, ensure bicycle accommodations are provided.

Sharrow



- **Shorewood Blvd, north to Capitol Drive:** Provide bicycle road markings to designate a bicycle lane between Shorewood Blvd to Capitol Drive intersection. Add signs for bicyclists, directing them through area.

This section of Oakland has numerous turn lanes. Clearly painting a safe route for bicycles should follow through the congested area.

Area E: Wilson Drive

- Create Bicycle Lanes (colored or standard) on Wilson Avenue.

Wilson is a wide road with ample available space to designate a separate lane for bicyclists in each direction.

Benefits include: (1) reduced automobile lane width will improve bicycle and pedestrian safety in crossing Wilson to access bus stops, the Oak Leaf Trail and Estabrook Park, (2) improves bicycle access to businesses along Wilson Drive and commuting through the village, (3) provides direct route from residential streets that connect to Wilson to Capitol Drive business district, and (4) reduces congestion on the multi-modal Oak Leaf Trail.

² Standards for bike parking provided by Association of Pedestrian and Bicycle Professionals.

East-West Street Bike Routes

Area F: Kensington Boulevard

- **Wilson Drive, east to Oakland Avenue:** Establish Kensington Boulevard as a bicycle route connecting the Oak Leaf Trail to the Shorewood Business District.

This enhancement could direct many of the recreational bicyclists from the Oak Leaf Trail to Shorewood's Business District, as well as improve access to the Oak Leaf and Estabrook for village residents.

- Formalize the Oak Leaf Trail entrance/exit ramp to the street.
- Create bicycle and pedestrian cross walk symbols across Wilson Drive.
- Add wayfinding signs on or near Oak Leaf Trail of nearby Shorewood businesses at the exit.
- Paint Bicycle Sharrow symbols along Kensington to direct bicyclists to the business district and alert motorists that it is a bicycle route.
- A long term goal is to explore the feasibility of enhancing Kensington Blvd. to a Bicycle Boulevard.



Benefits include: (1) links Shorewood business district to Oak Leaf Trail, (2) increases awareness and patronage of Shorewood businesses, (3) provides safe and convenient bike route to access Shorewood's major shopping and entertainment district, (4) improves bicycle parking, (5) improves access to Estabrook Park for Shorewood Residents, and (6) advertises Shorewood as a bicycle friendly destination.

Area G: Glendale Avenue and Wilson Drive Intersection

- Formalize the Oak Leaf Trail entrance/exit ramp to Wilson at Glendale Avenue.
- Create bicycle and pedestrian cross walk symbols across Wilson Drive.
- Add wayfinding signs on or near Oak Leaf Trail exit of nearby Shorewood businesses.
- Provide bicycle parking (racks) to businesses at this intersection.

Benefits include: (1) links Shorewood businesses to Oak Leaf Trail, (2) increases awareness and patronage of Shorewood businesses, (3) improves bicycle parking, (4) advertises Shorewood as a bicycle friendly destination, and (5) improves access to Estabrook Park for Shorewood Residents.



Area H: Capitol Drive

- Provide bicycle parking (racks) to all businesses upon request.

More bicycle parking will remove disincentives for making the trip by bicycle and help

alleviate automotive parking issues on this street.

- Add rest area at the Oak Leaf Trail with benches and a kiosk promoting village and biking.

Area I: Beverly Avenue

- **Intersection at Morris Blvd:** Create new entrance to Oak Leaf Trail (OLT) through DPW grounds or Pinedale Ct as an alternative.

This allows bicyclists and pedestrians to access the Oak Leaf Trail from the intersection. Current access points in this area are at Edgewood Blvd. and Capitol Dr.

Area J: Edgewood Avenue

- **River Park:** Add wayfinding signs on or near Oak Leaf Trail exit of nearby Shorewood businesses.
- Add Bicycle Symbols in parking lot to alert motorists of shared space.
- In future park enhancements, construct a direct pathway along southern side of the park dedicated primarily to bike traffic.
- **Lake Drive, west to River Park:** Collaborate with University of WIS-Milwaukee and City of Milwaukee for consistent bicycle accommodations on north and south side of Edgewood Avenue.

Benefits include (1) high traffic bicycling corridor that connects Shorewood to UWM, as well as the Oak Leaf Trail to the village, and (2) connects to City of Milwaukee bike route at Downer Ave. and Oakland Ave.

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Goal Two: Safer Routes to School

Providing safer routes to school for children has many benefits. It:

1. increases levels of daily physical activity for children,
2. improves neighborhood safety,
3. decreases the number of cars traveling through the neighborhood,
4. reduces the number of cars congesting the pick-up and drop-off points at the school, and it
5. enhances neighborhood connectivity as people get out and about interacting with one another.

- Add Bicycle Route Signs on roads that are primary routes to Shorewood Schools:
 - Lake Bluff Blvd- for Lake Bluff Elementary School.
 - Morris Blvd between Menlo and Kensington- for Shorewood High School and Shorewood Intermediate School.
 - Shorewood Boulevard between Downer and Oakland Ave- for Atwater Elementary School, Shorewood High School and Shorewood Intermediate School.
 - Murray Avenue- for all public schools and St. Robert.

- Provide safe two-way bicycle route on Shorewood Blvd on the one-way section between Murray Ave and Frederick Blvd.

Many students and residents biking east on Shorewood Blvd. either bike the wrong way on this one-way street or bike on the sidewalk. Recommend improving safety of this section one of three ways:

Options to improve safety:

1. Revert this street to its original design that allows two-way automobile and bicycle traffic, and remove angled parking.
2. Add contra-flow bike accommodation so bicyclists can continue east without forcing them around the block or requiring them to get off the bicycle and walk the block.
3. Pass a village ordinance to allow cyclists to ride on the sidewalk for this block, with recommended 'Shared Sidewalk' signage.



3 Goal Three: Improve Bicycle Education

One of the outcomes of the Bicycle-Friendly Community award earned by Shorewood in 2011 was a series of recommendations for areas that needed further improvement. One of these recommendations was to improve community education for both bicyclists and motorists.

- Enhance partnership between Shorewood Pedestrian & Bicycle Safety Committee and community advocates to promote the Share the Road message and the rights and responsibilities of all users.
- Create a Pedestrian and Bicycle Committee portal on the village web site that includes communications and resources for bicyclists.

4 Goal Four: Expand Encouragement Programs

Shorewood's business district has a tradition of encouraging bicycling through the sponsorship of the Shorewood Criterium and bike education program 'First Ride'. Additional ideas for encouraging bicycling include:

- Publish Bike to Work Week proclamation and public service announcements in the Village Manager's Memo. Design and publish a Shorewood bicycle map.
- Encourage the village and businesses to promote cycling to the workplace and to seek recognition through the Bicycle Friendly Business program (www.bikeleague.org).

Goal Five: Measure and Evaluate the Plan

A bicycle audit shall be completed every five (5) years to measure the growth of cycling in the community and be done in the spring or fall when school is in session to capture all of the student bicyclists in the village. The Bike Study completed stationary bike and bike rack counts at eight destination locations and moving bike counts at 11 primary route intersection.



Funding

Funding is available through a variety of sources for bicycle facilities. Most funding is available through transportation programs administered through the Wisconsin Department of Transportation and some through recreational programs administered through the Wisconsin Department of Natural Resources.

The federal *Transportation Enhancement Program* (TE) provides funding for bicycle facilities, including bicycle lanes, bicycle route signing and bicycle parking under the Intermodal Surface Transportation Efficiency Act (ISTEA). The Transportation Equity Act for the 21st Century (TEA-21) specifies that safety and educational activities for bicyclists are eligible for transportation enhancement funding as well. Approved projects are reimbursable at 80% of the cost, and a local match of 20%.

The *Congestion Mitigation and Air Quality (CMAQ) Improvement Program* funds projects and

programs aimed at reducing automobile travel. Municipalities within Milwaukee County qualify for this program. Eligible projects must prove that they reduce air pollution by decreasing the number of vehicle trips and miles traveled. Approved projects are reimbursable at 80% of the cost, and a local match of 20%.

The *Safe Routes to School Program* under the Safe, Accountable, Flexible, Efficient Transportation Equity Act (SAFETEA-LU) encourages kindergarten through eighth grade children to walk or bike to school. The program is federally funded and administered through WisDOT.

The Recreational Trails Program provides funding for the development and maintenance of recreational trails including land acquisition. The program is administered through WisDNR. Approved projects are reimbursable at 50% of the cost.

Summary

The Bicycle Implementation Plan is an extension of the Bicycle Study, giving further detail on how to actualize original data and recommendations. The implementation plan itemizes each recommendation across a range of short-term, mid-term and long-term priorities as seen in Table 1.

The Village of Shorewood and Pedestrian & Bicycle Safety Committee will monitor the plan with annual updates to the Village Board.

Goal	Area	Improvement	Priority		
			Short Term 0-2 Yrs	Mid Term 2-5 Yrs	Long Term 5+ Yrs
1. Improve Street Design					
a)	Lake Drive				
	north of Capitol Dr to Glendale Ave	Explore narrowing to single lane road		x	
	Glendale Ave to Edgewood Ave	Add awareness signs	x		
b)	Downer Avenue				
	south of Capitol Drive to Edgewood Ave	Explore adding fog line			x
c)	Murray Avenue				
	Murray Ave	Explore as Bicycle Boulevard			x
	Glendale Ave to Edgewood Ave	Designate as preferred route	x		
d)	Oakland Avenue				
	north of Capitol Dr	Add fog line	x		
	Jarvis St to Wood St	Add bike sharrow symbol	x		
	Shorewood Bl to Captiol Dr	Add bike sharrow symbol and bicycle directional signs		x	
e)	Wilson Drive	Add bike lanes	x		
f)	Kensington				
	Wilson Dr to Oakland Ave	Designate as bike route	x		
		Add bike sharrow symbol		x	
		Explore Kensington as Bicycle Boulevard			x
	Wilson Dr	Add cross walk road symbols		x	
g)	Glendale Ave				
	Wilson Dr	Add cross walk road symbols		x	
h)	Edgewood Avenue				
	River Park (3505 Oakland)	Add wayfinding signs from trail to business district		x	
		Add bike symbols in parking lot of shared space	x		
		Construct southern path from trail to Oakland Ave			x
	River Park to Lake Dr	Coordinate w/ Milwaukee for uniform symbols		x	

Goal	Area	Improvement	Priority		
			Short Term 0-2 Yrs	Mid Term 2-5 Yrs	Long Term 5+ Yrs
i)	Oak Leaf Trail				
	Glendale Ave	Formalize bike path entries		x	
	Kensington Blvd	Formalize bike path entries	x		
		Add wayfinding signs from trail to business district			
	Capitol Dr	Add rest area with kiosk			x
	Beverly Ave	Explore new entrance from trail to Morris, through DPW		x	
j)	Businesses				
	Oakland Ave & Capitol	Provide bike racks to businesses upon request		x	
	Wilson Dr	Provide bike racks to businesses near entrance			x
2. Safer Routes to School					
k)	Sign primary bike routes to school				
	Lake Bluff Blvd	Add bike route signs		x	
	Morris Bl, Menlo Bl to Kensington Ave	Add bike route signs		x	
	Shorewood Bl, Lake Dr to Oakland Ave	Add bike route signs		x	
	Murray Ave	Add bike route signs			x
l)	Shorewood Blvd				
	between Murray Ave and Frederick Ave	Provide two-way bike route		x	
3. Improve Bicycle Education					
m)	Enhance partnership between Village Pedestrian & Bicycle Safety Committee & community advocates		x		
n)	Create Pedestrian & Bicycle Safety Committee web portal		Complete		
4. Expand Encouragement Programs					
o)	Publish Shorewood bicycle map		x		
p)	Publish public service announcements and Bike to Work Week and bike month		x		
q)	Support Village and businesses to promote bike to work		x		
5. Measure and Evaluate Plan					
r)	Complete bicycle audit every 5 years			x	
s)	Annual analysis				
	Measure change in milage of bikeways		x		
	Measure change in bicycle accidents		x		
	Inventory change in bicycle parking		x		