

City of Racine Bicycle and Pedestrian Master Plan 2019

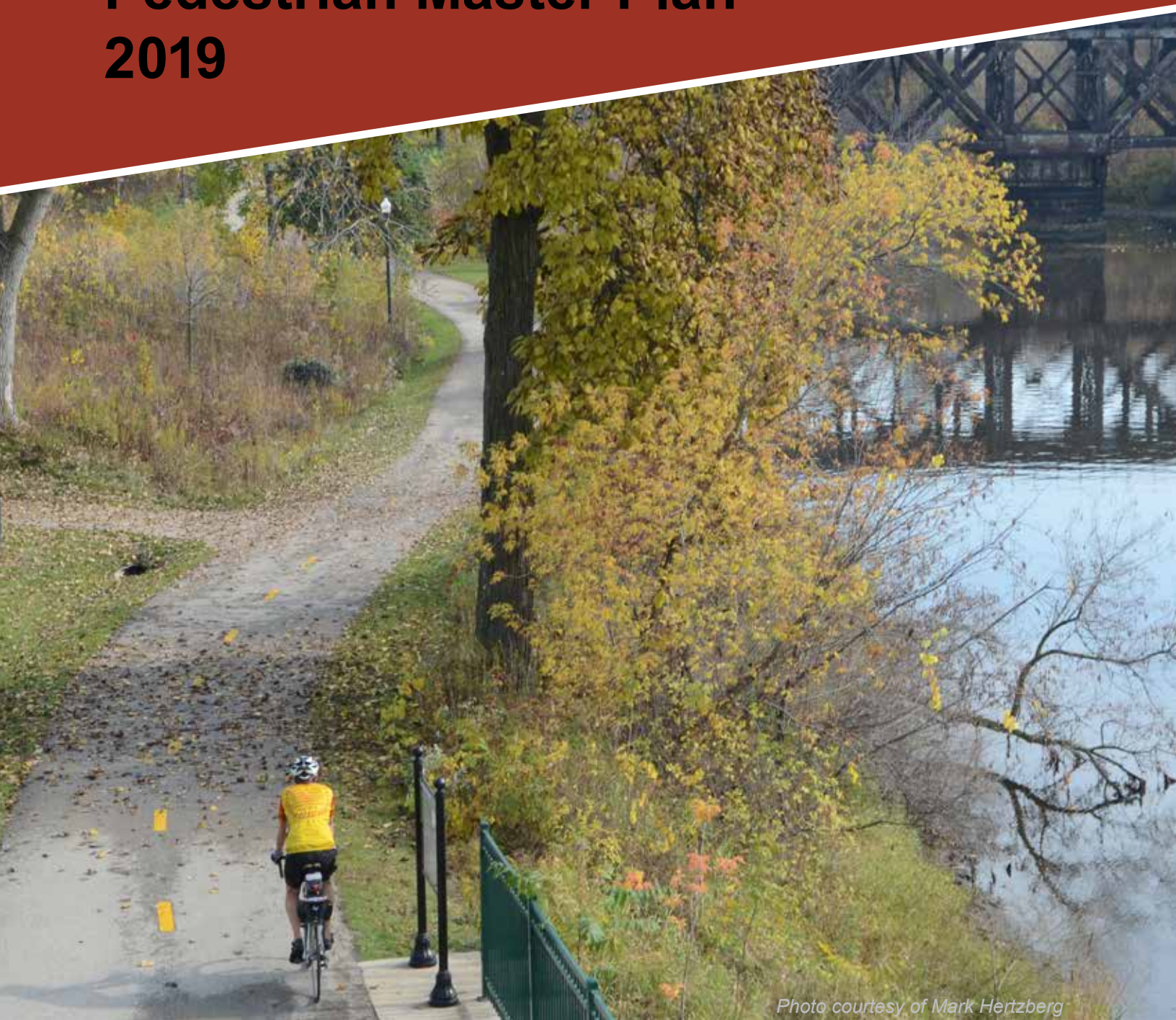


Photo courtesy of Mark Hertzberg

CITY OF RACINE

Acknowledgments

The City of Racine appreciates the efforts of numerous residents and enthusiasts who participated in the development of this plan. Their creativity, energy, and commitment were the driving force behind this effort. In addition, the following residents, personnel, and other agency and organization members contributed regularly to the City of Racine Bicycle and Pedestrian Master Plan.

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- **Tom Molbeck** - Director, Parks, Recreation, & Cultural Services, City of Racine
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- **Amy Connolly, AICP** - Director, City Development, City of Racine
- **Mark Yehlen** - Commissioner, Department of Public Works, City of Racine
- **Daniel B. Ross, MD** - Vice President of Medical Affairs, Ascension Healthcare - All Saints

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Executive Summary

The City of Racine Bicycle and Pedestrian Master Plan is intended to guide the future development of the citywide non-motorized transportation network. Improving the network will make bicycling and walking more viable modes of transportation, as well as contribute to economic development opportunities and enhanced quality of life for residents and visitors to the City of Racine.

Vision

The City of Racine will enhance transportation and recreation opportunities by developing a continuous network of on-street and off-street bicycle and pedestrian facilities that provide connections to destinations throughout the city. Through these efforts, the City will encourage healthy transportation choices for both residents and visitors.

Why Bicycling?

Bicycling is a low-cost means of transportation that is non-polluting, energy-efficient, versatile, healthy and fun. It is important to remember that bicycling and walking are more than forms of recreation or sport. For many people, along with transit, they are primary means of transportation. The recommendations in this Master Plan are written with those people in mind and to make it easier for anyone to build physical activity into daily life while reducing traffic congestion and air pollution and saving money. There are many advantages to bicycling, including:

- Bicycling makes up \$133 billion of the US economy, funding 1.1 million jobs.¹
- Bikeable and walkable neighborhoods are more livable and attractive, with increased home values and property tax revenue.²
- By replacing short car trips, bicycling can help reduce personal transportation costs, and improve air quality.³
- Bicycling for exercise can reduce the cost of spending on health care by as much as \$514 per person every year.⁴
- In a community where twice as many people walk, a person walking has a 66 percent reduced risk of being injured by a motorist.⁵
- Bicycling in Wisconsin adds \$1.5 billion to the state economy and provides more than 14,000 jobs.⁶

¹ Flusche, Darren for the League of American Bicyclists. (2009). The Economic Benefits of Bicycle Infrastructure Investments.

² Cortright, Joe for CEOs for Cities. (2009). Walking the Walk: How Walkability Raises Home Values in U.S. Cities.

³ Center for Neighborhood Technology. (2005). Driven to Spend: Pumping Dollars out of Our Households and Communities.

⁴ Feifei, W., McDonald, T., Champagne, L.J., and Edington, D.W. (2004). Relationship of Body Mass Index and Physical Activity to Health Care Costs Among Employees. *Journal of Occupational and Environmental Medicine*. 46(5):428-436

⁵ Jacobsen, P.L. (2003). Safety in numbers: more walkers and bicyclists, safer walking and bicycling. *Injury Prevention* 9:205209.

⁶ The Economic Impact of Bicycling in Wisconsin, (2006) WisDOT.

Public Involvement

The planning process included many opportunities Racine residents to share their experiences and knowledge of bicycling. People shared detailed information on where they ride, improvements they would like to see, and program ideas to encourage more people to bicycle and recreate. The information gathered from residents inspired the recommendations for both on-road and off-street improvements, ideas for programs to encourage citizens to use active transportation modes, and safety education.

Three public meetings were held throughout the planning process on the following dates:

October 22, 2015

August 17, 2016

March 23, 2017

Comments were solicited and collected at the public meetings (Appendix C). Each public meeting was well attended with at least 60 participants representing a variety of interests.

Existing Conditions

This Plan seeks to leverage opportunities and overcome barriers to accommodate and encourage bicycle trips.

Opportunities include:

- The dense urban grid of the downtown area and its proximity to the lakeshore.
- An existing cycling culture consisting of an active cycling group as well as an engaged citizenry.

Barriers include:

- Lack of continuous bicycle and pedestrian travel opportunities throughout the city compounded by difficult intersections to navigate.
- Lack of wayfinding signs along existing bikeways.

Implementation

The recommended bikeway network will make bicycling for recreation and transportation an everyday, safe activity that is enjoyed by residents and visitors alike. The recommended network builds upon previous and ongoing local and regional planning efforts and reflects the input offered by City personnel, the Advisory Council, stakeholder groups, and public meeting attendees. The implementation strategy presents a targeted methodology for how the City of Racine can institutionalize bicycle improvements into local and regional planning processes and projects.

The following strategies and action items are provided to guide the vision identified in the plan:

Key Programs and Policies

- Establish a permanent Bicycle and Pedestrian Advisory Committee (BPAC) to focus on non-motorized transportation in the public right of way. Formalizing the BPAC emphasizes the City's commitment to making walking and bicycling safer and more appealing, and has the potential to assist the City in securing funding for bicycle and pedestrian projects.
- Partner with municipalities, and bicycle and other user groups to implement supporting programs in the city - with an emphasis on programs that address bicycling equity issues.

Key Projects

- Intersection improvements as detailed in the Network Recommendations in Chapter 7.
- Formalizing the recommended Neighborhood Greenway with signage noted in Chapter 7.



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1. Introduction

City of Racine

The City of Racine is located on the shore of Lake Michigan at the mouth of the Root River. Centrally located between Milwaukee and Chicago, the City is the county seat of Racine County. The 2018 population estimate makes Racine the fifth largest city in the state. Bicycle and pedestrian facilities include the popular Root River and Lake Michigan Pathways, the County Bike Trail, and the MRK Trail. These trails and neighborhood streets allow residents to access destinations such as the lakefront, Downtown, and workplaces.

Racine's existing roadway network is comprised of a dense urban grid closer to the lakefront and a more suburban/rural development pattern west of Highway 31. Highway 31 runs north/south along the City's western border and is served by highways 11, 20, 38, and C. These roadways carry the greatest volumes of motor vehicle traffic at the highest speeds. The Root River winds through Racine providing a great recreational opportunity for users along the Root River Pathway.



Downtown Racine. Photo courtesy of Real Racine

Existing Multi-Use Trails

The City of Racine has several multi-use trails, including the Lake Michigan Pathway and Root River Pathway trails. These trails and neighborhood streets allow residents to access destinations such as the lakefront, downtown, and workplaces.



LAKE MICHIGAN PATHWAY

The Lake Michigan Pathway is a 14-mile multi-use trail located in downtown Racine and along the shoreline of Lake Michigan. The trail connects Racine’s downtown area with the lakeshore, marina, and multiple destinations across the City including Pershing Park, the Christopher Columbus Causeway, and the Racine Zoological Gardens. The trail also connects to the Root River Pathway, the MRK (Milwaukee-Racine-Kenosha) Trail, and the North Shore Trail.



ROOT RIVER PATHWAY

The Root River Pathway is a 4-mile paved multi-use trail. Meandering along the Root River, the trail connects the City of Racine’s east and west sides as it passes through nine parks including Colonial Park, Lincoln Park, and Washington Park. The trail also connects to the Lake Michigan Pathway and the Racine-Sturtevant Trail.

REGIONAL MULTI-USE TRAILS

There are numerous multi-use trails in Racine County, as well as in Milwaukee and Kenosha Counties (see Appendix A). The Racine County website also hosts an interactive mapping tool of all multi-use trails in the county.

MRK (Milwaukee-Racine-Kenosha) Trail

- Located in northeast Racine County
- 4.5-mile paved trail

North Shore Trail

- Located in southeast Racine County
- 3-mile trail

Oak Leaf Trail

- Located in Milwaukee County
- Over 120 miles of paved trail

Pike River Pathway

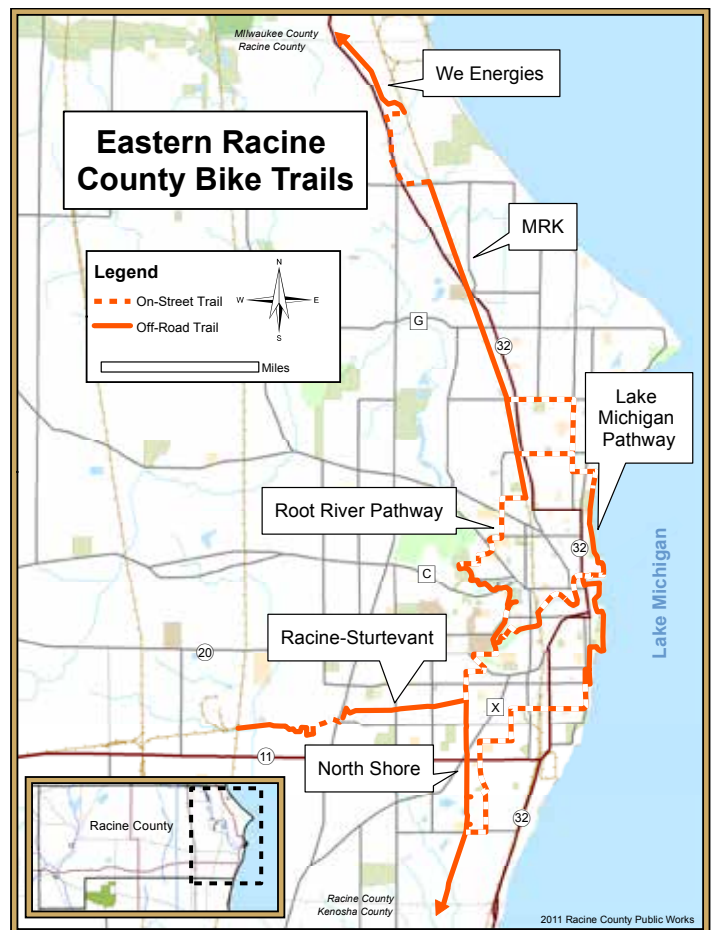
- Located in Kenosha County
- 10.2-mile, crushed limestone trail

Racine-Sturtevant Trail

- Located east of the City of Racine
- 3.5-mile paved trail

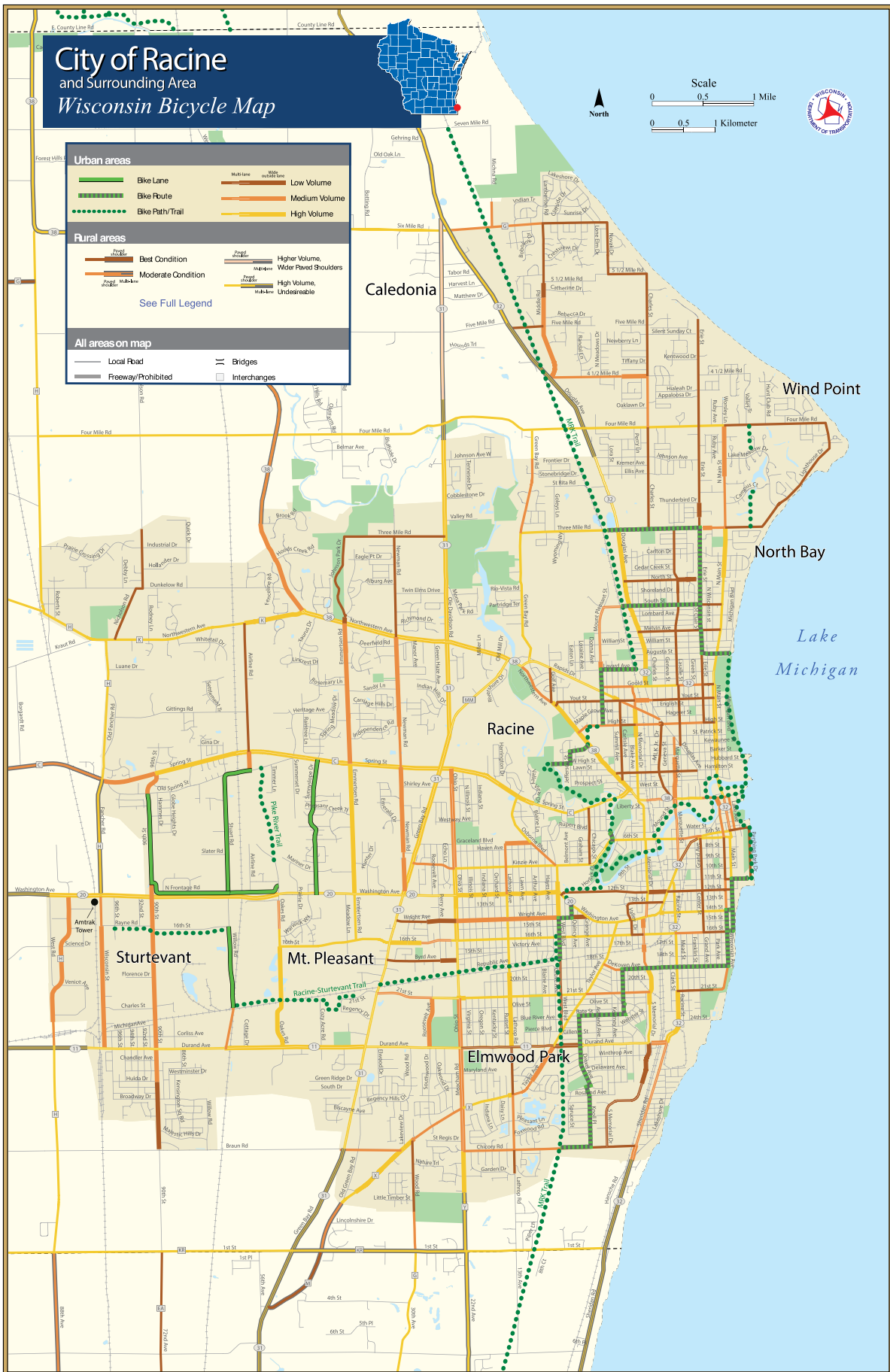
We Energies Trail

- Located north of the MRK Trail
- 2 mile paved trail



Map produced by Racine County showing the multi-use trails in eastern Racine County.





Existing Bicycle Facilities

BIKE LANES

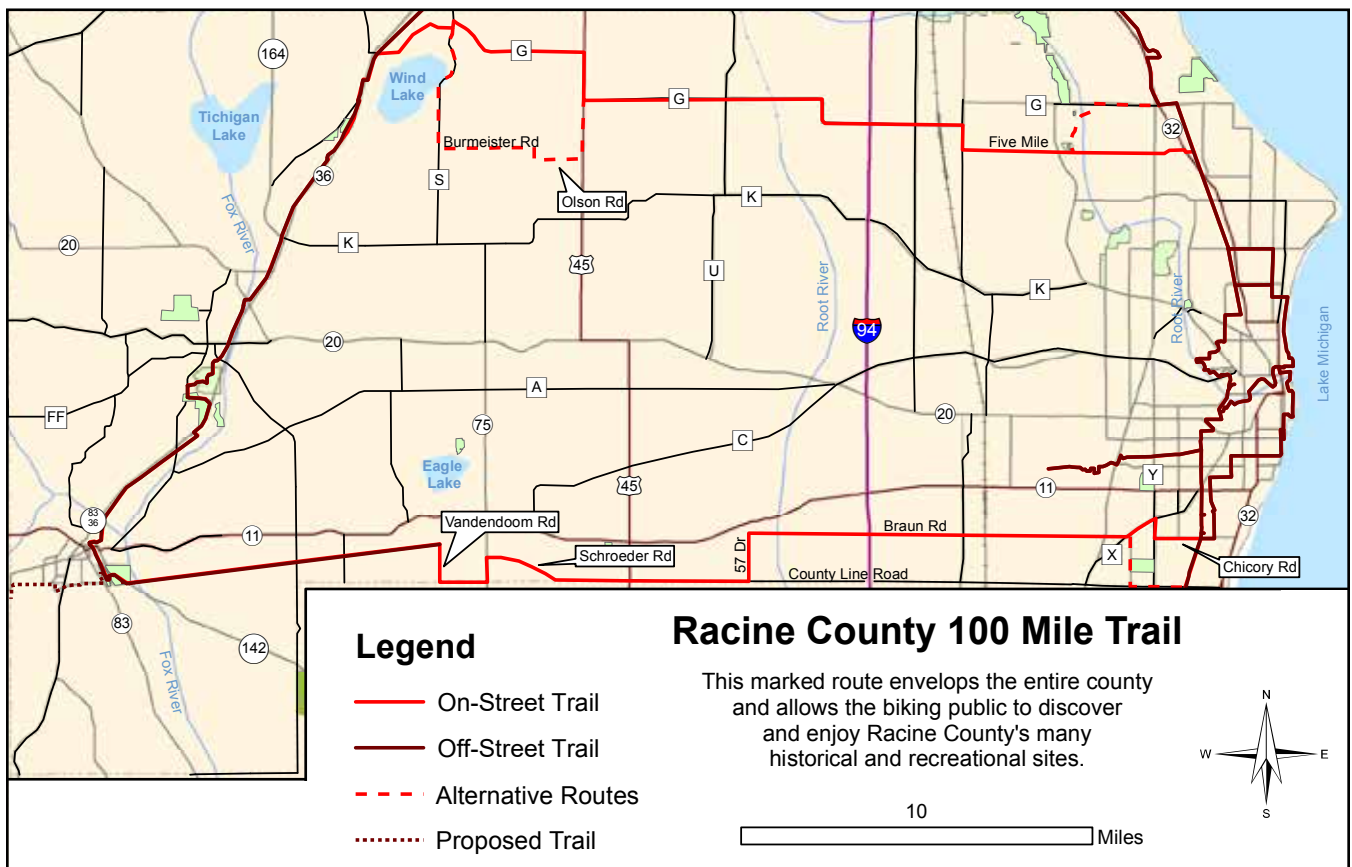
The City of Racine has designated bike lanes on portions of:

- 7th Street
- Dr. Martin Luther King Jr. Drive
- Erie Street
- Graceland Boulevard
- Marquette Street
- Northwestern Avenue
- Ohio Street
- State Street
- Three Mile Road
- Wright Avenue
- Douglas Avenue



BIKE ROUTES

The City of Racine has signed bike routes as part of the on-street connections for Racine County's 100 Mile Trail around the county.



Bike Clubs

KENOSHA RACINE (KR) BIKE CLUB

The KR Bike Club is a cycling group located in southeastern Wisconsin dedicated to providing opportunities for riders to meet and ride with others of their own skill level. The club encourages members to utilize educational opportunities to improve their skill levels so that riders at any level may ride safely in groups. Members also have a voice in southeastern Wisconsin cycling priorities. The public is invited to participate in all rides and membership is voluntary, but all riders are urged to support the club by joining. Club rides are posted on the KR Ride Calendar.

More information is available online: www.krbikeclub.com

Bike Shops

In addition to providing a selection of new bicycles and repair services, both shops host seasonal group bike rides to encourage and support new ridership.

Trek Bicycle Store Racine

5509 Durand Avenue
Racine, WI 53406
(262) 770-3294
www.trekstoreracine.com





Multi-Modal Transportation

RYDE RACINE

The City of Racine transit system - RYDE Racine - stops at all of the major retail locations in Racine, as well as the downtown business district, schools, parks, the library, hospitals and health centers. In October 2017, the transit company hosted "RYDE To Work Week" offering free coffee and snacks to morning commuters to promote their new brand identity and to encourage new ridership. All RYDE Racine buses are equipped to carry two bikes per vehicle.

More information is available online:

https://cityofracine.org/Departments/Racine-Transit/_News/CLService



AMTRAK

Amtrak's daily Hiawatha train serves communities between Milwaukee and Chicago, including a stop in the nearby Village of Sturtevant. Amtrak announced that all Hiawatha trains will be outfitted with fifteen bike racks which customers can reserve for \$5.

More information is available online:

<https://www.amtrak.com/bring-your-bicycle-onboard>

Amtrak Hiawatha trains which serve communities between Milwaukee and Chicago now includes space for fifteen bikes.

Contents of the Plan

The City of Racine Bicycle and Pedestrian Master Plan provides a planned strategy for developing a functional bicycling and recreational network in the City of Racine. The Plan is organized as follows:

Chapter 1: Introduction provides an overview of the plan, its purpose, and the context within the City of Racine, Racine County and Wisconsin.

Chapter 2: Existing Conditions describes the City's existing bikeway network and summarizes strengths and weaknesses of the system.

Chapter 3: Recommended Bikeway Network describes the recommended system of bikeways and facility types to provide opportunities for cycling throughout the area.

Chapter 4: Recommended Pedestrian Policies supports a Complete Streets policy to support development of the bicycling and pedestrian environment.

Chapter 5: Recommended Programs describes education, encouragement, enforcement and evaluation measures the City of Racine and/or other local agencies to promote bicycling, increase bicyclist safety, and increase the awareness of bicycling and walking as viable travel modes.

Chapter 6: Implementation presents evaluation criteria for facilities and programs and details top-priority projects. This chapter provides cost estimates for the recommended bikeway projects and programs, and identifies potential funding strategies and supporting policies.



Seventh Street bike lanes and transit work together to help people get to work.

Source: Wisconsin Bike Fed



Goals and Objectives

The following goals and objectives of the Plan guide development and implementation for the next ten years. Goals and objectives direct the way public improvements are made, where resources are allocated, how programs are operated, and how priorities are determined. The accompanying objectives enhance the infrastructure for bicyclists and pedestrians in the context of daily transportation for those who cannot drive or do not own cars as well as for those who make the choice to bicycle or walk for exercise or to enhance their personal health. They were developed with input from the City of Racine Plan Advisory Council and agency personnel.

Goal 1. Support bicycling and walking as viable transportation modes in the City of Racine.

Objective 1.1. Implement the City of Racine Bicycle and Pedestrian Master Plan recommendations to provide bicycling and walking routes to key destinations.

Action 1. Complete the high-priority bikeway network and sidewalk gap projects in the next five years (2019-2023).

Benchmark: Miles of new bikeways and sidewalks completed; percentage of high-priority projects identified in the Master Plan completed.

Objective 1.2. Seek new and stable funding sources and strategies to support the implementation of the City of Racine Bicycle and Pedestrian Master Plan.

Action 1. In the case where grant requirements or construction are part of another project, make construction of a lower priority project possible, or required by law, pursue funding for that project regardless of priority.

Benchmark: Proportion of transportation facility reconstruction and construction projects that include bicycle and/or pedestrian improvements.

Action 2. Seek funding for bicycle and pedestrian transportation projects through grant opportunities.

Benchmark: Number of grants applied for and received; amount of grant funding acquired.

Objective 1.3. Improve bicyclist and pedestrian safety and comfort by accommodating these modes during construction or facility repair activities.

Action 1. Minimize disruption to bicycle and pedestrian travel by providing alternate routes during construction or repair activities.

Benchmark: Development of guidelines/policies for providing bicycle and pedestrian access through or around construction zones.

Objective 1.4. Maintain existing and future bicycle and pedestrian facilities.

Action 1. Formalize the process for regular maintenance of bicycle and pedestrian related facilities for pavement markings such as crosswalks, bike lane stripes and symbols and shared lanes markings.

Benchmark: Identify and implement an annual budget to be allocated to ongoing maintenance of the facilities.

Goal 2. Integrate bicycle and pedestrian planning into City of Racine's planning processes.

Objective 2.1. Institutionalize bicycle and pedestrian planning into all of Racine's planning efforts.

Action 1. Review and update the City of Racine Bicycle and Pedestrian Master Plan project and program priorities every two years after it is adopted,

update of the entire plan every 5-10 years. Familiarize all City departments and personnel with the plan and subsequent updates. Solicit community feedback.
Benchmark: Revised project priorities list every two years.

Action 2. Assign Bicycle and Pedestrian Coordinator duties to an existing staff person in each of the following City Departments: Administration, City Development, Public Health, Parks and Recreation, Police, and Public Works
Benchmark: Personnel is assigned and begins duties.

Action 3. Department Head meeting to discuss plan highlights.
Benchmark: Meeting held and documented.

Action 4. Encourage bicycle facilities in new uses/developments.
Benchmark: Parking requirements reduced with installation of bicycle racks.

Action 5. Adopt a Complete Streets policy to consider the needs of pedestrians and bicyclists in new development and roadway reconstruction.
Benchmark: Adopted Complete Streets Policy.

Goal 3. Promote bicycling and walking in the City of Racine by improving awareness of bicycle and pedestrian facilities and opportunities.

Objective 3.1. Improve public awareness of the bicycle network and presence of bicyclists.

Action 1. Install signs along all local and regional bikeways to assist with wayfinding and to increase awareness of bicyclists by motorists.
Benchmark: Develop and implement a wayfinding signage plan.

Action 2. Make bicycling and walking resources available through the City of Racine website.
Benchmark: Develop a map and biking/walking guide for the City of Racine as well as web content for the city's website providing information about walking and bicycling.

Action 3. Increase action by law enforcement in regard to bicycle and pedestrian related violations by motorists, bicyclists and pedestrians.
Benchmark: Number of informational warning and citations issued related to bicyclists or pedestrians; number of crashes involving bicyclists or pedestrians.

Objective 3.2. Support education and encouragement efforts in the City.

Action 1. Apply to become a Bicycle Friendly Community (BFC) through the League of American Bicyclists.
Benchmark: Completed BFC application; goal of initial recognition at the bronze level with a goal of achieving a Gold level designation.

Action 2. Convene a standing Bicycle and Pedestrian Advisory Council (BPAC) to focus on plan implementation and procurement of funding for bicycle and pedestrian projects and programs
Benchmark: Appointment of members to BPAC; at least 6 meetings per year.

Action 3. Provide Driver Education on bicycling and pedestrian rights and responsibilities via the Public Health Department and the Wisconsin Bike Fed.
Benchmark: Course/Education opportunity scheduled and conducted.





Public Involvement

The planning process included many opportunities for the public to share their experiences and knowledge of bicycling and walking in the area. Many people shared detailed information on where they walk and ride, improvements they would like to see, and program ideas to encourage more people to bicycle or walk for recreation and transportation.

The information gathered from residents inspired the recommendations for both on-road and off-street improvements, and ideas for programs to encourage citizens to use active transportation modes and to educate them on how to do so safely.

Plan Advisory Council

The Plan Advisory Council guided the plan development, and met ten times throughout the planning process:

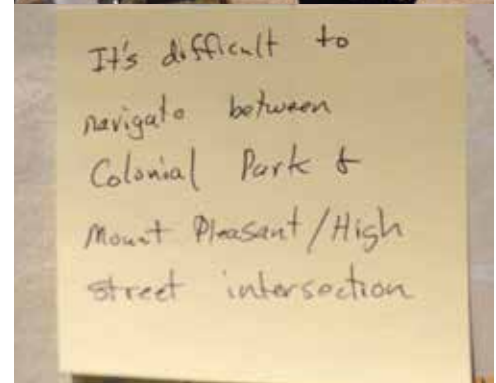
August 12, 2015
November 18, 2015
February 17, 2016
April 20, 2016
July 20, 2016
October 19, 2016
January 18, 2017
May 17, 2017
July 12, 2017
November 22, 2017
July 27, 2018
September 12, 2018

Public Information Meetings

Three public meeting series were held throughout the planning process. Meetings were held on the following dates:

October 22, 2015
August 17, 2016
March 23, 2017

Comments were solicited and collected at the public meetings. They are compiled in Appendix C. Each public meeting was well attended with at least 60 participants representing a variety of interests.



Public input meetings were held in 2015, 2016, and 2017 in order to involve residents and stakeholders in the planning process. The comments received were used to inform the plan's recommendations. Sources: Mark Hertzberg

Plan and Policy Review

Over ten years of plans and policy documents relevant to the City of Racine Bicycle and Pedestrian Master Plan were reviewed to support the creation of the Plan. The review focused on plans and studies prepared by the Wisconsin Department of Transportation (WisDOT), as well as relevant information from Racine and adjacent cities, towns and villages.

The following plans were reviewed for this analysis:

Wisconsin Department of Transportation Documents

- Wisconsin State Bicycle Transportation Plan 2020 (1998)
- Wisconsin Pedestrian Policy Plan 2020 (2002)
- Advisory on Installation of Bicyclist Compatible Rumble Strips (2011)
- Wisconsin Department of Transportation Guide for Path/Street Crossings (2011)
- Developing a Model for Reducing Bicycle/Motor Vehicle Crashes (2006)
- Wisconsin Rural Bicycle Planning Guide (2006)
- Wisconsin Bicycle Maps (2009)
- Wisconsin Bicycle Planning Guidance (2003)
- Wisconsin Bicycle Facility Design Handbook (2004)
- Wisconsin Guide to Pedestrian Best Practices (2010)

Southeastern Wisconsin Regional Planning Commission Documents

- A Multi-Jurisdictional Comprehensive Plan for Racine County: 2035
- Vision 2050: A Regional Land Use and Transportation System Plan for Southeastern Wisconsin

Local City, Town, and Village Planning Documents

- City of Racine 2035 Comprehensive Plan
- A Park and Open Space Plan for the City of Racine: 2035
- Back to the Root – An Urban River Revitalization Plan
- Downtown Design Standards (Racine)
- Live Towerview Plan (Racine)
- Uptown Improvement Plan (Racine)
- West Racine Plan 7/18/02 (Racine)
- A Park and Open Space Plan for the Town of Mount Pleasant 2003
- Master Plan for Land Use and Transportation for Mount Pleasant 2003
- Village of Mount Pleasant Master Bicycle Plan 2030



2. Community Benefits of Bicycling and Walking

Bicycling and walking are low-cost, effective means of transportation that are non-polluting, energy efficient, healthy, and fun. All people are pedestrians at some point during their day, such as when walking to a parked car, taking a lunch break, or accessing transit. Bicycling and walking provide low-cost mobility options to the public, and have been growing in popularity as communities across the country strive to create more balanced transportation systems. In addition, people are willing to cycle more frequently if better bicycle facilities are provided.¹

Although bicycling is generally associated with environmental and health benefits, it also has tangible economic benefits. The League of American Bicyclists reported that bicycling generates \$133 billion for the US economy and supports 1.1 million jobs.² The League also estimates bicycle-related trips generate another \$47 billion in tourism activity. Multiple studies show that walkable and bikeable neighborhoods are more livable and attractive, increase home values,³ result in increased wealth for individuals, and generate additional property tax revenue.



Walking is an important means of transportation. Source: Wisconsin Bike Fed

Bicycle facilities can improve retail businesses directly by attracting customers and indirectly by supporting the regional economy. Patrons who walk and bike to local stores have been found to spend more money to visit local businesses than patrons who drive.⁴ Other studies show that walkable, bikeable communities attract the young creative class,⁵ which can help cities gain a competitive edge and diversify the economic base. By replacing short car trips, bicycling can help middle-class families defray rising transportation costs. Families who drive less spend 10 percent of their income on transportation, compared to 19 percent for households with heavy car use,⁶ freeing additional income for local goods and services.

Bicycling can also improve one's quality of life. When bicycling is available as a daily mode of transportation, substantial health benefits result. The health benefit of bicycling can reduce the cost of health care by as much as \$514 per year, which provides a financial incentive to businesses that provide health coverage to their employees.⁷

In Wisconsin, bike recreation and tourism contributed \$924 million to the economy of the state in 2010 and annual health benefits were estimated at \$409 million. These numbers have only increased in the seven years since the completion of the 2010 Economic Impact of Bicycling in Wisconsin study.⁸

¹ Pucher, J., Dill, J. and Handy, S. (2010). Infrastructure, programs, and policies to increase bicycling: An international review. *Preventative Medicine* 50:S106-S125.

² Flusche, Darren for the League of American Bicyclists. (2012). *Bicycling Means Business: The Economic Benefits of Bicycle Infrastructure*

³ Cortright, Joe for CEOs for Cities. (2009). *Walking the Walk: How Walkability Raises Home Values in U.S. Cities.*

⁴ The Clean Air Partnership. (2009). *Bike Lanes, On-Street Parking and Business: A Study of Bloor Street in Toronto's Annex Neighborhood.*

⁵ Cortright, Joe for CEOs for Cities. (2007). *Portland's Green Dividend.*

⁶ Center for Neighborhood Technology. (2005). *Driven to Spend: Pumping Dollars out of Our Households and Communities.*

⁷ Feifei, W., McDonald, T., Champagne, L.J., and Edington, D.W. (2004). Relationship of Body Mass Index and Physical Activity to Health Care Costs Among Employees. *Journal of Occupational and Environmental Medicine.* 46(5):428-436

⁸ Bicycle Federation of Wisconsin in conjunction with the Wisconsin Department of Transportation, "The Economic Impact of Bicycling in Wisconsin," Governor's Bicycle Coordinating Council, 2005. <http://www.dot.wisconsin.gov/business/econdev/docs/impact-bicycling.pdf>

The Value of a Bicycle and Pedestrian Friendly Environment

When considering the level of dedication of time and resources it takes to create walkable and bike-able communities, it is also important to assess the immense value of bicycle and pedestrian focused transportation. There are economic, quality of life, health, environmental, and transportation benefits to creating communities that strongly support multi-modal transportation and recreation choices.

Walking helps to improve health and fitness, enhances environmental conditions, decreases traffic congestion, and contributes to a greater sense of community as there is increased opportunity for social interaction.

In a 2011 Community Preference Survey conducted by the National Association of Realtors (NAR), 66% of respondents selected being within walking distance of stores and other community amenities as being important. When given an opportunity to select which community they would most like to live in, a community described as:

“a mix of single family detached houses, townhouses, apartments and condominiums on various sized lots, with almost all streets having sidewalks, destinations such as shopping, restaurants, a library, and a school are within a few blocks of your home, and where parking is limited when you decide to drive to local stores, restaurants and other places.”

ranked higher and was found to be more desirable than a community described as:

“only single family houses on large lots, with no sidewalks, destinations such as shopping, restaurants, a library, and a school are within a few miles of your home, limiting your transportation choices to mainly the automobile, but there is enough parking when you drive to these destinations and public transportation, such as bus, subway, light rail, or commuter rail, is distant or unavailable.”

Economic Benefits

Walking and bicycling are affordable forms of transportation. Living in a walkable community directly affects transportation costs of residents. According to the Pedestrian and Bicycle Information Center (PBIC), of Chapel Hill, North Carolina, the cost of operating a car for a year is approximately \$5,170, while the cost of owning a bicycle is approximately \$120/year, and walking is virtually free. The PBIC explains, “When safe facilities are provided for pedestrians and bicyclists, more people are able to be productive, active members of society. Car ownership is expensive, and consumes a major portion of many Americans’ income.” A 2011 study by the Victoria Transport Policy Institute found that households in automobile-dependent communities devote 50% more to transportation (more than \$8,500 annually) than households in communities with more accessible land use and more multi-modal transportation systems (less than \$5,500 annually).⁹ Walking becomes even more attractive from an economic standpoint when the rising price of oil (and decreasing availability) is factored into the equation.

The unstable cost of fuel reinforces the idea that local communities should be built to accommodate people-powered transportation, such as walking and bicycling. Replacing automobile trips with either walking or bicycling trips, even if infrequently, will reduce overall gas consumption and save money. The recent success of numerous bike share programs across the country further indicates the growing popularity of bicycling as a way to reduce costs associated with automobile ownership and operation.

⁹ Littman, Todd, for the Victoria Transport Policy Institute (2011). Transportation Affordability



There are also economic benefits of a bikeable and walkable community from a real estate standpoint. The study by CEOs for Cities “Walking the Walk: How Walkability Raises Home Values in U.S. Cities” estimates how much market value homebuyers implicitly attach to houses with higher “Walk Scores”. The study looked at data for more than 90,000 home sales in 15 different markets around the nation. While controlling for key characteristics known to influence housing value, the study illustrated a positive correlation between walkability and housing prices in 13 of the 15 housing markets examined.¹⁰ The average walk score for the City of Racine is 54 which is classified as “somewhat walkable”. Downtown Racine has a score of 81 - “very walkable”, meaning most errands can be accomplished on foot.

A 1998 study in Wisconsin found that lots located adjacent to the Mountain Bay Trail in Brown County sold for an average of 9% more, and more quickly, than lots that were not adjacent.¹¹ Within a newer development in Apex, North Carolina, new lots situated on greenways were priced \$5,000 higher than comparable lots off the greenway. In Charlotte, North Carolina, national builders typically charge premiums ranging from \$1000 to \$5000 for \$120,000-\$200,000 homes bordering open space and greenways”.¹²

According to the Federal Highway Administration in 2008, the basic construction cost of a single mile of urban, four-lane highway was between \$20 million and \$80 million. In urban bottlenecks where congestion is the worst, common restrictions such as the high costs of right of ways and the needs to control high traffic volumes can boost that figure to \$290 million or more.¹³ By contrast, the costs of bicycle and pedestrian facilities range anywhere from a few thousand dollars per mile to rarely more than \$1 million, with great variability between types of infrastructure and local circumstances.¹⁴

¹⁰ CEOs for Cities. (2010) Walking the Walk: How Walkability Raises Home Values in U.S. Cities.

¹¹ Runge, Cole. Fox River Trail Study, Prepared for the Brown County Planning Commission, December 2002.

¹² Greenways Inc., Mecklenburg County Greenway Master Plan 1999, pg. 4

¹³ Active Transportations for America, The Case for Increased Federal Investment in Bicycling and Walking, 2008

¹⁴ Active Transportations for America, The Case for Increased Federal Investment in Bicycling and Walking, 2008

Transportation Benefits

According to the U.S. Environmental Protection Agency, fewer children walk or bicycle to school than did so a generation ago. In 1969, 48% of students walked or bicycled to school, but a 2016 study by the National Center for Safe Routes to School found only 17% of students walked or biked to or from school.¹⁵ These numbers continue to decrease as more and more children are driven to school. The National Household Travel Survey also found that roughly 40% of all trips taken by car are less than two miles.¹⁶ There is currently no data available regarding travel patterns and habits regarding Safe Routes to School in Racine but only students living 2 or more miles from their school or those with a hazard barrier are eligible for busing.

Built environments that foster aging in place have repeatedly been associated with more walking, bicycling, and transit use. The benefits to residents include increased physical activity, and lower body weights; lower rates of traffic injuries and fatalities, particularly for pedestrians; lower rates of air pollution and greenhouse gas emissions; and better mobility for non-driving populations.

Creating a walkable and bikeable communities provide greater and safer mobility for all residents, especially the non-driving population. According to the U.S. Census Bureau, there are more than 60 million Americans who do not drive because they are not old enough. An additional 30 million adults are not licensed to drive for a variety of reasons including economics, age, disability and choice. Eight million Americans above the age of 60 do not have a driver's license, and there are other licensed drivers who just choose not to drive.¹⁷



*RYDE Racine buses include bicycle racks.
Source: Wisconsin Bike Fed*

Census data for the City of Racine indicated that 78% of commuters drove to work alone each day.¹⁸

Providing connected and safe opportunities for bicycle commuting can significantly decrease this number which translates into cost savings in transportation budgets and a decrease in the wear and tear of roadways.

Providing places to walk or bicycle in order to increase mobility for these 90+ million citizens enhances environmental conditions, decreases traffic congestion, improves overall health, and contributes to a greater sense of community.

¹⁵ Trends in Walking and Bicycling to School from 2007 to 2014. National Center for Safe Routes to School, October 2016.

¹⁶ National Household Travel Survey. NHTS Version 1.0 CD (Preliminary Release). Bureau of Transportation Statistics, Washington, D.C., Jan. 2003.

¹⁷ U.S. DOT "Distribution of Licensed Drivers 2001."

¹⁸ https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_14_5YR_S0802&prodType=table.



Health Benefits

Participation in physical exercise is an effective way for individuals to manage their mental, emotional, and physical states. Pedestrian activities are some of the most highly recommended types of exercises to incorporate into a daily schedule, due to ease of accommodation.

Research shows that regular, brisk walking can reduce the risk of heart attack by the same amount as more vigorous exercise, such as jogging. A growing number of studies show that the design of communities—including neighborhoods, towns, transportation systems, parks, trails and other public recreational facilities—affects people's ability to reach the recommended daily 30 minutes of moderately intense physical activity (60 minutes for youth).

The increased rate of disease associated with inactivity reduces quality of life for individuals and increases medical costs for families, companies, and local governments. The CDC determined that creating and improving places to be active could result in a 25% increase in the number of people who exercise at least three times a week.

Safety Benefits

The safety benefits of more "eyes on the street" have been recognized since 1961 when Jane Jacobs published *The Death and Life of Great American Cities*. More recently, events such as National Night Out work to get more people out to reduce crime through natural surveillance. Similarly, communities across the US and around the world are embracing Crime Prevention Through Environmental Design concepts that get people walking and bicycling.

Environmental Benefits

When people choose to get out of their cars and walk or bicycle, they make a positive environmental impact. They reduce their use of gasoline, which then reduces the volume of pollutants in the air. Improvements in local water quality may result from fewer automobile-related discharges ending up in local rivers, streams, and lakes.¹⁹

Trails and greenways are part of the bicycle and pedestrian networks, conveying their own unique environmental benefits. Greenways protect and link fragmented habitat and provide opportunities for protecting plant and animal species. They also reduce air pollution by protecting large areas of plants that create oxygen and filter air pollutants such as ozone, sulfur dioxide, carbon monoxide, and airborne particles of heavy metal. Finally, greenways can improve water quality by creating a natural buffer zone that protects streams, rivers, and lakes, preventing soil erosion and filtering pollution caused by agricultural and road runoff.

¹⁹ U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. (2002). Guide to Community Preventive Services.

Quality of Life Benefits

Many factors go into determining quality of life for the citizens of a community: the local education system, prevalence of quality employment opportunities, and affordability of housing are all items that are commonly cited. Increasingly however, citizens claim that access to alternative means of transportation and access to quality recreational opportunities such as parks, trails, greenways, and bicycle routes, are important factors for them in determining their overall satisfaction with their community. Communities with such amenities can attract new businesses, industries, residents, and tourists.

Members of, and visitors to, a community who walk or bicycle to a destination are more likely to meet or make friends or other social or commercial contacts than people who drive to a destination. Provided there are viable alternatives to driving, “Americans are willing to change their travel habits, as the dramatic increases in gas prices in 2008 have shown. Every day, more commuters switch to public transportation, bicycling and walking in places where prior infrastructure investments have made these options safe and convenient”.²⁰

Other quality of life impacts include reductions in overall neighborhood noise levels. According to the National Center for Safe Routes to School, “Walking or biking to school gives children time for physical activity and a sense of responsibility and independence; allows them to enjoy being outside; and provides them with time to socialize with their parents and friends and to get to know their neighborhoods”.²¹ It is particularly important for people who are transportation disadvantaged (people with disabilities, seniors, children, and people with low incomes). Poor walking and biking conditions can contribute to what is considered “social exclusion”, that is, the physical, economic and social isolation of vulnerable populations.



*A family stops to pose during a fun day of bicycling.
Source: Wisconsin Bike Fed*

In a 2004 Centers for Disease Control and Prevention survey, 1,588 adults answered questions about barriers to walking to school for their youngest child aged 5 to 18 years.²² The main reasons cited by parents included distance to school (62%), and traffic-related danger (30%). Strategic additions to municipal trail systems could shorten the distance from homes to schools, and overall pedestrian and bicycle improvements can improve the safety of roadways.

²⁰ Active Transportation for America: The Case for Federal Investment in Bicycling and Walking. Rails to Trails Conservancy and Bikes Belong Coalition 2008.

²¹ http://www.saferoutesinfo.org/sites/default/files/WTS-talking-points-2009_0.pdf

²² U.S. Centers for Disease Control and Prevention. Barriers to Children Walking to or from School United States 2004, Morbidity and Mortality Weekly Report September 30, 2005.

Changing Trends in Non-Motorized Modes of Traffic

Connections between the modes

All transit trips involve other modes of transportation, be it walking or bicycling. Improving access to transit for pedestrians and bicyclists will serve to increase the number of people who choose alternatives to driving. The City of Racine transit system stops at major retail locations in Racine, as well as the downtown business district, schools, parks, the library, hospitals and health centers. Buses are equipped to carry two bicycles per vehicle.

More people are biking and walking

Overall, Americans are driving less. The 2017 National Household Travel Survey showed average per capita Vehicle Miles Traveled (VMT) dropped 17% compared to the 2009 survey. Millennials are choosing to drive less for a number of reasons - where they live, income, car-ownership, environmental values and technology, for example. The decrease in VMT correlates with an increase in bicycling trips, walking trips, and increased use of transit. Bicycling is becoming more mainstream as a lifestyle choice and a transportation choice, than rather just a recreational tool. The other age group that is seeing a significant increase in bicycling is seniors (65+). With the proliferation of affordable e-bikes in the market, seniors are finding that bicycling can continue to be a preferred mode of travel. This is the greatest area of growth in the bicycle industry market currently, and will continue to be an area requiring bicycle related policy and planning.

Bicycle and Pedestrian Transportation Planning

Non-motorized transportation planning is becoming more integrated into system-wide planning, rather than a stand alone process or entity. Communities often have multiple plans that incorporate non-motorized transportation options - like Safe Routes to School, Complete Streets and parking plans. Planning for spaces that allow for safer walking and bicycling creates a sense of community and place and typically correlates with an increase in those modes of transportation.



*Racine County Bicycle Trail
Source: Wisconsin Bike Fed*

3. Policy Recommendations

This chapter describes a 10-year plan for completing the system of bikeways, shared-use paths, pedestrian policy, and spot improvements in Racine. The recommended network builds upon previous and ongoing local and regional planning efforts and reflects the input offered by city personnel, project Advisory Council, area residents and visitors.

The recommended bicycle and trail network includes bicycle and multi-use path facilities connecting key destinations in and around the City of Racine. System improvements include establishing a more comprehensive on-street bikeway system, upgrading intersections for safer path and designated bicycle route crossings, improvements to specific bicycle facilities, and projects to enhance safety and encourage bicycling. Suggested improvements prioritize low-cost measures yielding immediate results, such as re-stripping of streets to accommodate bike lanes, bike map development, and wayfinding signage. Other improvements, such as installing key bicycle/pedestrian bridges, represent longer-term strategies for transforming the City of Racine into a true bicycle/pedestrian-friendly community.

The City of Racine Bicycle and Pedestrian Plan will allow the City to focus and prioritize implementation efforts where they will provide the greatest community benefit.

Bicyclist Classification

For the purpose of transportation planning, bicyclists can be categorized into four distinct types of riders based on attitudes and perceptions of cycling.²³ Those types are Strong and Fearless (1%), Enthusiastic and Confident (9%), Interested but Concerned (53%) and No Way- No How (37%). The categories are defined as follows:

- **Strong and Fearless**: This group of cyclists will ride no matter the roadway conditions - they self-identify as cyclists and often take the shortest route for transportation purposes despite less than ideal bicycling conditions.
- **Enthusiastic and Confident**: This group is comfortable sharing the roadway with motorized traffic but prefer dedicated bicycle facilities - in other words, their own space to ride. They may deviate from the shortest travel route if a lower-stress roadway option is available.
- **Interested but Concerned**: This group encompasses recreational riders on trails or those who are curious about riding, but don't ride regularly. They would ride more regularly if safer options were available; similarly, they won't ride if facilities are non-existent or substandard.
- **No Way - No How**: This group has no interest in riding for any number of reasons including the inability to ride, local riding conditions such as topography or a lack of interest. While not a focus of bicycle and pedestrian planning efforts, this group still benefits from bikeable and walkable communities.

The categories above describe people who have choices in how they travel. The City of Racine Bicycle and Pedestrian Plan Advisory Council has opted to also consider the needs of another group – those who are unable or choose not to drive, or who simply cannot afford a car, termed the “Invisible Cyclist.” The bicycle is often their only means of transportation. They often work hours or in areas not served by transit, and are often forced to walk or ride inexpensive bicycles without lights or helmets.

²³ Four Types of Cyclists. Testing a Typology to Better Understand Bicycling Behaviour and Potential. Jennifer Dill, Ph. D and Nathan McNeil



The Proposed Bikeway Network for the City of Racine has recommendations for four facility types: bicycle lanes, neighborhood greenways, paved shoulders, and shared-use paths.

Bicycle Lanes

Designated exclusively for bicycle travel, bike lanes are separated from vehicle travel lanes with striping and also include pavement stencils. Bicycle lanes are most appropriate where higher traffic volumes and/or speeds warrant greater separation of bicyclists and motor vehicles.

Neighborhood Greenways/Priority Bike Routes

These facilities are streets and roadways that are identified as bicycle routes due to their lower volumes of speed and motorized traffic. They are defined as neighborhood greenways by the addition of pavement markings, sharrows, signage, vertical and horizontal treatments, or any combination of these. These routes are generally on low traffic roads where cyclists and motor vehicles can share the same space; routes may also be identified on busier roads that provide one of the other facilities identified in this section. All bicycle routes should include wayfinding signage that clearly identifies direction and distance to nearby destinations.

Paved Shoulders

In suburban areas, the addition of paved shoulders is often the best way to accommodate bicyclists. The shoulder refers to the part of the highway that is adjacent to the right-most travel lane and is on the same level as the highway. Paved shoulders provide motorists the following benefits: room to maneuver, break-down space clear of the travel lane, additional travel space for farm machinery, road maintenance vehicles and transit, and increased overall life cycle for the pavement. Recommendations for the actual paved shoulder width will vary according to the width of the adjacent travel lane, traffic volumes, posted speed limit, and the amount of heavy truck traffic. Generally, to accommodate bicycles, a width of 5 feet from the face of a guardrail, curb or barrier, free of rumble strips or other obstructions is recommended. The slope of the roadway should continue across the shoulder to maintain adequate drainage.

For motorists as well as for pedestrians, The Federal Highway Safety Administration advises widening paved shoulders for the following benefits:

- Provides a stable surface off the roadway for pedestrians when sidewalks cannot be provided
- Reduces numerous crash types including the following²⁴ :
 - Head on crashes (15%–75% reported reduction)
 - Sideswipe crashes (15%–41%)
 - Fixed object crashes (29%–49%)
 - Pedestrian (walking along roadway) crashes (71%)
- Improves roadway drainage
- Increases effective turning radii at intersections
- Reduces shoulder maintenance requirements
- Provides emergency stopping space for broken-down vehicles
- Provides space for maintenance operations and snow storage
- Provides space for variable-message signs
- Provides an increased level of comfort for bicyclists

²⁴ Florida Department of Transportation, Update of Florida Crash Reduction Factors. FDOT, Tallahassee, FL 2005

Shared-Use Path

Shared-use paths are off-street facilities designed for bicyclists and other non-motorized users. Shared-use paths may be paved or unpaved, but should offer a smooth surface. Shared-use paths (minimum width of 10-feet, or 12 to 14-feet if heavy traffic is expected) can accommodate a variety of non-motorized traffic such as pedestrians, bicycles, skaters, and runners. The shared use trail may be in its own right-of-way, such as the MRK, or it may share a right of way with a street or highway. A shared use path that shares right-of-way with a street or highway has special issues with crossing traffic and careful design is required to provide a safe facility. Even when the shared use path has its own right-of-way, careful design at each street or railroad crossing is necessary to increase user safety. There are multiple locations in the city where trails intersect local roads and these intersections are in need of attention. Due to the recent termination of interim approval for the use of rectangular rapid flash beacons midway through this planning process, intersection recommendations have been amended below to include alternate treatments. In the eventuality of the future approval of rectangular rapid flash beacons, they should be used wherever possible.

Enhanced Bicycle Facilities

These facilities include accommodations such as buffered bicycle lanes, protected bicycle lanes and cycle-tracks. There may be future opportunities to construct such facilities as existing roadways are reconstructed or repaved. The Southeastern Wisconsin Regional Planning Commission (SEWRPC) Vision 2050 Plan (Volume 3, Chapter 1) outlines these facilities and identifies a network of potential regional corridors in which they could be implemented. The following definitions were taken from North American City Transportation Official's (NACTO) Urban Bikeway Design Guide - please see the guide for more detailed information.

- **Buffered Bike Lanes** - Conventional bicycle lanes paired with a designated buffer space separating the bicycle lane from the adjacent motor vehicle travel lane and/or parking lane. A buffered bike lane is allowed as per the Federal Highway Administration's Manual of Uniform Transportation Devices (MUTCD) guidelines for buffered preferential lanes (section 3D-01).
- **Protected Bike Lanes** - These lanes provide a physical separation of the bike lane and the adjacent motor vehicle travel lane.
- **Cycle Track** - A cycle track is an exclusive bike facility that combines the user experience of a separated path with the on-street infrastructure of a conventional bicycle lane. A cycle track is physically separated from motor traffic and distinct from the sidewalk.



*A bollard protected bicycle lane in Chicago.
Source: Wisconsin Bike Fed*

Specifically, SEWRPC Vision 2050 Plan called for enhanced facilities on HWY 32, 20 and 11 and other corridors in Racine County.

Signage

Wayfinding for bicycle and pedestrian routes make it easy for those users to navigate. It can direct users to nearby routes, destinations and connecting segments of the route. The signage can also be used to indicate distance or time to locations. Tools include signs, pavement markings, maps and online applications.

Bicycle Facility Selection

Identification of bicycling conditions on urban roadways is the critical part of this plan. Many residential urban roads in the City have low or very low volumes of traffic, which makes them suitable for cycling with minimal roadway changes. NACTO's Urban Bikeway Design Guide was used to guide network recommendations. This planning guide examines state-of-the-art practice solutions that help create Complete Streets networks that are safe and low stress for bicyclists and pedestrians. Bicycle and Pedestrian Design Guidelines referenced in this plan can be found in Appendix E.

On-Street Bikeway Recommendations

A draft list of recommended on-street bikeways was developed based on field work, input from the Advisory Council, public comments solicited throughout the planning process, street widths, and the City's vision of providing an interconnected network that links commercial areas, schools, parks, paths and other attractions. Wherever possible, paved shoulders are recommended over shared lane markings, as they provide both bicyclists and motor vehicle operators with a higher level of comfort by increasing separation between users. However, many of Racine's urban streets are not wide enough to provide dedicated space for cyclists based on the existing width of the street. In those cases, shared lane markings and other treatments indicating the presence of a Neighborhood Greenway are recommended.



*Example of bicyclist going the wrong way. An on-street bikeway would increase safety for motorist and bicyclist.
Source: Wisconsin Bike Federation*

The proposed network provides some type of bicycle facility in most areas of the City, as well as improved signage on existing routes and paths to increase the visibility of those routes. When combined with the existing and proposed shared-use paths, the on-street bikeways will provide a more comprehensive network connecting major destinations within the City.

Tables 1, 2, 3 and 6 list proposed bike lanes, on-street paved shoulders, shared-use paths and neighborhood greenways, Table 4 lists the proposed signage improvements. Table 5 details the intersections recommended for multi-modal improvements. Map 1 provides an overview of the proposed network.

Table 1: Proposed Bike Lanes

#	Street	From	To
1	Durand Avenue	Ohio Street	ST Hwy 31
2	Meachem Road*	Durand Avenue	Chicory Road
3	Mount Pleasant Street	Layard Avenue	South Street

*Some sections outside of city limits.

Table 2: Proposed Paved Shoulders

#	Street	From	To
1	3 Mile Road	North Green Bay Road	La Salle Street
2	Chicory Road*	Wood Duck Way	Lathrop Avenue

*Some sections outside of city limits.

Table 3: Proposed Shared Use Paths (Connectors)

#	From	To
1	Augusta Street	MRK Bike Trail
2	Olive Street	North Shore Bike Trail
3	Cleveland Avenue	Sturtevant Bike Trail
4	Blaine Avenue	Sturtevant Bike Trail
5	Roosevelt Street	Sturtevant Bike Trail
6	West Boulevard	Sturtevant Bike Trail

Table 4: Proposed Signage Improvements

#	Layard Ave.	Sign Type
1	Mount Pleasant Street and Layard Avenue	Wayfinding
2	North Shore Bike Trail and Layard Avenue	Wayfinding
3	Kinzie Avenue and Root River Pathway	Wayfinding
4	Liberty Street and Root River Pathway	Wayfinding
5	12th Street and Root River Pathway	Wayfinding
6	Kentucky Street and Root River Pathway	Wayfinding

Table 5: Proposed Intersections

Intersection #	Location	Recommendation
1	South Street and MRK County Trail	Colored pavement intersection crossing markings
2	Mount Pleasant Street and Rapids Drive	Through travel colored pavement bike lane on Mount Pleasant on north side of intersection (Goold Street)
		Stripe crosswalks
		Install countdown pedestrian timers that can be activated by cyclists on road
3	Mount Pleasant Street and High Street	Colored pavement intersection crossing markings
4	State Street and Erie Street/Ontario Street	Extend median on State Street to create a refuge island for southbound bicycle traffic
		Colored pavement intersection crossing markings for northbound cyclists
5	Lake Michigan Pathway and Christopher Columbus Causeway	Expand curb cut to include entire section of connector sidewalk on the north side of Christopher Columbus Causeway
		Add sharrows from Lake Avenue to the Racine Pier
		Stripe pedestrian crosswalk
		'Bicycle may use full lane' signage MUTCD R4-11
6	Mound Avenue and Root River Pathway	Construct curb cut on the north side of Mound Avenue
		Colored pavement intersection crossing markings
		Colored pavement left turn bike lane for southwest bound cyclists
		Replace existing signage with 'Trail Crossing' signage MUTCD W11-15a
7	Washington Avenue and Quincy Avenue/Root River Pathway	Extend curb ramp the length of the transit stop
		Stripe the pedestrian crosswalk
		Extend trail and widen further east to align with Quincy Avenue at 90 degrees
		Left turn bike lane to access trail from Quincy Avenue
8	West Boulevard and 16th Street	Add pedestrian activated push buttons on all corners
		Stripe the crosswalks
9	Lathrop Avenue and County Bike Trail	Colored pavement intersection crossing markings
		Activated Rectangular Rapid Flash Beacon
		Time the traffic signals on Taylor Avenue and Drexel Avenue to create gaps
		Add trail crossing signage
10	Taylor Avenue and Pierce/West Boulevard	Colored pavement intersection crossings across Pierce Boulevard and Taylor Avenue
		Trail crossing signage at the stop sign on Pierce Boulevard
		Stop bar painted on Pierce Boulevard
		Widen curb cut on southwest corner across Pierce Boulevard
11	Durand Avenue and WI 31	Potential Engineered redesign when road is reconstructed
12	Durand Avenue and County Bike Trail	Colored pavement intersection crossing markings
		Activated Rectangular Rapid Flash Beacon
13	Chicory Road and WI 32	Potential Engineered redesign when road is reconstructed
14	County Bike Trail and 21st Street	Colored pavement intersection crossing markings
15	Mound/Marquette/Liberty	Crosswalk, sheltered island, signage



Table 6: Proposed Neighborhood Greenways

#	Street	From	To	Recommendations
1	South Street	MRK	Mount Pleasant Street	Pavement/Signage
2	Augusta Street	County Bike Trail	Michigan Boulevard	Pavement/Signage
3	Layard Avenue	Mount Pleasant Street	County Bike Trail	Pavement/Signage
4	Mount Pleasant Street	Romayne Avenue	High Street	Pavement/Signage
5	Melvin Avenue	Erie Street	Michigan Boulevard	Pavement/Signage
6	Erie Street	Melvin Avenue	State Street	Pavement/Signage
7	Ontario Street	State Street	Root River Pathway	Pavement/Signage
8	Westwood Drive	Northwestern Avenue	Jefferson Street	Pavement/Signage
9	Jefferson Street	Westwood Drive	West High Street	Pavement/Signage
10	West High Street	Root River Pathway	Jefferson Street	Pavement/Signage
11	12th Street	Washington Boulevard	Lake Avenue	Pavement/Signage
12	Main Street	South Main Street	16th Street	Pavement/Signage
13	16th Street	South Main Street	Wisconsin Avenue	Pavement/Signage
14	Wisconsin Avenue	16th Street	De Koven Avenue	Pavement/Signage
15	De Koven Avenue	Wisconsin Avenue	Case Avenue	Pavement/Signage
16	Case Avenue	De Koven Avenue	Gilson Street	Pavement/Signage
17	Gilson Street	Case Avenue	Drexel Avenue	Pavement/Signage
18	Drexel Avenue	Gilson Street	Maryland Avenue	Pavement/Signage
19	Maryland Avenue	Drexel Avenue	Knoll Place	Pavement/Signage
20	Knoll Place	Maryland Avenue	Chicory Road	Pavement/Signage

Map 1: City of Racine Bike Ped Plan Proposed Facilities



Shared-Use Path Connection Recommendations

Shared-use path connections are proposed for several locations around the City, the majority are short segments that formalize existing desire lines (informal cut through path) that connect the local on-street grid to existing trails. All of these segments serve the same purpose: they increase bicycle access in areas where access does not currently exist, or where users do not feel safe or comfortable using existing streets.

Path segments are located on the Proposed Bikeway Map and are detailed in Map 1. Exact alignments would be pending environmental review. In general, these segments connect local streets with the County Bike trail and formalize existing desire lines created by the surrounding neighborhoods.

There is one specific new trail connection proposed - this trail would connect a number of community amenities including schools, commercial corridors, and the Homeless Assistance Leadership Organization, Inc, (HALO). There are two proposed on-street options to achieve this connection:

1. A neighborhood bikeway eastbound on 17th Street (West Boulevard- Memorial Drive) to De Koven Avenue. Bike lanes, north to 16th Street, 16th Street east (at Memorial Drive, respectively) to:
 - A. Lake Michigan Pathway via 16th Street, or
 - B. Junction Avenue - North, to 15th Street to 14th Street east to lakefront
2. North Shore Path- 16th Street east to Wisconsin Avenue

Intersection Improvement Recommendations

Specific recommendations are detailed in Table 5. These recommendations are intended to reduce conflict between bicyclists, pedestrians, and motorized traffic by increasing visibility of the user, denoting clearly the right-of-way, and creating separate spaces for users. Generalized descriptions of the recommendations are as follows:

- Colored Pavement Intersection Crossing Markings: Used primarily where a trail crosses a street. These markings serve to increase the visibility of the facility and identify potential conflict areas. Typically the color green is used to minimize confusion with other traffic control markings.
- Infrastructure Improvements: Refuge islands and curb ramp extensions create spaces for pedestrians and bicyclists to get out of the lane of traffic and wait for a safe opportunity to cross. In many cases, they allow for two-stage crossings, separated by the direction of approaching motorized traffic.
- Signage and Pavement Markings: These include crosswalk striping and road signage such as MUTCD R4-11 bikes may use full lane and MUTCD W11-15a Trail Crossing. Signage and markings increase visibility of the conflict areas and define use of space to all users.
- Activated Rectangular Rapid Flash Beacon: This yield enhancement device is used at uncontrolled crossings to draw attention to path users and signals their intent to cross. Currently this option no longer has approval from the Federal Highway Administration but it is expected that in the future, approval for use will be re-established. In the meantime, the treatments listed below are recommended:
 - Pedestrian Hybrid Beacons
 - Raised Crosswalks
 - Mid-block Pedestrian Signals



4. Recommended Pedestrian Policies

In order to fulfill the vision outlined in this Plan and create a safe, connected pedestrian system, an update to City policies should be pursued to establish a Complete Streets policy.

A Complete Street is a roadway that, in addition to general purpose vehicular travel lanes, includes items such as sidewalks, bike lanes or shoulders, bus lanes, transit stops, crosswalks, median refuges, curb extensions, appropriate landscaping and other features that add to the usability and livability of the street as determined by context. Complete Streets principles aim to provide a balanced transportation system for all modes of travel providing transportation options that are safe, comfortable, and convenient for anyone to travel by foot, bicycle, transit, and automobile regardless of age or ability. Most importantly, Complete Streets are based on community desires and are the outcome of good planning and design.

As of 2018, more than 1,325 agencies at the local, regional, and state levels have adopted Complete Streets policies, totaling more than 1,400 policies nationwide.



A jogger and her dog by Lockwood Park. Source: Wisconsin Bike Fed

Proposed Complete Street Policies for the City of Racine

To achieve a roadway network that is safe, comfortable, and attractive for all users, the City of Racine should adopt a Complete Streets policy that considers the following topics:

- Planning
- Design
- Construction
- Operations
- Exceptions

Action items below can form the basis for either a formally adopted policy or an informal action plan.

Planning

1. Regularly discuss roadway projects to provide seamless transitions between existing facilities.
2. Adopt a green transportation hierarchy as a common basis for transportation planning.
3. Review and provide comment for the transportation plans of Racine County.
4. Coordinate trail development with adjoining communities to prioritize trail segments that provide connectivity to the regional system.

Design

1. When appropriate, consider roadway designs that have been shown to slow motor vehicle speed, improve crosswalk safety and reduce crashes overall, such as lane narrowing, the reduction of lanes.
2. Adopt consistent design principles for cyclists and pedestrians as recommended in this Plan and other Statewide planning documents.
3. Evaluate existing and potential on-road bicycle use in all repaving and re-striping projects (i.e. striping of bicycle lanes, wide curb lanes, paving of roadway shoulders or widening of curb lanes) as well as new roadway construction and reconstruction projects.
4. Evaluate the effectiveness of narrowing pedestrian crossing distances at intersections where high motor vehicle counts and high pedestrian counts are expected.
5. Provide appropriate bicycle accommodation on and along all highway, arterial and collector streets.
6. Maintain the function of existing freight corridors, but evaluate design treatments to improve function of the corridor for cyclists and pedestrians.
7. Provide pedestrian accommodation in the form of sidewalks or shared-use paths adjacent to all arterial, highway, and collector streets.
8. Develop a Complete Streets checklist to guide the development of individual transportation projects.¹

¹ A sample checklist from the Metropolitan Transportation Commission in the San Francisco, CA area can be found here: http://www.mtc.ca.gov/planning/bicyclespedestrians/Routine_Accommodation_checklist_FINAL.pdf



Construction

Develop construction detour standards that provide alternate routes for people walking and bicycling.

Operations

1. Time traffic signals to provide adequate/comfortable pedestrian and cyclist crossing time.
2. In pedestrian areas, provide audible and countdown signal heads. Consider exclusive pedestrian timing or leading pedestrian intervals where appropriate.
3. Provide bicycle signal detection at all actuated signals along bikeways and major roads typically used as cycling routes.
4. Develop a coordinated maintenance schedule or program to address bikeway, sidewalk, and shared use path maintenance needs.
5. Establish performance metrics to track the implementation of this policy. These metrics need to be consistent with, or included in, the Policy, Vision, Goals, Objectives, Benchmarks and could include:
 - A. Miles of bikeways, shared use paths, and sidewalks in relation to miles of roadway.
 - B. Reduced collisions involving cyclists or pedestrians.
 - C. Improvements to air quality.
 - D. Reduced transportation system maintenance costs.
 - E. Increased numbers of people walking and cycling (counted annually).
 - F. Increased percentage of traffic signals with countdown signalization and/or bicycle detection.

Exceptions

Not every street can be ideal for every traveler. However, it is still important to provide basic, safe, and direct access for users regardless of the design strategy implemented

Exceptions to the complete streets policy should be made by the transportation authority where:

1. A suitable or more desirable alternative is available within a reasonable distance based on public and personnel input.
2. The cost of accommodation would be excessively disproportionate to the need or probable use.

Racine is an urban sidewalk community where most of the streets should have sidewalks adjacent to them. These sidewalks provide access to residences, employment centers, schools, commercial areas, and other destinations. This pedestrian network serves not only people walking to and from destinations, but everyone as car and bus trips all begin and end with a short walk.

Recommendation: Meet or exceed the Wisconsin Department of Transportation's guidelines for installing sidewalks in new development and in previously developed areas. The guidelines are contained in the [Wisconsin Guide to Pedestrian Best Practices](#) document. The City's minimum width for sidewalks guidelines need to be evaluated and updated.

The City of Racine Subdivision and Platting Ordinances require that new development pay a fee to construct sidewalks whenever a majority of lots on a street have had a building constructed on them. This requirement ensures that all new development includes sidewalks. Given Racine's development patterns, essentially all areas of the city should have sidewalks on both sides of the street where buildings are present.

Recommendation: Complete missing segments of sidewalk that do not comply with WisDOT guidance.

Recommendation: Areas of the City that do not meet WisDOT guidelines above should have sidewalks added to comply with requirement.

Recommendation: Construct pedestrian walkways to connect cul-de-sacs and other discontinuous street segments.

Recommendation: Ensure that all sidewalks are compliant with the Americans with Disabilities Act. This includes providing compliant curb ramps at all street intersections.

Sidewalks should be easily accessible for people with disabilities. This means providing smooth sidewalks with adequate width and curb ramps that allow access to sidewalks and streets for people who use wheelchairs. Curb ramps should provide detectable warning areas for people with vision impairments.

Design guidance for sidewalks and curb ramps is available in the WisDOT [Facilities Design Manual](#), the Federal Highway Administration's [MUTCD](#), the American Association of State Highway Transportation Officials' [Green Book](#), and the NACTO [Urban Street Design Guide](#). These manuals will provide detailed design information including recommended and minimum widths of sidewalks, their placement relative to the street location, crosswalk design and warrants, pedestrian signage and other design features.

Recommendation: Provide pedestrian signals at all intersections with traffic signals. Pedestrian signals should be automatically actuated in areas with high pedestrian activity (downtown, near schools, and civic destinations); push-button actuation is acceptable in areas with very low levels of pedestrian activity. Just as vehicles arriving at most intersections do not have to activate a traffic signal, pedestrians should not have to activate the pedestrian signal in areas with moderate to heavy pedestrian activity. It is acceptable to require pedestrians to activate a pedestrian signal at intersections with little pedestrian activity, just as vehicles have to activate signals at intersections with little cross traffic.

Recommendation: Activate pedestrian signals slightly before signals for vehicles at intersections with heavy pedestrian activity and large amounts of turning traffic. Known as a "leading pedestrian interval," activating pedestrian signals a few seconds before the vehicle signals allows pedestrians to safely begin crossing the street ahead of turning traffic. By allowing pedestrians to begin crossing a street before vehicles are allowed to proceed, pedestrians are placed in a more visible position, and may clear the conflict area entirely before vehicles may proceed.

Recommendation: Provide high-visibility "zebra" or "ladder" crosswalks in areas of high pedestrian activity, areas with a history of pedestrian-motor vehicle conflicts, and near schools and civic destinations. By using high-visibility crosswalks in areas with heavy pedestrian activity or with a history of conflicts, the City can increase the visibility of pedestrian crossings.

Recommendation: Deploy "State Law: Vehicles Must Yield To Pedestrians" signage at unsignalized pedestrian crossings. In Wisconsin, vehicles must yield to pedestrians in crosswalks, whether they are



marked or not. However, yield rates tend to be low at unmarked and unsignalized crosswalks. By deploying MUTCD-approved signage (R1-5, R1-6, R1-9), the City can increase yielding activity by vehicle operators and increase pedestrian safety.

Recommendation: Enforce the City's existing ordinance (Sec. 82-109) requiring abutting landowners to clear snow from their sidewalks within 24 hours of snowfall. It is important that the pedestrian network is accessible year round. Snow and ice present significant obstacles and hazards to pedestrians, particularly those with disabilities. Snow piled on the sidewalk at intersections makes crossing difficult or impossible for people in wheelchairs or people with balance/strength issues. Enforcing the City's existing snow clearance ordinance and removing snow piles at downtown intersections is critical to pedestrian mobility in Wisconsin winters and maintaining a complete pedestrian network year round.

Recommendation: Provide safer intersections for bicyclists and pedestrians. The majority of motor vehicle crashes with other motor vehicles and bicyclists and pedestrians occur at intersections. A number of steps can be taken to increase the safety of intersections in Racine:

- Eliminate free-flow right turn lanes. Wide radius right turn lanes allow vehicles to make turns at high speeds, often with simply a yield sign as a traffic control. These lanes are more hazardous for pedestrians and bicyclists to cross than standard right turn lanes.
- Reduce intersection corner radii to the minimum needed for vehicle access. The wider the corner radii at an intersection, the quicker vehicles can turn. Higher speeds make it more likely for vehicle operators not to see nearby pedestrians and bicyclists, and increase the risk of serious injury or death in the instance of a crash. Corner radii should be reduced as much as possible, while still allowing for access to the types of vehicles using the street.
- Include pedestrian refuge islands at busy and wide intersections. Providing mid-street refuge islands allows pedestrians to safely cross a street in stages. This is particularly useful for disabled users, the elderly, and children, who may not be able to cross a street within the pedestrian signal cycle.
- Paint crosswalks to increase the visibility and define roadway space for pedestrians. Painted crosswalks should be considered near all pedestrian destinations, e.g. schools, transit stops, shopping areas, and civic buildings.
- Time traffic signal to provide pedestrian crossing. Timed at a minimum of 3.5 feet per second and, where vulnerable pedestrians frequently cross, timing of less than 3.5 feet per second should be considered.
- Additional intersection design treatments should be considered as outlined in the NACTO Urban Street Design Guide.

These changes to intersections are most easily accomplished when intersections are reconstructed. However, every effort should be made to provide these safety enhancements, particularly if reconstruction is years away.

5. Recommended Programs

The infrastructure recommendations in the City of Racine Bicycle and Pedestrian Master Plan (the Plan) will provide safer, more comfortable places for further growth in bicycling and trail use. While improving infrastructure is critical to increasing opportunities for visitors and residents alike, it is also essential to support that work through Engineering, Education, Encouragement, Enforcement, Evaluation, and Equity strategies (referred to as the “Six E’s”).

The recommended engineering, education, encouragement, enforcement, and evaluation programs will help residents and visitors learn about the benefits of bicycling and walking, connect them to existing opportunities, like the KR Bike Club rides, and create positive community support for bicycling and walking as part of everyday life. The other E - Equity, is the lens through which the implementation of all recommendations and programs should be viewed to ensure equanimity of application. Equity efforts should focus on the equitable distribution of infrastructure and programming across a community both geographically and socially to mitigate barriers to travel.

A summary of existing programmatic efforts is also included along with ideas for expansion of several existing programs; these ideas may be more fully developed as Plan implementation strategies are finalized. The recommendations in this memorandum should be pursued along with infrastructure investments.



*Always include proper fittings with helmet giveaways.
Source: City of Racine Public Health Department*



Recommended New Education, Encouragement, Enforcement, and Evaluation Programs

These recommendations provide a robust suite of bicycling and walking opportunities that enhance recreational opportunities and provide economic benefits within the City. Each recommendation provides a listing of the suggested time frame, the program purpose, the intended audience, potential partners, and a sample program or resource guide. Short-term recommendations focus on tracking bicycling and walking use, tracking plan implementation in the City, providing a comprehensive resource repository, and expanding educational opportunities for youth.

Short-Term Recommendations

Website Promoting Local Events and Bicycle/Trail Tourism

Purpose:	Provide enhanced and centralized communication channels for bicycling and walking information
Target audience:	Racine Residents and Visitors
E's:	Education, Encouragement, Evaluation
Primary Agency:	City of Racine Parks, Recreation, and Cultural Services
Potential Partners:	Racine County, Real Racine
Time frame:	Short-term / Ongoing
Sample Program:	Milwaukee by Bike http://city.milwaukee.gov/MilwaukeebyBike#.WhSX5WiPJPY

Improve public access to information about walking and cycling, including laws, events, maps, tips, and clubs or organizations. The City and other agency and municipal partners should collaborate on a “one stop shopping” website that contains links to local community groups such as the KR Bike Club, the Plan, periodic updates about Plan implementation, simple evaluation metrics tracking progress towards infrastructure implementation, and information about current projects and how to get involved in public meetings or comment periods.

Bicycle and trail tourism related resources should be prominently featured on this site. Any brochures and bicycle maps created and maintained should be linked to this site, as well as a list of bike-friendly hotels, and local bike stores.

Other content should include staff contact information, local event calendars, walking and bicycling safety resources, and a blog or other social media portal. A one-stop website will not be difficult to set up, but it will only be successful if the site is both easy to use and updated regularly. The site content should be reviewed at least quarterly for accuracy.

Designate or Hire a Full Time Bicycle and Pedestrian Coordinator

Purpose:	Provide coordination and bicycle / pedestrian programming expertise for Racine and possibly municipal partners
Target audience:	Citizen advocates, City of Racine Parks, Recreation, and Cultural Services
E's:	Education, Encouragement, Evaluation
Primary Agency:	City of Racine Department of City Development
Potential Partners:	Municipal partners such as Racine County
Time frame:	Ongoing
Sample Program:	Milwaukee, Wisconsin

Hiring or formally designating a Bicycle and Pedestrian Coordinator for Racine would provide a centralized point of contact for planning, programs, and policies related to both on-and-off street facilities. Typical duties could include:

- Plan and manage cycling and walking programs related to safety, education, enforcement materials, courses, and recreation.
- Develop safety and promotional information, such as quarterly newsletters and route maps.
- Develop, review and implement Plan projects and updates.
- Serve as principal contact with Federal, state, and local agencies on matters relating to bicycles and pedestrians.
- Seek funding for implementation of bicycle facilities.
- Coordinate to fully integrate bicycle and pedestrian projects in programming decisions.
- Serve as the Bicycle and Pedestrian Advisory Committee personnel liaison.
- Develop priorities for special studies in areas such as:
 - Location and cause of crashes
 - Effectiveness of new facility designs
 - Barrier removal analysis
 - Economic impact of investments
- Monitor pedestrian and bicycle use.
- Coordinate bicycle and pedestrian-related education, encouragement and enforcement actions.

A part-time or full-time Bicycle and Pedestrian Coordinator would, at a minimum, provide oversight of pedestrian and bicycle projects and programs.



City of Racine Walking and Biking Map

Purpose:	Provide bicycle and pedestrian route, facility, and destination information
Target audience:	Racine Residents and Visitors
E's:	Encouragement, Engineering
Primary Agency:	City of Racine Public Health Department
Potential Partners:	KR Bike Club, adjacent municipalities , Racine County, Real Racine, Route of the Badger
Time frame:	Short-term / Ongoing
Sample Program:	Milwaukee by Bike http://city.milwaukee.gov/MilwaukeebyBike#.WhSX5WiPJPY

This map should be oriented to residents and visitors and should show both walking and biking routes as well as destinations. The City could print and distribute copies of the map, but online distribution can be an important way to extend the reach of the product, including exploring the option of offering it for use on mobile devices. Other potential partners for printing and distribution include Real Racine, Racine County Economic Development Corporation and WisDOT.

Apply for Bicycle Friendly Community Designation

Purpose:	Provide community recognition and a benchmarking system to track Plan implementation
Target audience:	N/A
E's:	Encouragement, Evaluation
Primary Agency:	City of Racine Public Health Department
Potential Partners:	KR Bike Club, Municipal partners, Racine County, Wisconsin Bike Fed
Time frame:	Short- to Medium-term
Sample Program:	http://www.bikeleague.org/bfa

The League of American Bicyclists has a well-respected Bicycle Friendly Communities (BFC) award program. The League recognizes five tiers of bicycle friendly communities: bronze, silver, gold, platinum, and diamond. Communities fill out a detailed application that covers bike-related facilities, plans, education, and promotion efforts, and evaluation work that has been completed by the jurisdiction. The award is designed to recognize progress that has been made as well as assist communities in identifying priority programs to improve bicycling conditions. Receiving the award is a media worthy event, and may give elected officials the opportunity to receive media coverage for the positive work they are doing.

The City should apply for BFC designation upon making strides to implement the recommendations in this Plan. The application could be completed by City personnel with support of the Plan Advisory Council.

Establish Bicycle and Pedestrian Counts

Purpose:	Provide evidence of bicycle and pedestrian facility use
Target audience:	Grant fund agencies, decision makers, area cyclists and pedestrians
E's:	Evaluation
Primary Agency:	City of Racine Public Health Department
Potential Partners:	Racine County, Wisconsin Bike Fed, SEWRPC, Rail to Trails Conservancy, WisDOT
Time frame:	Ongoing
Sample Program:	San Jose, CA: http://www.sanjoseca.gov/index.aspx?NID=5205 http://www.fhwa.dot.gov/environment/bicycle_pedestrian/countpilot/

Many jurisdictions, including the City of Racine, do not perform regular bicycle, pedestrian or trail counts. As a result, they do not have a mechanism for tracking bicycle, pedestrian or trail-use trends over time. However, several government agencies in southeastern Wisconsin collectively participate in a regional count program. SEWRPC and WisDOT conduct short-term counts on many of the long distance trails in the region. Within Racine County, they conduct counts on the MRK Trail, the North Shore Trail, the Racine-Sturtevant Trail, the Seven Waters Trail, and the White River State Trail. Milwaukee County, the City of Milwaukee, and Ozaukee County have established permanent counters at several locations on trails that they own and maintain. SEWRPC has developed an online map that displays all of the regional count locations and count data summaries. The map is available at: www.sewrpc.org/nmcounts

It is recommended that the City perform annual bicycle and pedestrian counts according to national best practices. The National Bicycle and Pedestrian Documentation Project (NBPD) has developed a recommended methodology with resources available for download on the NBPD website. These include count and survey forms, training materials, and recommendations for selecting count locations. The results of the count efforts should be reported each year. NBPD hosts a national collection of data where the City can share its results. The Wisconsin Bike Fed can also function as a resource for volunteer recruitment and training.

It is recommended the City create a program that is scalable by initially prioritizing count efforts at pinch points in the transportation system. For example, the Root River Pathway provides numerous locations for counts. The City can partner with local advocacy groups in order to facilitate multiple count locations.



Establish a Permanent Bicycle and Pedestrian Advisory Committee/Council

Purpose:	Advise the City of Racine on bicycle and pedestrian issues
Target audience:	Citizen advocates, agency personnel, and decision makers
E's:	Education, Encouragement, Enforcement, and Evaluation
Primary Agency:	City of Racine Department of City Development
Potential Partners:	Other agencies, Real Racine
Time frame:	Ongoing
Sample Program:	Madison, WI: https://www.cityofmadison.com/cityhall/legislativeinformation/roster/104075.cfm

The Advisory Council has been an invaluable resource for developing the recommendations of this plan. Based on this experience, the project team recommends formalizing this group and creating a permanent Bicycle and Pedestrian Advisory Committee/Council (BPAC) in order to continue reaping the benefits of citizen involvement. The BPAC should focus on non-motorized transportation in the public right-of-way, including shared use paths. Formalizing the BPAC emphasizes the City's commitment to making walking and bicycling safer and more appealing, and has the potential to assist in securing funding for bicycle and pedestrian projects, as well as providing a channel of communication and coordination between the City and its constituents.

The charges of the BPAC may include:

- Review and provide citizen input on capital project planning and design as it affects bicycling and walking (e.g., corridor plans, sidewalk improvements, trail crossing and street improvement projects, signing or signal projects, and parking facilities).
- Work with economic development and tourism agencies, such as Real Racine, to support bicycle and trail tourism.
- Review and comment on changes to zoning, development code, comprehensive plans, and other long-term planning and policy documents.
- Participate in the development, implementation, and evaluation of the Plan and facility standards.
- Provide a formal liaison between city government, personnel, advisory bodies and the public.
- Develop and monitor goals and indices related to bicycling and walking.
- Promote bicycling and walking, including safety and education.

Because BPAC members are volunteers, its success will be dependent on strong staffing support. The City should designate a formal liaison to the BPAC to manage the agendas and minutes, schedule meetings, bring agency issues to the BPAC, and report back to the agency and governing body about the BPAC's recommendations and findings. Inviting an economic development or tourism representative and a City Councilperson could provide for enhanced promotion of cycling and trail use.

The committee should be created formally through action by the City Council, and documentation should be developed that defines the committee's charge, responsibilities, municipal partnerships, member composition, member selection process, decision-making structure, and meeting schedule.

Youth Bicycling and Walking Safety Education

Purpose:	In-school and/or after-school on-bike skills and safety training
Target audience:	School-age children
E's:	Education, Encouragement
Primary Agency:	City of Racine Public Health Department and Police Department
Potential Partners:	Schools, community volunteers or youth oriented groups including the YMCA, Racine Unified School District; Ascension and Aurora Healthcare Systems; YMCA, the KR Bike Club, Wisconsin Bike Fed
Time frame:	Ongoing
Sample Program:	League of American Bicyclists' Kids I and Kids II Curriculum: http://www.bikeleague.org/programs/education/courses.php#kids1 BTA's Bike Safety Education Program: http://www.portlandoregon.gov/transportation/article/379918

Many American children never learn about the legal rights and responsibilities of all road users (pedestrians, bicyclists, and drivers) related to walking and bicycling. The areas can be addressed through an educational program with a curriculum covering:

- Parts of a bicycle
- Flat tire fixing
- Bicycling in the right-of-way
- Road positioning
- The joy of riding a bike
- How a bike works
- Rules of the road
- On-bike community ride
- On-bike skills lessons (braking, turning, steering)
- Pedestrian laws and safety

The City should decide whether to start a program from scratch or modify an existing program. Two excellent model programs are the League of American Bicyclists' Kids I and Kids II classes, and the Wisconsin Bike Fed's in-depth Safe Routes to School Program. The City may also choose to launch a program that covers walking education, such as how to safely cross the street. Alternatively, the City may choose to integrate this into a bicycle education program or standard physical education classes taught through the elementary school system. This program may be implemented in conjunction with a Safe Routes to School Plan.



Create a Racine Safe Routes to School Plan

Purpose:	Encourage and educate students and their parents about walking and biking to school; improve safety through physical improvements and programs
Target audience:	Students, Schools, families
E's:	Education, Encouragement, Evaluation, Engineering, Evaluation
Primary Agency:	Racine Unified School District
Potential Partners:	Racine County, and adjacent municipalities
Time frame:	Short-term
Sample Program:	National Center for Safe Routes to School: http://www.saferoutesinfo.org/

Helping children walk and bicycle to school is good for children's health and can reduce congestion, traffic dangers and air pollution caused by parents driving children to school. Safe Routes to School programs use a "6 E's" approach (Engineering, Education, Enforcement, Encouragement, and Evaluation) to improve safety and encourage children to walk and bicycle to school. The programs are usually run by a coalition of city/county government, school and school district officials, and teachers, parents, students, and neighbors.

A district-wide Safe Routes to School plan should include:

- A review of existing conditions near schools.
- A review of safety programs within the district.
- A jurisdictional policy analysis.
- Recommendations should address locations of concern at each participating school that may be solved through short-term and long term engineering solutions and provide supportive recommendations that address education, encouragement, enforcement and evaluation needs.
- A phasing plan can help the jurisdictional partners to break projects into realistic bundles.
- Youth Bicycling and Walking Safety Education programs may be part of the recommended SRTS Plan implementation.
- Regular counts of children who participate in encouragement activities like bike and walk to school days.

Medium- to Long-Term Recommendations

Implement a Media Campaign

Purpose:	Raise awareness of cycling and walking as healthy, fun and normal activities for visitors and residents of the City of Racine
Target audience:	General public
E's:	Education, Encouragement
Primary Agency:	City of Racine Public Health Department
Potential Partners:	KR Bike Club, Wisconsin Bike Fed and Real Racine
Time frame:	Ongoing
Sample Program:	Community Cycling Center's "I Ride" campaign: http://www.communitycyclingcenter.org/index.php/i-ride/ Get Lit campaign: https://www.cycleto.ca/get-lit People for Bikes "Travel with Care" campaign: http://www.people-forbikes.org/pages/travel-with-care .

Develop a media campaign that shows a wide range of ordinary residents using their bicycles for a variety of purposes will help break down stereotypes and raise awareness of cycling and empathy for people who ride bicycles. One excellent example is the "I Ride" campaign from the Community Cycling Center (CCC) in Portland, Oregon. The CCC created high quality posters showing people of a wide variety of ages, races, body types, and with many different bicycle types, and each person has been invited to complete the sentence "I ride..."

The City may choose to take the lead on this effort, or may wish to seek to partner with another group. Health or economic development partners may be interested in funding this campaign as it increases awareness of cycling and walking.

A second type of media campaign could specifically target safety. For example, a number of communities across the country run 'Get Lit' campaigns that remind bicyclists about the importance of properly equipping a bicycle for nighttime use. In addition to public service announcements, some agencies will stop cyclists riding at night without proper equipment and provide them with donated headlights and rear lights. Wisconsin Bike Fed has assisted with previous safety-related campaigns and would be an ideal partner for a PSA campaign in Racine.



Report Card

Purpose:	Share information about walking and bicycling metrics and track progress towards plan implementation
Target audience:	City personnel, elected officials, general public
E's:	Education, Evaluation
Primary Agency:	City of Racine Department of City Development
Potential Partners:	KR Bike Club, Bicycle and Pedestrian Advisory Committee
Time frame:	Annually
Sample Program:	City of Seattle 2012 – https://issuu.com/cascadebicycleclub/docs/seattle_bicycle_report_card

This Plan has developed goals, objectives, and performance measures related to bicycling and walking within the City of Racine. An annual report is a useful benchmarking activity to publish accomplishments and performance relative to these targets. An annual report should include relevant bicycling metrics (new facility miles, major completed projects, bicycle-involved crashes, number of organized events) and may include information on knowledge/attitudes/behaviors, public perception of safety, or other qualitative data related to cycling.

Bicycle-Sharing Programs

Purpose:	Provide 'last mile' access for transportation links as well as expand the transportation options of Racine area visitors
Target audience:	Visitors and residents
E's:	Education, Encouragement
Primary Agency:	City of Racine
Potential Partners:	Marinas, transportation providers, Real Racine, Downtown Business Improvement District, Downtown Racine Corp.
Time frame:	Seasonal
Sample Program:	Milwaukee's BublR and Madison BCycle Get Lit Campaign: https://www.cycleto.ca/get-lit

Bike Share bicycle fleets can provide many benefits. Typically, these bicycles can be used to accommodate the 'last mile' of a trip (e.g., allowing a user to get from the marina to a commercial area or from the bus stop to their final destination), provide transportation for local workforce, allow tourists to get around downtown etc. Most of these 'last mile' trips in the City of Racine are within a reasonable bicycling distance (e.g., less than three miles) and reduce the cost and complication of short trips by providing day use bicycles for one way or round trip journeys.

Develop a Regional Wayfinding Sign Program

Purpose:	Assist bicyclists and trail users reach desired destinations
Target audience:	Current and potential bicycle riders and trail users
E's:	Encouragement
Primary Agency:	City of Racine Department of City Development
Potential Partners:	Racine County, Real Racine, municipal partners
Time frame:	Medium
Sample Program:	https://www.countyofdane.com/lwrp/parks/bike-wayfind/

A wayfinding sign program can significantly enhance the bicycling experience in Racine. Any new programs should be integrated by design with the City's new wayfinding system. Wayfinding serves a variety of purposes including:

- Helping to familiarize users with the bikeway system and reduce reliance on maps.
- Helping users identify the safest or most comfortable routes to significant destinations.
- Helping to address misperceptions about time and distance.
- Raising the visibility of bicycling to all road users.

Signs should indicate direction of travel, location of destinations, and anticipated travel time and distance. Wayfinding signs also provide visual cues to motorists that they are driving along a bicycle route and should use caution. Signs should be placed at key locations leading to and along bicycle routes, including the intersection of multiple routes. A coordinated wayfinding sign program provides particular value for users who know what to expect, and feel confident they can rely on the sign system to navigate around Racine.

Law Enforcement Training

Purpose:	Provide bicycle and pedestrian specific training to law enforcement officials
Target audience:	Law enforcement officials
E's:	Education, Enforcement
Primary Agency:	City of Racine Police Department
Potential Partners:	Other local law enforcement agencies (Racine County Sheriff's Department), Wisconsin Department of Transportation
Time frame:	Annually
Sample Program:	City of Seattle 2012 – https://issuu.com/cascadebicycleclub/docs/seattle_bicycle_report_card

Many law enforcement professionals do not receive training specific to bicycle laws, handling, or safety. Police education courses and/or training videos can help officers improve public safety and enforce existing laws more effectively. This is particularly important after laws are changed or added that pertain to bicycle safety. Wisconsin Department of Transportation (WisDOT) sponsors a series of workshops aimed at children, adults, and law enforcement professionals related to the Enforcement for Bicycle Safety program. It is recommended that local law enforcement officers take advantage of these state run classes on a regular basis to enhance their knowledge of bicycle and pedestrian related enforcement practices.

Crosswalk Enforcement Actions and Speeding Enforcement Campaigns

Purpose:	Provide targeted campaigns to reduce vehicle speeding and increase crosswalk compliance
Target audience:	Law enforcement officials, local road users
E's:	Education, Enforcement
Primary Agency:	City of Racine Police Department
Potential Partners:	Other local law enforcement agencies (Racine County Sheriff's Department), Wisconsin Department of Transportation, Racine Unified School District, Wisconsin Bike Fed
Time frame:	Annually

The goal of these campaigns is to reduce vehicle speeding, increase yielding to pedestrians by both drivers and cyclists, and reduce jaywalking. These campaigns should be organized to garner maximum media attention (e.g. a "Santa sting" in costume during December) and should focus on the beginning of the school year and the end of daylight savings. For campaigns specific to school traffic safety, state Safe Routes to School grants may be able to fund police overtime for the purposes of enforcement activities.

A Focus on Equity

Equity is the sixth E in bicycle and pedestrian planning efforts. Specifically, it focuses on the distribution of facilities and programming improvements and efforts equitably across a community. Such equity includes examining improvements and implementation in terms of geography, demography, and transportation modality.

- **Geographic Equity**
Ensures the municipality or community will have the same types of facilities with the same density and quality.
- **Demographic Equity**
Ensures that all residents, regardless of age, race, ethnicity, income level, housing status and gender, have equal access to recommended improvements and implementation.
- **Modal Equity**
Occurs when all modes of transportation, bicycles, pedestrians, trucks, transit, automobiles, etc. are treated equally.

Equity efforts must intentionally include soliciting input from diverse populations regarding what is wanted and needed in terms of non-motorized transportation improvements. Further, these efforts are best facilitated when conducted and led by residents of the neighborhoods the plan is intending to serve.

In the newly released report “Evaluating Efforts to Improve the Equity of Bike Share Systems”, based on the Bronzeville neighborhood of Chicago, IL, people of color and lower-income residents cited significantly more barriers to bicycling than their white counterparts.¹ Reasons cited for not cycling or not cycling more include:

“Traffic makes riding a bike in my neighborhood feel dangerous.”

“I don’t have a bike or related gear.”

In the 2017 [Narratives of Marginalized Cyclists: Understanding Obstacles to Utilitarian Cycling Among Women and Minorities in Portland, OR](#), researchers interviewed women and minority residents of Portland to determine their specific barriers to cycling. Participants described a range of challenges to including cycling as part of their everyday routine. They reported barriers such as feelings of safety, the physical and social environment, parenting responsibilities, and time management. The report recommends the following interventions to improve cycling options for women:

- Public events that cater to parents and children.
- Training and support to adapt bicycles to meet the needs of parents.
- Bike lanes that better support parents cycling with trailers - wider, better lit, smoother transitions between areas.
- Bike buddy program to support riders.
- Additional women's and minority cycling groups.

¹ Evaluating Efforts to Improve the Equity of Bike Share Systems; McNeil, Nathan, MacArthur, John, Dill, Jennifer; June 30, 2017; www.trec.pdx.edu/research/project/884



People of color cited the following barriers to increasing cycling in their lives; concerns of police violence, maneuvering through public spaces that are not welcoming to people of color, motorist attitudes, racial profiling, and micro-aggressions, such as motorists not stopping for black pedestrians as they might for white pedestrians. The suggested interventions related to race/ethnicity are:

- Increase ridership amongst diverse groups to reduce heightened visibility of minorities; possibly through a “bike buddy” program.
- Enhance lighting, signage, or protected bike lanes to increase feelings of safety for minorities deterred from biking due to aggressive driving and cycling behaviors.
- More cycling events and organizations run by, and for, people of color.
- Signage and advertisements for bike events and organizations should be more diverse.
- Diverse and inclusive trainings and classes to support interested cyclists.

Racine-Specific Recommendations

Mobile Bike Repair Campaigns

Purpose:	Provide targeted mobile bike repair to fix bicycles in traditionally underserved neighborhood
Target audience:	Bicyclists in low income neighborhoods
E’s:	Education, Equity
Primary Agency:	City of Racine Public Health Department; Parks, Recreation, and Cultural Services
Potential Partners:	Local bike shops, bike clubs, Wisconsin Bike Fed
Time frame:	Seasonally
Sample Program:	http://www.bfw.org/2017/08/03/mobile-bike-repair-cruises-along/

Provide targeted bike repair in neighborhoods without bike shops. This could include bike repair stations installed along key biking destinations, such as shared use trails and community centers. Additionally, bike repair programs may include mobile bike repair carts that involve a trained bike mechanic traveling between multiple neighborhoods and assisting residents with repairing their bicycles. Mobile bike repair units are particularly effective for removing barriers to biking in lower income communities, and also serve as ambassadors for walking and biking.

The Wisconsin Bike Fed operates mobile bike repair programs in Milwaukee and Madison and can assist the City of Racine in establishing a local program.



Example of a bicycle repair station along a trail. Source: Mark Hertzberg

Racine Slow Roll

Purpose:	Using bicycles as vehicles for social change
Target audience:	Local neighborhoods throughout Racine
E's:	Education, Encouragement, Equity
Primary Agency:	KR Bike Club
Potential Partners:	City of Racine Parks, Recreation, and Cultural Services
Time frame:	Seasonally - on a monthly basis
Sample Program:	http://slowrollchicago.org/about/

Slow Roll is a franchised weekly urban bike ride dedicated to promoting cycling. This program was initiated in the City of Detroit and attracts an extremely diverse group of riders and is typically adopted as a way to create a more inclusive ride. Free community slow rides like the Slow Roll can contribute to the growth of bicycle culture with a goal to further bicycling as a health initiative, equity initiative, and economic development tool.



*A free community slow ride in Milwaukee.
Source: Wisconsin Bike Federation*

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6. Cost and Funding

Cost Estimates

A projected cost for each type of on-street facility was developed based on similarly constructed projects and industry averages. These costs are fully burdened estimates provided in 2018 dollars, rounded to the nearest thousand, and are conceptual in nature. As such, final engineering and design review across all involved departments will provide the most accurate project costs.

Table 7. Cost Assumptions for Recommended Facility Types

Facility Type	Cost*	Annualized Ongoing Costs**	Notes
Paved Shoulder	\$15,000 - 20,000/mile		
Colored Crosswalk	\$16/square foot	\$2,000 per year	Colored pavement (thermoplastic), sealing and texture application annually, striping maintenance
Conventional Bike Lane	\$30,000 - 35,000/mile	Varies*	Includes one line on each side of street, 20 symbols per mile; costs are also affected by material type and quality; assumes no parking.
Signed Route - Neighborhood Greenway	\$10,000 - 15,000/mile	\$1,800/mi	Assumes regulatory signage every 400' in each direction. Costs will increase as design scope increases to include any traffic calming measures such as traffic circles, median refuge islands, and curb extensions.
Shared-Use Path (new)	\$1,000,000 - 1,500,000/mile	Varies**	Assumes 12' wide path. Does not include cost of right-of-way acquisition, required bridges or retaining walls, or amenities including lighting, benches, bicycle parking, signage. Cost can also be affected by surface type, bridge structures, soil conditions, construction limitations, and utilities.

All costs include engineering (25%), contingency (15%), and design (20%) allowances.

*Annualized costs assume repainting stripes and pavement markings once every two years and replacement of 10% of signs per year.

**Asphalt paths typically require some maintenance between years 3 - 7 and repaving every 7 - 15 years and concrete pathways every 25 years.



Table 8. Cost Assumptions for Priority Projects

Project	Estimated Quantities	Estimated Unit Costs*	Estimated Costs*
Intersection #10 - Pierce & West Boulevard			
Striping	2000 linear feet	\$5.00	\$10,000
Signs	10	\$500	\$5,000
Pavement Modifications	NA		\$0
Ramps w/ detectable warning	12	\$3,000	\$36,000
Temporary Conditions		\$5,000	\$5,000
Contingency		15%	\$8,400
Total Project Cost			\$64,000
Intersection #12 - Durand & County Trail			
Striping	200 linear feet	\$5.00	\$100
Signs	6	\$500	\$3,000
Pavement Modifications	NA		\$0
Ramps w/ detectable warning	2	\$3,000	\$6,000
Temporary Conditions		\$3,000	\$3,000
Contingency		15%	\$1,815
Total Project Cost			\$13,915
Trail Connections			
Misc. trail pavement connections & curb cuts w/ ramps**	5,280 linear feet	\$50/linear feet	\$264,000

Maintenance Costs

On-street bikeways and trails require regular maintenance and repair. On-street bikeways are typically maintained as part of standard roadway maintenance programs. Extra emphasis should be placed on keeping bike lanes and roadway shoulders clear of debris and keeping vegetation overgrowth from blocking visibility or creeping into the roadway. Snow removal could also be considered a maintenance cost but is often covered under general street maintenance in terms of operational costs.

Project Funding

Acquiring funding for projects and programs is considerably more likely if it can be leveraged with a variety of local, state, federal and public and private sources. This appendix identifies potential matching and major funding sources available for bicycle, pedestrian, and trail projects and programs. Funding sources are summarized below.

Federal Funding Sources

Federal transportation funding is typically directed through state agencies to local governments either in the form of grants or direct appropriations, independent from state budgets. Federal funding typically requires a local match of 20 percent, although there are some exceptions, such as the recent American Recovery and Reinvestment Act stimulus funds.

The WisDOT and metropolitan planning organizations administer most federal funds. Most, but not all, of these programs are oriented toward transportation versus recreation, with an emphasis on reducing auto trips and providing inter-modal connections. Federal funding is intended for capital improvements, safety and education programs. Projects must relate to the surface transportation system.

The following is a list of possible Federal funding sources that could be used to support construction of many pedestrian and bicycle improvements. Most of these are competitive and involve the completion of extensive applications with clear documentation of the project need, costs, and benefits. However, it should be noted that the Federal Highway Administration (FHWA) encourages the construction of pedestrian and bicycle facilities as an incidental element of larger ongoing projects. Examples include providing paved shoulders on new and reconstructed roads, or building sidewalks, on-street bikeways, trails and marked crosswalks as part of new highways.

FIXING AMERICA'S SURFACE TRANSPORTATION ACT (FAST ACT)

The largest source of federal funding for bicycle and pedestrian projects is the United States Department of Transportation's (USDOT) Federal-Aid Highway Program, which Congress has reauthorized roughly every six years since the passage of the Federal-Aid Road Act of 1916. The latest act, Fixing America's Surface Transportation Act (FAST), was signed into Public Law 114-94 on December 4, 2015. The Act replaces Moving Ahead for Progress in the Twenty-First Century (MAP-21 which was valid from 2012 - 2015).

The Moving Ahead for Progress in the 21st Century Act (MAP-21), enacted in 2012, included provisions to make the Federal surface transportation more streamlined, performance-based, and multimodal. MAP tried to address challenges facing the U.S. transportation system, including improving safety, maintaining infrastructure condition, reducing traffic congestion, improving efficiency of the system and freight movement, protecting the environment, and reducing delays in project delivery. The FAST Act builds on the changes made by MAP-21. Specifically, the FAST Act:

Improves mobility on America's highways

- Establishes and funds new programs that support transportation projects to ease congestion and facilitate the movement of freight.

Creates jobs and supports economic growth

- Authorizes \$226.3 billion in Federal funding for FY 2016 through 2020 for road, bridge, bicycling, and walking improvements.

Accelerates project delivery and promotes innovation

- Incorporates changes aimed at ensuring the timely delivery of transportation projects.

Programs of interest under the FAST Act that can specifically be used to fund bicycle and pedestrian problems are listed below; more detailed information is available online: <https://www.fhwa.dot.gov/fastact/summary.cfm>

Surface Transportation Block Grant Set-Aside Program

The FAST Act eliminates the MAP-21 Transportation Alternatives Program (TAP) and replaces it with a set-aside of Surface Transportation Block Grant (STBG) funding for transportation alternatives. These set-aside funds include all projects and activities that were previously eligible under TAP, encompassing a variety of smaller-scale transportation projects such as pedestrian and bicycle facilities, recreational trails, and Safe Routes to School projects. The former program areas of Safe Routes to School, Transportation Enhancements and the Bicycle and Pedestrian Facilities Program all fall under eligible STBG funding. Per WisDOT, all TAP projects require sponsors to pay 20% of approved projects costs. The projects are capped and a TAP project may not be substituted for another project. TAP projects must commence within four years of the award date. Further, TAP projects within the jurisdiction of a Transportation Management Area (TMA) are selected at the regional level by TMAs, which are metropolitan planning organizations with a population over 200,000. Any City of Racine projects would fall under the jurisdiction of the SEWRPC.

With a few exceptions, the following areas are eligible for STBG federal funding, as administered by WisDOT:

Recreational Trails

Funds may be used to develop and maintain recreational trails and trail-related facilities for both non-motorized and motorized uses. Examples of trail uses include hiking, bicycling, in-line skating, equestrian use, and other non-motorized and motorized uses. These funds are available for both paved and unpaved trails, but may not be used to improve roads for general passenger vehicle use or to provide shoulders or sidewalks along roads. Recreational Trails Program funds may be used for:

- Maintenance and restoration of existing trails.
- Purchase and lease of trail construction and maintenance equipment.
- Construction of new trails, including unpaved trails.
- Acquisition or easements of property for trails.
- State administrative costs related to this program (limited to seven percent of a State's funds)
- Operation of educational programs to promote safety and environmental protection related to trails (limited to five percent of a State's funds).

Safe Routes to School

Both infrastructure and non-infrastructure projects are eligible, and the program elements described in MAP-21 are still in effect. The purpose of the Safe Routes to Schools eligibility is to promote safe, healthy alternatives to riding the bus or being driven to school. All projects must be within two miles of primary or middle schools (K-8). Eligible projects may include:

- ***Engineering Improvements*** - These physical improvements are designed to reduce potential bicycle and pedestrian conflicts with motor vehicles. Eligible improvements include sidewalk improvements, traffic calming/speed reduction, pedestrian and bicycle crossing improvements, on-street bicycle facilities, off-street bicycle and pedestrian facilities, and secure bicycle parking facilities.
- ***Education and Encouragement Efforts*** - These programs are designed to teach children safe bicycling and walking skills while educating them about the health benefits and environmental impacts. Projects and programs may include creation, distribution and implementation of educational materials; safety based field trips; interactive bicycle/pedestrian safety video games; and promotional events and activities such as assemblies, bicycle rodeos, and walking school buses.
- ***Enforcement Efforts*** - These programs aim to ensure that traffic laws near schools are obeyed. Law enforcement activities apply to cyclists, pedestrians and motor vehicles alike. Projects may include development of a crossing guard program, enforcement equipment, photo enforcement, and pedestrian targeted enforcement operations.

Racine County is eligible to compete for these funds through the pot of money that contains non-allocated TAP funds (those monies not re-directed to other highway programs). These are disbursed through a separate competitive grant program also administered by WisDOT. Local governments, school districts, tribal governments, and public lands agencies are permitted to compete for these funds.



Highway Safety Improvement Program (HSIP)

The Highway Safety Improvement Program (HSIP) develops and implement projects designed to reduce both the severity and number of crashes on all streets and highways. The funding ratio is usually 90/10 with the 10% as the local match. Currently, the program prioritizes projects with significant crash histories where lower cost mitigation solutions can be quickly implemented.

More information available online:

<http://wisconsin.gov/Pages/doing-bus/local-gov/astnce-pgms/highway/hsip.aspx>

Congestion Mitigation & Air Quality Improvement Program (CMAQ)

The Congestion Mitigation & Air Quality Improvement Program (CMAQ) provides funding for projects and programs in air quality non-attainment and maintenance areas for ozone, carbon monoxide, and particulate matter which reduce transportation related emissions. These federal dollars can be used to build bicycle and pedestrian facilities that reduce travel by automobile. Purely recreational facilities generally are not eligible. Funds can be used to construct bicycle facilities, pedestrian walkways, and non-infrastructure projects related to bicycling and pedestrian activities. The City of Racine, as part of Racine County, is considered to be a non-attainment area and is therefore eligible for CMAQ funding.

More information available online:

<http://wisconsin.gov/Pages/doing-bus/local-gov/astnce-pgms/aid/cmaq.aspx>

PARTNERSHIP FOR SUSTAINABLE COMMUNITIES

Founded in 2009, the Partnership for Sustainable Communities is a joint project of the EPA, the U.S. Department of Housing and Urban Development (HUD), and USDOT. The partnership aims to “improve access to affordable housing, more transportation options, and lower transportation costs while protecting the environment in communities nationwide.” The Partnership is based on five Livability Principles, one of which explicitly addresses the need for bicycle and pedestrian infrastructure:

Develop safe, reliable, and economical transportation choices to decrease household transportation costs, reduce our nation’s dependence on foreign oil, improve air quality, reduce greenhouse gas emissions, and promote public health.

The Partnership is not a formal agency with a regular annual Transportation Investment Generating Economic Recovery (TIGER) grant program. Nevertheless, it is an important effort that has already led to some newer grant opportunities (including both TIGER I and TIGER II grants). Racine should track Partnership communications and be prepared to respond proactively to announcements of new grant programs. Initiatives that speak to multiple livability goals are more likely to score well than initiatives that are narrowly limited in scope to bicycle and pedestrian efforts.

More information available online: <https://www.sustainablecommunities.gov/partnership-resources>

COMMUNITY DEVELOPMENT BLOCK GRANTS

The Community Development Block Grants (CDBG) program provides money for streetscape revitalization, which may be largely comprised of pedestrian improvements. Federal CDBG grantees may use the funds for real property, public facility improvements, and planning. City of Racine Bicycle and Pedestrian Master Plan projects that enhance accessibility are a good fit for this funding source. CDBG funds could also be used to write an ADA Transition Plan for the city or support design and construction of projects.

For more information visit: www.hud.gov/cdbg

LAND AND WATER CONSERVATION FUND

The Land and Water Conservation Fund (LWCF) provides grants for planning and acquiring outdoor recreation areas and facilities, including trails. Funds can be used for right-of-way acquisition and construction. The program is administered by the Wisconsin Department of Natural Resources as a grant program. Any City of Racine Bicycle and Pedestrian Master Plan projects located in future parks could benefit from planning and land acquisition funding through the LWCF. Trail corridor acquisition can be funded with LWCF grants as well.

For more information visit: <http://dnr.wi.gov/Aid/LWCF.html> and <http://www.nps.gov/lwcf>

RIVERS, TRAILS, AND CONSERVATION ASSISTANCE PROGRAM

The Rivers, Trails, and Conservation Assistance Program (RTCA) is a National Parks Service (NPS) program providing technical assistance via direct NPS staff involvement to establish and restore greenways, rivers, trails, watersheds, and open space. The RTCA program provides only for planning assistance—there are no implementation monies available. Projects are prioritized for assistance based on criteria including conserving significant community resources, fostering cooperation between agencies, serving a large number of users, encouraging public involvement in planning and implementation, and focusing on lasting accomplishments. This program may benefit trail development in the Racine indirectly through technical assistance, particularly for community organizations, but should not be considered a future capital funding source.

For more information visit: <https://www.nps.gov/orgs/rtca/index.htm>

ADDITIONAL FEDERAL FUNDING

The landscape of federal funding opportunities for bicycle and pedestrian programs and projects is always changing. A number of Federal agencies, including the Bureau of Land Management, the Department of Health and Human Services, the Department of Energy, and the Environmental Protection Agency have offered grant programs amenable to bicycle and pedestrian planning and implementation, and may do so again in the future.

For up-to-date information about all federal grant programs visit: <http://www.grants.gov>



State Funding Sources

Under the former TAP program, the State of Wisconsin funded bicycle and pedestrian projects above and beyond Federal Transportation Enhancement dollars through two State grant programs: the Bicycle and Pedestrian Funding Program (BFPF) and the Surface Transportation Program – Discretionary (STP-D). Funding levels and cycles for both programs has been somewhat sporadic since the early 1990's. In 2002 the STP-D was dismantled, and the BFPF has now been incorporated into the new FAST Act funding.

STATE RECREATION GRANT PROGRAMS

The Wisconsin Department of Natural Resources administers several grant programs that may support bicycle and pedestrian facilities that provide a recreational benefit to the state. With the exception of the Recreational Trail Aids program, each of the programs below is part of the Knowles-Nelson Stewardship Program, a fund created by the Wisconsin Legislature in 1989 to “preserve valuable natural areas and wildlife habitat, protect water quality and fisheries, and expand opportunities for outdoor recreation.”

Acquisition & Development of Local Parks

Assist with land or easement purchases and develop or renovate local park and recreation area facilities for nature-based outdoor recreation purposes including trails. Applicants compete for funds on a regional basis.

Recreational Trail Aids

Municipal governments 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. This program may be used in conjunction with the state snowmobile or ATV programs and Stewardship development projects.

State Trails

Applications for grants under this subprogram must be for properties identified as part of the State Trail system. It is possible for sponsors to nominate additional trails for state trail designation. The Stream-bank Protection Program, a sub-program of the State Trails program, protects water quality and fish habitat in Wisconsin by establishing buffers along high-priority waterways.

Urban Green Space

These grants assist with land or easement purchases in urban areas to preserve the scenic and ecological values of natural open spaces for nature-based outdoor recreation, including non-commercial gardening.

Urban Rivers

These grants assist with land purchases on rivers flowing through urban or urbanizing areas to preserve or restore the scenic and environmental values of riverways for nature-based outdoor recreation.

For more information, see <http://dnr.wi.gov/Aid/Grants.html#tabx4>.

7. Implementation

The City of Racine Bicycle and Pedestrian Master Plan will guide City residents and decision makers to become a safer, more inviting place to bike, ride, walk, and play. This chapter highlights short-term infrastructure recommendations and associated costs, discusses programmatic actions that should be implemented first, and provides a suggested time frame for various actions recommended in previous chapters. Table 8 (page 60) provides a summary of key recommended Plan actions and programs, along with implementation time frames, and notes about likely implementing agencies.

In order to categorize the projects into short and long term options, the Advisory Council prioritized the City’s bicycle improvement projects using the following criteria.

Criteria Numerical Weighting

Numerical weights were assigned to each evaluation criterion according to its relative level of importance, as determined by the Plan Advisory Council. Weighted scores for each project were summed to arrive at a composite score. The results of this exercise are presented as a project evaluation matrix showing the criterion score and composite score for each project.

The purpose of these exercises was to understand the relative priority of projects so that the City may apportion available funding to the highest priority projects. Projects not rising to the top of the priority list are still important, and may be implemented at any point in time as additional resources become available. The ranked list ultimately developed for this Plan should be considered a “living document” and is frequently reviewed to ensure that it reflects current priorities.

Additional criteria may also become a factor after the relative importance of the projects have been determined. These criteria include right of way availability and cost effectiveness, which are better suited for the design phase of a project after its need has been established.

Table 9. Hierarchy of Criterion Importance

Criterion	Rank
Commercial Centers	1
Social Service Centers	2
Schools	3
Major Medical Centers	4
Parks and Recreation	5
Civic Destinations (Library, Festival Hall, etc.)	6

Table 10. Proposed Evaluation Criteria

Criterion	Description	Scoring Definitions (Range of Values)	Advisory Council Scoring
System Connectivity	To what degree does the project fill a missing gap in the bicycle system?	Projects received 5 points if they fill a gap of less than one-quarter mile and 3 points for gap measuring between one-quarter and one-half mile.	1*
Provides Access to Community Destinations	To what extent does the project provide access to community destinations?	Projects within one-half mile of a park, school or commercial area receive 5 points; projects within one mile receive 3 points.	2
Addresses Safety Need	To what extent does the project result in improved safety?	Projects received 5 points if they are located on highway, 4 points if they are located on an arterial, 3 points if they are located on a connector, and 1 point if they are a pathway or on a local road.	3
Geographic Distribution	To what extent are projects distributed across the project area?	Geographically unique areas of high priority were identified by the Advisory Council. Projects identified within these areas received 5 points.	3
Community Support	To what extent does the project have local and community support?	Project receives 5 points if identified as a priority during public meetings or Advisory Council meetings.	5

**Advisory Council members also created a hierarchy of importance of the criterion (see Table 9, page 67).*

These criteria were developed taking into account the scope of work, available data, and national expertise in developing prioritization processes that both address the goals of the planning process and are repeatable as conditions change over time.

The City of Racine Bicycle and Pedestrian Master Plan provides a set of trail and on-street infrastructure recommendations that the City and other project partners can implement, to allow residents and visitors to bike and walk more safely and comfortably. The order in which projects in this plan are constructed will depend on many factors including budget, grant availability, community support and various City policies.

While all projects represent important steps for improving Racine's cycling and walking environment, prioritizing projects will allow the City to direct limited financial and personnel resources in the most strategic fashion. Projects were scored based on the criteria shown in Table 7 (page 59). The outcome of this exercise was then refined based on known existing opportunities into a coherent, connected cycling network that will increase over time.

The proposed bikeway system is comprised of several projects, many of which are smaller segments of larger combined facility improvements. These are organized into three tiers representing project phasing and a suggested construction time frame:

- Short-Term (0 – 5 Years)
- Medium-Term (6 – 10 Years)
- Long-Term (10+ years and beyond)

The Plan time frame takes into consideration the planning horizon of 2030 and recognizes that some projects require significant planning, especially off-street corridors, and construction may not be feasible within this time frame. The project list and phasing should be frequently reviewed (every five years is recommended) to ensure they reflect current priorities and opportunities for the City.

Many factors can affect project implementation, including:

- Existing grant programs, or creation of new grant or funding programs that affect the type or number of large-budget projects.
- Changes in City policy that could affect how local, state, or federal funds can be allocated.
- Zoning and land use changes that will affect where and how development occurs in Racine.
- Alterations to personnel capacity to manage project implementation.
- Community input (e.g., through the Bicycle and Pedestrian Advisory Council).
- Directives (policy or otherwise) from elected officials and other governing bodies.
- Interest from partners (e.g., Racine County, SEWRPC) in implementing projects that are partially or entirely within their jurisdiction.

The purpose of a prioritization table is to understand the relative priority of projects so the City and/or other agency partners may apportion available funding to the highest priority projects. Medium- and longer-term projects are also important, and may be implemented at any point as part of a development or public works project, or as additional funding becomes available. The ranked lists should be considered a "living document" and should be frequently reviewed to ensure they reflect current priorities and opportunities.



Table 11.A. Recommended Programs and Projects Implementation Summary

Improvement Type	Location	Short (0-5 years)	Medium (6-10 years)	Long (10 years and beyond)
Signage	Mount Pleasant Street and Layard Avenue	X		
	County Bike Trail and Layard Avenue	X		
	Kinzie Avenue and Root River Pathway	X		
	12th Street and Root River Pathway	X		
	Kentucky Street and Root River Pathway	X		

Table 11 continued on next page



Table 11.B. Recommended Programs and Projects Implementation Summary (continued)

Improvement Type	Location		Short (0-5 years)	Medium (6-10 years)	Long (10 years and beyond)
Intersection					
1	South Street and MRK County Trail	Colored pavement intersection crossing markings	X		
2	Mount Pleasant Street and Rapids Drive	Through travel colored pavement bike lane on Mount Pleasant on north side of intersection (Goold Street)		X	
		Stripe crosswalks	X		
		Install countdown pedestrian timers that can be activated by cyclists on road		X	
3	Mount Pleasant Street and High Street	Colored pavement intersection crossing markings	X		
4	State Street and Erie Street/Ontario Street	Extend median on State Street to create a refuge island for southbound bicycle traffic		X	
		Colored pavement intersection crossing markings for northbound cyclists	X		

Table 11 continued on next page



Table 11.B. Recommended Programs and Projects Implementation Summary (continued)

Improvement Type	Location		Short (0-5 years)	Medium (6-10 years)	Long (10 years and beyond)
5	Lake Michigan Pathway and Christopher Columbus Causeway	Extend curb cut to include entire section of connector sidewalk on north side of Christopher Columbus Causeway			X
		Add sharrows from Lake Avenue to the Racine Pier	X		
		Stripe pedestrian crosswalks	X		
		'Bicycle may use full lane' signage MUTCD R4-11	X		
6	Mound Avenue and Root River Pathway	Construct curb cut on the north side of Mound Avenue			X
		Colored pavement intersection crossing marking	X		
		Colored pavement left turn bike lane for southwest bound cyclists		X	
		Replace existing signage with 'Trail Crossing' signage MUTCD W11-15a	X		
7	Washington Avenue and Quincy Avenue/ Root River Pathway	Extend curb ramp the length of the transit stop			X
		Stripe the pedestrian crosswalk	X		
		Extend trail and widen further east to align with Quincy Avenue at 90 degrees			X
		Left turn bike lane to access trail from Quincy Avenue		X	

Table 11 continued on next page



Table 11.B. Recommended Programs and Projects Implementation Summary (continued)

Improvement Type	Location		Short (0-5 years)	Medium (6-10 years)	Long (10 years and beyond)
8	West Boulevard and 16th Street	Add pedestrian activated push buttons on all corners		X	
		Stripe the crosswalks	X		
9	Lathrop Avenue and County Bike Trail	Colored pavement intersection crossing markings	X		
		Raised crosswalk; Pedestrian Hybrid Beacon; <i>Activated Rectangular Rapid Flash Beacon when approval re-granted</i>		X	
		Time the traffic signals on Taylor Avenue and Drexel Avenue to create gaps	X		
		Add trail crossing signage	X		
10	Taylor Avenue and Pierce/West Boulevard	Colored pavement intersection crossings across Pierce Boulevard and Taylor Avenue	X		
		Trail crossing signage at the stop sign on Pierce	X		
		Stop bar painted on Pierce Boulevard	X		
		Widen curb cut on southwest corner across Pierce Boulevard		X	
11	Durand Avenue and WI 31	Potential Engineered redesign when road is reconstructed			X

Table 11 continued on next page



Table 11.B. Recommended Programs and Projects Implementation Summary (continued)

Improvement Type	Location		Short (0-5 years)	Medium (6-10 years)	Long (10 years and beyond)
12	Durand Avenue and County Bike Trail	Colored pavement intersection crossing markings	X		
		Raised crosswalk; Pedestrian Hybrid Beacon; <i>Activated Rectangular Rapid Flash Beacon when approval re-granted</i>	X		
13	Chicory Road and WI 32	Potential Engineered redesign when road is reconstructed			X
14	County Bike Trail and 21st Street	Colored pavement intersection crossing markings	X		

Table 11.C. Recommended Programs and Projects Implementation Summary (continued)

Improvement Type	Street	From	To	Short (0-5 years)
Neighborhood Greenway	South Street	County Bike Trail	Erie Street	X
	Augusta Street	County Bike Trail	Michigan Boulevard	X
	Layard Avenue	Mount Pleasant Street	County Bike Trail	X
	Mount Pleasant Street	Romayne Avenue	High Street	X
	Melvin Avenue	Erie Street	Michigan Boulevard	X
	Erie Street	Melvin Avenue	State Street	X
	Ontario Street	State Street	Root River Pathway	X
	Westwood Drive	Northwestern Avenue	Jefferson Street	X
	Jefferson Street	Westwood Drive	W. High Street	X
	West High Street	Root River Pathway	Jefferson Street	X
	12th Street	Washington Avenue	Lake Avenue	X
	Lake Avenue	11th Street	12th Street	X
	Main Street	12th Street	16th Street	X
	16th Street	South Main Street	Wisconsin Avenue	X
	Wisconsin Avenue	16th Street	De Koven Avenue	X
	De Koven Avenue	Wisconsin Avenue	Case Avenue	X
	Case Avenue	De Koven Avenue	Gilson Street	X
	Gilson Street	Case Avenue	Drexel Avenue	X
	Drexel Avenue	Gilson Street	Maryland Avenue	X
	Maryland Avenue	Drexel Avenue	Knoll Place	X
Knoll Place	Maryland Avenue	Chicory Road	X	

Table 11 continued on next page



Table 11.D. Recommended Programs and Projects Implementation Summary (continued)

Improvement Type	Street	From	To	Short (0-5 years)	Medium (6-10 years)	Long (10 years and beyond)
Bike Lanes	Erie Street	3 Mile Road	Melvin Avenue	X		
	Durand Avenue	Ohio Street	WI 31			X
	Mount Pleasant Street	Durand Avenue	Chicory Road		X	
Road Reconfiguration	Washington Avenue	West Boulevard	Ohio Avenue			X

Table 11.E. Recommended Programs and Projects Implementation Summary (continued)

Improvement Type	From	To	Short (0-5 years)	Medium (6-10 years)	Long (10 years and beyond)
Trail Connections	Augusta Street	County Bike Trail	X		
	Olive Street	County Bike Trail	X		
	Cleveland Avenue	County Bike Trail	X		
	Blaine Avenue	County Bike Trail	X		
	Roosevelt Street	County Bike Trail	X		

8. Conclusion

This Plan offers a guideline for the planning and implementation of improved pedestrian and bicycle facilities in the City of Racine. Paramount to its success will be the leadership and continuous follow-through by civic leaders, staff, partnering groups, and citizens. The proposed network will result in a more accessible, livable, and healthy city. The assignment of responsibilities will assure plan implementation and project success. The integration of this plan in conjunction with the Route of the Badger will result in a connected network regionally.

The Route of the Badger offers a vision of a connected, 700-mile world-class regional trail and on-street bicycling network that connects people across cities, towns and counties. Southeast Wisconsin is already home to 303 miles of existing trails. New trails would improve connectivity throughout the region.

Appendices

Appendix A Maps

Appendix B Bicycle and Pedestrian Count Directions

Appendix C Public Comments

Appendix D Connectivity Analysis of Racine, Wisconsin



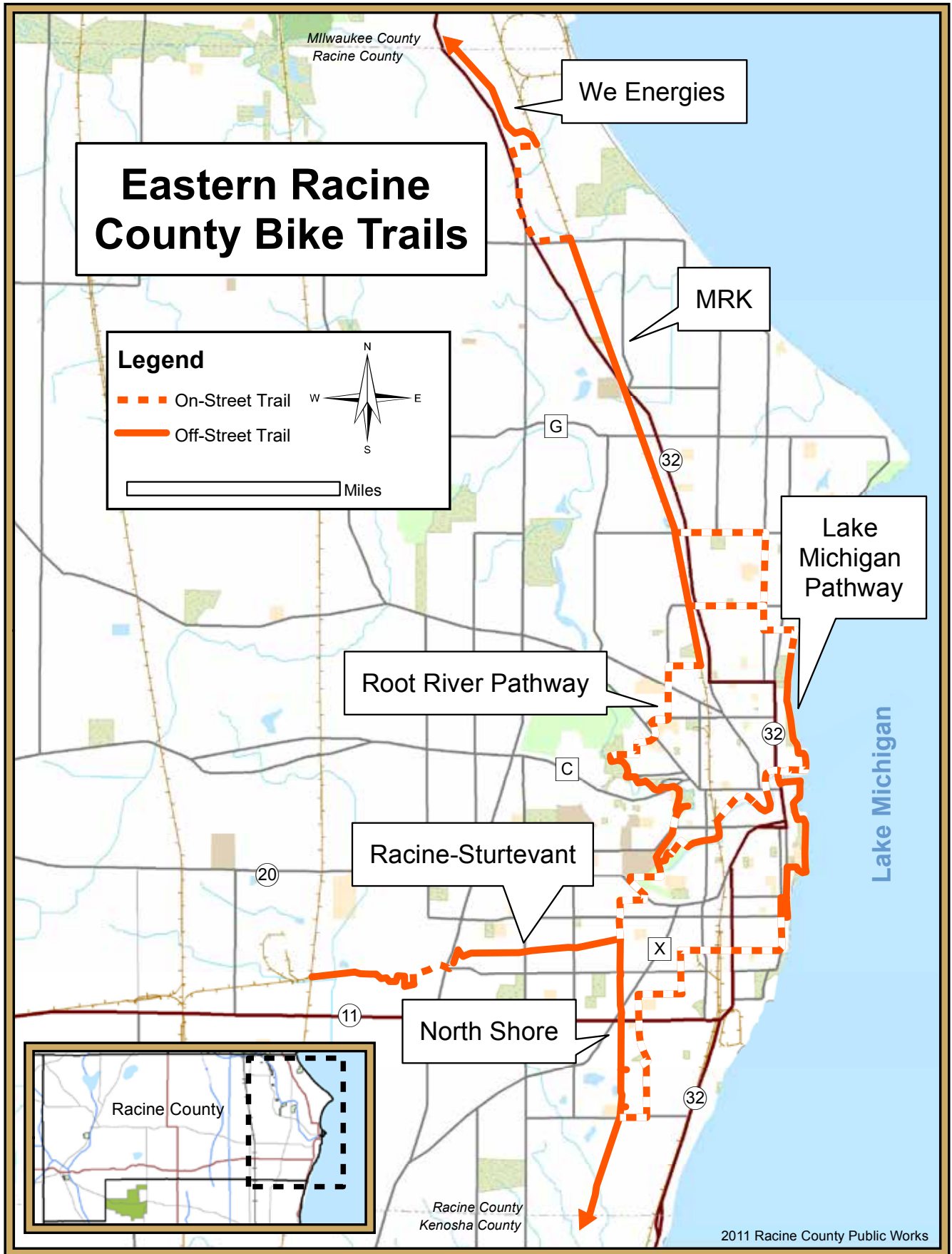
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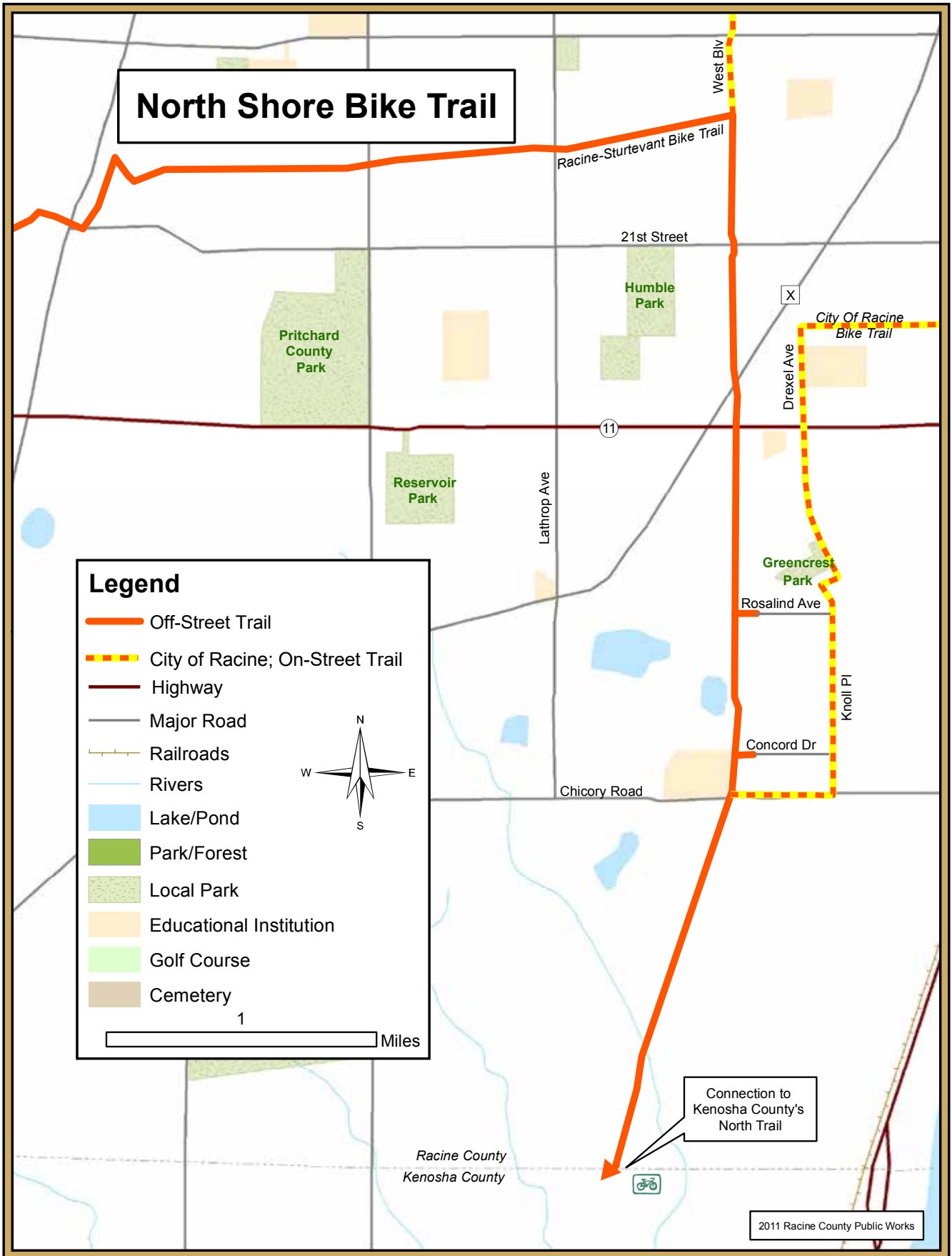


APPENDIX A: Maps

All maps accurate at time of their creation



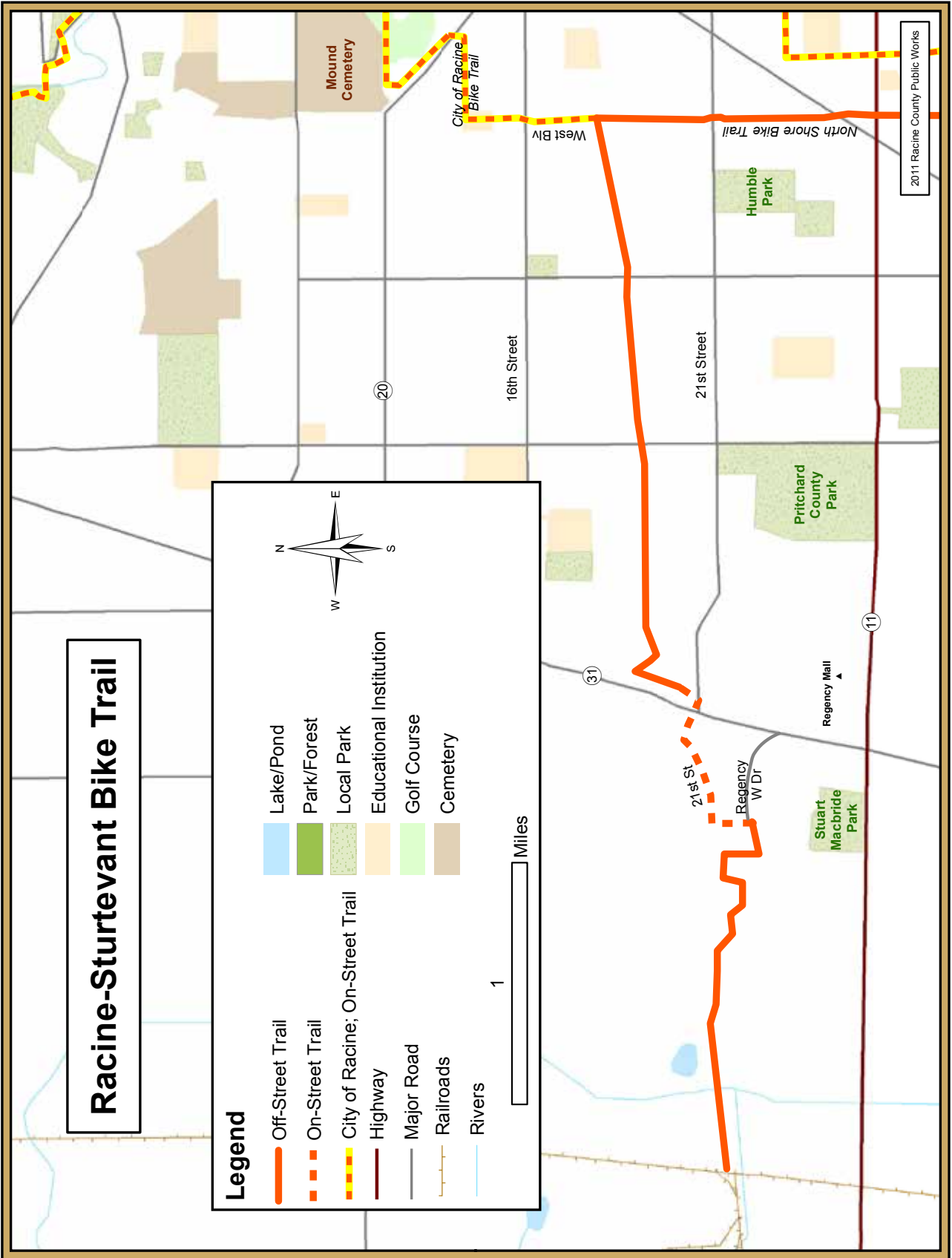




Racine-Sturtevant Bike Trail

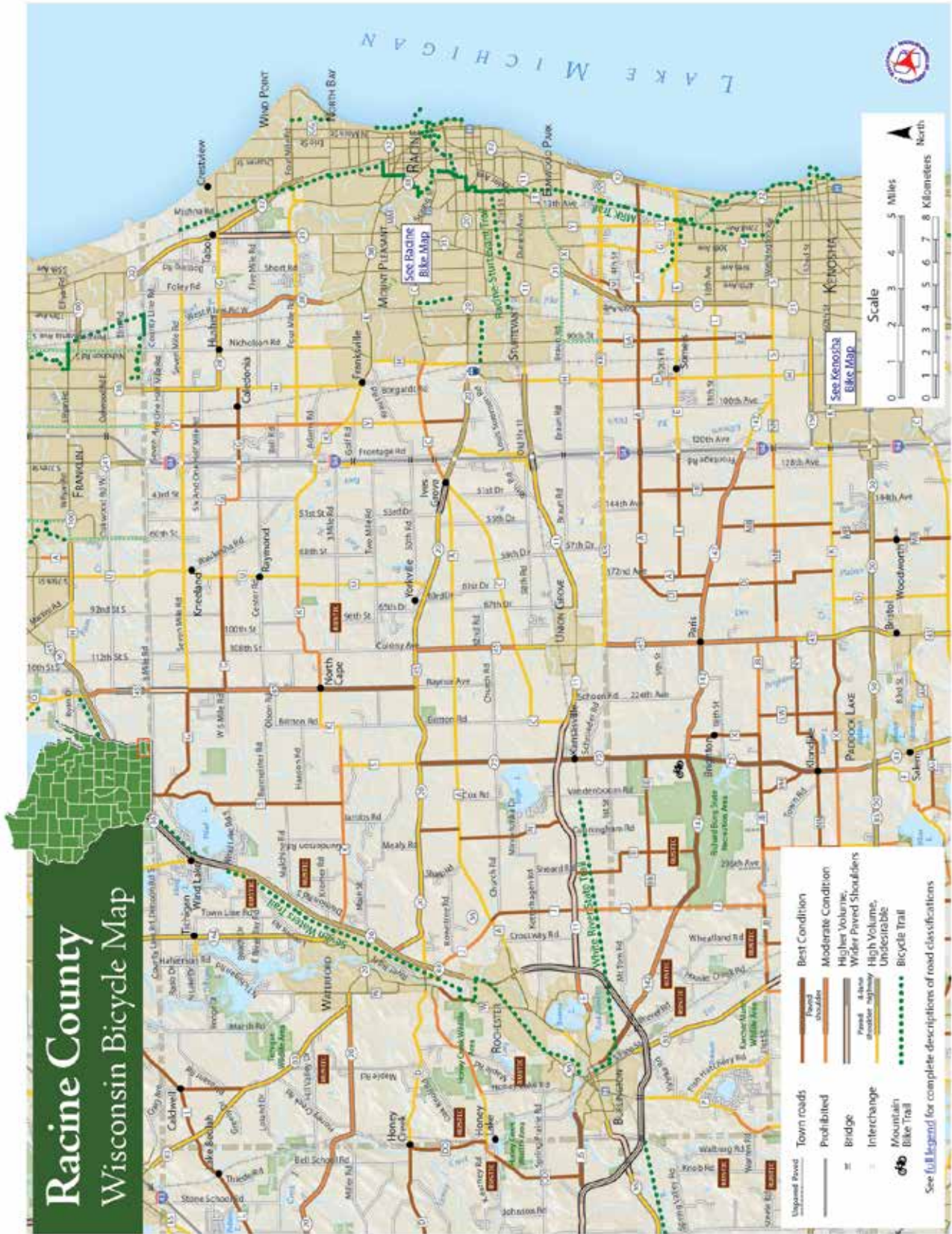
Legend

	Off-Street Trail	
	On-Street Trail	
	City of Racine; On-Street Trail	
	Highway	
	Major Road	
	Railroads	
	Rivers	
	Lake/Pond	
	Park/Forest	
	Local Park	
	Educational Institution	
	Golf Course	
	Cemetery	

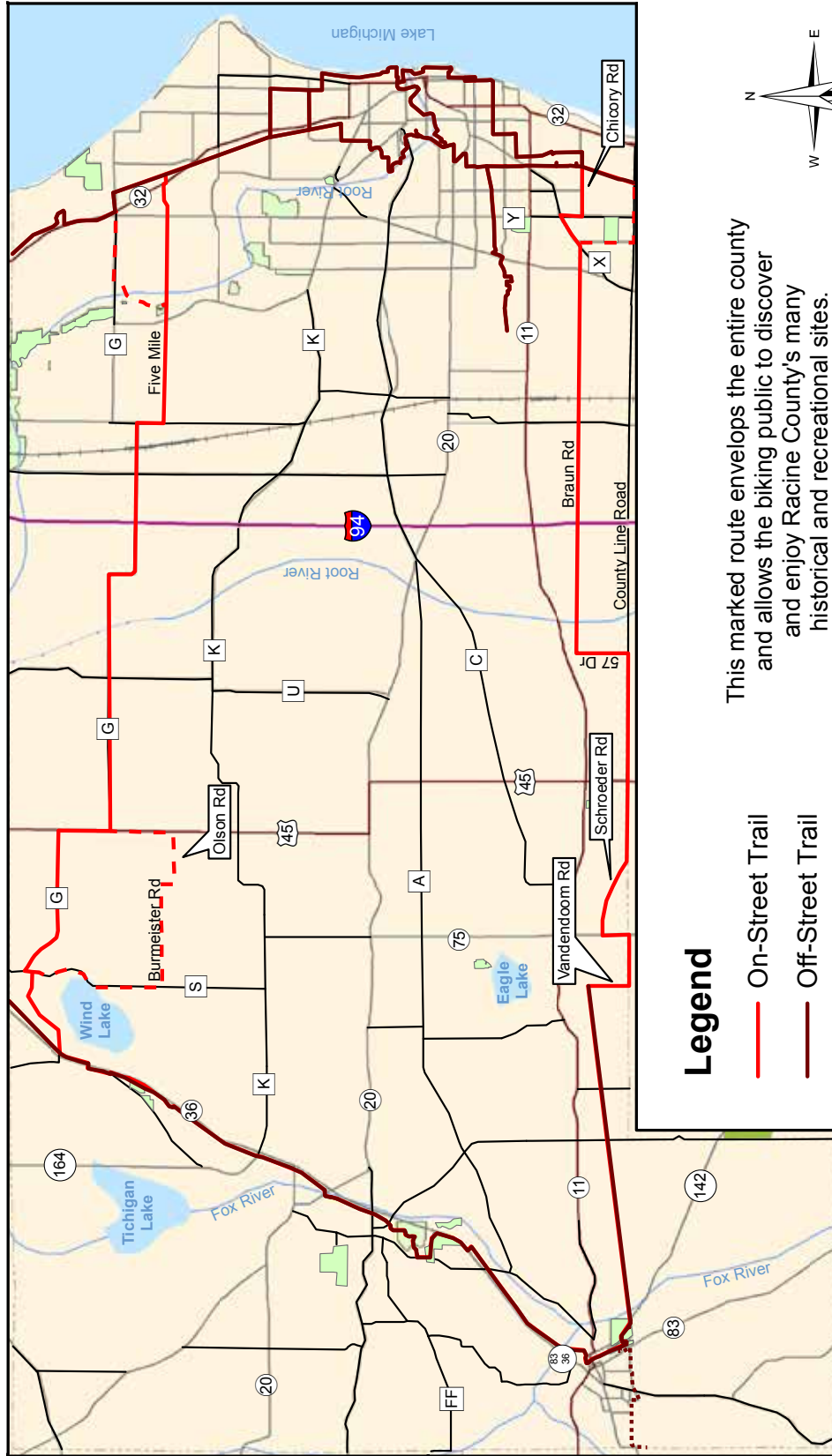


2011 Racine County Public Works

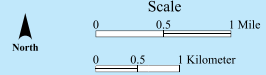




100-Mile Bike Trail Racine County

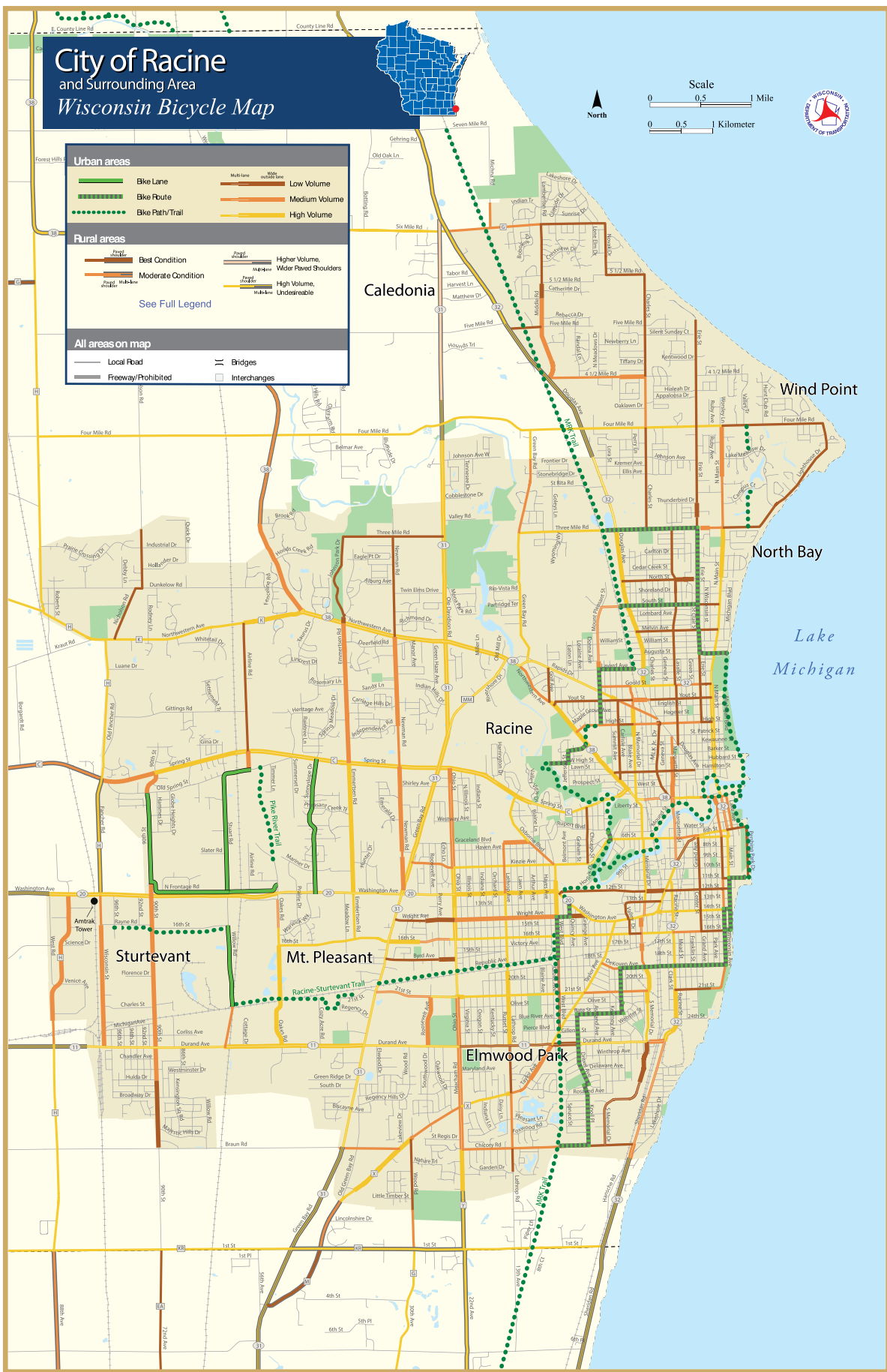


City of Racine and Surrounding Area Wisconsin Bicycle Map



Urban areas	
	Bike Lane
	Bike Route
	Bike Path/Trail
	Multi-lane, 800+ ft/240 ft Lane
	Low Volume
	Medium Volume
	High Volume
Rural areas	
	Best Condition
	Moderate Condition
	Worse Condition
	Higher Volume, Wider Pavement Shoulders
	High Volume, Undesirable
	High Volume, Undesirable
All areas on map	
	Local Road
	Freeway/Prohibited
	Bridges
	Interchanges

See Full Legend



APPENDIX B: Bicycle and Pedestrian Count Directions



BICYCLE & PEDESTRIAN COUNT DIRECTIONS



**WISCONSIN
BIKE FED**

GENERAL INFORMATION

- Conduct counts from 4 - 6pm on Tuesday, Wednesday or Thursday of the same week.
- Consider conducting counts in alignment with the National Bike Ped Documentation project count dates (bikepeddocumentation.org).
- Data collected during the counts will help us advocate for additional bicycle and pedestrian infrastructure and programming by allowing us to estimate existing bicycle and pedestrian use.

WHAT TO BRING

- | | |
|--------------------------------------|------------------------------------|
| - Bike & Pedestrian Count packet | OPTIONAL: |
| - Clipboard | - Sunglasses, hat and/or sunscreen |
| - Watch or other time-telling device | - Camp chair |
| - Multiple pens or pencils | - Cell phone |

PREPARATION

- Arrive to your count location at 3:45pm to allow time to prepare.
- Find the best location to conduct the count making sure you will have an unobstructed view of the intersection for the duration of the count time.
- Orient the count form, keeping in mind that NORTH IS AT THE TOP OF THE PAGE.
- Fill in the information at the top left of the count packet: intersection location, date, weather and name.
- Optional: Set an alarm to keep track of the 15 minute intervals.

COUNT PROCEDURES

PEDESTRIAN CROSSINGS TALLY:

- The goal is to COUNT THE NUMBER OF PEDESTRIAN CROSSINGS by tallying the number of times a pedestrian crosses the street. (Example: If the same person crosses multiple legs of the intersection or makes multiple trips, record each crossing.)
- Include crossings outside of the crosswalk but still made near the intersection (~50').
- Include children in strollers, runners, people using a wheelchair and people walking with a bicycle.
- Do not count pedestrians if they do not cross the street (ie. they only round the corner).

BICYCLE TRIPS TALLY:

- The goal is to COUNT THE NUMBER OF TRIPS MADE BY BIKE RIDERS by tallying which direction each biker approaches the intersection and whether they continue straight or turn. (Example: If the same person rides through the intersection multiple times, record each trip.)
- Tally the number of people on bikes. (Example: A tandem with two people is two tally marks.)
- Count bikers who are riding in the opposite direction as traffic or riding on the sidewalk from the direction they approached the intersection.
- Do not count people who are walking their bike on the sidewalk; count these people as pedestrians.

ADDITIONAL BIKE RIDER DATA:

- The goal is to RECORD DEMOGRAPHIC AND TRAFFIC VIOLATION DATA ON EACH TRIP MADE BY BIKE.
- Tally the number of bike trips made by WOMEN.
- Tally the number of bike trips made by PEOPLE OF COLOR.
- Tally the number of bike trips made in which ONE OF THE FOLLOWING TRAFFIC LAWS ARE VIOLATED: rides in the opposite direction as traffic; rides through a red light; rides on the sidewalk.

AFTER THE COUNT

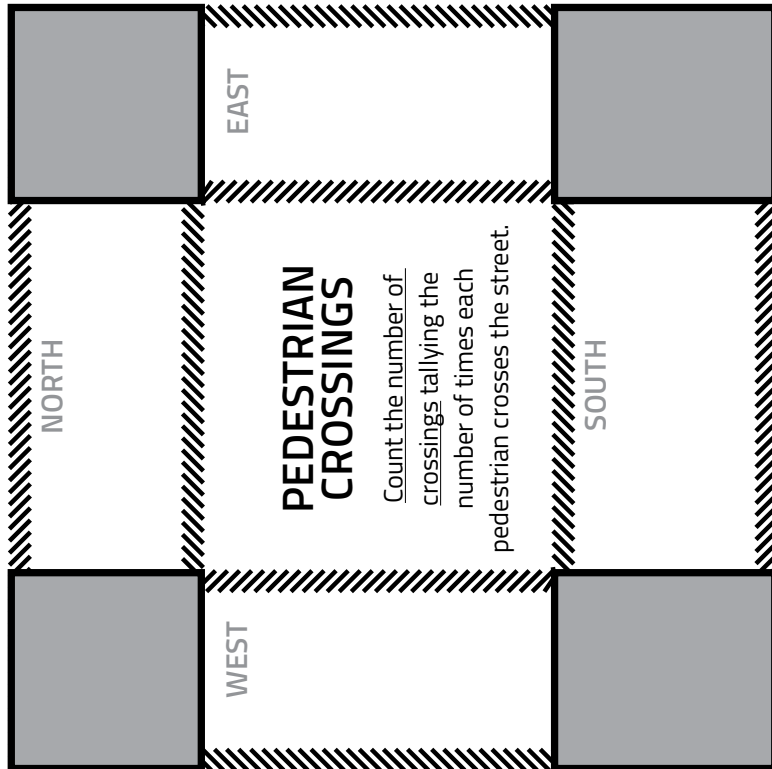
- Add up count totals at the bottom of each page, then record these totals on the tally sheet provided.
- Return packet to: _____
- With questions, contact: _____ () - _____



4:00 - 4:15

INTERSECTION _____
 DATE _____
 WEATHER _____
 I/NAME _____

WISCONSIN BIKE FED




	← RIGHT	STRAIGHT	LEFT →	
↑ LEFT				↓ RIGHT
STRAIGHT	BICYCLE TRIPS Count the number of trips made by bike riders tallying which direction each biker approaches the intersection and whether they continue straight or turn. Tally additional demographic and traffic violation data from each bike rider trip in the table below.			
	← LEFT	STRAIGHT	RIGHT →	
↑ LEFT	STRAIGHT	STRAIGHT	STRAIGHT	↓ RIGHT

ADDITIONAL BIKE RIDER DATA	
WOMEN*	PEOPLE OF COLOR*
	TRAFFIC VIOLATIONS**

PEDESTRIAN CROSSING TOTALS			
NORTH	EAST	SOUTH	WEST

BICYCLE TRIPS & ADDITIONAL BIKE DATA TOTALS									
NORTH		EAST		SOUTH		WEST		ADDITIONAL	
R	S	R	S	R	S	R	S	W	POC
									VIO



		Intersection: _____																	
		Name: _____										Date: _____							
Temp (*F): _____		Weather conditions: _____																	
Time	Pedestrian Crossings			Bike Trips: North			Bike Trips: East			Bike Trips: South			Bike Trips: West			Additional Bike Data:			
	North	East	South	West	Right	Strght	Left	Right	Strght	Left	Right	Strght	Left	Right	Strght	Left	Women:	POC:	Violations:
4:00 - 4:15																			
4:15 - 4:30																			
4:30 - 4:45																			
4:45 - 5:00																			
5:00 - 5:15																			
5:15 - 5:30																			
5:30 - 5:45																			
5:45 - 6:00																			
Totals:																			



APPENDIX C: Public Comments



Appendix C: Public Comment Summary									
Year	Submitted	Comment	Engineering	Education	Encouragement	Enforcement	Evaluation	Equity	Process
2016	Map 1 /Board Comments	Existing trail has been extended already	1						1
2016	Map 2 /Board Comments	This is not a trail today	1						1
2015	In Person	Please bring drivers (cars) into this process. Not everyone bikes, but that doesn't mean that non-bikers are not in favor of these improvements. People are active in different ways and non-bikers want the path to be safe for everyone.							1
2015	In Person	Include runners (individuals and groups) in your efforts. We all use the same routes, and this would give the effort a larger base and a louder voice.							1
2017	In Person	Thank you so much for doing this - we are grateful							1
2017	In Person	Overall this has progressed extremely well and I/we are very happy with the depth of the involvement and numerous potential changes that are listed. Please continue the great work and feel free to contact me if I can ever be of help. I am a member of Rails to Trails and donate yearly for local trails.							1
2015	In Person	Drivers in Racine have driven for years without biker/cyclists "invading" their roads as much as they have of late. Hence the elevated amount of cyclist involved accidents. In addressing this problem, there are multiple solutions: paint in the bikes lanes, forge new bike paths or a combination of the two. Option 1 is subtle but time consuming as new roads are repaired/reconstructed. Option 2 is extremely expensive and option 3 will be too stressful without community support. So my thoughts are not at which option is best from a physical standpoint, but a mental. How do we change the culture and cyclist acceptance of Racine? That is the key to cyclist safety.	1	1		1			



Appendix C: Public Comment Summary (continued)

Year	Submitted	Comment	Engineering	Education	Encouragement	Enforcement	Evaluation	Equity	Process
2015	Electronically	I spend a lot of time in Providence. There is no question that cars will stop for pedestrians. That is the law here as well, but certainly not the practice. For a short time we had a sign in the street between the Safety Building and City Hall telling cars they must stop for pedestrians. It looked like this, like some at the Wheaton All Saints campus: http://www.positivelynaperville.com/wp-content/uploads/2014/06/corsswalk-sign.jpg I have seen signs like that in other communities, some in Wisconsin. The sign is long gone. We need that sign back, and more like it. Other possible places for such signs are mid-block between the Courthouse and the LEC where there is a crosswalk, Washington and Grove, and the crossing at the Wisconsin Avenue entrance to Saint Luke's Hospital. Not only do we need these signs, but we need to ask the PD to enforce the law, unpopular as that may be. Crosswalk signs on the sidewalks do not deter motorists.	1			1			
2016	In Person	Thanks for the opportunity to provide input. We are residents of the Village of Wind Point. There are many cyclists who ride Lighthouse Drive - some obey the rules, some don't. In your planning to extend a bike train north, please do not consider routing bicycle riders through the Village Streets. If you have questions or need detailed thoughts, please contact me.	1			1			
2017	In Person	Think it is crucial that Racine PD and the sheriff's department enforce state bicycle rules for public safety. That would be staying off sidewalks where pedestrians could be injured. Many cyclists can't be seen at dusk, or night, without proper front and back lights. About 20% of bike accidents involve biker alcohol and drug use. If there is an accident, will the PD and Sheriff's Department Check for alcohol? The state does not do an "accident" report for a bicycle/pedestrian accident. If a cyclist injures a person, they should be responsible for their negligence like a driver. Bike lanes are great even if the climate only allows their use 1/2 year. They are dangerous if a community does not commit to safety monitoring.				1			
2017	In Person	For visitors to the city, they will not know where the local bicycle shops are for repairs - perhaps incorporate bike shops in the future signage	1		1				



Appendix C: Public Comment Summary (continued)

Year	Submitted	Comment	Engineering	Education	Encouragement	Enforcement	Evaluation	Equity	Process
2016	In Person	Bike paths need to be cleared off during the winter - especially behind the zoo. Host bike events to create more community of cyclists (not necessarily racer types), bike commuters, slow bikers, etc. so that Racine can SEE that we're out here sharing the road. This town is aggressive towards cyclists. Racine bike map - where to find one? Organize a Critical Mass	1		1				
2017	In Person	Bike/car competition needs improvement - then Walker/hiker too			1				
2015	In Person	Some lights (Lathrop and Wright, for instance) won't change for a bicyclist. Need to educate drivers and riders for these situations.	1	1					
2017	In Person	I think one of the greatest hazards on bike trails is dog walkers with dogs on dog leashes, and walkers with headphones or earbuds. Both are oblivious to bikes and bike bells. Perhaps signage could warn people to keep their eyes and ears open. And, do we really need dogs on trails that bikers use? Bikes are not allowed on the sidewalk, so why isn't it proper to limit dogs to the sidewalk? There should be a law!	1	1					
2015	In Person	Ensure safer routes to school for kids.		1					
2015	In Person	The information needs to be get out so that people understand what the white bike painted on the street means; please encourage people to use the bike paths for walking and running. This is the Bicycle and Pedestrian Master Plan. Everyone needs more places to be active.		1					
2015	In Person	Educate walkers and riders of the need to wear bright colors, not dark clothes. Educate riders to ride with traffic.		1					
2015	In Person	Education is critical. The bike/walking path goals and progress must be communicated – newspaper, radio, Facebook etc.		1					
2015	In Person	Need to have a better education for drivers on rules of the road regarding cyclists and then ensure cyclists are following the rules as well. Bike rodeos are a great idea; maybe partner with local Boy Scout Troops for Eagle projects.		1					



Appendix C: Public Comment Summary (continued)

Year	Submitted	Comment	Engineering	Education	Encouragement	Enforcement	Evaluation	Equity	Process
2015	In Person	Drivers need to understand the rights of bikers and bikers need to understand the rights of drivers. There needs to be more education to increase mutual respect for those sharing the roadways.		1					
2015	In Person	Encourage the users to take ownership of the paths. Look out for each other, educate each other (who has the right-of-way, what are the rights of walkers/runners, what is the policy on dogs).		1					
2017	In Person	I'm worried about the mindset of City of Racine drivers. As a longtime biker, I have found drivers to NOT know the biker laws (same as a car). Also, in my riding around, some walkers and bikers alike are on the wrong side of the road. So I'm suggesting more information and signage to instruct and inform if it's ever possible. Thanks for all your work. Keep biking!		1					
2015	In Person	As new roads are built, such as the eastern part of 3 Mile Road, always consider bike paths or lanes in the plans. Anything that can be done to make Main Street safer. I see plenty of bikes on Main Street when I ride. Pave the bike path along Douglas Avenue; it would be safer for all kinds of bikes and help road bikes have an off-street option.	1						
2015	In Person	Have bike paths to get into downtown and out to the Oak Leaf Trail.	1						
2015	In Person	Make a crossing for the Hiawatha tracks.	1						
2015	In Person	Please consider: more aggressive filling of potholes after the thaw; clearing grass off streets and paths; more signage on streets so bike lanes are marked; more connected bike lanes; including all interested parties in regular meetings.	1						
2015	In Person	Pave and connect the gravel trail just west of Douglas Avenue to the Oak Leaf Trail via 6 Mile Road and Foley to County Line Road in order to provide a continuous route through the city and into Milwaukee County.	1						
2015	In Person	The more signs the better – show locals and visitors where to find a trail.	1						



Appendix C: Public Comment Summary (continued)									
Year	Submitted	Comment	Engineering	Education	Encouragement	Enforcement	Evaluation	Equity	Process
2015	In Person	Perhaps create a trailhead with restrooms, bubblers, maps, a small pavilion, and access to beaches.	1						
2015	In Person	Need an artery going east-west to connect with Mount Pleasant trails.	1						
2015	In Person	Make trails accessible year round by brushing snow off/maintaining in winter.	1						
2015	In Person	Show mileage to and from locations on the trails, or between county lines (ex. 3.5 miles to Kenosha County Line).	1						
2015	In Person	Have paths to/near all schools; make sure most parks with playgrounds can be connected to teach other/the lakefront and that they also connect to the fitness center.	1						
2015	In Person	Bike facilities should be considered whenever a road is being resurfaced or reconstructed.	1						
2015	In Person	Off-street paths should connect to major destinations within the city as well as to regional paths that lead to other cities.	1						
2015	In Person	Can a unified, identifiable logo be painted/stenciled in the roadways and paths?	1						
2015	In Person	The idea of a lakeside bike path north/south through Lake Park (Sheridan Road) is long overdue, as are a bridge or safer bike path crossing at Lathrop Avenue between Republic Avenue and 19th Street.	1						
2015	In Person	Bike/pedestrian bridges for pathways, especially the crossings on Ohio Street and Lathrop Avenue.	1						
2015	In Person	Build a bicycle bridge over Lathrop for the east/west bicycle path.	1						
2015	In Person	Safer crossings for busy roads like Highway 31 in order to connect east-west paths.	1						



Appendix C: Public Comment Summary (continued)

Year	Submitted	Comment	Engineering	Education	Encouragement	Enforcement	Evaluation	Equity	Process
2015	In Person	If you want to increase bike ridership, it is important to make it safe and convenient; more route options to places that are frequently visited – banks, businesses, post offices – are key. There is not a safe option to ride along Hwy 31 or many other busier streets.	1						
2015	In Person	Besides bubblers, how about “comfort stations” along bike paths as park restrooms are seldom open.	1						
2015	In Person	Needs improvement: N. Green Bay Road (west of Batten Field), 3 Mile Road between La Salle Street and Charles Street., Northwestern Avenue (HWY 38) between Green Bay Road and MM. Shoulders are very bad and full of potholes.	1						
2015	In Person	Path along lake through Shoop Park golf course; riding on 3 Mile Road between Douglas Avenue and La Salle Street is very dangerous and could be improved with a bike path/lane.	1						
2015	In Person	Is there a plan in place for addressing road conditions and labeling bike lanes?	1						
2015	In Person	In Saint Louis, MO, cyclists are able to activate traffic signals on their own.	1						
2015	In Person	Add a bike lane on West Boulevard between Washington Avenue and the start of the bike trail at Wright Avenue.	1						
2015	In Person	Add bicycle parking to the Festival Hall grounds. There used to be a rack near the main entrance.	1						
2015	In Person	Add a short path from the very east end of Old Spring Street out to Spring Street.	1						
2015	In Person	Can Spring Street east of Newman Road be smoothed out with a bicycle lane? It is very bumpy all the way to the bridge over Root River in Lincoln Park. Can Northwestern Avenue from MM to west of Hwy 31 be smoothed out as well? It is even bumpier.	1						



Appendix C: Public Comment Summary (continued)

Year	Submitted	Comment	Engineering	Education	Encouragement	Enforcement	Evaluation	Equity	Process
2015	In Person	Core needs: dedicated and sufficient-width lanes where off-street paths are not feasible; off-street paved bike paths; maintain roads in consideration of bike use; include bike right-of-way in all future improvements (like in Madison); make sure paths provide access to natural resources – river, lake, natural areas like prairie, woodlands, conservancy trails; collaborate with waterfront restoration planning already underway.	1						
2015	Electronically	When I talked with city officials about pavement markings on the then newly-reconstructed State Street for bike commuters, one pointed to the Root River Pathway and the Lake Michigan Pathway as transportation venues for cyclists. Our pathway system is fine as far as it goes, but is not one that geographically meets the needs of many bike commuters. It does not take me to any grocery stores, for example. Our paths are not plowed in winter. Minneapolis sometimes plows paths before plowing city streets. I was recently told that even Kenosha plows bike paths in winter. (Speaking of State Street, I still do not understand why it is not marked with a bike lane).	1						
2015	Electronically	City officials have said our streets are not wide enough for bike markings, but this is untrue. Go to Providence, RI, where there are many bike markings on the traditionally-narrow New England streets. Recommendations these days are for traffic lanes to be 10' instead of the traditional 12'.	1						
2015	Electronically	Mount Pleasant has been aggressive about marking bike lanes. They recently added Emmertsen Road to their bike network. Sturtevant also has some bike lanes. Racine County should emulate Kenosha County, which a few years ago set up a task force with a representative from each city, town, and village in the county so they can mesh their efforts.	1						
2015	Electronically	Racine is inconsistent in markings for pathways, and does not always offer (in my mind) acceptable reasons.	1						
2015	Electronically	The newly paved portion of Ohio Street near Goodland School was marked, but the markings were not extended south to the old portion of the street which is equally as wide. I wonder why sharrows are used rather than a bike lane, but regardless, why stop at the division of new and old?	1						



Appendix C: Public Comment Summary (continued)

Year	Submitted	Comment	Engineering	Education	Encouragement	Enforcement	Evaluation	Equity	Process
2015	Electronically	A portion of De Koven Avenue was marked with sharrows a year or so ago. When I asked why the markings stop at the railroad tracks I was told that is because the portion east of the tracks might be repaved in a year or so. Really? Why not just mark it as long as the crew is out there? If the roadway is repaved (and it has not yet been done) then the city can re-mark it at that time. The portion between Memorial Drive and the railroad tracks is now a short non-sequitur.	1						
2015	Electronically	There are signs indicating a bike lane on northbound Ohio Street, north of Durand Avenue. Why does this lane stop short of the intersection with the east - west county bike path?	1						
2015	Electronically	We need more and more visible bike racks on Monument Square. We are bringing lots of people to the square on First Fridays and for Music on the Monument, and many bring bikes. When I raised this point a few years ago I was told that the inverted-U design racks do not meet the design standards of the square. They are no less unsightly than the electric power box or the large newspaper vending machine at the north end of the square. I was also told that there are racks a block or so away. People want their bikes more in-sight than a block away. I am glad that the city provided a couple of design-acceptable racks, but let's have more bike parking on the square and let's have fun with the design. The design of the racks on the Square is very understated. They are not apparent from a distance. They don't say, "Hey, bring your bike and park it here!" One of our sons has sent me these links to show what is possible...Racks like these would spruce up the Square and our sidewalks as we expand the use of racks. I have even seen racks like this in Galesburg, Illinois (population 32,200). When I bike to RAM, I have to chain my bike to the lamp post or bus stop sign. Why not a funky bike rack by our Downtown art museum with its inspiring building design?	1						



Appendix C: Public Comment Summary (continued)

Year	Submitted	Comment	Engineering	Education	Encouragement	Enforcement	Evaluation	Equity	Process
2015	Electronically	There is a need for signs at the Kids Cove playground telling people crossing the Lake Michigan Pathway from the parking lot and from the playground to look both ways for cyclists. People cross without looking and let their children cross without looking. And, there should also be signs alerting cyclists to watch for pedestrians there (like the one at the Zoo lookout point on the Pathway).	1						
2015	Electronically	I want to add one more point to be considered... I just rode back from Home Depot on the "East-West Expressway," the county bike path between Highway 31 and West Boulevard. I was reminded of the dangerous crossing at Lathrop Avenue which has cyclists going east and west having to come to a stop at the bottom of a hill and then cross a very busy street. There used to be a railroad overpass at this point. I would hope that there is still grant money left in some state or Federal bike / pedestrian program that would fund or help fund a bicycle / pedestrian overpass to eliminate this crossing.	1						
2015	Electronically	Root River Pathway... east part of intersection of Liberty, Mound, and Marquette... there is a button to activate the traffic signal to change, but it is not on the light pole at the pathway. Instead, it's across the street to the north. Can it be moved? Makes sense to let cyclists be able to activate it without having to cross the street to the next light pole north.	1						
2017	In Person	Durand/Taylor or West Boulevard rebuilt. Hwy 11 - RaB proposed - how affected if done - DOT planning	1						
2017	In Person	Need more bike lanes that go through, not just 2 blocks e.g. Ohio Street	1						
2017	In Person	E/W corridor to 94	1						
2017	In Person	Lakefront bike trail along Pershing Drive - I know some driveway access needs to be easier for snow removal. But the dips on the trail every time a driveway interrupts tells me it's still really all about cars - not bikers and walkers - a constant reminder of our lesser importance - I know it's a pet peeve. Don't even know which configuration is less expensive - but it's what I think as I brace for each driveway dip.	1						



Appendix C: Public Comment Summary (continued)

Year	Submitted	Comment	Engineering	Education	Encouragement	Enforcement	Evaluation	Equity	Process
2017	In Person	Hwy 31 dangerous! Put bike route west side of HWY 31 from HWY 11, north to HWY 38. Improve 21st crossing	1						
2017	In Person	Riverbend Nature Center is very interested in children and adults being able to safely ride bikes to River Bend along North Green Bay Road. We offer a variety of outdoor education and recreational activities. The programs and activities would be much more available to Racine residents of the bike trail/lane gave access to our facility. Accessibility would also support our mission which includes environmental education and sustainability.	1						
2017	In Person	Connections with trails in surrounding communities would be great.	1						
2016	In Person	This is a great start; I see a lot of prevention measures for biker safety which is a huge plus. Here are some suggestions: Main Street and especially North Main Street are heavily used by cyclists, even more so because Racine's largest bicycle related event uses this route (Ironman). A collaborative and cohesive effort needs to be taken to make Main Street a major bike route. A push to repave, at the very least North Main Street would be a huge accomplishment. All in all, I see very little directed towards the north end of Racine. As the city considers road repairs every year, it would be beneficial if this group took note of which roads were up for repaving and were present to express a support of repaving roads on or along bike routes. I am presently an Alderman of the 14th district and a member of the public works committee. I am also a passionate cyclist and am available as a resource to move these efforts forward. Thanks for your hard work.	1						
2016	In Person	Paved shoulders are far more valuable than bike lanes. Witness Wind Point, 3 mile, 4 mile, Lighthouse Drive, 4 Mile in Caledonia west of Main street really benefits from them EXCEPT at Erie intersection	1						
2016	In Person	Make cars go up and down over bike trails instead of making bikes dip for driveways (as on Pershing Drive)	1						
2016	In Person	Paved shoulders are great!	1						



Appendix C: Public Comment Summary (continued)

Year	Submitted	Comment	Engineering	Education	Encouragement	Enforcement	Evaluation	Equity	Process
2016	In Person	Looks good; Lakeside trail into Lake Park would be great.	1						
2016	In Person	Like recognition of worn tracks by cyclists and pedestrians - acknowledge and utilize as possible; benches along trails and street intersections for rest or planning. Not enough benches along scenic areas to encourage "Looking" rather than transitory only. Pedestrians planned for too - I use trails a lot walking. Have shaded bench areas - especially at scenic area. Nice to see attention to this need again.	1						
2016	In Person	The concrete the city uses is terrible. Had two flats this summer. Germany uses old tires on their roads, more flexible and longer lasting. Most streets are in bad shape.	1						
2016	In Person	Crossing Lathrop at the bike path is very difficult. Cars are always coming. It often takes 10 minutes. There is no easy way to get to the downtown area from Highway 31 area.	1						
2016	In Person	People living west of MRK trail between Durand and Chicory could use Taylor Avenue but paved shoulder is very narrow and still requires using sidewalk along Durand. I suggest a trail connection through Elmwood Park's Taylor Complex. An informal access already exists on the north side of the complex.	1						
2016	In Person	Not bad, but I think that many large intersections that are being recommended for improvements should have had more detail to give us a better visualization for the end product. While I think neighborhood greenways are a good concept, it will be difficult to prioritize bicyclists and pedestrians - who will enforce this priority? More clearly, separate, protected uses at intersections and moderate traffic volume streets will help to improve long term use. Simply adding a bicycle lane on a street will not be an improvement.	1						
2016	Map/Board Comments	Signs to "bicycles may use full lane" are safer than sharrows and other signage	1						
2016	Map/Board Comments	For all bike trails, make sure crosswalk buttons are conveniently positioned for bikers	1						



Appendix C: Public Comment Summary (continued)

Year	Submitted	Comment	Engineering	Education	Encouragement	Enforcement	Evaluation	Equity	Process
2016	Map/Board Comments	Sign ok but road markings needed too	1						
2016	Map/Board Comments	Better maps of trails both printed and posted	1						
2016	Map/Board Comments	The city has bike lanes or sharrows which are non-sequiturs. Part of a street is repaved and marked, but the equally-wide sections before and after are not then marked. In the past the city has said the paint costs too much money. I have asked for estimates for some of these and said the bike club could help fund or do a Kickstarter, but have yet to get a reply	1						
2016	Map/Board Comments	Paved shoulders: Most valuable at a minimum to cyclists; Strollers; Extremely needed as I have lost control on gravel shoulders right next to traffic; Benefits older folk who are more steady with a little more width	1						
2016	Map/Board Comments	Neighborhood greenways: More sharrows	1						
2016	Map/Board Comments	Trail connections: Much needed - pave or create gravel pathways; Makes things look better as well; Awesome where you can do it	1						
2016	Map/Board Comments	Signage: Yes - suggest that signage be consistent with overall wayfinding	1						
2016	Map/Board Comments	Intersection improvements: Anything to get drivers to recognize pedestrians and cyclists; Maybe Glow in headlights - reflective paint to add awareness of crosswalk	1						
2016	Map 1 /Board Comments	Bike Lanes - and to 4 mile	1						
2016	Map 1 /Board Comments	Shoulders on N. Green Bay Road and Erie from 3 to 4 Mile	1						



Appendix C: Public Comment Summary (continued)										
Year	Submitted	Comment	Engineering	Education	Encouragement	Enforcement	Evaluation	Equity	Process	
2016	Map 1 /Board Comments	Safe bike and ped crossings at Street Rita's Road connects residential area to shopping on Douglas	1							
2016	Map 1 /Board Comments	Yes, please pave 3 mile rd shoulder especially on the hill (Caledonia)	1							
2016	Map 1 /Board Comments	Safe ped crossing across tracks on Melvin and elsewhere	1							
2016	Map 1 /Board Comments	Extend to High Street from Layard Avenue (bike trail)	1							
2016	Map 1 /Board Comments	Safe biking on Rapids to connect E	1							
2016	Map 1 /Board Comments	Connect MRK to Michna Road with bike lanes	1							
2016	Map 1 /Board Comments	RR crossing of the 7 mile like Ozaukee Trail RR crossing	1							
2016	Map 1 /Board Comments	4 Mile bike lane and/or shoulders west from Douglas to HWY 31	1							
2016	Map 1 /Board Comments	Main Street shoulders wider from 3 Mile north to 4 Mile	1							
2016	Map 1 /Board Comments	Buy vacant lot on 3 Mile to connect Wind Point and Steeplechase with trail	1							
2016	Map 2 /Board Comments	Signage - sign changes mean little - cars rarely care	1							



Appendix C: Public Comment Summary (continued)

Year	Submitted	Comment	Engineering	Education	Encouragement	Enforcement	Evaluation	Equity	Process
2016	Map 2 /Board Comments	Consider routing bike lane to Kinzie or Wright and off STH 20	1						
2016	Map 2 /Board Comments	Intersection #7 bad for cyclists and pedestrians - cars too fast!	1						
2016	Map 2 /Board Comments	Need signage to ID trails at Washington Park Golf Course	1						
2016	Map 2 /Board Comments	Kinzie and Wright Avenue or Bike ROW makes sense	1						
2016	Map 2 /Board Comments	Marsupial bridge at Sixth Street and Root River East (South) of river	1						
2016	Map 2 /Board Comments	Bike route or greenway along Water Street and into downtown	1						
2016	Map 2 /Board Comments	MLK has a bike lane - needs to connect to RR pathway	1						
2016	Map 2 /Board Comments	Much better crossing needed on Rte. 38 like the one at the Quarry	1						
2016	Map 2 /Board Comments	Suggest keep bikes off Washington - use Kinzie or Wright instead	1						
2016	Map 3 /Board Comments	#9 intersection improvement - yes	1						
2016	Map 3 /Board Comments	#9 intersection improvement - bike/ped overpass	1						
2016	Map 3 /Board Comments	#10 intersection improvement - yes please this is a mess	1						



Appendix C: Public Comment Summary (continued)										
Year	Submitted	Comment	Engineering	Education	Encouragement	Enforcement	Evaluation	Equity	Process	
2016	Map 3 /Board Comments	#12 intersection improvement - bike crossing across Durand is very dangerous (for county bike trail east of Taylor Avenue and Durand)	1							
2016	Map 3 /Board Comments	Wisconsin Avenue is very busy! And fast, most vehicles go over the posted 25 mph because from about 8th or 9th to 16th it's 30mph and they keep speeding	1							
2016	Map 3 /Board Comments	Suggest add Ohio from Graceland to Washington	1							
2016	Map 3 /Board Comments	#7 - this is a terrible intersection to navigate	1							
2016	Map 3 /Board Comments	#12 - pedestrian walk is marked on street. Cars do not stop! More signs/paint?	1							
2016	Map 3 /Board Comments	Connect 7 and 8 with a trail/2nd this!	1							
2016	Map 3 /Board Comments	Would like to connection of 9 behind Knapp through workforce development to exist. Route on De Koven?	1							
2016	Map 3 /Board Comments	What is the state/county/city plan for intersections in the near future rebuild/ Durand, West Boulevard, Pierce, Dwight/saw Rotary plan	1							
2016	Map 3 /Board Comments	A new, paved bike runs along the lakefront from De Koven to 24th Street and it dead ends	1							
2016	Map 3 /Board Comments	Please, please get rid of lights at edge of lake bank - people cannot look out onto the lake!	1							
2016	Map 3 /Board Comments	When street lights are put up along any paths, please use "dark-sky" compliant fixtures that do not shine upward and cause light pollution	1							
2016	Map 4 /Board Comments	#13 intersection improvement - good idea	1							



Appendix C: Public Comment Summary (continued)

Year	Submitted	Comment	Engineering	Education	Encouragement	Enforcement	Evaluation	Equity	Process
2016	Map 4 /Board Comments	Need more, better signage for getting across Green Bay Road	1						
2016	Map 4 /Board Comments	Why not connect these (referring to gap on Green Bay between trail and proposed bike lane on Durand	1						
2016	Map 4 /Board Comments	What is the intention once you have bicyclists here? The improvements suggest there is or will be more to protect/carry bicyclists west of 31 and south of Durand and vice versa (refers to Green Bay and Durand intersection)	1						
2016	Map 4 /Board Comments	Why not connect these with bike lane? (MRK trail and proposed bike lane on Meachem on Chicory)	1						
2016	Map 4 /Board Comments	High traffic volume there. Plus odd turning lanes. Should consider intersection improvements here to accommodate idle bicycles. Plus NO parking restrictions (refers to intersection of Maryland Avenue and Indiana Street)	1						
2016	Map 4 /Board Comments	Trail access from Elmwood Park east to Trail (off N. Elmwood Drive)?	1						
2016	Map 4 /Board Comments	Designate as a bike route Kearney Avenue from De Koven Avenue to Rosalyn and Rosalyn to the Bike Path	1						
2016	Map 4 /Board Comments	Trail idea along Lake into Lake Park is abandoned?	1						
2016	Map 4 /Board Comments	Area west of Bike Trail (MRK) between Hwy 11 and Chicory Road can only access trail at 11 or Chicory - with no fully dedicated bike lanes	1						
2016	Map 5 /Board Comments	Wish list - overpass at 21st and Green Bay	1						
2016	Map 5 /Board Comments	Add red right arrow from 21st west onto Green Bay	1						



Appendix C: Public Comment Summary (continued)									
Year	Submitted	Comment	Engineering	Education	Encouragement	Enforcement	Evaluation	Equity	Process
2016	Map 5 /Board Comments	Need more sign destinations at 21st and Green Bay Road	1						
2016	Map 5 /Board Comments	Sidewalks on 31?	1						
2016	Map 5 /Board Comments	Durand and GB Road heavily car traveled and higher speed; protected bike lanes?	1						
2016	Map 5 /Board Comments	Connect retail district with Racine to RR pathway at 12st and Washington Avenue.	1						
2016	Map 5 /Board Comments	Create bike lanes or sharrrows on Wright Avenue	1						
2016	Map 5 /Board Comments	Wash Avenue and RR pathway - extend bike 'spur' form West Boulevard or Quincy to West Boulevard and Washington to the retail district and water/bus	1						
2016	Map 5 /Board Comments	HWY 31 south of Spring is terrible for bikes - can we get sidewalks?	1						
2016	Map 5 /Board Comments	Pave cross over on Spring Street just south of Roma Lodge	1						
2016	Map 6 /Board Comments	Make bike lanes on Mt Pleasant Street form High Street to MRK trail	1						
2016	Map 6 /Board Comments	Extend bike trail from Layard Avenue to High Street along railroad track	1						
2016	Map 6 /Board Comments	Will need some crossing assistance here (Westwood Drive), as Northwestern Avenue is heavy traffic, trucks etc.	1						
2016	Map 6 /Board Comments	Spring Street Bike Lane connection to Saint Mary's Hospital	1						



Appendix C: Public Comment Summary (continued)

Year	Submitted	Comment	Engineering	Education	Encouragement	Enforcement	Evaluation	Equity	Process
2016	Map 6 /Board Comments	Kinzie Avenue and 16th Street Bike Lanes (Fratt and Knapp)	1						



Appendix C: Public Comment Engineering																				
Year	Submitted	Addressed in Plan	Comment	Complete Streets	Pedestrian	Intersection	Road Improvement	Bridge	Trail	Trail Connect	Greenway	Bike lanes	Sharrows	Signage	Bike parking	Signals	Lighting	Other	Notes	
2015	In Person		Core needs: dedicated and sufficient-width lanes where off-street paths are not feasible; off-street paved bike paths; maintain roads in consideration of bike use; include bike right-of-way in all future improvements (like in Madison); make sure paths provide access to natural resources – river, lake, natural areas like prairie, woodlands, conservancy trails; collaborate with waterfront restoration planning already underway.	1			1		1		1									



Appendix C: Public Comment Engineering (continued)

Year	Submitted	Addressed in Plan	Comment	Complete Streets	Pedestrian	Intersection	Road Improvement	Bridge	Trail	Trail Connect	Greenway	Bike lanes	Sharrows	Signage	Bike parking	Signals	Lighting	Other	Notes
2016	In Person		This is a great start; I see a lot of prevention measures for biker safety which is a huge plus. Here are some suggestions: Main Street and especially North Main Street are heavily used by cyclists, even more so because Racine's largest bicycle related event uses this route (Ironman). A collaborative and cohesive effort needs to be taken to make Main Street a major bike route. A push to repave, at the very least North Main Street would be a huge accomplishment. All in all, I see very little directed towards the north end of Racine. As the city considers road repairs every year, it would be beneficial if this group took note of which roads were up for repaving and were present to express a support of repaving roads on or along bike routes. I am presently an Alderman of the 14th district and a member of the public works committee. I am also a passionate cyclist and am available as a resource to move these efforts forward. Thanks for your hard work.	1			1				1							1	North Main Street
2015	In Person		Is there a plan in place for addressing road conditions and labeling bike lanes?	1			1												
2015	In Person		Bike facilities should be considered whenever a road is being resurfaced or reconstructed.	1															



Appendix C: Public Comment Engineering (continued)																			
Year	Submitted	Addressed in Plan	Comment	Complete Streets	Pedestrian	Intersection	Road Improvement	Bridge	Trail	Trail Connect	Greenway	Bike lanes	Sharrows	Signage	Bike parking	Signals	Lighting	Other	Notes
2015	In Person		As new roads are built, such as the eastern part of 3 Mile Road, always consider bike paths or lanes in the plans. Anything that can be done to make Main Street safer. I see plenty of bikes on Main Street when I ride. Pave the bike path along Douglas Avenue; it would be safer for all kinds of bikes and help road bikes have an off-street option.	1					1			1							Main Street
2015	Electronically		The newly paved portion of Ohio Street near Goodland School was marked, but the markings were not extended south to the old portion of the street which is equally as wide. I wonder why sharrows are used rather than a bike lane, but regardless, why stop at the division of new and old?	1							1		1						Ohio Street near Goodland School
2015	Electronically		A portion of De Koven Avenue was marked with sharrows a year or so ago. When I asked why the markings stop at the railroad tracks I was told that is because the portion east of the tracks might be repaved in a year or so. Really? Why not just mark it as long as the crew is out there? If the roadway is repaved (and it has not yet been done) then the city can re-mark it at that time. The portion between Memorial Drive and the railroad tracks is now a short non-sequitur.	1							1		1						De Koven Avenue



Appendix C: Public Comment Engineering (continued)

Year	Submitted	Addressed in Plan	Comment	Complete Streets	Pedestrian	Intersection	Road Improvement	Bridge	Trail	Trail Connect	Greenway	Bike lanes	Sharrows	Signage	Bike parking	Signals	Lighting	Other	Notes
2015	Electronically		When I talked with city officials about pavement markings on the then newly-reconstructed State Street for bike commuters, one pointed to the Root River Pathway and the Lake Michigan Pathway as transportation venues for cyclists. Our pathway system is fine as far as it goes, but is not one that geographically meets the needs of many bike commuters. It does not take me to any grocery stores, for example. Our paths are not plowed in winter. Minneapolis sometimes plows paths before plowing city streets. I was recently told that even Kenosha plows bike paths in winter. (Speaking of State Street, I still do not understand why it is not marked with a bike lane).	1							1							1	
2016	Map/Board Comments		The city has bike lanes or sharrows which are non-sequiturs. Part of a street is repaved and marked, but the equally-wide sections before and after are not then marked. In the past the city has said the paint costs too much money. I have asked for estimates for some of these and said the bike club could help fund or do a Kickstarter, but have yet to get a reply	1							1								



Appendix C: Public Comment Engineering (continued)																			
Year	Submitted	Addressed in Plan	Comment	Complete Streets	Pedestrian	Intersection	Road Improvement	Bridge	Trail	Trail Connect	Greenway	Bike lanes	Sharrows	Signage	Bike parking	Signals	Lighting	Other	Notes
2015	Electronically		City officials have said our streets are not wide enough for bike markings, but this is untrue. Go to Providence, RI, where there are many bike markings on the traditionally-narrow New England streets. Recommendations these days are for traffic lanes to be 10' instead of the traditional 12'.	1															
2015	Electronically		Root River Pathway...east part of intersection of Liberty, Mound, and Marquette...there is a button to activate the traffic signal to change, but it is not on the light pole at the pathway. Instead, it's across the street to the north. Can it be moved? Makes sense to let cyclists be able to activate it without having to cross the street to the next light pole north.		1	1			1							1			Root River Pathway... east part of intersection of Liberty, Mound, and Marquette
2015	Electronically		There is a need for signs at the Kids Cove playground telling people crossing the Lake Michigan Pathway from the parking lot and from the playground to look both ways for cyclists. People cross without looking and let their children cross without looking. And, there should also be signs alerting cyclists to watch for pedestrians there (like the one at the Zoo lookout point on the Pathway).		1	1													Kids Cove playground
2016	Map 5 /Board Comments		Sidewalks on 31?		1														STH 31



Appendix C: Public Comment Engineering (continued)

Year	Submitted	Addressed in Plan	Comment	Complete Streets	Pedestrian	Intersection	Road Improvement	Bridge	Trail	Trail Connect	Greenway	Bike lanes	Sharrows	Signage	Bike parking	Signals	Lighting	Other	Notes
2016	Map 5 /Board Comments		HWY 31 south of Spring is terrible for bikes - can we get sidewalks?		1														STH 31 south of Spring
2016	Map 5 /Board Comments		Pave cross over on Spring Street just south of Roma Lodge		1	1	1												On Spring Street just south of Roma Lodge
2015	Electronically		I want to add one more point to be considered...I just rode back from Home Depot on the "East-West Expressway," the county bike path between Highway 31 and West Boulevard. I was reminded of the dangerous crossing at Lathrop Avenue which has cyclists going east and west having to come to a stop at the bottom of a hill and then cross a very busy street. There used to be a railroad overpass at this point. I would hope that there is still grant money left in some state or Federal bike / pedestrian program that would fund or help fund a bicycle / pedestrian overpass to eliminate this crossing.		1	1	1	1	1										Lathrop Avenue crossing on "East-West Expressway," the county bike path between Highway 31 and West Boulevard
2017	In Person		Hwy 31 dangerous! Put bike route west side of HWY 31 from HWY 11, north to HWY 38. Improve 21st crossing		1	1			1										HWY 31 from HWY 11, north to HWY 38. Improve 21st crossing



Appendix C: Public Comment Engineering (continued)																			
Year	Submitted	Addressed in Plan	Comment	Complete Streets	Pedestrian	Intersection	Road Improvement	Bridge	Trail	Trail Connect	Greenway	Bike lanes	Sharrows	Signage	Bike parking	Signals	Lighting	Other	Notes
2016	In Person		Crossing Lathrop at the bike path is very difficult. Cars are always coming. It often takes 10 minutes. There is no easy way to get to the downtown area from Highway 31 area.		1				1										Lathrop trail crossing
2016	Map 3 /Board Comments		#12 intersection improvement - bike crossing across Durand is very dangerous (for county bike trail east of Taylor Avenue and Durand)		1				1										#12--county bike trail east of Taylor Avenue and Durand
2016	In Person		Not bad, but I think that many large intersections that are being recommended for improvements should have had more detail to give us a better visualization for the end product. While I think neighborhood greenways are a good concept, it will be difficult to prioritize bicyclists and pedestrians - who will enforce this priority? More clearly, separate, protected uses at intersections and moderate traffic volume streets will help to improve long term use. Simply adding a bicycle lane on a street will not be an improvement.		1				1									1	
2016	Map 3 /Board Comments		#12 - pedestrian walk is marked on street. Cars do not stop! More signs/ paint?		1														#12
2016	Map 4 /Board Comments		Need more, better signage for getting across Green Bay Road		1														Green Bay Road



Appendix C: Public Comment Engineering (continued)

Year	Submitted	Addressed in Plan	Comment	Complete Streets	Pedestrian	Intersection	Road Improvement	Bridge	Trail	Trail Connect	Greenway	Bike lanes	Sharrows	Signage	Bike parking	Signals	Lighting	Other	Notes
2016	Map 5 /Board Comments		Add red right arrow from 21st west onto Green Bay			1										1			21st west onto Green Bay
2015	In Person		Safer crossings for busy roads like Highway 31 in order to connect east-west paths.			1													STH 31
2016	Map/Board Comments		Intersection improvements: Anything to get drivers to recognize pedestrians and cyclists; Maybe Glow in headlights - reflective paint to add awareness of crosswalk			1													
2016	Map 1 /Board Comments		Safe bike and ped crossings at Street Rita's Road connects residential area to shopping on Douglas			1													Street Rita's Road & Douglas
2016	Map 1 /Board Comments		Safe ped crossing across tracks on Melvin and elsewhere			1													Across tracks on Melvi
2016	Map 1 /Board Comments		RR crossing of the 7 mile like Ozaukee Trail RR crossing			1													RR crossing of the 7 mile
2016	Map 2 /Board Comments		Intersection #7 bad for cyclists and pedestrians - cars too fast!			1													#7
2016	Map 2 /Board Comments		Kinzie and Wright Avenue or Bike ROW makes sense			1													Kinzie and Wright Avenue
2016	Map 2 /Board Comments		Much better crossing needed on Rte. 38 like the one at the Quarry			1													Rte. 38
2016	Map 3 /Board Comments		#9 intersection improvement - yes			1													#9



Appendix C: Public Comment Engineering (continued)																			
Year	Submitted	Addressed in Plan	Comment	Complete Streets	Pedestrian	Intersection	Road Improvement	Bridge	Trail	Trail Connect	Greenway	Bike lanes	Sharrows	Signage	Bike parking	Signals	Lighting	Other	Notes
2016	Map 3 /Board Comments		#10 intersection improvement - yes please this is a mess	1		1													#10
2016	Map 3 /Board Comments		#7 - this is a terrible intersection to navigate	1		1													#7
2016	Map 3 /Board Comments		What is the state/county/city plan for intersections in the near future rebuild/ Durand, West Boulevard, Pierce, Dwight/saw Rotary plan	1		1													Durand, West Boulevard, Pierce, Dwight
2016	Map 4 /Board Comments		#13 intersection improvement - good idea	1		1													#13
2016	Map 4 /Board Comments		What is the intention once you have bicyclists here? The improvements suggest there is or will be more to protect/carry bicyclists west of 31 and south of Durand and vice versa (refers to Green Bay and Durand intersection)	1		1													Green Bay and Durand intersection
2016	Map 4 /Board Comments		High traffic volume there. Plus odd turning lanes. Should consider intersection improvements here to accommodate idle bicycles. Plus NO parking restrictions (refers to intersection of Maryland Avenue and Indiana Street)	1		1													Maryland Avenue and Indiana Street
2016	Map 6 /Board Comments		Will need some crossing assistance here (Westwood Drive), as Northwestern Avenue is heavy traffic, trucks etc.	1		1													Westwood Drive at Northwestern Avenue



Appendix C: Public Comment Engineering (continued)

Year	Submitted	Addressed in Plan	Comment	Complete Streets	Pedestrian	Intersection	Road Improvement	Bridge	Trail	Trail Connect	Greenway	Bike lanes	Sharrows	Signage	Bike parking	Signals	Lighting	Other	Notes
2016	In Person		People living west of MRK trail between Durand and Chicory could use Taylor Avenue but paved shoulder is very narrow and still requires using sidewalk along Durand. I suggest a trail connection through Elmwood Park's Taylor Complex. An informal access already exists on the north side of the complex.				1		1										Trail connection through Elmwood Park's Taylor Complex to MRK
2015	In Person		If you want to increase bike ridership, it is important to make it safe and convenient; more route options to places that are frequently visited – banks, businesses, post offices – are key. There is not a safe option to ride along Hwy 31 or many other busier streets.				1				1								STH 31
2015	In Person		Please consider: more aggressive filling of potholes after the thaw; clearing glass off streets and paths; more signage on streets so bike lanes are marked; more connected bike lanes; including all interested parties in regular meetings.				1					1		1					
2016	Map 1 /Board Comments		4 Mile bike lane and/or shoulders west from Douglas to HWY 31				1					1							4 Mile bike lane and/or shoulders west from Douglas to HWY 31
2015	In Person		Make a crossing for the Hiawatha tracks.				1												



Appendix C: Public Comment Engineering (continued)

Year	Submitted	Addressed in Plan	Comment	Complete Streets	Pedestrian	Intersection	Road Improvement	Bridge	Trail	Trail Connect	Greenway	Bike lanes	Sharrows	Signage	Bike parking	Signals	Lighting	Other	Notes
2015	In Person		Needs improvement: N. Green Bay Road (west of Batten Field), 3 Mile Road between La Salle Street and Charles Street, Northwestern Avenue (HWY 38) between Green Bay Road and MM. Shoulders are very bad and full of potholes.			1													N. Green Bay Road (west of Batten Field), 3 Mile Road between La Salle Street and Charles Street, Northwestern Avenue (HWY 38) between Green Bay Road and MM
2015	In Person		Can Spring Street east of Newman Road be smoothed out with a bicycle lane? It is very bumpy all the way to the bridge over Root River in Lincoln Park. Can Northwestern Avenue from MM to west of Hwy 31 be smoothed out as well? It is even bumpier.			1													Spring Street; Northwestern Avenue
2017	In Person		Durand/Taylor or West Boulevard rebuilt. Hwy 11 - RaB proposed - how affected if done - DOT planning			1													Durand/Taylor or West Boulevard
2016	In Person		Paved shoulders are far more valuable than bike lanes. Witness Wind Point, 3 mile, 4 mile, Lighthouse Drive, 4 Mile in Caledonia west of Main street really benefits from them EXCEPT at Erie intersection			1													Witness Wind Point, 3 mile, 4 mile, Lighthouse Drive, 4 Mile in Caledonia west of Main st
2016	In Person		Paved shoulders are great!			1													



Appendix C: Public Comment Engineering (continued)

Year	Submitted	Addressed in Plan	Comment	Complete Streets	Pedestrian	Intersection	Road Improvement	Bridge	Trail	Trail Connect	Greenway	Bike lanes	Sharrows	Signage	Bike parking	Signals	Lighting	Other	Notes	
2016	In Person		The concrete the city uses is terrible. Had two flats this summer. Germany uses old tires on their roads, more flexible and longer lasting. Most streets are in bad shape.				1													
2016	Map/Board Comments		Paved shoulders: Most valuable at a minimum to cyclists; Strollers; Extremely needed as I have lost control on gravel shoulders right next to traffic; Benefits older folk who are more steady with a little more width				1													
2016	Map 1 /Board Comments		Shoulders on N. Green Bay Road and Erie from 3 to 4 Mile				1												Shoulders on N. Green Bay Road and Erie from 3 to 4 Mile	
2016	Map 1 /Board Comments		Yes, please pave 3 mile rd shoulder especially on the hill (Caledonia)				1												3 Mile Road	
2016	Map 1 /Board Comments		Safe biking on Rapids to connect E				1												Rapids to connect E	
2016	Map 1 /Board Comments		Main Street shoulders wider from 3 Mile north to 4 Mile				1												Main Street shoulders wider from 3 Mile north to 4 Mile	
2016	Map 3 /Board Comments		#9 intersection improvement - bike/ped overpass				1												#9	



Appendix C: Public Comment Engineering (continued)																			
Year	Submitted	Addressed in Plan	Comment	Complete Streets	Pedestrian	Intersection	Road Improvement	Bridge	Trail	Trail Connect	Greenway	Bike lanes	Sharrows	Signage	Bike parking	Signals	Lighting	Other	Notes
2015	In Person		A bridge or safer bike path crossing at Lathrop Avenue between Republic Avenue and 19th Street.					1											Lathrop Avenue between Republic Avenue and 19th Street
2015	In Person		Bike/pedestrian bridges for pathways, especially the crossings on Ohio Street and Lathrop Avenue.					1											
2016	Map 2 /Board Comments		Marsupial bridge at Sixth Street and Root River East (South) of river					1											Marsupial bridge at Sixth Street and Root River East (South) of river
2016	Map 5 /Board Comments		Wish list - overpass at 21st and Green Bay					1											21st and Green Bay
2016	In Person		Looks good; Lakeside trail into Lake Park would be great.						1	1									OLT Trail connection
2016	Map 1 /Board Comments		Buy vacant lot on 3 Mile to connect Wind Point and Steeplechase with trail						1	1									Connect Wind Point and Steeplechase with trail



Appendix C: Public Comment Engineering (continued)

Year	Submitted	Addressed in Plan	Comment	Complete Streets	Pedestrian	Intersection	Road Improvement	Bridge	Trail	Trail Connect	Greenway	Bike lanes	Sharrows	Signage	Bike parking	Signals	Lighting	Other	Notes
2017	In Person		<p>□ Riverbend Nature Center is very interested in children and adults being able to safely ride bikes to River Bend along North Green Bay Road. We offer a variety of outdoor education and recreational activities. The programs and activities would be much more available to Racine residents of the bike trail/lane gave access to our facility. Accessibility would also support our mission which includes environmental education and sustainability.</p>						1		1	1							North Green Bay Road
2015	In Person		<p>Riding on 3 Mile Road between Douglas Avenue and La Salle Street is very dangerous and could be improved with a bike path/lane.</p>						1		1								3 Mile Road between Douglas Avenue and La Salle Street
2017	In Person		<p>EW corridor to 94</p>						1		1								EW connection
2016	Map 3 /Board Comments		<p>Connect 7 and 8 with a trail/2nd this!</p>						1		1								Connect 7 and 8 with a trail



Appendix C: Public Comment Engineering (continued)																				
Year	Submitted	Addressed in Plan	Comment	Complete Streets	Pedestrian	Intersection	Road Improvement	Bridge	Trail	Trail Connect	Greenway	Bike lanes	Sharrows	Signage	Bike parking	Signals	Lighting	Other	Notes	
2015	In Person		<p>□ Drivers in Racine have driven for years without biker/cyclists "invading" their roads as much as they have of late. Hence the elevated amount of cyclist involved accidents. In addressing this problem, there are multiple solutions: paint in the bikes lanes, forge new bike paths or a combination of the two. Option 1 is subtle but time consuming as new roads are repaired/reconstructed. Option 2 is extremely expensive and option 3 will be too stressful without community support. So my thoughts are not at which option is best from a physical standpoint, but a mental. How do we change the culture and cyclist acceptance of Racine? That is the key to cyclist safety.</p>						1			1	1							
2016	In Person		<p>Bike paths need to be cleared off during the winter - especially behind the zoo. Host bike events to create more community of cyclists (not necessarily racer types), bike commuters, slow bikers, etc. so that Racine can SEE that we're out here sharing the road. This town is aggressive towards cyclists. Racine bike map - where to find one? Organize a Critical Mass</p>						1									1		



Appendix C: Public Comment Engineering (continued)

Year	Submitted	Addressed in Plan	Comment	Complete Streets	Pedestrian	Intersection	Road Improvement	Bridge	Trail	Trail Connect	Greenway	Bike lanes	Sharrows	Signage	Bike parking	Signals	Lighting	Other	Notes
2015	In Person		The idea of a lakeside bike path north/south through Lake Park (Sheridan Road) is long overdue						1										OLT connection
2015	In Person		Path along lake through Shoop Park golf course;						1										Shoop Park golf course
2015	In Person		Add a short path from the very east end of Old Spring Street out to Spring Street.						1										Very east end of Old Spring Street out to Spring S
2015	Electronically		There are signs indicating a bike lane on northbound Ohio Street, north of Durand Avenue. Why does this lane stop short of the intersection with the east - west county bike path?						1										Northbound Ohio Street, north of Durand Avenue.
2017	In Person		Lakefront bike trail along Pershing Drive - I know some driveway access needs to be easier for snow removal. But the dips on the trail every time a driveway interrupts tells me it's still really all about cars - not bikers and walkers - a constant reminder of our lesser importance - I know it's a pet peeve. Don't even know which configuration is less expensive - but it's what I think as I brace for each driveway dip.						1										Lakefront bike trail along Pershing Drive
2016	In Person		Make cars go up and down over bike trails instead of making bikes dip for driveways (as on Pershing Drive)						1										



Appendix C: Public Comment Engineering (continued)																			
Year	Submitted	Addressed in Plan	Comment	Complete Streets	Pedestrian	Intersection	Road Improvement	Bridge	Trail	Trail Connect	Greenway	Bike lanes	Sharrows	Signage	Bike parking	Signals	Lighting	Other	Notes
2016	Map 1 /Board Comments		Extend to High Street from Layard Avenue (bike trail)						1										Extend to High Street from Layard Avenue
2016	Map 3 /Board Comments		A new, paved bike runs along the lakefront from De Koven to 24th Street and it dead ends						1										Along the lakefront from De Koven to 24th Street and it dead ends
2015	In Person		Have paths to/ near all schools; make sure most parks with playgrounds can be connected to teach other/the lakefront and that they also connect to the fitness center.							1	1								Parks, schools, rec center connections
2016	Map 1 /Board Comments		Connect MRK to Michna Road with bike lanes							1		1							MRK to Michna Road
2016	In Person		Like recognition of worn tracks by cyclists and pedestrians - acknowledge and utilize as possible; benches along trails and street intersections for rest or planning. Not enough benches along scenic areas to encourage "Looking" rather than transitory only. Pedestrians planned for too - I use trails a lot walking. Have shaded bench areas - especially at scenic area. Nice to see attention to this need again.							1								1	
2015	In Person		Need an artery going east-west to connect with Mount Pleasant trails.							1									Mount Pleasant trail connection



Appendix C: Public Comment Engineering (continued)

Year	Submitted	Addressed in Plan	Comment	Complete Streets	Pedestrian	Intersection	Road Improvement	Bridge	Trail	Trail Connect	Greenway	Bike lanes	Sharrows	Signage	Bike parking	Signals	Lighting	Other	Notes
2015	In Person		□ Pave and connect the gravel trail just west of Douglas Avenue to the Oak Leaf Trail via 6 Mile Road and Foley to County Line Road in order to provide a continuous route through the city and into Milwaukee County.							1									OLT connection
2017	In Person		□ Connections with trails in surrounding communities would be great.							1									
2016	Map/Board Comments		Trail connections: Much needed - pave or create gravel pathways; Makes things look better as well; Awesome where you can do it							1									
2016	Map 2 /Board Comments		MLK has a bike lane - needs to connect to RR pathway							1									MRK road route to connect to RR pathway
2016	Map 4 /Board Comments		Why not connect these (referring to gap on Green Bay between trail and proposed bike lane on Durand							1									Gap on Green Bay between trail and proposed bike lane on Durand
2016	Map 4 /Board Comments		Why not connect these with bike lane? (MRK trail and proposed bike lane on Meachem on Chicory)							1									MRK trail and proposed bike lane on Meachem on Chicory
2016	Map 4 /Board Comments		Trail access from Elmwood Park east to Trail (off N. Elmwood Drive)?							1									Elmwood Park east to Trail (off N. Elmwood Drive)?



Appendix C: Public Comment Engineering (continued)																			
Year	Submitted	Addressed in Plan	Comment	Complete Streets	Pedestrian	Intersection	Road Improvement	Bridge	Trail	Trail Connect	Greenway	Bike lanes	Sharrows	Signage	Bike parking	Signals	Lighting	Other	Notes
2016	Map 6 /Board Comments		Spring Street Bike Lane connection to Saint Mary's Hospital								1	1							Spring Street to Saint Mary's Hospital
2016	Map/Board Comments		Neighborhood greenways: More sharrows								1		1						
2015	In Person		Off-street paths should connect to major destinations within the city as well as to regional paths that lead to other cities.								1								
2016	Map 2 /Board Comments		Bike route or greenway along Water Street and into downtown								1								Water Street and into downtown
2016	Map 2 /Board Comments		Suggest keep bikes off Washington - use Kinzie or Wright instead								1								Bikes off Washington - use Kinzie or Wright
2016	Map 3 /Board Comments		Suggest add Ohio from Graceland to Washington								1								Ohio from Graceland to Washington
2016	Map 3 /Board Comments		Would like to connection of 9 behind Knapp through workforce development to exist. Route on De Koven?								1								Connection of 9 behind Knapp through workforce development
2016	Map 4 /Board Comments		Designate as a bike route Kearney Avenue from De Koven Avenue to Rosalyn and Rosalyn to the Bike Path								1								Kearney Avenue from De Koven Avenue to Rosalyn and Rosalyn to the Bike Path



Appendix C: Public Comment Engineering (continued)

Year	Submitted	Addressed in Plan	Comment	Complete Streets	Pedestrian	Intersection	Road Improvement	Bridge	Trail	Trail Connect	Greenway	Bike lanes	Sharrows	Signage	Bike parking	Signals	Lighting	Other	Notes
2016	Map 4 /Board Comments		Trail idea along Lake into Lake Park is abandoned?							1									OLT Trail connection
2016	Map 4 /Board Comments		Area west of Bike Trail (MRK) between Hwy 11 and Chicory Road can only access trail at 11 or Chicory - with no fully dedicated bike lanes							1									(MRK) between Hwy 11 and Chicory Road
2016	Map 5 /Board Comments		Connect retail district with Racine to RR pathway at 12st and Washington Avenue.							1									Connect retail district with Racine to RR pathway at 12st and Washington Avenue.
2016	Map 5 /Board Comments		Wash Avenue and RR pathway - extend bike 'spur' form West Boulevard or Quincy to West Boulevard and Washington to the retail district and water/bus							1									Wash Avenue and RR pathway - extend bike 'spur' form West Boulevard or Quincy to West Boulevard and Washington to the retail district and water/bus
2016	Map 6 /Board Comments		Extend bike trail from Layard Avenue to High Street along railroad track							1									From Layard Avenue to High Street along railroad track
2017	In Person		Need more bike lanes that go through, not just 2 blocks e.g. Ohio Street								1	1							



Appendix C: Public Comment Engineering (continued)																				
Year	Submitted	Addressed in Plan	Comment	Complete Streets	Pedestrian	Intersection	Road Improvement	Bridge	Trail	Trail Connect	Greenway	Bike lanes	Sharrows	Signage	Bike parking	Signals	Lighting	Other	Notes	
2016	Map/Board Comments		Sign ok but road markings needed too									1	1							
2016	Map 5 /Board Comments		Create bike lanes or sharrows on Wright Avenue									1	1							Wright Avenue
2015	Electronically		Mount Pleasant has been aggressive about marking bike lanes. They recently added Emmersen Road to their bike network. Sturtevant also has some bike lanes. Racine County should emulate Kenosha County, which a few years ago set up a task force with a representative from each city, town, and village in the county so they can mesh their efforts.									1						1		
2015	In Person		□ Add a bike lane on West Boulevard between Washington Avenue and the start of the bike trail at Wright Avenue.									1								West Boulevard between Washington Avenue and the start of the bike trail at Wright Avenue
2016	Map 1 /Board Comments		Bike Lanes - and to 4 mile									1								4 Mile Road
2016	Map 2 /Board Comments		Consider routing bike lane to Kinzie or Wright and off STH 20									1								To Kinzie or Wright and off STH 20



Appendix C: Public Comment Engineering (continued)

Year	Submitted	Addressed in Plan	Comment	Complete Streets	Pedestrian	Intersection	Road Improvement	Bridge	Trail	Trail Connect	Greenway	Bike lanes	Sharrows	Signage	Bike parking	Signals	Lighting	Other	Notes
2016	Map 5 /Board Comments		Durand and GB Road heavily car traveled and higher speed; protected bike lanes?									1							Durand and GB Road
2016	Map 6 /Board Comments		Make bike lanes on Mt Pleasant Street form High Street to MRK trail									1							Mt Pleasant Street form High Street to MRK trail
2016	Map 6 /Board Comments		Kinzie Avenue and 16th Street Bike Lanes (Fratt and Knapp)									1							Kinzie Avenue and 16th Street
2017	In Person		For visitors to the city, they will not know where the local bicycle shops are for repairs - perhaps incorporate bike shops in the future signage											1				1	
2017	In Person		I think one of the greatest hazards on bike trails is dog walkers with dogs on dog leashes, and walkers with headphones or earbuds. Both are oblivious to bikes and bike bells. Perhaps signage could warn people to keep their eyes and ears open. And, do we really need dogs on trails that bikers use? Bikes are not allowed on the sidewalk, so why isn't it proper to limit dogs to the sidewalk? There should be a law!											1					



Appendix C: Public Comment Engineering (continued)																				
Year	Submitted	Addressed in Plan	Comment	Complete Streets	Pedestrian	Intersection	Road Improvement	Bridge	Trail	Trail Connect	Greenway	Bike lanes	Sharrows	Signage	Bike parking	Signals	Lighting	Other	Notes	
2015	Electronically		I spend a lot of time in Providence. There is no question that cars will stop for pedestrians. That is the law here as well, but certainly not the practice. For a short time we had a sign in the street between the Safety Building and City Hall telling cars they must stop for pedestrians. It looked like this, like some at the Wheaton All Saints campus: http://www.positivelynaperville.com/wp-content/uploads/2014/06/corsswalk-sign.jpg I have seen signs like that in other communities, some in Wisconsin. The sign is long gone. We need that sign back, and more like it. Other possible places for such signs are mid-block between the Courthouse and the LEC where there is a crosswalk, Washington and Grove, and the crossing at the Wisconsin Avenue entrance to Saint Luke's Hospital. Not only do we need these signs, but we need to ask the PD to enforce the law, unpopular as that may be. Crosswalk signs on the sidewalks do not deter motorists.											1						
2015	In Person		Have bike paths to get into downtown and out to the Oak Leaf Trail.											1						
2015	In Person		The more signs the better – show locals and visitors where to find a trail.											1						



Appendix C: Public Comment Engineering (continued)

Year	Submitted	Addressed in Plan	Comment	Complete Streets	Pedestrian	Intersection	Road Improvement	Bridge	Trail	Trail Connect	Greenway	Bike lanes	Sharrows	Signage	Bike parking	Signals	Lighting	Other	Notes
2015	In Person		Show mileage to and from locations on the trails, or between county lines (ex. 3.5 miles to Kenosha County Line).											1					
2015	In Person		Can a unified, identifiable logo be painted/stenciled in the roadways and paths?											1					
2015	Electronically		Racine is inconsistent in markings for pathways, and does not always offer (in my mind) acceptable reasons.											1					
2016	Map/Board Comments		Signs to "bicycles may use full lane" are safer than sharrows and other signage											1					
2016	Map/Board Comments		Signage: Yes - suggest that signage be consistent with overall wayfinding											1					
2016	Map 2 /Board Comments		Signage - sign changes mean little - cars rarely care											1					
2016	Map 2 /Board Comments		Need signage to ID trails at Washington Park Golf Course											1					Washington Park Golf Course
2016	Map 5 /Board Comments		Need more sign destinations at 21st and Green Bay Road											1					21st west onto Green Bay
2015	In Person		Add bicycle parking to the Festival Hall grounds. There used to be a rack near the main entrance.												1				Festival Hall grounds



Appendix C: Public Comment Engineering (continued)																				
Year	Submitted	Addressed in Plan	Comment	Complete Streets	Pedestrian	Intersection	Road Improvement	Bridge	Trail	Trail Connect	Greenway	Bike lanes	Sharrows	Signage	Bike parking	Signals	Lighting	Other	Notes	
2015	Electronically		We need more and more visible bike racks on Monument Square. We are bringing lots of people to the square on First Fridays and for Music on the Monument, and many bring bikes. When I raised this point a few years ago I was told that the inverted-U design racks do not meet the design standards of the square. They are no less unsightly than the electric power box or the large newspaper vending machine at the north end of the square. I was also told that there are racks a block or so away. People want their bikes more in-sight than a block away. I am glad that the city provided a couple of design-acceptable racks, but let's have more bike parking on the square and let's have fun with the design. The design of the racks on the Square is very understated. They are not apparent from a distance. They don't say "Hey, bring your bike and park it here!" One of our sons has sent me these links to show what is possible...Racks like these would spruce up the Square and our sidewalks as we expand the use of racks. I have even seen racks like this in Galesburg, Illinois (population 32,200). When I bike to RAM, I have to chain my bike to the lamp post or bus stop sign. Why not a funky bike rack by our Downtown art museum with its inspiring building design?												1					Monument Square



Appendix C: Public Comment Engineering (continued)

Year	Submitted	Addressed in Plan	Comment	Complete Streets	Pedestrian	Intersection	Road Improvement	Bridge	Trail	Trail Connect	Greenway	Bike lanes	Sharrows	Signage	Bike parking	Signals	Lighting	Other	Notes
2015	In Person		In Saint Louis, MO, cyclists are able to activate traffic signals on their own.													1			
2016	Map/Board Comments		For all bike trails, make sure crosswalk buttons are conveniently positioned for bikers													1			
2015	In Person		Some lights (Lathrop and Wright, for instance) won't change for a bicyclist. Need to educate drivers and riders for these situations.														1		
2016	Map 3 /Board Comments		Please, please get rid of lights at edge of lake bank - people cannot look out onto the lake!														1		Lake trail
2016	Map 3 /Board Comments		When street lights are put up along any paths, please use "dark-sky" compliant fixtures that do not shine upward and cause light pollution														1		
2015	In Person		Perhaps create a trailhead with restrooms, bubblers, maps, a small pavilion, and access to beaches.															1	
2015	In Person		Make trails accessible year round by brushing snow off/maintaining in winter.															1	
2015	In Person		Besides bubblers, how about "comfort stations" along bike paths as park restrooms are seldom open.															1	
2016	Map 1 /Board Comments		Existing trail has been extended already															1	



Appendix C: Public Comment Engineering (continued)																			
Year	Submitted	Addressed in Plan	Comment	Complete Streets	Pedestrian	Intersection	Road Improvement	Bridge	Trail	Trail Connect	Greenway	Bike lanes	Sharrows	Signage	Bike parking	Signals	Lighting	Other	Notes
2016	Map 2 /Board Comments		This is not a trail today															1	
2015	In Person		□ Build a bicycle bridge over Lathrop for the east/west bicycle path.																
			Column1	Column2	Column3	Column4	Column5	Column6	Column7	Column8	Column9	Column10	Column11	Column12	Column13	Column14	Column15	Column16	
	TOTAL			10	4	27	22	5	24	19	22	17	6	18	2	4	3	12	
ENGINEERING TOTAL 195																			



Appendix C: Public Comment Education

Year	Submitted	Addressed in plan	Comment	SRTS	Kid Bike Education	Adult Bike Education	Driver Education	Trail Etiquette	Media Ed Campaign
2015	In Person		Drivers in Racine have driven for years without biker/cyclists "invading" their roads as much as they have of late. Hence the elevated amount of cyclist involved accidents. In addressing this problem, there are multiple solutions: paint in the bikes lanes, forge new bike paths or a combination of the two. Option 1 is subtle but time consuming as new roads are repaired/reconstructed. Option 2 is extremely expensive and option 3 will be too stressful without community support. So my thoughts are not at which option is best from a physical standpoint, but a mental. How do we change the culture and cyclist acceptance of Racine? That is the key to cyclist safety.				1		
2015	In Person		Some lights (Lathrop and Wright, for instance) won't change for a bicyclist. Need to educate drivers and riders for these situations.			1	1		
2017	In Person		I think one of the greatest hazards on bike trails is dog walkers with dogs on dog leashes, and walkers with headphones or earbuds. Both are oblivious to bikes and bike bells. Perhaps signage could warn people to keep their eyes and ears open. And, do we really need dogs on trails that bikers use? Bikes are not allowed on the sidewalk, so why isn't it proper to limit dogs to the sidewalk? There should be a law!					1	
2015	In Person		Ensure safer routes to school for kids.	1					
2015	In Person		The information needs to be get out so that people understand what the white bike painted on the street means; please encourage people to use the bike paths for walking and running. This is the Bicycle and Pedestrian Master Plan. Everyone needs more places to be active.				1		
2015	In Person		Educate walkers and riders of the need to wear bright colors, not dark clothes. Educate riders to ride with traffic.			1			



Appendix C: Public Comment Education (continued)

Year	Submitted	Addressed in plan	Comment	SRTS	Kid Bike Education	Adult Bike Education	Driver Education	Trail Etiquette	Media Ed Campaign
2015	In Person		Education is critical. The bike/walking path goals and progress must be communicated – newspaper, radio, Facebook etc.			1	1		1
2015	In Person		Need to have a better education for drivers on rules of the road regarding cyclists and then ensure cyclists are following the rules as well. Bike rodeos are a great idea; may-be partner with local Boy Scout Troops for Eagle projects.				1		
2015	In Person		Drivers need to understand the rights of bikers and bikers need to understand the rights of drivers. There needs to be more education to increase mutual respect for those sharing the roadways.		1				
2015	In Person		Encourage the users to take ownership of the paths. Look out for each other, educate each other (who has the right-of-way, what are the rights of walkers/runners, what is the policy on dogs).			1		1	
2017	In Person		I'm worried about the mindset of City of Racine drivers. As a longtime biker, I have found drivers to NOT know the biker laws (same as a car). Also, in my riding around, some walkers and bikers alike are on the wrong side of the road. So I'm suggesting more information and signage to instruct and inform if it's ever possible. Thanks for all your work. Keep biking!			1	1		
			TOTAL	1	1	5	6	2	1
			EDUCATION TOTAL	16					



Appendix C: Public Comment Encouragement					
Year	Submitted	Addressed in plan	Comment	Events	Map
2016	In Person		Host bike events to create more community of cyclists (not necessarily racer types), bike commuters, slow bikers, etc. so that Racine can SEE that we're out here sharing the road. This town is aggressive towards cyclists. Racine bike map - where to find one? Organize a Critical Mass	1	1
2016	Map/Board Comments		Better maps of trails both printed and posted		1
2017	In Person		Bike/car competition needs improvement - then Walker/hiker too	1	
			TOTAL	2	2
			TOTAL ENCOURAGEMENT	4	



Appendix C: Public Comment Enforcement						
Year	Submitted	Addressed in Plan	Comment	Driver Enforcement	Bike Enforcement	Location
2015	In Person		Drivers in Racine have driven for years without biker/cyclists "invading" their roads as much as they have of late. Hence the elevated amount of cyclist involved accidents. In addressing this problem, there are multiple solutions: paint in the bikes lanes, forge new bike paths or a combination of the two. Option 1 is subtle but time consuming as new roads are repaired/reconstructed. Option 2 is extremely expensive and option 3 will be too stressful without community support. So my thoughts are not at which option is best from a physical standpoint, but a mental. How do we change the culture and cyclist acceptance of Racine? That is the key to cyclist safety.	1		
2015	Electronically		I spend a lot of time in Providence. There is no question that cars will stop for pedestrians. That is the law here as well, but certainly not the practice. For a short time we had a sign in the street between the Safety Building and City Hall telling cars they must stop for pedestrians. It looked like this, like some at the Wheaton All Saints campus: http://www.positivelynaperville.com/wp-content/uploads/2014/06/corsswalk-sign.jpg I have seen signs like that in other communities, some in Wisconsin. The sign is long gone. We need that sign back, and more like it. Other possible places for such signs are mid-block between the Courthouse and the LEC where there is a crosswalk, Washington and Grove, and the crossing at the Wisconsin Avenue entrance to Saint Luke's Hospital. Not only do we need these signs, but we need to ask the PD to enforce the law, unpopular as that may be. Crosswalk signs on the sidewalks do not deter motorists.	1		
2016	In Person		Thanks for the opportunity to provide input. We are residents of the Village of Wind Point. There are many cyclists who ride Lighthouse Drive - some obey the rules, some don't. In your planning to extend a bike train north, please do not consider routing bicycle riders through the Village Streets. If you have questions or need detailed thoughts, please contact me.		1	Lighthouse Drive in Wind Point



Appendix C: Public Comment Enforcement (continued)						
Year	Submitted	Addressed in Plan	Comment	Driver Enforcement	Bike Enforcement	Location
2017	In Person		Think it is crucial that Racine PD and the sheriff's department enforce state bicycle rules for public safety. That would be staying off sidewalks where pedestrians could be injured. Many cyclists can't be seen at dusk, or night, without proper front and back lights. About 20% of bike accidents involve biker alcohol and drug use. If there is an accident, will the PD and Sheriff's Department check for alcohol? The state does not do an "accident" report for a bicycle/pedestrian accident. If a cyclist injures a person, they should be responsible for their negligence like a driver. Bike lanes are great even if the climate only allows their use 1/2 year. They are dangerous if a community does not commit to safety monitoring.		1	
2016	Map 3 /Board Comments		Wisconsin Avenue is very busy! And fast, most vehicles go over the posted 25 mph because from about 8th or 9th to 16th it's 30mph and they keep speeding	1		Wisconsin Avenue.
2016	Map 3 /Board Comments		#12 - pedestrian walk is marked on street. Cars do not stop! More signs/paint?	1		#12
			TOTAL	4	2	
			ENFORCEMENT TOTAL	6		



Appendix C: Public Comment Process							
Year	Submitted	Addressed in Plan	Comment	Plan Recommendation	Community Involvement	Thanks!	Advisory Council
2016	Map 1 /Board Comments		Existing trail has been extended already	1			
2016	Map 2 /Board Comments		This is not a trail today	1			
2015	In Person		Please bring drivers (cars) into this process. Not everyone bikes, but that doesn't mean that non-bikers are not in favor of these improvements. People are active in different ways and non-bikers want the path to be safe for everyone.		1		
2015	In Person		Include runners (individuals and groups) in your efforts. We all use the same routes, and this would give the effort a larger base and a louder voice.		1		
2017	In Person		Thank you so much for doing this - we are grateful			1	



Appendix C: Public Comment Process (continued)

Year	Submitted	Addressed in Plan	Comment	Plan Recommendation	Community Involvement	Thanks!	Advisory Council
2017	In Person		Overall this has progressed extremely well and I/we are very happy with the depth of the involvement and numerous potential changes that are listed. Please continue the great work and feel free to contact me if I can ever be of help. I am a member of Rails to Trails and donate yearly for local trails.			1	
2015	In Person		Please consider: more aggressive filling of potholes after the thaw; clearing grass off streets and paths; more signage on streets so bike lanes are marked; more connected bike lanes; including all interested parties in regular meetings.		1		
2015	Electronically		Mount Pleasant has been aggressive about marking bike lanes. They recently added Emmertsen Road to their bike network. Sturtevant also has some bike lanes. Racine County should emulate Kenosha County, which a few years ago set up a task force with a representative from each city, town, and village in the county so they can mesh their efforts.				1



Appendix C: Public Comment Process (continued)							
Year	Submitted	Addressed in Plan	Comment	Plan Recommendation	Community Involvement	Thanks!	Advisory Council
2016	In Person		Not bad, but I think that many large intersections that are being recommended for improvements should have had more detail to give us a better visualization for the end product. While I think neighborhood greenways are a good concept, it will be difficult to prioritize bicyclists and pedestrians - who will enforce this priority? More clearly, separate, protected uses at intersections and moderate traffic volume streets will help to improve long term use. Simply adding a bicycle lane on a street will not be an improvement.	1			
			TOTAL	3	3	2	1
			PLANNING PROCESS TOTAL	9			



APPENDIX D: Connectivity Analysis of Racine, Wisconsin





BikeAble™

A Connectivity Analysis of Racine, Wisconsin

March 28, 2018

Introduction

In October 2014, Rails-to-Trails Conservancy (RTC) formally launched the Route of the Badger. This major trail development initiative in Southeast Wisconsin is meant to build and connect trails in seven counties (Kenosha, Milwaukee, Ozaukee, Racine, Walworth, Washington and Waukesha) into a world-class destination trail system. The Route of the Badger will transform the region and—along with RTC’s other TrailNation™ projects across the United States—greatly expand access to trails.

RTC envisions a future in which cities and communities build and maintain trail systems in a manner that considers equity of access for all, including all voices and perspectives, to create a safe route to everywhere, for everyone.

This vision asks communities to examine not just the quality of their individual trails, but the overall connectivity of their road and trail networks for people who bike or walk. It compels analysis of the overall connectivity of people and places, with specific attention paid to the needs of disadvantaged communities whose members may lack the flexibility to choose other modes of travel, or to change locations to improve their access to jobs, healthy foods, public parks and services and other important destinations.

To support this form of connectivity analysis, RTC has developed a tool called BikeAble™, which combines local data and decision-modeling to analyze the level of low-stress bicycle connectivity of a given place.

Method

Evaluating the quality of a bicycle facility network involves multiple criteria, including mileage, equitable distribution, origin-destination connectivity and traffic stress (the perceived comfort and safety of bicycling on a street, trail or intersection).¹

BikeAble quantifies bicycle networks based connectivity and traffic stress. Using network analysis and geographic information systems (GIS) to simulate possible bicycle trips between origins and destinations, the tool measures residents’ ability to access a suite of selected destinations through a set of routes including streets, multi-use trails² and other bicycle facilities. The selection of origins and destinations is customizable to the demands of the analysis and the community. Though, in the general connectivity model for benchmarking a community’s overall level of connectivity, “origins” are residences and “destinations” are places that residents would seek to access in daily life, such as parks, grocery stores, schools, banks and restaurants.

Once origins and destinations are identified, BikeAble simulates a flow of bicycle trips to search for low-stress routes through a network of streets, multi-use trails and bicycle facilities. It can be used to benchmark the connectivity of existing network conditions, and then to model and compare various scenarios for network improvements—such as the addition of trails, protected bike lanes and other stress-reducing factors.

¹ Mekuria et al., 2012; Callister and Lowry, 2013

² Multi-use trail is defined as a shared-used path for cyclists and pedestrians.

Ultimately, the tool quantifies the best low-stress routes that connect residents to specific destinations and helps decision makers evaluate the level of low-stress bicycling connectivity in a community, determine where there are gaps in connectivity and assess how proposed or planned projects can improve low-stress connectivity.

The focus of this analysis is Racine, Wisconsin. The City of Racine is situated where the Root River meets Lake Michigan, within Racine County in the southeastern corner of Wisconsin. Racine has a population of approximately 81,000, a total land area of nearly 19 square miles and a median income of roughly \$42,000. Racine County has a population of roughly 195,000, a land area of approximately 800 square miles and a median income of \$55,000. The county has 49 miles of multi-use trails, 19 miles of which are in the City of Racine.

When applied to a transportation network, BikeAble identifies the best low-stress route for bicycling between a set of user-specified origins and destinations. The user of the tool provides stress-tolerance parameters that limit and define the connectivity between origins and destinations specific to the needs of the community. Table 1 shows the stress-tolerance parameters used for this study in Racine County and the City of Racine, Wisconsin.

Table 1:
Parameters used to define bicycling stress tolerance for Racine, Wisconsin

Comfortable speed limit of cars (mph)	25
Comfortable number of roadway travel lanes	2
Maximum travel distance (miles)	2

This analysis models the needs of “interested, but concerned cyclists” who comprise most of the population. These are individuals interested in cycling more frequently, but concerned about the safety of bicycle networks. They are mostly comfortable bicycling on low-speed local streets and off-street multi-use trails. Based on these cyclists’ needs, low-stress connectivity is defined in this study as accessibility to routes such as multi-use trails and bicycle facilities, and streets with speeds of 25 miles per hour or lower, and two or fewer lanes.

In addition to unique stress parameters, the BikeAble analysis is informed by five user-specified GIS data inputs:

1. Bicycle trip origin points, defined as residential parcels;
2. Selected destination points classified by type, which can include banks, grocery stores, pharmacies, post offices, etc.;
3. Bicycle-accessible travel network, including trails, greenways and street networks with roadway functional class (e.g. arterial versus residential), number of lanes, speed limit and bicycle facilities (if any);
4. Intersection points with traffic signals and other bicycle accommodations such as a median; and
5. Digital elevation map.

The study produces two key GIS outputs:

1. The percentage of destinations that can be reached from every residential parcel within a defined time limit; and

2. The flow of potential bicycle trips through the street and trail network from origins to destinations.

The tool is used to analyze low-stress connectivity between residential parcels and a “basket” of destinations, which is a grouping of desired destinations within a search distance a cyclist is hypothetically willing to travel to reach the destination. The basket list and targets used for this study are outlined in Table 2 and are adapted to reflect the types of destinations in Racine.

For an origin to be classified as “connected,” a bicyclist beginning a trip at that location must be able to reach sixty percent of destinations within the “basket of destinations” selected for analysis.

This basket of destinations is intended to be representative of the sorts of transportation destinations that a normal person might make frequently and might reasonably choose to reach by bicycle if a low-stress route exists.

Table 2:
Basket of Destinations

Destinations	# Targets
Bank	2
Child Care	2
Drinking Place	10
Eating Place	10
Elementary and Secondary Schools	2
General Retail Store	2
Grocery Store	3
Health Care Provider	2
Library	1
Public Park	2
Pharmacy	1
Postal Service	1

*Note: Employment Centers were included as destinations in a separate scenario analysis.

Connectivity Results

Part 1: Overall Connectivity Under Existing Conditions

Overall, the street network in Racine is relatively well-connected for low-stress bicycling. As compared to some communities whose roadways vary greatly in width and accessibility—from large limited-access freeways to smaller residential streets—Racine’s roadways are relatively uniform in design. Roadways do not exceed two travel lanes in each direction and speed limits do not exceed 35 mph.

This uniformity of relatively low-width and low-speed is good for bicycle connectivity, but presents challenges for the BikeAble model, which derives much of its analytical power from the ability to draw distinctions based on width and speed, and determines low-stress routings based on the stress effects of those distinctions.

Using the tool’s standard parameters for determining the stress level of roadway segments, all roadways in Racine were initially deemed low stress, and therefore all possible origins and destinations were deemed connected within acceptable stress range.

Recognizing that such a result would be of limited utility for decision making and would not reflect the true stress experience of people biking in Racine, RTC researchers worked with the community to customize the model to rate Racine’s roadways on a more relative scale suitable for analysis. This was achieved by manually adjusting speed factors to greater differentiate the stress levels of local roadways.

This manual adjustment to the speed factors of the roadway network enables the model to draw more meaningful relative distinctions, and reflects the reality that drivers often do exceed the posted speed limits on roadways. However, it is important to note that this manual increasing of the roadway speed factors may cause the tool to overstate the disconnectivity of some locations for bicyclists.

Racine County

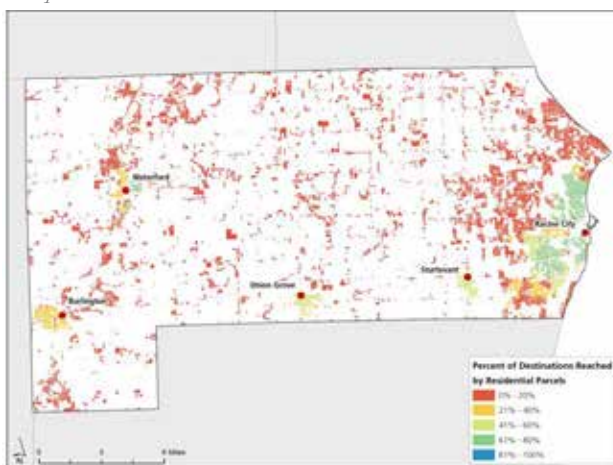
To provide broader context before turning to Racine’s citywide transportation network, the BikeAble analysis was first run at the county level.



Map 1

Map 1 displays the street, trail and bicycle facility network in Racine County ranked by stress level. For this analysis, acceptable low-stress routes are defined as those routes with a speed limit of 25 miles per hour or slower, streets with two or fewer lanes of traffic, or multi-use trails. High-stress routes are streets with speeds higher than 25 miles per hour or more than two lanes of traffic.

Currently, 25 percent of residential parcels are well-connected via low-stress bicycling routes. **Map 2** illustrates this finding.



Map 2

Areas with a high percentage of destinations reached via low-stress routes, displayed in blue and green on the map, can also be said to have greater connectivity. Areas of higher connectivity tend to be clustered in towns and cities where origin and destination densities are greater so that trips between them are shorter.

These include: Sturtevant, Union Grove, Burlington, Waterford and the City of Racine.

City of Racine

The BikeAble analysis yields its most useful results at a smaller geographic scale, making the City of Racine a more suitable location to run scenarios for low-stress connectivity.

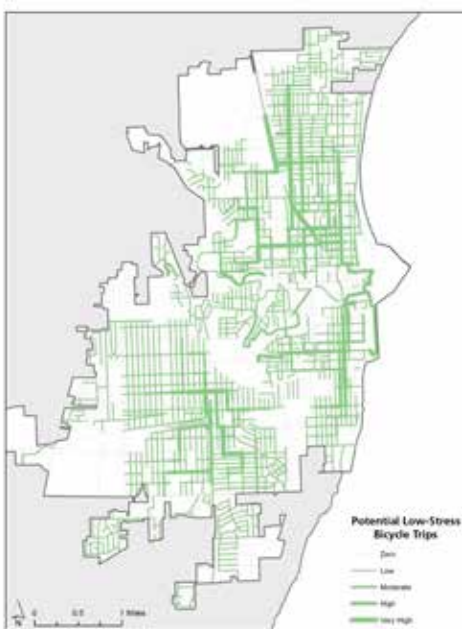
For the citywide analysis, the BikeAble tool was used to examine four attributes of Racine’s current active transportation network of roadways and trails:

1. Level of bicycling stress
2. Extent of low-stress connectivity
3. Potential bicycle trips
4. Number of origins reaching key destinations



Map 3

Map 3 shows route stress level as applied to the City of Racine, including certain manually applied speed adjustments to better differentiate high- and low-stress street segments. Most routes in Racine are at an acceptable or tolerable stress level, which means that the overall connectivity or access of residential parcels to key destinations through the transportation network is relatively high. High-stress routes that would be unacceptable to a risk-averse bicyclist are shown in red. These roadway segments present possible barriers due to their higher speed limits and greater number of lanes—though the extent to which these roadways act as barriers to travel may be overstated due to the speed adjustments. Currently, 58 percent of residential parcels in the City of Racine are highly connected.

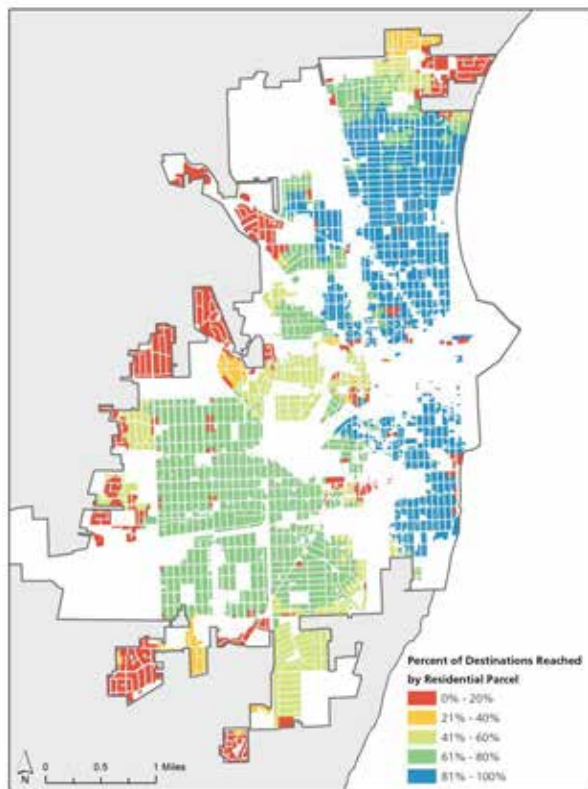


Map 4

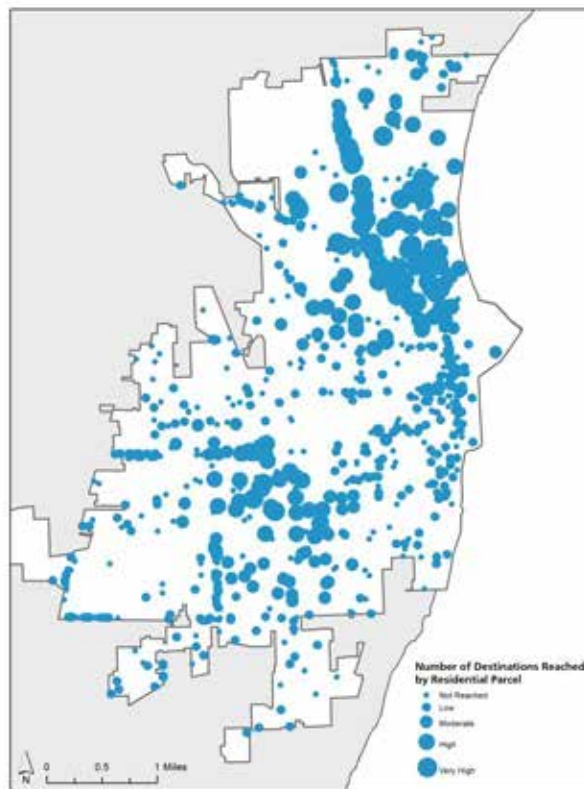
Map 4 shows the street, trail and bicycle-facility network and the potential bicycle trips generated between residential parcels and key destinations. The thicker the line, the greater the trips generated based on the number of residential parcel origins routing through the network on their way to each destination. Low-stress routes are favored in the analysis, meaning that multi-use trails and protected bicycle facilities are most ideal, although streets with lower speeds and fewer lanes are acceptable.

Map 4 shows the greatest portion of potential trips occurring in the northeast portion of the city. This would suggest a higher density of residents and destinations in that area.

This mapping of potential trips is a function of BikeAble’s routing of the residents from many residential parcels to the basket of destinations along low-stress routes, favoring short distances and low-stress routes, then displaying the aggregate routing with thicker lines representing greater trip flow.



Map 5



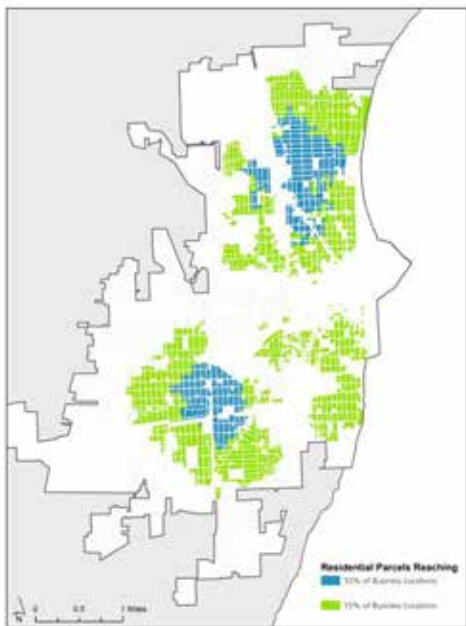
Map 6

Map 5 shows the percentage of key destinations reached by each residential parcel. Much of the city enjoys relatively high connectivity, but there are areas along the city boundary with limited access to key destinations. This is especially pronounced in areas where the street grid gives way to big-box and shopping mall development that provides less density and network redundancy, such as in the southwestern corner of the city.

Map 6 indicates the accessibility of each of the modeled destinations. The graduated circle symbols convey, by relative size, the number of residential parcels connected to a particular destination through the low-stress network.

Part II: Connections to Specific Destination Types

Existing Conditions: Residential Connection to Employers

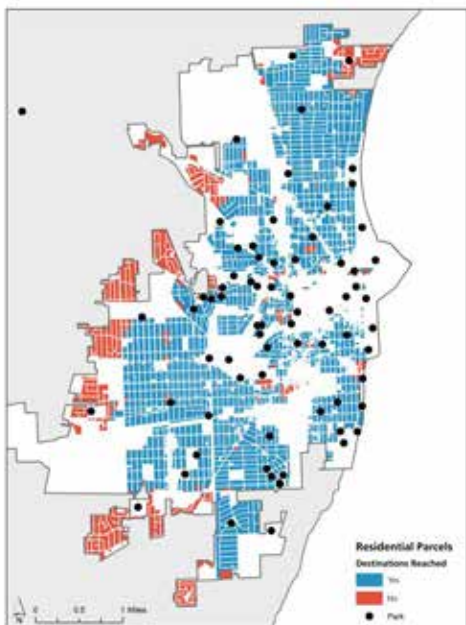


Map 7 shows residential parcels and low-stress access to employment locations. To be defined as connected, each residential parcel needed to reach at least 10 percent of the total 3,500 employment locations within the search distance. Parcels depicted in green met this threshold, reaching roughly 350 employment locations within 2 miles. Parcels depicted in blue were even better connected, reaching approximately 575 employment locations within 2 miles.

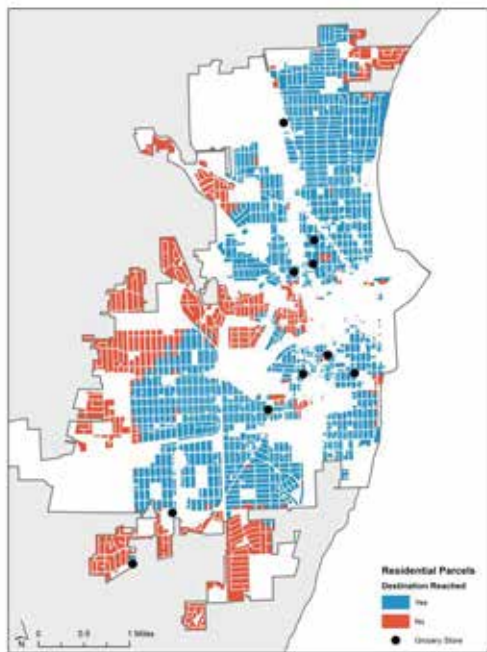
Existing Conditions:
Residential Connection to Public Parks

Map 8 shows residential parcels and low-stress access to public parks. To be defined as connected, each residential parcel needed to reach at least two public parks within the search distance of 2 miles (also referenced in Table 3). The analysis found that 68 percent of residential parcels are connected to at least two parks in the city via low-stress routes.

Map 7



Map 8



Map 9

Existing Conditions: Residential Connection to Grocers

The final scenario examined residential access to grocery stores through low-stress routes in the City of Racine. As the U.S. Department of Agriculture defines a food desert as an area without access to a supermarket or large grocery store within one mile, the parameters for connectivity were defined by the access residential parcels had to at least one grocery store within one mile. **Map 9** shows residential parcels depicted in blue that met this threshold, while those in red did not.

The analysis shows that 60 percent of residential parcels in Racine are connected to at least one grocery store within one mile via a low-stress route.

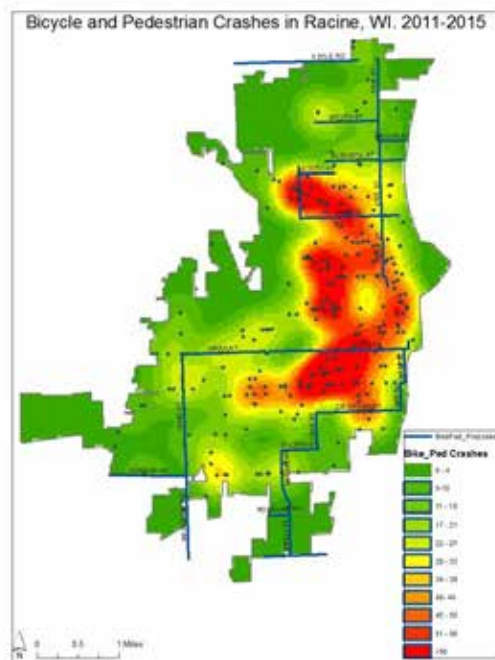
Table 3: Summary of Connectivity Results for Additional Scenario Analyses

Basket	Max. Travel Distance	Connectivity
Residential parcel to employment location		
15% of all locations	2 miles	16%
10% of all locations	2 miles	58%
Residential parcel to public park	2 miles	68%
Residential parcel to grocery store	2 miles	60%

Part III: Future Scenario with Planned Biking Improvements

In addition to understanding existing networks, the BikeAble tool can be used to compare the full build-out of a bicycle master plan or set of priority projects against the existing conditions. In partnership with the City of Racine Bicycle/Pedestrian Advisory Council for the city's new bike plan, projects included in the City of Racine's bicycle master plan were identified for modeling connectivity scenarios. Projects included bicycle lanes, neighborhood greenways and paved shoulders. When the scenario analysis was compared against the analysis of the existing street, bicycle and trail facility network, no marked improvement to low-stress connectivity was found.

The main reasons for this are: (1) many of the priority projects included were neighborhood greenways—defined in the study as bikeways along low-speed streets enhanced for biking—which does not greatly reduce stress along a street route according to the parameters of the study, and (2) many of the routes within the city boundary were low-stress in the existing scenario due to low speed limits. Therefore, the proposed projects did not have a great effect on connectivity.



Map 10

However, connectivity is not the only consideration that might justify interventions to improve infrastructure for biking. Safety is another crucial factor.

Recognizing that connectivity-based factors may not be determinative in the community's choice of priority bicycling projects, RTC turned to bicyclist and pedestrian crash data from the Wisconsin Traffic Operations and Safety Lab at the University of Wisconsin-Madison to discern areas of greatest crash prevalence. **Map 10** shows the overlaying of the proposed improvements on a crash-prevalence heatmap. While local knowledge would be necessary to properly contextualize and draw conclusions from this overlay, the map suggests that improvements to High Street, Erie Street, 12th Street and DeKoven Avenue may be most justified by crash-related safety concerns, and that improvements in this area should consider mode-separation in their designs.

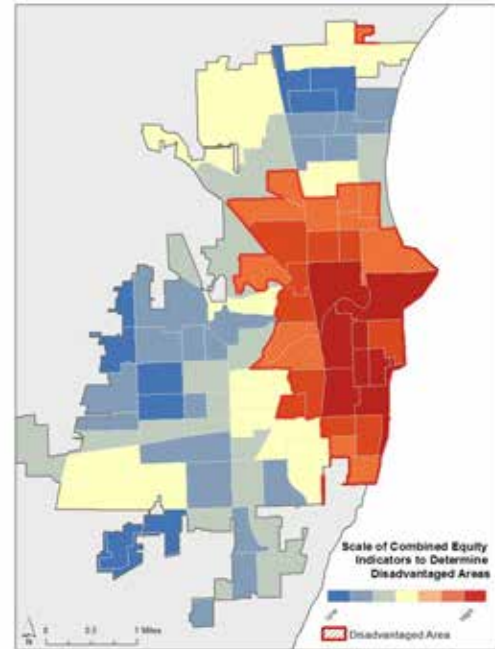
Part IV: Equity Analysis

Method

As alternative transportation routes and bike facilities are being planned, social equity is an important component to consider. Infrastructure should be equitably distributed. The BikeAble methodology was adapted to measure equitable access to low-stress routes, providing information that can be used to identify disadvantaged areas and understand their low-stress connectivity to key destinations in Racine.

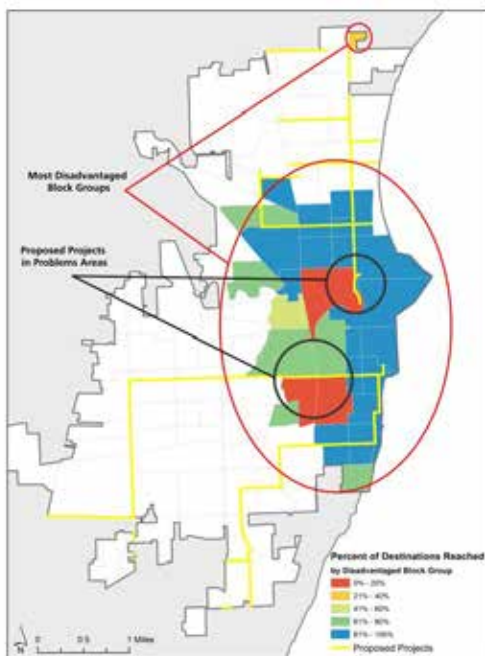
Indicators for disadvantaged areas were defined by socioeconomic and demographic characteristics at the census block group level. For this particular analysis, indicators included:

- High population density
- High population living under the poverty line
- High population unemployed
- Low level of educational attainment (areas with a smaller number of people possessing a college degree)
- High percentage of zero-car households
- High African American population
- High Hispanic population



Map 11

For each indicator, an analysis was performed to identify geographic clusters that could then be overlaid and aggregated to represent disadvantaged areas. For example, an analysis was performed to identify where high population density clustered in the City of Racine. If a block group was considered a part of a high population density cluster it would be so because it also neighbored other block groups with high population density. This process was repeated for each of the above indicators and the results were overlaid and aggregated to represent the final boundary for the disadvantaged areas seen in **Map 11**.



Map 12

Equity-Connectivity Analysis

Once the equity composite was determined, the BikeAble tool was used to examine the level of low-stress bicycle connectivity of disadvantaged areas to key destinations. The same basic connectivity analysis defined in the study methodology was used, but substituting disadvantaged census blocks (based on Map 11) for all residential parcels.

Map 12 shows the percentage of key destinations reached by disadvantaged block groups in the City of Racine. Currently, 81 percent of disadvantaged block groups reach a majority of destinations. There are three obvious problem areas in the center

of the city (block groups circled in red on Map 12) where there is either limited or no low-stress connectivity to key destinations.

From Map 12, it is clear that the disadvantaged blocks in the center of the city would benefit from new bicycle facilities that would improve low-stress connectivity. A set of proposed neighborhood greenways from the bicycle master plan along 12th Street and along Erie Street run through the three main problem areas and if implemented could help increase low-stress connectivity in those areas.

Limitations and Further Research

Although low-stress bicycle connectivity in the City of Racine is quite good, there are certain limitations of the BikeAble analysis.

Most importantly for this analysis: BikeAble depends on distinctions in a roadway's number of lanes, speed limits and stress-reducing infrastructure to group the network into stress levels. In Racine, roadways are relatively homogenous, and therefore dividing them into tiers, as is necessary for the analysis, proved challenging. Changes to the speed factor, based on observation and community input, helped to address this limitation. However, in exchange for greater discernment among roadway stress levels, the analysis may overstate the extent to which some roadways act as barriers. That is: The researchers had to code them as more stressful than they are in order to have a mixture of high- and low-stress roadways. Therefore, the outputs may show them as more stressful than they might be in daily experience.

Unfortunately, no model can fully replicate the reality of residents' day-to-day trips. Low-stress connectivity is based on the percent of residents that can reach a majority of destinations, with the tool calibrated to favor the shortest possible distance on low-stress routes. If residents and key destinations converge in one area, there will be high connectivity, but again these trips may not reflect the routes that an individual resident takes day to day. Therefore, residents may still be required to navigate routes they consider to be high stress.

Another factor the tool does not model is driver behavior. Drivers sometimes go much faster than marked speed limits, which would add stress to a cyclist's journey and potentially decrease low-stress connectivity. Drivers sometimes do not respect marked bicycle lanes, and this would also increase stress for cyclists. The tool also does not take weather, construction, roadway pavement condition, or other factors that might block bikeways and greatly increase bicyclist stress.

Conclusion

The BikeAble analysis shows that the City of Racine has a high level of low-stress connectivity for the general population and disadvantaged areas. Currently, 58 percent of residential parcels in the City of Racine have access to a majority of destinations, and 81 percent of disadvantaged areas reach a majority of destinations. The city also has high levels of low-stress connectivity to important community destinations, including grocery stores, parks and employment locations.

There are limitations to this analysis, however, and decision makers should consider the route stress level map in this report a starting point. Though low-stress bicycle connectivity in the city is generally good, there are other factors including driver behavior and weather that must be considered in determining route level stress and ultimately low-stress connectivity. Future work could further hone the inputs of the analysis to better understand the reality of cycling in Racine. Local planners may choose to explicitly focus on such issues as roadway and network condition, actual (as opposed to posted) speeds and the effects of snowfall on roadway widths and bicyclist stress.

Racine leaders and advocates for safe streets should be heartened by Racine's overall high level of connectivity, while focusing efforts on safety-enhancing infrastructure improvements in high-crash zones. Several projects under consideration for the bicycle master plan, such as the neighborhood greenways along 12th Street, as well as along Erie Street, would add low-stress routes in disadvantaged areas with relatively high crash rates.



