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Executive Summary

The Active Transportation Plan (ATP) is a ~~ten-year strategic~~ regional plan to improve conditions for people walking, biking, rolling (using wheelchairs and similar devices), and using e-micromobility devices, such as e-scooters, in Dane County.~~designed to identify priorities for both policy and infrastructure.~~ This plan retains the goals of the MPO's regional transportation plan (RTP), ~~and~~ builds on the foundation of the MPO's 2015 Bike Plan for the Madison Metropolitan Area and Dane County, and ~~It~~ is intended to guide local policy updates, planning activities, and ~~facility~~infrastructure improvements over the next ten years. ~~Greater Madison Metropolitan Planning Organization (MPO) staff prepared the ATP in coordination with staff of area communities that were engaged in developing or updating bicycle, pedestrian, and/or other active transportation plans in 2025 and early 2026.~~

~~The ATP was developed within the overall framework of the (RTP). The current long-range plan is the *Connect Greater Madison:* 2050 Regional Transportation Plan (2022) and has a planning horizon of 2050. The long-range plan is further refined and detailed through area or corridor studies and mode-specific studies such as the ATP. These mid-range and short-range planning efforts identify specific improvements to be included in the region's five-year Transportation Improvement Program (TIP), which is generally updated annually by the MPO.~~

~~This ATP retains the goals of the *Connect Greater Madison:* 2050 Regional Transportation Plan and builds on the foundation of the MPO's 2015 Bicycle Transportation Plan for Dane County. In addition to including people who walk or roll (pedestrians), this plan is further expanded to include all manner of relatively new e-micromobility devices, including e-skateboards, Onewheel personal transporters, e-scooters, e-unicycles, and electric mobility devices used by people who experience mobility impairments or disabilities. This plan does not address the use of neighborhood electric vehicles, golf carts, ATVs/UTVs, or other devices that are more car-like than bicycle-like, although it does address the recent rise in popularity of e-motos—bike-like devices that are capable of speeds much higher than those defined in state law as the maximum for e-bikes.~~

The Dane County population and economy have grown dramatically in recent decades, and this trend is expected to continue through 2050. To manage the challenges associated with this rapid growth, area communities have expanded bicycle and pedestrian infrastructure, improved transit service, redesigned roadways to improve safety, and implemented a wide variety of programs to encourage and enacted land-use policies that support active transportation.

Since 2015, total on- and off-street bike facility mileage in Dane County has increased by 57%, to 718 miles. Protected bike facilities have grown at a similar pace, with off-street bike paths and protected bike lanes increasing from 290 to 450 miles. There are currently 2,267 miles of sidewalks and pedestrian paths, not including those that are intended for shared use by both bicyclists and pedestrians.

Madison Metro Transit has also undergone dramatic changes since 2015. The system overhauled its network in 2023 and implemented the east-west BRT line in 2024. These changes have increased bus frequency, reduced complexity for riders, and made it easier to carry bikes on buses.

Area communities have also strengthened their focus on transportation safety over the last decade, implementing Vision Zero goals and adopting the Safe Systems Approach to transportation system design. These shifts have led communities to lower speed limits and redesign roadways and intersections to reduce the likelihood and severity of crashes.

Finally, there has been major growth in education and transportation demand management programs that encourage people to shift from driving by themselves to traveling by bike, foot, rolling, or bus. RoundTrip Greater Madison is an MPO program that helps connect people with convenient, affordable, sustainable alternatives to driving alone by providing traveler information, matching commuters to carpool partners, working with employers to improve employee transportation, and other activities.

As a planning organization, the MPO does not build infrastructure or implement laws or regulations. While the City of Madison provides administrative support, the MPO operates independently with its own budget, funded through federal grants and contributions from local communities. We work with the federal and state governments, Dane County, and the communities within the Madison Metropolitan Planning Area to coordinate transportation planning activities in our region.

The recommendations in this plan are based on public feedback gathered from an online survey and interactive commenting map, consultation with planning and engineering staff in area communities, a review of previously adopted plans, and best practices identified by the National Association of City Transportation Officials (NACTO) and other organizations. They are applicable to communities across Dane County and the Madison Metropolitan Area and are intended to provide a unified framework for improving active transportation in the area.

Recommendations:

1. Expand the active transportation network to serve all communities and neighborhoods.
2. Make public input foundational to the planning and design of projects affecting active transportation.
3. Update laws and regulations for the 21st century.
4. Improve data collection and analysis.
5. Design infrastructure to promote safety without active enforcement.
6. Tailor enforcement priorities to promote active transportation.
7. Support education and encouragement programs that promote walking, rolling, and bicycling.
8. Maintain bicycle and pedestrian facilities in good condition year-round.
9. Ensure that end-of-trip facilities and multimodal transfer points meet the needs of people walking, biking, and rolling.

Following completion of this plan, the MPO will update several previously published and adopted documents, including the Pedestrian and Bicycle Facility Requirements, Policies, and Street Standards report and a report on Arrested Mobility laws adopted by Dane County communities. Additional follow-up projects that will build on the ATP include updating the MPO's Complete Streets Policy, analyzing access to transit by the accessible pedestrian network, and updating the Surface Transportation Block Grant – Urban (STBG-U) and Transportation Alternatives Program (TAP) project scoring metrics.

~~Key~~ Click on the headings below to find more detailed information about the key topics covered by this ~~ATP include:~~plan.

- *Figure 1. The* Connect Greater Madison 2050 Regional Transportation Plan Goals~~*Figure 1. The* Connect Greater Madison 2050 Regional Transportation Plan Goals~~~~Goals of *Connect Greater Madison:* 2050 Regional Transportation Plan (Figure 1)~~.
- The planning area for this ATP (Dane County) as well as the MPO's Planning Area and Urban Area, which affect funding opportunities and roadway classification (Map 1).
- The ten planning factors required by 23 CFR 450.306(b)(1-10) (page 10~~109~~).
- Demonstration of the MPO's commitment to planning in a Continuing, Cooperative, and Comprehensive manner (page 8~~87~~).
- Discussion of current conditions and trends (page 12~~12~~11).
- Documentation of recently adopted plans completed by the MPO or partner agencies (page 23~~2422~~).
- Americans with Disabilities Act (ADA) Transition Plans and changes to accessibility requirements under PROWAG (page 26~~2725~~).[1]
- Discussion of new and emerging technologies, specifically the proliferation of e-micromobility devices that do not fall within existing legally defined classifications under Wisconsin state law (page 27~~2826~~).
- Active transportation counts and use trends (page 30~~3129~~).
- Demographic trends and differences in preferences (page 41~~42~~40).
- Safety (page 53~~5452~~).
- The 6 Es of Active Transportation Planning (page 69~~7168~~).
- Data sources and facility types, including Level of Traffic Stress (LTS) (page 88~~8986~~ and **Error! Reference source not found.**~~Appendix B: Current MPO LTS Methodology~~).
- Active Transportation Gap and Barrier Analysis (page 99~~10197~~).
- Implementation (page 112~~112~~107).
- Funding Strategies (page 115~~115~~110).
- Financial Analysis (page 119~~119~~114).
- Recommendations (page 127~~127~~121).

Formatte

[1] For the purposes of this ATP, only the portion of ADA Transition Plans relating to the public right-of-way and transportation facilities are considered relevant; however, some paths and similar facilities through publicly owned property such as parks and municipal parking lots are also considered relevant.

- Linking Recommendations to Performance (page **Error! Bookmark not defined.**~~142~~125).
- Measuring Performance (page 145~~142~~128).

~~In addition to adding new modes, other notable changes and updates from the baseline 2015 Bicycle Transportation Plan include condensing the missing links and priority paths into a single set of priority locations for improved bike facilities and condensing the primary and secondary bicycle networks into a single set of regional routes. These changes are intended to simplify the plan's contents and recommendations and to improve the connections between the plan, funding prioritization, and performance measurement.~~

Error! Reference source not found.~~Appendix A: Public Engagement describes the public engagement methods used by the MPO to develop this plan, as well as evaluating the MPO's success in engaging under-represented populations through the public survey conducted for this plan.~~

Error! Reference source not found.~~Appendix B: Current MPO LTS Methodology of this plan summarizes the MPO's Level of Traffic Stress (LTS) methodology, which was previously published as an initial report and a separate revised methodology document.~~

Error! Reference source not found.~~Appendix C: Modeling Shared Use Path Volumes, a report by the UW Traffic Operations and Safety Laboratory (TOPS Lab), examines modeling shared use path volumes by mode.~~

~~Following completion of this ATP, the MPO will update several previously published and adopted documents, including the Pedestrian and Bicycle Facility Requirements, Policies, and Street Standards report, and a report on Arrested Mobility laws adopted by Dane County communities. Additional follow-up projects that will build on the ATP include updating the MPO's Complete Streets Policy, analyzing access to transit by the accessible pedestrian network, and updating the Surface Transportation Block Grant – Urban (STBG-U) and Transportation Alternatives Program (TAP) project scoring metrics.~~

Active Transportation

Sidebar: A note on terminology

Throughout this Plan, we use the phrase "walking and rolling" to be inclusive of the various forms of active transportation that fall within the "pedestrian" category. This includes wheelchair users and people using other assistive mobility devices, people walking or jogging, and people (often children) using nonelectric skateboards, skates, unicycles, and scooters on sidewalks. Other, higher-speed forms of active transportation—including bicycles, electric bicycles, electric skateboards, electric scooters, skates and rollerblades, roller skis, and anything else that operates at a speed similar to that of a non-electric (AKA "acoustic") bicycle—are considered under the "bicycling" sections of this plan. Although this introduces potential confusion, as a child learning to ride a bike is considered a pedestrian while an expert roller-blader or skateboarder may travel on the road at speeds similar to that of a bicyclist, the important differentiation is based on the speed of travel, not the mode – slower travelers are accounted for as pedestrians, and faster travelers are accounted for as bicyclists. It is important to note that although this plan groups users based on prevailing or expected speed by mode, state and local laws may regulate modes distinctly, such as the State of Wisconsin and many municipalities' prohibition against the use of "play or toy" devices such as skateboards in roadways except where crossing the street in a legal crosswalk.[2] The term "micromobility" is used to differentiate all electric-assist personal vehicles.

Introduction: Active Transportation Plan Purpose, Scope, and Process

The Active Transportation Plan (ATP) is a ten-year strategic plan designed to identify priorities for both policy and infrastructure. It is intended to guide local policy updates, planning activities, and facility improvements. MPO staff prepared the ATP in coordination with staff of area communities that were engaged in developing or updating bicycle, pedestrian, and/or other active transportation plans in 2025.

The ATP is developed within the overall framework of the regional long-range transportation plan (RTP). The current long-range plan is the *Connect Greater Madison:* 2050 Regional Transportation Plan (2022) and has a planning horizon of 2050. The long-range plan is further refined and detailed through area or corridor studies and mode-specific studies such as the ATP. These mid-range and short-range planning efforts identify specific improvements to be included in the region's five-year Transportation Improvement Program (TIP), which is generally updated annually by the MPO.

The Greater Madison MPO's Vision and Mission are foundational to the Active Transportation Plan:

Our Vision

[2] Wisconsin Statutes § 346.78

A regional transportation system that connects people, places, and opportunities to achieve an exceptional quality of life for all.

Our Mission

To lead the collaborative planning and funding of a sustainable, equitable transportation system for the Greater Madison Region.

The goals established in Connect 2025 Greater Madison Regional Transportation Plan are also the goals for this ATP, shown in Figure 1. The Connect Greater Madison 2050 Regional Transportation Plan Goals~~Figure 1. The Connect Greater Madison 2050 Regional Transportation Plan Goals~~~~Figure 1: The Connect Greater Madison 2050 Regional Transportation Plan Goals~~.

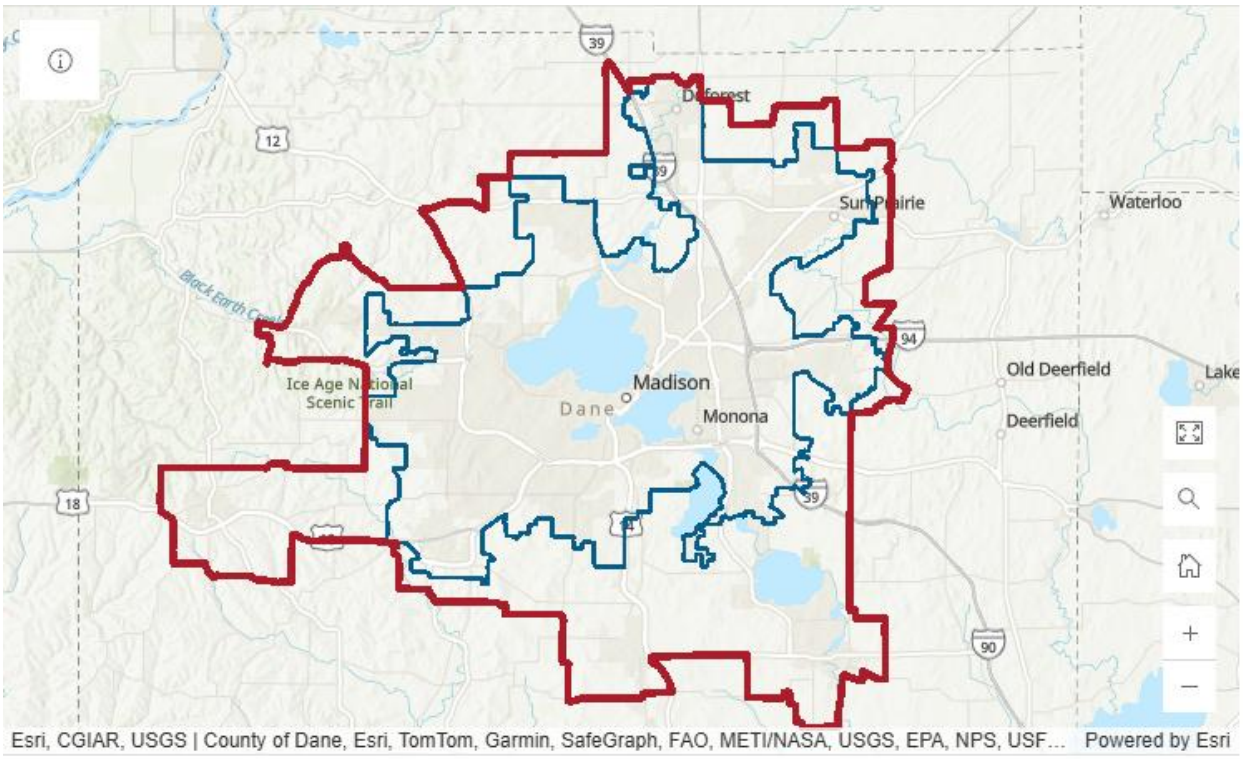
Figure 1. The Connect Greater Madison 2050 Regional Transportation Plan Goals

The MPO's current planning area, shown in Map 2~~Map 1~~, was approved in 2023 and includes the Cities of Fitchburg, Madison, Middleton, Monona, Sun Prairie, and Verona; the Villages of Cottage Grove, Cross Plains, DeForest, Maple Bluff, McFarland, Mt. Horeb, Oregon, Shorewood Hills,

Waunakee, and Windsor; and portions of various Towns. Following the 2020 Census, the City of Stoughton became its own Small Urban Area and is no longer part of the Madison Urban Area.

While focusing on the MPO's planning area, as this is where the majority of residents and bicycle facilities are found, this plan's scope includes all of Dane County, including rural areas and unincorporated hamlets. While these rural areas are unlikely to be served by sidewalks or separated paths, the provision of roadway shoulders provides a somewhat improved environment for pedestrians and bicyclists over narrow roadways with drainage swales directly adjacent to travel lanes.

Map 2~~1~~. The planning area for the Greater Madison MPO and Madison Urbanized Area [web map to be embedded]



In accordance with the requirements of 23 CFR 450.306(b)(1-10), the MPO must address the ten planning factors of a continuous, cooperative, and comprehensive metropolitan transportation planning process by incorporating them into planning documents and Unified Planning Work Program (UPWP) activities.

The ten planning factors are listed below, with each followed by a description of how it is supported by this plan.

1. Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency.
   The Active Transportation Plan supports economic vitality through supporting workforce transportation and access to goods and services.

2. Increase the safety of the transportation system for motorized and non-motorized users.
   The Active Transportation Plan improves safety of the transportation system through support of ~~a~~ the S~~s~~afe S~~s~~ystems A~~a~~pproach to planning and addressing the need for safe, accessible routes for people traveling by all modes.
3. Increase the security of the transportation system for motorized and non-motorized users.
   The Active Transportation Plan aims to increase the security of the transportation system by promoting the development and operation of a safe and resilient transportation system for all users.
4. Increase accessibility and mobility of people and freight.
   The Active Transportation Plan aims to increase accessibility and mobility for people throughout the Greater Madison Region.
5. Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns.
   The Active Transportation Plan helps to protect the environment, promote energy conservation, and improve the quality of life by supporting healthy low-cost transportation options. It promotes consistency between transportation networks and planned growth and economic development patterns by integrating the strategies adopted in the Regional Development Framework and the Regional Transportation Plan.
6. Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight.
   The Active Transportation Plan aims to enhance the integration and connectivity of the transportation system by supporting efforts to bridge gaps in our active transportation system and promoting multi-modal integration.
7. Promote efficient system management and operation.
   The Active Transportation Plan promotes efficient system management and operation by pulling together best practices and recommendations from a wide variety of sources into a single resource to help the Greater Madison Region improve conditions and usage of our active transportation networks.
8. Emphasize the preservation of the existing transportation system.
   The Active Transportation Plan emphasizes the maintenance and preservation of the existing transportation system through attention to the condition of sidewalks, bicycle facilities, and related features of the active transportation environment such as crosswalks and curb cuts.
9. Improve the resiliency and reliability of the transportation system and reduce or mitigate stormwater impacts of surface transportation.
   The Active Transportation Plan improves system resiliency and reliability by promoting the use of transportation modes that are less likely to be compromised by external factors that could impact other modes, such as fuel costs, roadway closures, or flooding.
10. Enhance travel and tourism.

The Active Transportation Plan enhances travel and tourism by encouraging improvements to the active transportation network and promoting active transportation for recreational as well as utilitarian trips, thereby encouraging bicycle tourism.[3]

The ATP was developed by MPO staff on the foundation of the 2015 Bicycle Transportation Plan, the Connect Greater Madison 2050 Regional Transportation Plan (RTP), and more recently adopted local plans, in conjunction with area communities that are developing their own active transportation plans, bicycle plans, or pedestrian plans concurrently with this planning effort. To reduce survey fatigue and ensure consistent data collection across Dane County communities, the MPO led the large-scale public survey portion of public engagement efforts and shared results with municipal staff and stakeholders. Communities engaged in developing their own plans—including Fitchburg, Madison, and Middleton—in turn shared the results of their own focused engagement efforts with the MPO. Survey results and summaries are discussed in **Error! Reference source not found.**~~Appendix A: Public Engagement~~.

Error! Reference source not found.~~Appendix B: Current MPO LTS Methodology~~ of this plan summarizes the MPO's Level of Traffic Stress (LTS) methodology, which was previously published as an initial report and a separate revised methodology document.

Error! Reference source not found.~~Appendix C: Modeling Shared Use Path Volumes~~, a report by the UW Traffic Operations and Safety Laboratory (TOPS Lab), examines modeling shared use path volumes by mode.

Following completion of this ATP, the MPO will update several previously published and adopted documents, including the Pedestrian and Bicycle Facility Requirements, Policies, and Street Standards report, and a report on Arrested Mobility laws adopted by Dane County communities. Additional follow-up projects that will build on the ATP include updating the MPO's Complete Streets Policy, analyzing access to transit by the accessible pedestrian network, and updating the Surface Transportation Block Grant – Urban (STBG-U) and Transportation Alternatives Program (TAP) project scoring metrics.

The Madison Area: Land Use and Socioeconomic Characteristics and Trends

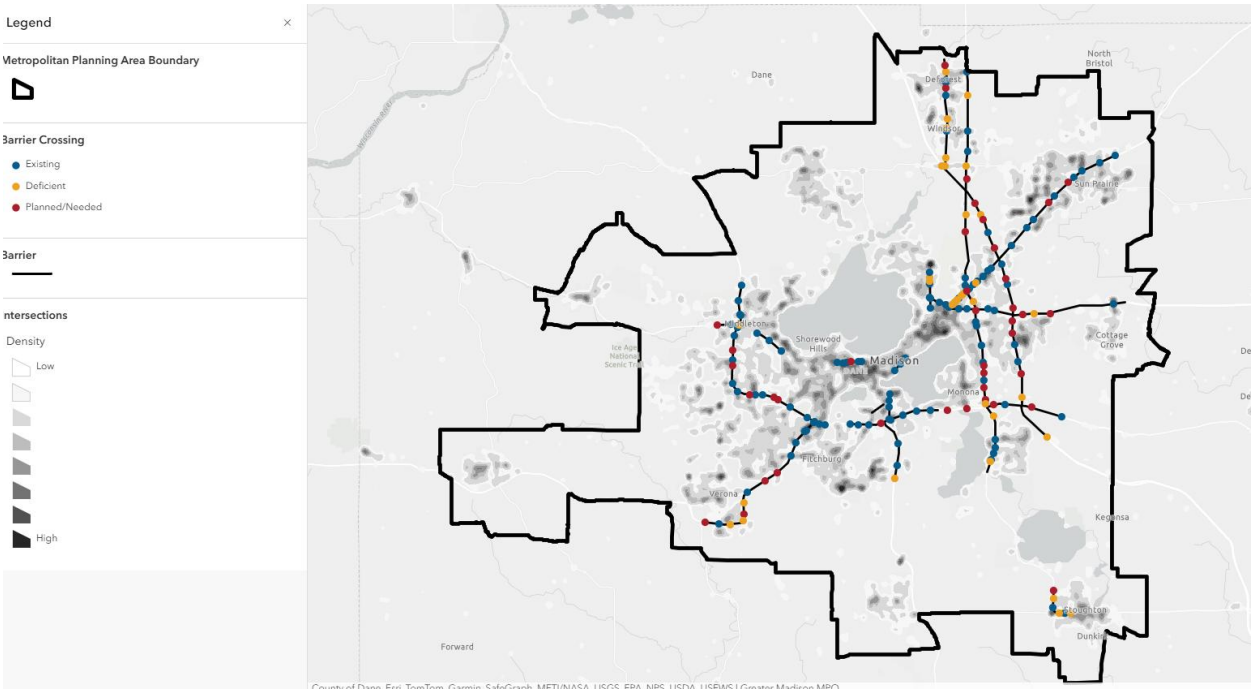
Geography

Madison, with a 2020 population of 269,840, is Wisconsin's second largest city behind Milwaukee. The population of the Madison Urbanized Area, which includes the Cities of Fitchburg, Madison, Middleton, Monona, Sun Prairie, and Verona, the Villages of Cottage Grove, Cross Plains, DeForest, Maple Bluff, McFarland, Oregon, Shorewood Hills, Waunakee, and Windsor, and unincorporated towns, was 505,954 in the 2020 Census. The City of Stoughton was removed from the Madison

[3] See WisDOT's Economic Impact of Bicycling in Wisconsin (2024)

Urban Area following the 2020 Census and contributes another 13,173 residents to the area's population. The Madison central business district (CBD) lies geographically in the center of Dane County and the Madison Urbanized Area, with the Capitol Square situated between Lakes Mendota and Monona. The University of Wisconsin-Madison campus, with a total enrollment of 51,822 (Fall 2025), is situated about one mile west of the Capitol Square. The city was built out with several overlapping grid systems to a distance of about two miles to the west, south and northeast. Beyond this distance, the city followed typical auto-dependent suburban development patterns. The central Madison Area, defined loosely as the area east of Farley Avenue, north of Olin Avenue, and southwest of First Street, is heavily constrained geographically by lakes Mendota, Monona, and Wingra. Seven low-density freight rail lines converge in Madison, as well as one railroad right-of-way that is in interim trail use;[4] these railroads further constrain the roadway and non-motorized transportation networks. Grade-separated major arterial roads pose additional barriers to local trips, with limited low-stress non-motorized and local street connections across the Beltline (USH 12/18), and no low-stress non-motorized connections across the I-39/90/94 corridor in the Madison Area. These barriers are shown in Map 3~~Map 2~~, with local street intersection density.

Map 3~~2~~. Pedestrian Gaps and Barriers, with Intersection Density



[web map to be embedded]

Population and Demographics

From 2000 to 2010, the population of the Madison metropolitan area increased from about 350,200 to 401,800. In 2013, the Metropolitan Planning Area was expanded geographically to include the Villages of Cross Plains, DeForest, and Windsor, which added 18,000 to the metro area's

[4] Wisconsin Rail Plan 2050, Figure 2-2

population. By 2020, the urban area's population had grown to over 462,700. This trend in population growth is expected to continue in the future.

Table 1. Population Trends for Select Dane County Communities

Municipality	2010 Census		2020 Census		2050 Forecast		2020 - 2050 Change	
	Population	% of County	Population	% of County	Population	% of County	Number	Percent
Central Urbanized Area Total (CUSA)	**298,080**	**61%**	**346,619**	**62%**	**470,960**	**62%**	**124,341**	**36%**
City of Madison	233,209	48%	269,840	48%	362,513	48%	92,673	34%
City of Fitchburg	25,260	5%	29,609	5%	46,551	6%	16,942	57%
City of Middleton	17,442	4%	21,827	4%	29,057	4%	7,230	33%
Village of McFarland	7,808	2%	8,991	2%	13,264	2%	4,273	48%
Larger Outer Urbanized Area Total	**95,395**	**20%**	**116,096**	**21%**	**174,168**	**23%**	**58,072**	**50%**
City of Sun Prairie	29,364	6%	35,967	6%	54,028	7%	18,061	50%
City of Stoughton	12,611	3%	13,173	2%	19,621	3%	6,448	49%
City of Verona	10,619	2%	14,030	2%	20,965	3%	6,935	49%
Village of Cottage Grove	6,192	1%	7,303	1%	11,427	2%	4,124	56%
Village of Waunakee	12,097	2%	14,879	3%	23,228	3%	8,349	56%
Village of DeForest	8,936	2%	10,811	2%	16,796	2%	5,985	55%
Village of Windsor	6,345	1%	8,754	2%	11,720	2%	2,966	34%
Village of Oregon	9,231	2%	11,179	2%	16,383	2%	5,204	47%

Smaller Urbanized Areas Total	**26,011**	**5%**	**28,305**	**5%**	**40,513**	**5%**	**12,208**	**43%**
Rural Total	**68,587**	**14%**	**70,484**	**13%**	**70,077**	**9%**	**-407**	**-1%**
County Total	**488,073**		**561,504**		**755,718**		**194,214**	**35%**

Map 4~~Map 3~~ illustrates the 2020 population density by Census Block within the Madison metropolitan planning area. The map shows the dense core of population in the Madison CBD and the relatively high densities in central Madison, including the Isthmus, near west, and near south sides. Other population concentrations can be seen in and around the Madison Area.

Map ~~4~~3. Madison Metropolitan Planning Area 2020 Population Density

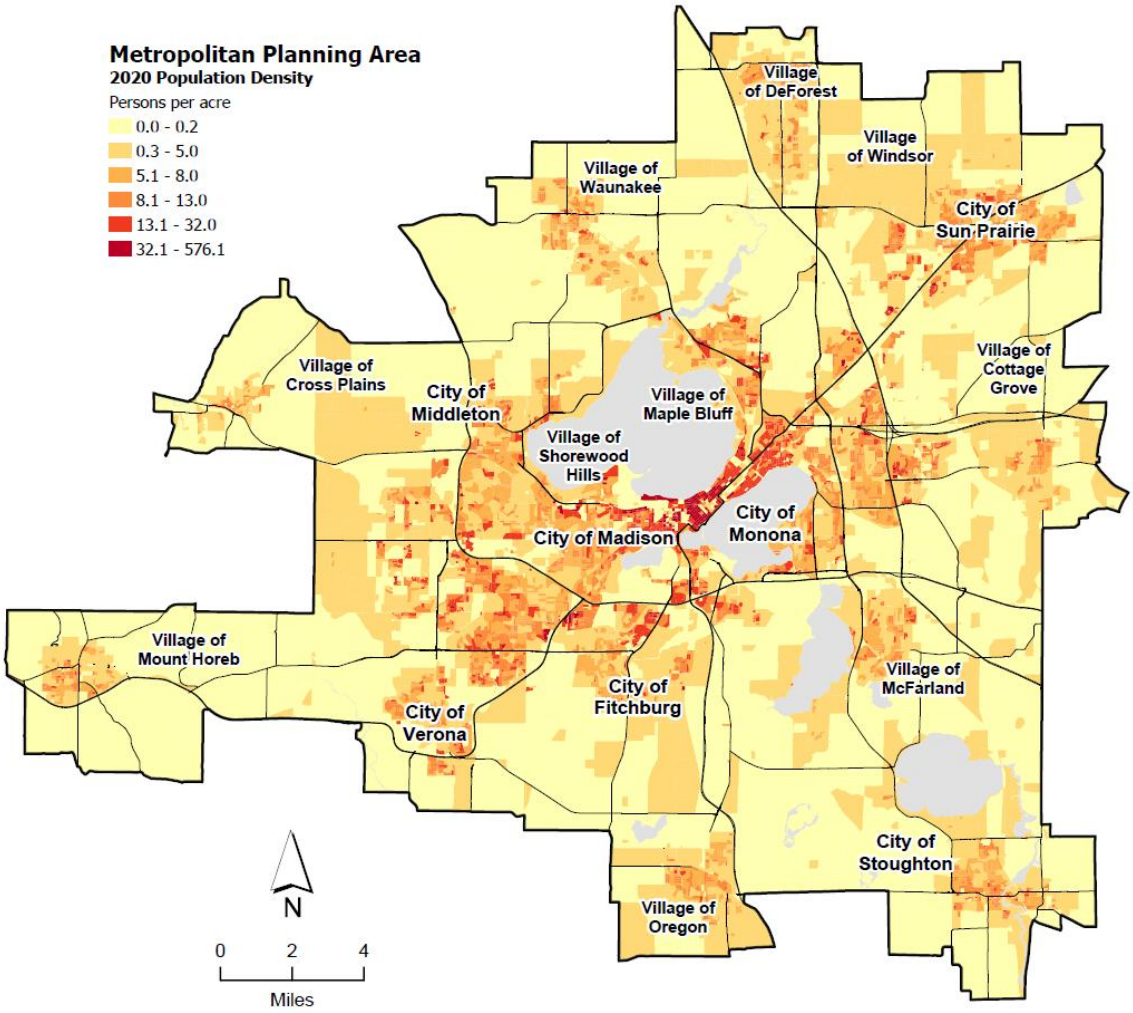


Figure 2 shows the population distribution in selected Madison metropolitan communities – including Cross Plains, DeForest, and Windsor, which were not in the MPO planning area in 2000 – by age.

Figure 2~~2~~. Population Changes, Selected Madison Area Communities

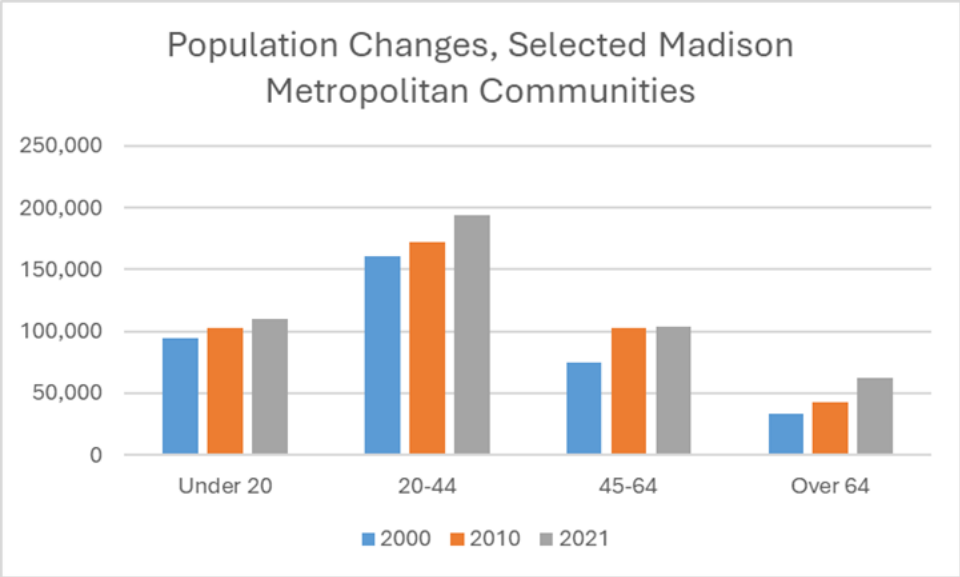
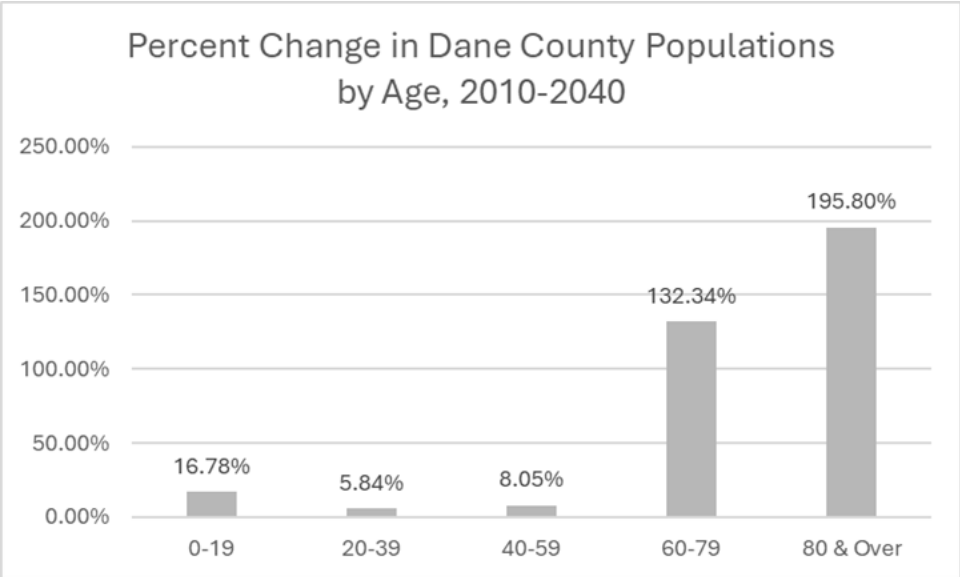


Figure 3 shows that population age cohorts between 0 and 59 years of age are projected to grow by approximately 6-17% between 2010 and 2040. The 60-79 age bracket is expected to grow by over 132%, and the population aged 80 and over is expected to grow by nearly 196%.[5]

Figure 3~~3~~. Percent Change in Dane County Populations by Age, 2010-2040



[5] Population and Household Projections, produced in 2013 based on 2010 Census.

Future Land Development

To develop the Regional Development Framework's (RDF) land use projections, the Capital Area Regional Planning Commission (CARPC) consulted with area communities and based future land use and development projections on their adopted Comprehensive Plans; the MPO used this future land use model to test various transportation scenarios for the Regional Transportation Plan (RTP). A central tenet of the growth projections used by both CARPC and the MPO is that growth, both through infill and redevelopment, will be largely clustered in Centers and Corridors throughout the region. Focusing development in these areas will make active transportation and transit more viable relative to automobiles, as the density of destinations improves.

Some communities with highly integrated land use and transportation planning explore scenarios where growth is focused in particular corridors, around particular nodes, or otherwise constrained geographically. This is most effective when land use and transportation plans are developed concurrently, and when land use regulation follows the adopted plan. For a multi-jurisdictional area such as the MPO's planning area – or in the case of this Active Transportation Plan, the entirety of Dane County –where there is no mandate for cross-jurisdictional coordination of development regulations, this approach relies on individual communities' willingness to adopt regulations to guide development toward identified centers and corridors.

Transportation is a function of land use: In a hypothetical mixed-use building providing all of the needs of life, transportation would be walking or taking an elevator. In a sprawling city with uses spread far and wide, or in a rural area with uses far from one another, faster transportation modes such as automobiles, buses, or bicycles are required to connect those uses in a reasonable amount of time.

Parking facilities, and especially parking lots, take up valuable land and separate uses from one another, making walking or biking between adjacent uses inconvenient and often dangerous. This discourages walking and biking and encourages driving, creating a vicious cycle where more and more parking is required to serve ever-increasing demand. To combat this cycle, the City of Madison and other communities across the country have eliminated or drastically reduced minimum parking requirements for new developments and even adopted parking maximums in some cases.[6] When coupled with zoning that allows or requires a mix of uses within close proximity of one another and served by a complete street and sidewalk network, this increases the share of trips made by walking, biking, and transit.

Relatively dense, mixed-use centers and corridors support active transportation and enable efficient transit service. Projects that include residential and commercial uses and are designed to be transit-supportive should be encouraged along existing and planned transit routes. The City of Madison adopted a Transit-Oriented Development (TOD) overlay zone in early 2023. It allows residential dwelling unit bonuses, building height bonuses, and establishes site standards for buildings and automobile infrastructure. Policies and ordinances like this help ensure that development is

[6] While it is critical to not provide over-abundant parking, it is also important to provide adequate accessible parking. With only rare exceptions are developers and financers comfortable with projects with no parking whatsoever and will strive to provide enough parking capacity to meet market demand.

focused on centers and corridors, as envisioned in the 2050 Regional Development Framework[7] and Regional Transportation Plan[8].

Employment and Education

As the state's capital and the seat of Dane County, Madison has a substantial government employment base centered in the office buildings on the southeast side of the Capitol Square. Founded in 1837, the incorporation of the City of Madison was approved by the state legislature in 1846. The city also houses the University of Wisconsin-Madison (UW-Madison), founded in 1848 and located about one mile west of Capitol Square. UW-Madison is one of the nation's largest universities, with a total enrollment (graduate and undergraduate) of more than 50,000, along with over 27,000 faculty and staff (Fall 2024). This has shaped a commute pattern that remains focused in large part on the central Madison Area, particularly for transit trips. Almost all of the employment growth over the last 25 years or so has been in peripheral employment centers such as the American Center, UW Research Park, Old Sauk Trails, Middleton business parks, and the Epic campus in Verona. These areas also draw large numbers of commuters, but relatively few active transportation or transit trips due to their locations, sprawling campus designs, and plentiful, generally free parking.

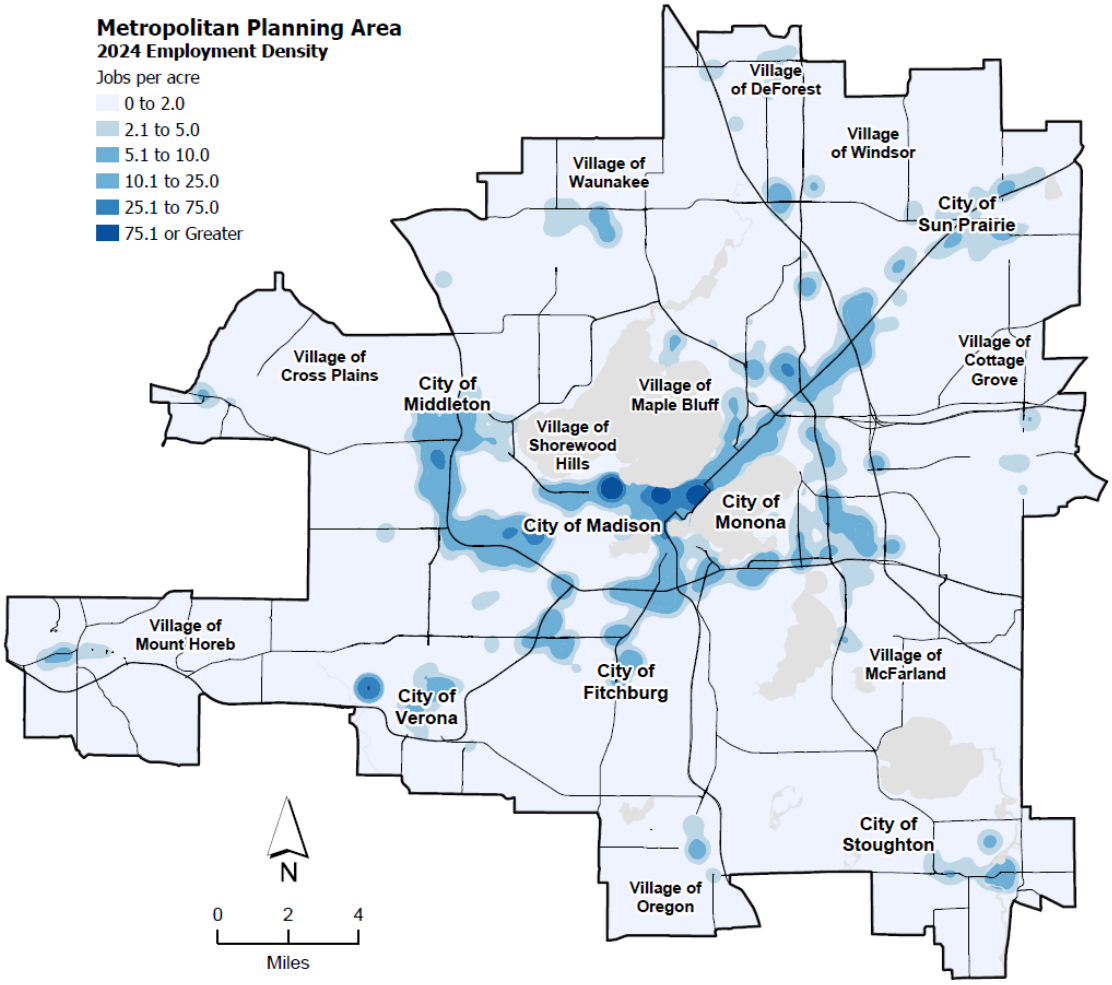
Map 5~~Map 4~~ shows the employment density within the Madison metro/Dane County area (2024). Besides the Madison CBD and the UW campus, notable employment centers are located in the Hill Farms area, the West Towne area in southwest Madison, western areas of Madison and Middleton, Epic in Verona, south Madison along the Beltline Highway, east Madison along the USH 51 corridor, and the East Towne and American Center areas in northeast Madison. There was a total of nearly 328,000 jobs in Dane County in 2021[9] with the vast majority of those located in the Madison Metropolitan Area.

[7] Page 25

[8] Land Use and Transportation Integration Recommendation 1, Supporting Actions D and E (Page A-13)

[9] Dane County 2021 Workforce Profile, State of Wisconsin Department of Workforce Development and WisConomy

Map 54. Employment concentrations in the Madison Area (2024)



In addition to the University of Wisconsin, post-secondary education is provided by Madison College and Edgewood College. Madison College operates three main campuses: Truax in north Madison (14,992 enrolled 2023-24); Goodman South Campus at Badger Road and Park Street (2,687 enrolled 2023-24); and the Commercial Avenue Education Center (1,874 enrolled 2023-24). There are several other Madison College locations throughout south-central Wisconsin. Madison College had a 2023-24 total enrollment of 27,275 students throughout its system. Edgewood University, located to the southeast of UW Madison, has a total enrollment of 2,469 students (2025).

The Madison Area: Transportation System Overview

Motorized Transportation

The Madison Area is served by a number of limited-access highways. Interstate Highways 39, 90, and 94 and USH 30 serve Madison's east side, while USH 12, 151, and 14 serve Madison's west,

southwest, and south sides. The Beltline highway (USH 12, 14, 18, and 151) connects these regional roadways to the south; however, no limited access highways penetrate central Madison. The urbanized area is primarily served with a network of arterial streets.

Traffic Congestion

As an MPO for a metropolitan planning area with a population over 200,000, the Greater Madison MPO is required to maintain a congestion management process (CMP) as part of its ongoing transportation planning process. The last CMP was adopted in 2022 as Appendix F of the *Connect Greater Madison*: 2050 Regional Transportation Plan. Strategies that manage travel demand, reduce single-occupant vehicle (SOV) travel, and improve transportation system management and operations are all considered, as well as those that explicitly address active transportation modes. The 2022 CMP accepts a Level of Service (LOS) D for roadway intersections and prioritizes Transportation Demand Management (TDM) and Transportation System Management (TSM) strategies to reduce congestion.

A critical component of Bus Rapid Transit is the use of transit priority treatments to enable transit vehicles to operate efficiently in congested corridors. The East-West BRT Rapid Route A includes, and the north/south BRT Rapid Route B currently being planned will include treatments such as:

- Transit Signal Priority (TSP)
- Queue jump lanes
- Bus Bike and Turn lanes
- Center running lanes

Transit priority treatments are planned for the North-South BRT corridor in ~~2027-28~~2028-2030.

Travel Demand Management (TDM) Policies

The MPO employs a full-time Transportation Options Program Manager, who works with area businesses and other employers to develop travel demand management programs for workplaces. Additionally, in conjunction with the Wisconsin Department of Transportation (WisDOT), this position operates the roundtripgreatermadison.org website and supports commuters who are seeking to start or join carpools or vanpools. It also connects people interested in bike commuting with bicycle buddies who can help get them started commuting by bicycle. Through the RoundTrip program, the MPO also administers the Dane County Emergency Ride Home program, with Dane County funding up to six $75 eligible taxi rides for each enrolled commuter per calendar year.

Parking Policies

A number of studies have shown a strong correlation between access to free parking and rates of commuters driving alone, as well as between charging for parking and commuters finding alternative modes of transport to and from work. Accordingly, one of the most basic ways for a city to reduce the number of single-occupant vehicles travelling during peak commute periods and thereby reduce congestion is to charge for parking.

Both the City of Madison and UW-Madison have adopted parking fees to this end. On-street parking in the Madison CBD is generally metered at $2 per hour. Surface and structured lots range from

$0.80 to $1.80 per hour, and monthly passes for a variety of time periods (e.g. day only, night only, 24/7, etc.) are available for $42 to $250. Prior to the COVID-19 pandemic, monthly passes were in high demand, and most facilities did not have spaces available. Currently, City parking garages are operating well under capacity. The City of Madison offered priority and discounted rates through a carpool program prior to the COVID-19 pandemic; this program was terminated in early 2023 due to low usage.

UW-Madison offers a variety of parking permits for faculty and staff, with annual prices[10] ranging from $46-$133 for night-only lot- or garage-specific permits, to $143 for motorcycle and moped permits, and to lot-specific daytime permits for $618-$1,350. The UW-Madison Transportation Services Division web site states that "The best advice to students regarding parking on campus is **don't bring a car.** Most students walk, bike, or take the bus."[11] (emphasis in the original)

Transit Pass Subsidies

Many area employers take advantage of Metro's Commute Card program and offer either free or discounted bus passes to their employees. In 2019, 115 area employers participated in this program and provided 4,032 bus passes to employees. The number of employers participating in the program declined during the COVID-19 pandemic, and only 92 employers were participating in 2022; however, the number of employee passes purchased grew to 5,060 that year. Many of the participating employers purchase 10 or fewer commute cards, while the six employers with the largest participation purchase 4,300 commute cards between them, with 3,000 of those purchased by Epic Systems. Additionally, employees of the City of Madison, Dane County, UW-Madison, and UW Health are eligible to receive free or heavily discounted Metro bus passes through their employer.

Active Transportation

The Madison Area is well served by a large network of sidewalks, crosswalks, and bicycle lanes and paths. The City of Madison is one of only five Platinum-certified Bicycle Friendly Communities (BFC) in the United States,[12] a testament to the emphasis that it has placed on developing infrastructure and programming to promote and enhance bicycling in the city. In 2015, Madison Area communities submitted the first-ever coordinated regional applications for Bicycle Friendly Community certification, an effort that was repeated in 2019. For a variety of reasons, communities did not coordinate applications in 2023, although several communities applied for recognition in 2023 and 2024. Other communities in the Madison Urban Area that have been awarded BFC status include the City of Fitchburg (Silver, 2019 and 2023), the Cities of Sun Prairie and Verona (Bronze, 2019 and 2024), and Dane County and the Cities of Middleton and Monona (Bronze, 2015).[13] UW-Madison's certification was upgraded from Gold to Platinum in 2019, making it one of only eight Platinum Bicycle Friendly Universities in the nation. The Madison Area is also home to four Platinum Bicycle Friendly Businesses, and ~~29~~43 additional Bicycle Friendly Businesses of varying

[10] 2025-26 rates; rates change annually.
[11] transportation.wisc.edu/permits/student-parking
[12] 2015, 2019, and 2024 certifications by the League of American Bicyclists
[13] https://www.bikeleague.org/bfa/awards#community

award levels, including the Greater Madison MPO (Silver, 2023).[14] For more information on the Bicycle Friendly American program and area certifications, see the Encouragement activities section of this plan.

The regional network of bicycle and pedestrian facilities facilitates the use of active transportation modes and helps to reduce the number of motorized vehicles entering the downtown and UW campus areas.

Accessibility

In order to be functional, active transportation facilities such as sidewalks, crosswalks, separated paths, and connecting facilities must be maintained in a state of good repair. Buckled sidewalks can pose no less of a barrier to wheelchair access than a missing curb cut, and proper and timely snow and ice removal is critical to ensure access for all during winter months. Responsibility for removing snow and ice falls to various parties based on facility type and ownership, with city sidewalks the responsibility of the adjacent property owner,[15] and separated paths being maintained by municipalities.

Ongoing maintenance of sidewalks is prioritized and funded in varying ways by different municipalities. Some communities assess all or a portion of sidewalk repair costs to adjacent property owners, while others assume all costs of repair or retrofit. In the City of Madison, sidewalk repairs are conducted on a revolving basis, with two aldermanic districts scheduled for sidewalk repairs each year; under this schedule, all districts are repaired once every ten years.

Under the Americans with Disabilities Act, communities with more than 50 employees are required to develop and adopt an ADA Transition Plan to ensure that all facilities and programs are accessible.[16] With the adoption of the Public Right of Way Accessibility Guidelines (PROWAG)[17] by the US DOT in 2024, communities need to update their ADA Transition Plans to reflect the new design standards in PROWAG. In 2025, the Greater Madison MPO expanded the list of eligible project types for TAP funding to include ADA Transition Plans. MPO data, including the Pedestrian Facilities mapping application, are available to aide communities in updating their ADA Transition Plans; however, currently-available data does not include details on curb ramp accessibility features such as cross-slope or the presence of detectible warning strips (truncated domes), but only the presence or absence of an expected curb cut in any condition. As new data sources become available, including the use of artificial intelligence to identify where truncated domes are missing or are configured incorrectly, the MPO's geodatabase will be updated accordingly.

Sidebar: Snow Removal Assistance

Winter maintenance: In the Madison Area there are two current programs to provide volunteer assistance in winter snow and ice removal from sidewalks that are the responsibility of people who

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[14] https://www.bikeleague.org/bfa/awards#business

[15] For community snow removal requirements, see the MPO's 2020 *Pedestrian/Bicycle Facilities, Policies, and Street Standards* report; an update is anticipated to be released in 2026

[16] For the purposes of this plan, references to ADA Transition Plans refer only to those plans for facilities within the public Right-of-Way and limited off-street facilities such as separated paths through public parks or other public or school properties.

[17] https://www.access-board.gov/prowag/

are unable to clear snow and ice as required due to physical limitations. NewBridge Madison has operated its Snow Angels program for many years; the Village of Waunakee launched a "Sidewalk Angels" program in the winter of 2025-2026. MPO staff will continue to monitor these and similar programs both within Dane County and nationally, such as the Snow Angels program in Bozeman, MT, and to support the development of similar programs in area communities.

Bike and Pedestrian Planning Efforts Since 2015

Over the past decade, since the completion of the MPO's Bicycle Transportation Plan in 2015, the MPO and other area jurisdictions have completed a variety of documents focused on bicycle and pedestrian planning. These documents, along with the 2015 Bicycle Plan, form the foundation of this Active Transportation Plan.

Dane County Bicycle Wayfinding Manual (2016)

The Dane County Bicycle Wayfinding Manual outlines the purpose of wayfinding signage and provides a step-by-step process for planning for and installing wayfinding signs on bikeways in Dane County.

Defining the Madison Area Low-Stress Bicycle Network and Using it to Build a Better Regional Network (2018) (updated segment methodology, 2023)

The low-stress bicycle network consists of all streets and paths that are classified as low-stress according to the Level of Traffic Stress (LTS) methodology. The MPO began using LTS to understand the bicycle network beyond purpose-built on- and off-street "bicycle facilities," like bike lanes and bike paths. Categorizing the stress level of every street and path on which bicycles are legally allowed enables a much broader analysis of the regional bicycle transportation system. The LTS system classifies streets and paths on a scale of 1 to 4, with ratings of 1 and 2 considered low stress.

This report details the genesis of the MPO's decision to integrate LTS into its planning activities, the LTS methodology as adapted to our region and available data sources, and ways LTS can be used by the MPO and its constituent jurisdictions going forward. The MPO updated the segment methodology in 2023 to better comport with NACTO all ages and abilities guidelines and to include AADT as a factor in all on-street LTS scores. **Error! Reference source not found.**~~Appendix B: Current MPO LTS Methodology~~ combines the original LTS methodology with the amended methodology to provide a holistic explanation of current methodology.

Bicycle and Pedestrian Crash Study (2018)

The purpose of the Dane County Bicycle and Pedestrian Crash Study was to identify the common features of the bicycle and pedestrian crashes that occurred during the years 2011-2015 to guide safety improvement efforts, measure the change in bicycle safety since the City of Madison's 1992 bicycle crash study, and set a benchmark for future safety performance measurement in the Madison metropolitan area and Dane County.

During the study period there were 798 crashes involving bicycles and 552 involving pedestrians in Dane County. Each of these crashes was analyzed and categorized based on a review of the crash report and an assessment of the built environment at the crash site. Highlights from the study include:

- Crashes involving pedestrians were about five times as likely to be fatal as those involving bicyclists (4.2% vs. 0.8%).
- Most crashes involved turning motorists at intersections.
- The bicycle-motor vehicle crash rate per 100,000 people declined by roughly half during the previous two decades.
- Bicyclists riding on sidewalks against the flow of traffic in the adjacent traffic lane were 3.5x more likely to be involved in a crash than those riding with traffic.

The study also noted the need for additional education and enforcement to stem dangerous driving behaviors, engineering solutions to mitigate crash risks at dangerous intersections, and better data about bicycle and pedestrian travel trends.

Pedestrian/Bicycle Facilities, Policies, and Street Standards: Review of Community Requirements in the Greater Madison MPO Planning Area and Recommended Best Practices and *Addendum* (2021)

This report details the local rules and policies related to pedestrian and bicycle infrastructure and street standards in communities in the Greater Madison MPO planning area. It also offers recommendations for policies and design elements from the Institute of Transportation Engineers (ITE), the National Association of City Transportation Officials (NACTO), the Federal Highway Administration (FHWA), and topic-specific organizations such as the National Complete Streets Coalition and US Access Board.

The purpose of the report is to help local planning and engineering staff and elected officials make informed decisions regarding development and design standards, and to give them tools to make roadways safer for all users.

City of Madison, *Complete Green Streets Guide* (2022, updated 2025)

In 2009, the City of Madison passed a resolution reaffirming its commitment to Complete Streets and codifying its commitment to accommodating all modes of travel and maintaining a safe, efficient, economical, equitable, and sustainable transportation system.

Following the resolution, it became clear that more guidance was needed to implement Complete Streets consistently over time. The Complete Green Streets Guide provides a consistent process for planning, designing, building, and operating streets that addresses the needs of a growing population as well as concerns about safety, equity, and sustainability.

City of Fitchburg Bicycle and Pedestrian Plan (2017 Update)

Fitchburg's 2017 Bicycle and Pedestrian Plan envisions an expanded citywide bicycle and pedestrian network, with the goal of increasing the number of people traveling by bike and by foot. The plan identifies the key gaps and safety concerns that limit bike and pedestrian connectivity and recommends solutions in the areas of infrastructure, policy, and programming. *This plan is being updated concurrently with the development of the MPO's Active Transportation Plan.*

Sun Prairie in Motion Active Transportation Plan (2023)

The vision of Sun Prairie's active transportation plan is for the community to have safe walking, biking, and rolling paths that connect all residents to the places they want and need to go. The plan:

- Identifies where developers must continue paths and on-street bicycle facilities as part of development.
- Highlights the streets where sidewalks, bike lanes, and paths are most important and should be prioritized over other uses.
- Provides policies and design guidance to decide what facility is best suited for each context.

The plan also recommends high-priority projects that City staff should pursue with local funding, applications for federal or state grants, and partnerships with WisDOT.

Dane County 2025-2030 Parks and Open Space Plan

Dane County's Parks and Open Space Plan is focused on providing parks and recreation facilities for Dane County residents while preserving the County's natural, cultural, and historic resources. The plan identifies resources for possible protection and restoration, details county-wide recreation needs, and defines Dane County's role in providing facilities to meet anticipated demands.

Other Planning Documents

Communities in Dane County have adopted a wide variety of comprehensive, neighborhood, and other plans since 2015. While not focused primarily on active transportation, many of these have included information about bicycle and pedestrian safety, policies, and existing and planned infrastructure. MPO staff review and integrate the information from these plans into the regional planning process.

Current Active Transportation Planning Efforts

1. City of Madison: All Ages and Abilities Bicycle Network. ~~and~~
~~1.~~2. City of Madison: Pedestrian Plan.
~~2.~~3. City of Middleton: Active Transportation Plan.
~~3.~~4. City of Fitchburg: Bicycle and Pedestrian Plan Update.
~~4.~~5. City of Madison: AARP Age Friendly Communities workgroup.

~~5.~~6. City of Madison: Safe Routes to School Planning.[18]

7. WisDOT: Wisconsin Active Transportation Plan 2050.

~~6.~~8. Village of Mount Horeb Bicycle and Pedestrian Safety Plan

ADA Transition Plans

Walking has been the default mode of transportation for the vast majority of human history, although there have always been individuals for whom this mode was not available. In modern times, a range of adaptive technologies and devices have allowed people with mobility impairments and disabilities to move around with a greater degree of autonomy, although barriers in the built environment continue to restrict mobility for many. While having a basic pedestrian network of sidewalks and separated paths equipped with curb cuts to allow those using wheelchairs and other mobility devices are critical components of the active transportation network, these networks and their components need to be reviewed in detail to ensure that they are truly accessible to all. The Public Right of Way Accessibility Guidelines (PROWAG) establish design requirements to ensure accessibility to as many as possible – although there remain contentions between groups experiencing differing disabilities who may find the accommodations provided to one group to be barriers for another. Nevertheless, PROWAG is the most current and all-encompassing guidance available on how to make the public realm as accessible as possible.

The Americans with Disabilities Act (ADA) requires that communities with more than 50 employees develop and maintain an ADA Transition Plan for all facilities and programs.[19] ADA Transition Plans document current conditions and establish a plan for addressing all identified deficiencies and barriers. **For the purposes of this plan, references to "ADA Transition Plan" or "Transition Plan" are generally intended to apply to ADA Transition Plans for facilities within the public right-of-way, not to other public facilities such as government buildings, and not to the accessibility of programs offered by any government agency.** Some facilities outside the right-of-way, such as paths through public parks or routes through municipal parking lots or other public property, are also included.

A Transition Plan is a tool to help communities identify and prioritize barrier removal that will improve the safety and usability of the transportation network by all residents in addition to the target population of people experiencing disabilities. Additionally, ADA is federal law, and not having a Transition Plan can lead to a "consent decree" against the community that requires barriers to be removed within a short time period (often four years). Having a plan to address barriers and non-compliant facilities helps to protect the community and spread costs over time, as the plan can call to address barriers over longer periods such as the next ten years.

The MPO has developed a template and guide for communities developing or updating their ADA Transition Plans, which has been shared through its Technical Coordinating Committee and other area staff, and which is available on the MPO's Biking and Walking web page. The MPO is available to provide staff and data support to area communities developing or updating their ADA Transition Plans, and in 2025 revised TAP eligible project types to include ADA Transition Plans.

[18] Interactive comment map and Toole Designs draft recommendation map

[19] https://www.ada.gov/resources/title-ii-primer/

The pedestrian network – and the accessible pedestrian network in particular – provides connections to residences, jobs, education, services, and more. As every trip, be it by private automobile, public transit, or other modes, begins and ends as a pedestrian trip, ensuring that this network is complete is the most basic building block to a multi-modal transportation system. Gaps and barriers in the network are described in the Gap and Barrier Analysis section of this plan.

The State of Technology: Bicycles, E-Bikes, Micromobility, and E-Motos

Although the dominant design of the bicycle has remained largely unchanged from the "safety bicycle" of the 1880s, recent innovations in materials and especially the electrification of bicycles have resulted in a proliferation of bicycle forms in the last twenty years. In addition to folding bikes, mountain bikes, gravel bikes, road bikes, BMX bikes, recumbent bikes, folding bikes, trikes, tandems, quads, and unicycles (all of which are available in both standard and electric models),[20] other emerging micromobility devices such as Onewheel personal transporters, e-scooters, and e-skateboards have become commonplace in recent years.

Under Wisconsin law[21], there are three classes of e-bikes:

- **Class 1 E-bike:** Provides electrical assistance only while the rider is pedaling, assist up to 20 mph.
- **Class 2 E-bike:** Provides electrical assistance regardless of whether the rider is pedaling or not, assist up to 20mph
- **Class 3 E-bike:** Provides assistance only while the rider is pedaling, assist up to 28 mph. Must have a speedometer. May not be operated by anyone under the age of 16.

Although some communities have adopted ordinances restricting the use of e-bikes within their jurisdictions,[22] these community-specific laws are unlikely to be widely understood or followed by the public. Bicyclists often cross municipal boundaries during their ride and are often unaware of the changes in jurisdiction. Class 1 and Class 3 e-bikes are allowed on many Wisconsin State Trails but must observe a 15-mile-per-hour speed limit; Class 2 e-bikes are prohibited on State Trails.[23]

In addition to legal e-bikes, there is a small but growing trend of riders "unlocking" legal e-bikes to bypass internal speed governors, resulting in e-bikes that can be ridden in excess of 20 mph without pedaling. These vehicles join some home-made e-bikes and motorized bicycles[24] in the "e-moto" category. E-motos include commercially available devices that may look like bicycles, but which may lack pedals, as well as other Out-of-Class Electric Vehicles (OCEVs) such as e-scooters that are capable of exceeding the speed limit of 20 mph set for e-scooters in state statute[25]. As public backlash over "e-bikes" grows, it is important to differentiate legal e-bikes from e-motos. Communities across the country, including within Dane County, have considered local ordinances

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[20] See the AARP and League of American Bicyclists' illustrated guide to Different Bikes for Different Cyclists
[21] 2019 Wisconsin Act 34 https://docs.legis.wisconsin.gov/2019/related/acts/34
[22] The MPO anticipates~~d~~ publishing a report on Arrested Mobility Laws in MPO-Area Communities in 2026
[23] https://dnr.wisconsin.gov/topic/parks/recreation/biking
[24] Some of which even fall outside the classification of "motorized bicycle" in state law, as they are capable of travelling at speeds in excess of 30 mph.
[25] WS 340.01

restricting the use of e-bikes, and some have passed these types of ordinances, when their actual concern is with e-moto use. ~~The Greater Madison MPO began drafting a municipal guide on e-bike, e-moto, and other e-micromobility device regulation in late 2025 and staff anticipate finalization in early 2026, concurrent with or closely following the adoption of this~~ ATPA~~; a~~rea communities are encouraged to follow th~~e~~is MPO's guidance when considering new regulations affecting e-bikes, e-motos, and other micromobility devices.[26]

Shared Mobility

Public bike-share in the Madison Area has been provided by BCycle since 2011, and in 2019 the fleet was upgraded to be the first all-electric bikeshare fleet in the nation. Since its launch with 27 stations, the BCycle system has grown to include over 100 stations with more than 500 bikes in the communities of Fitchburg, Madison, McFarland, Monona, and Shorewood Hills, as well as on the UW-Madison campus. Stations are located throughout central Madison, along University Ave. to the west as far as Whitney Way, as far east as the Pinney Library on Cottage Grove Road and Woodman's on Milwaukee Street, at Warner Park and Madison College Truax Campus to the north, at McDaniel Park in McFarland to the southeast, and McGaw Park in Fitchburg to the south.[27] In 2025, the City of Middleton applied for and was awarded TAP funding for BCycle system expansion in 2030.

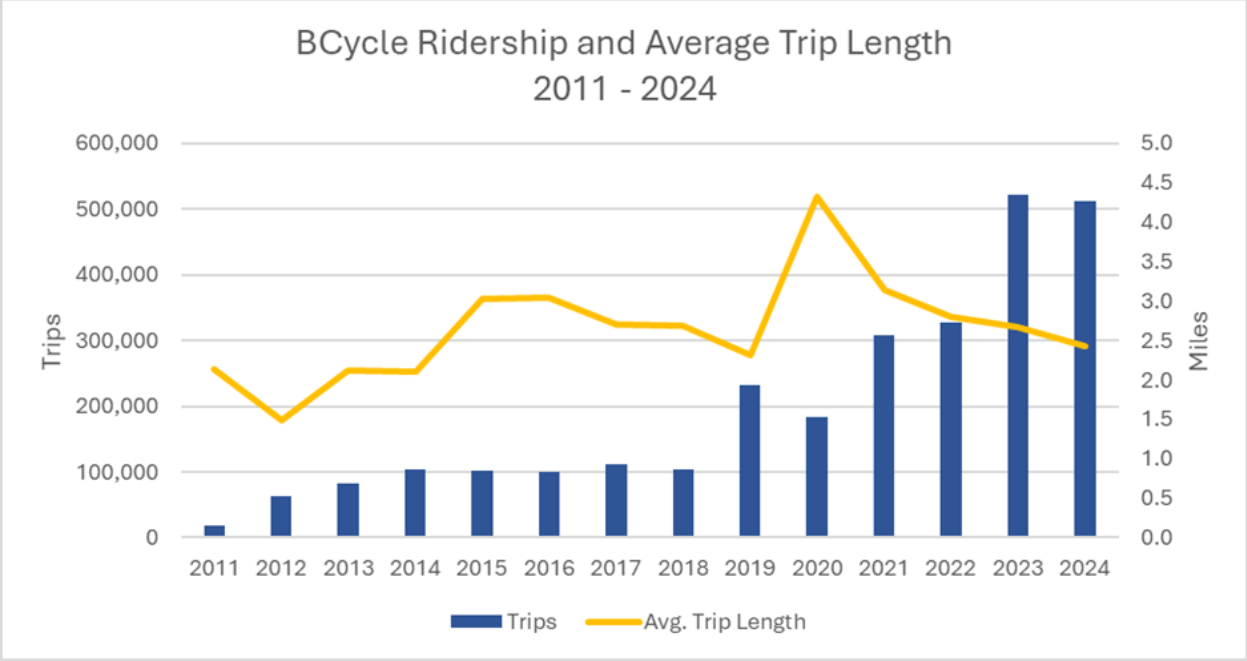
As is shown in Figure 4, ridership of the BCycle system has grown steadily since 2011, more than doubling in 2019 with the introduction of e-bikes. Overly successful membership promotions in 2023 led to 60% year-over-year growth, overwhelming the system and straining BCycle's ability to adequately maintain the bikes and move them between stations to accommodate demand. Those promotions were reduced in 2024 to ensure that staff could meet operational demands, and the system operated much more efficiently in 2024 and 2025.[28]

[26] **Error! Reference source not found.**~~https://www.cityofmadison.com/mpo/transportation-planning/biking-walking~~

[27] https://madison.bcycle.com/nav/map

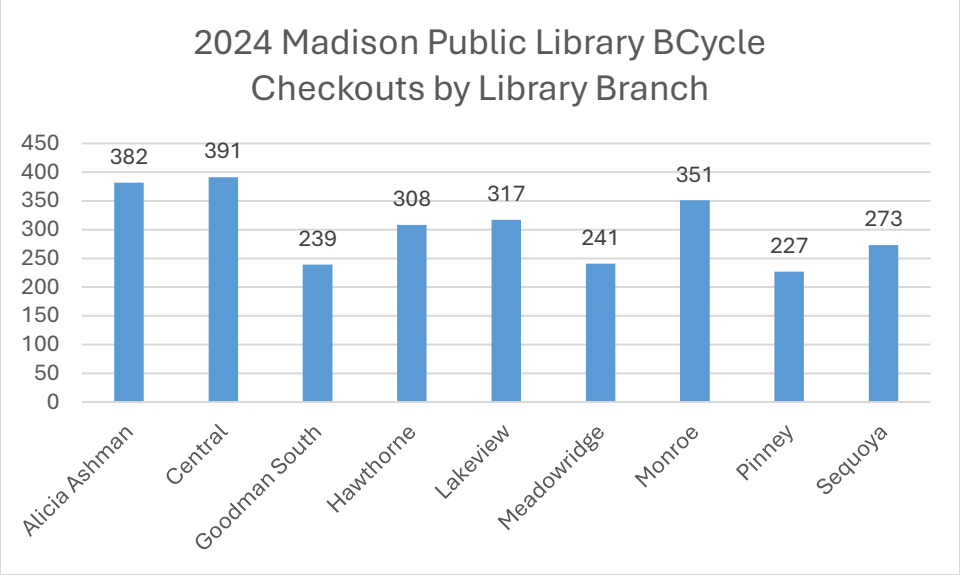
[28] 2025 operational evaluation conveyed verbally by BCycle staff; 2025 annual report not yet published at the time of drafting this ATP.

Figure 4. BCycle Ridership and Average Trip Length, 2011 - 2024



Through a partnership with the Madison Public Library Foundation, BCycle offers passes and bike helmets for check-out at all Madison Public Libraries, improving transportation access for low-income and unbanked individuals who would otherwise not be able to use the system. The Madison Public Library Foundation Community Pass Program makes the BCycle Bikeshare system available to anyone with a library card for the South Central Library System. A BCycle pass and helmet can be checked out for up to seven days at a time at any Madison Public Library; a pass can be checked out once per month per library card. The South Central Library System includes 65 libraries in seven counties, making this program available to visiting residents of communities throughout South Central Wisconsin. In 2024, Madison Public Library branches checked out BCycle fobs between 200 and 400 times each, as shown in Figure 5. Library staff indicated during the winter of 2025 that this program may be suspended due to loss and theft of checked-out BCycles.

Figure 5. 2024 Madison Public Library BCycle Checkouts



The 2024 Annual Survey of BCycle riders found that over 40% of riders said that *all* of their BCycle trips replaced a car trip, and nearly 40% said that BCycle trips replaced a few or as many as half of their car trips.

Counts and Use Trends

Multiple communities and Dane County have installed automatic counters in various locations to track bicycle traffic; however, the range of technologies used, and variable or non-existent quality control makes direct comparison between these count locations impossible. The MPO subscribes to the StreetLight Insights platform, which uses a variety of data sources including location-based services (LBS), connected vehicle (CV), and GPS to estimate travel by various modes; however, due to legal restrictions on the use of LBS data StreetLight's capabilities to estimate active transportation trips was essentially eliminated after April 2022. Obtaining accurate bicycle counts across the transportation network is critical to measuring success in transitioning trips from single-occupant vehicles (SOVs) to active transportation modes, and the MPO and partner communities must work to improve count capabilities to better understand travel behaviors.

The MPO contracted with the UW – Madison Transportation Operations and Safety (TOPS) Laboratory to evaluate shared paths' temporal trends, types of users, quantify the effect of weather conditions, and estimate user volumes. The objectives of this research were to "evaluate the accuracy of existing automated counts (infrared and inductive loop sensor counters), incorporate crowdsource data (Strava), provide models to estimate hourly and daily pedalcycle counts," and to provide recommendations for modeling and estimating use of shared paths in the Madison Area.[29]

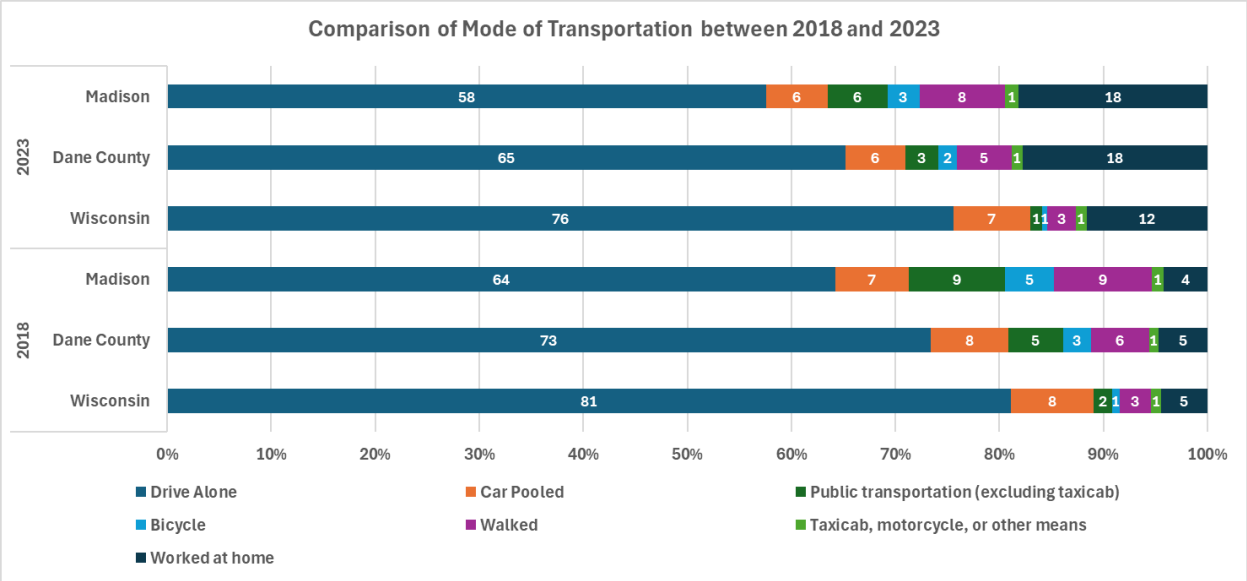
Active Travel by Mode of Travel

Between the 2014-2018 and 2019-2023 periods, the share of commuters driving alone to work declined from 73% to 65% in Dane County. The City of Madison and the State of Wisconsin showed

[29] See **Error! Reference source not found.**~~Appendix C: Modeling Shared Use Path Volumes~~.

a similar trend with declines of 6% and 5%, respectively. Biking, walking, carpooling, and transit use, all showed similar declines. These changes were driven by dramatic growth in the share of commuters working from home. The percentage of residents doing their jobs from home rose from 4% to 18% in Madison, 5% to 18% in Dane County, and 5% to 12% in the state of Wisconsin. These changes were largely in response to the COVID 19 pandemic.

Figure 6. Comparison of Mode of Transportation to Work, 2018 and 2023[30]



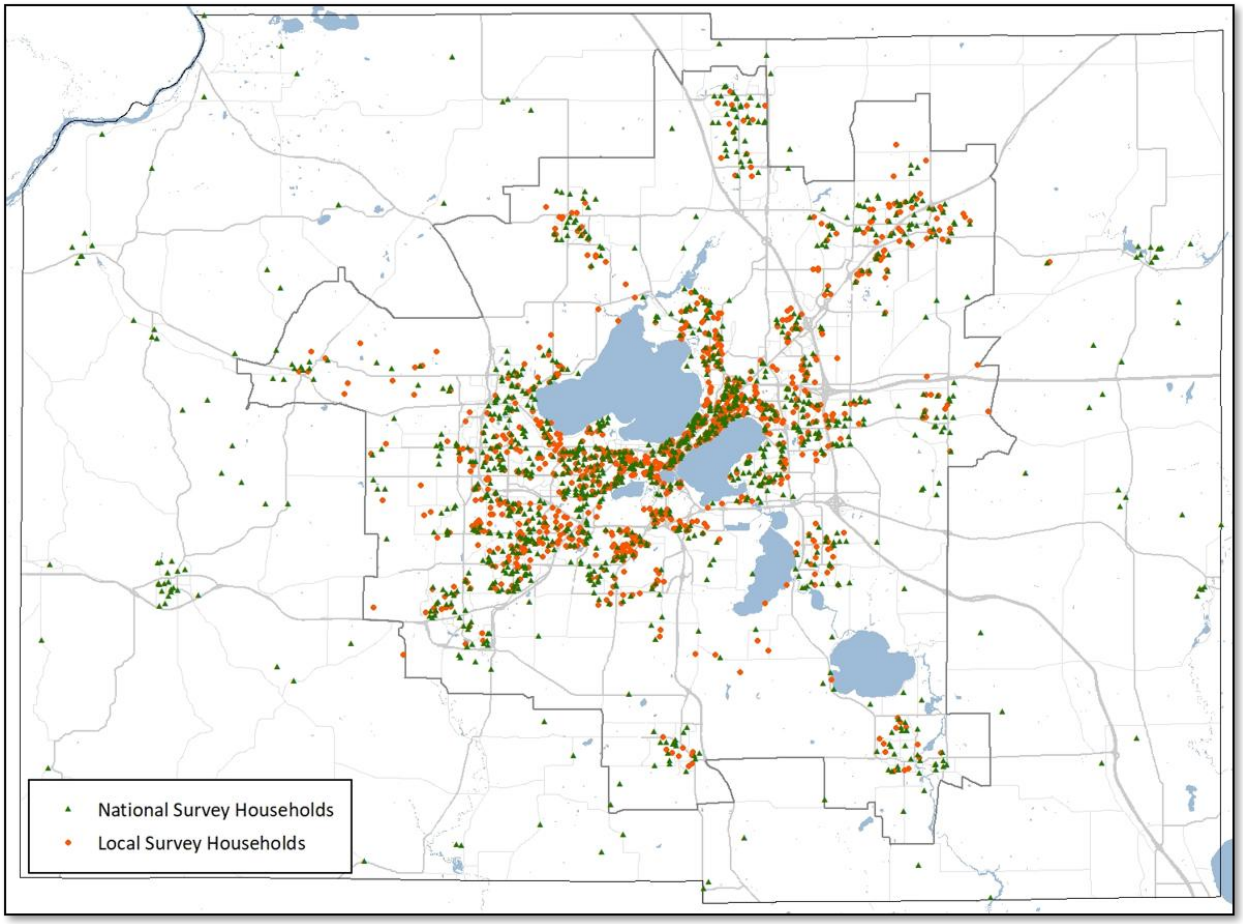
Active Travel by Trip Purpose and Home Location in the Madison Area

The Greater Madison MPO and WisDOT share joint responsibility for updating and maintaining the Dane County Travel Demand Model which is used to forecast future motor vehicle traffic and transit ridership on area roads under different development scenarios. The MPO updates the model every several years with new demographic and travel information to ensure that its underlying assumptions reflect current conditions.

The National Household Travel Survey (NHTS), which is normally conducted every 7-8 years, is key source of information used to update the model. During 2016-2017, as the NHTS was being conducted in Dane County, the MPO conducted an add-on survey of its own within the Madison Metropolitan Planning Area, shown in Map 6~~Map 5~~.

[30] American Community Surveys (ACS) estimates for 2014-2018 and 2019-2023, table B08006, Sex of Workers by Means of Transportation.

Map 65. NHTS Survey Distribution



The national survey (NHTS) and the local travel survey are complementary. The local add-on survey administered in 2016-2017 was designed to increase the number of survey respondents from groups that tend to be underrepresented in these types of surveys: households in poverty, households with children, households with senior citizens, and racial and ethnic minority groups.

In 2025, a new local NHTS add-on survey was administered in Dane County. Survey results are anticipated to be available in mid-2026. This survey data will be incorporated into the next major travel demand model update scheduled for 2027.

Both the national and local surveys had two parts:

1. Travel log: Respondents recorded all of the places they went, how and when they traveled there, and what they did at each location for a 24-hour period (4:00am – 4:00am)
2. Questionnaire: Respondents answered questions about their travel behaviors, preferences, and demographics.

In total, about 2,400 randomly sampled households returned surveys and about 3,900 individuals logged trips. The additional add-on survey conducted by the MPO that generated this deep well of

data is not a standard part of the MPO's process for updating the travel model and provides unique insight into our region's travel behavior.

The following charts and data in this section are based on trip logs from residents living within the MPO Planning area, which includes roughly 90% of Dane County's population, and is weighted to account for differing response rates in different areas. Loop trips (trips that start and end in the same place), trips starting or ending outside of Dane County, and trips taken on weekends were not included in the analysis.

Figure 7 shows the mode of transportation for all weekday trips. Driving accounts for over 75% of all trips, with walking accounting for about half of the remainder.

Figure 7. Mode of Travel, All Trips

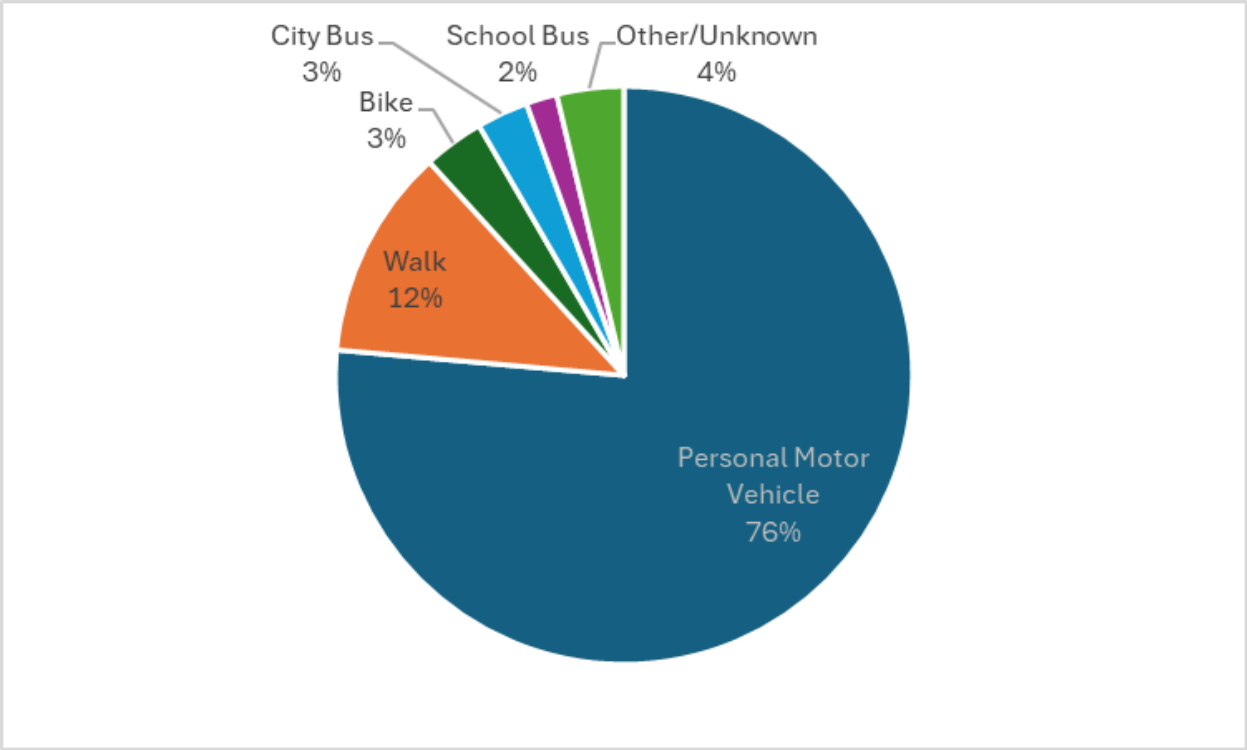


Figure 8 shows trip purposes for all weekday trips, regardless of mode. Home-based means home was origin or destination. Home-based school, university, work, social/recreational, and shopping trips are trips between travelers' homes and these other destination categories. Trips in the home-based other category connect homes with destinations that do not fall into any of the other categories. Non-home-based trips neither start nor end at home.

Home-based work trips account for less than 19% of the total, only slightly more than non-home-based shopping trips, with non-home-based trips accounting for more than 30%. About 36% of the non-home-based trips began or ended at work, indicating that many of these trips were part of a larger trip chain, where travelers made a shopping trip on the way to or from work.

Figure 8. Weekday Trip Distribution by Purpose, All Modes

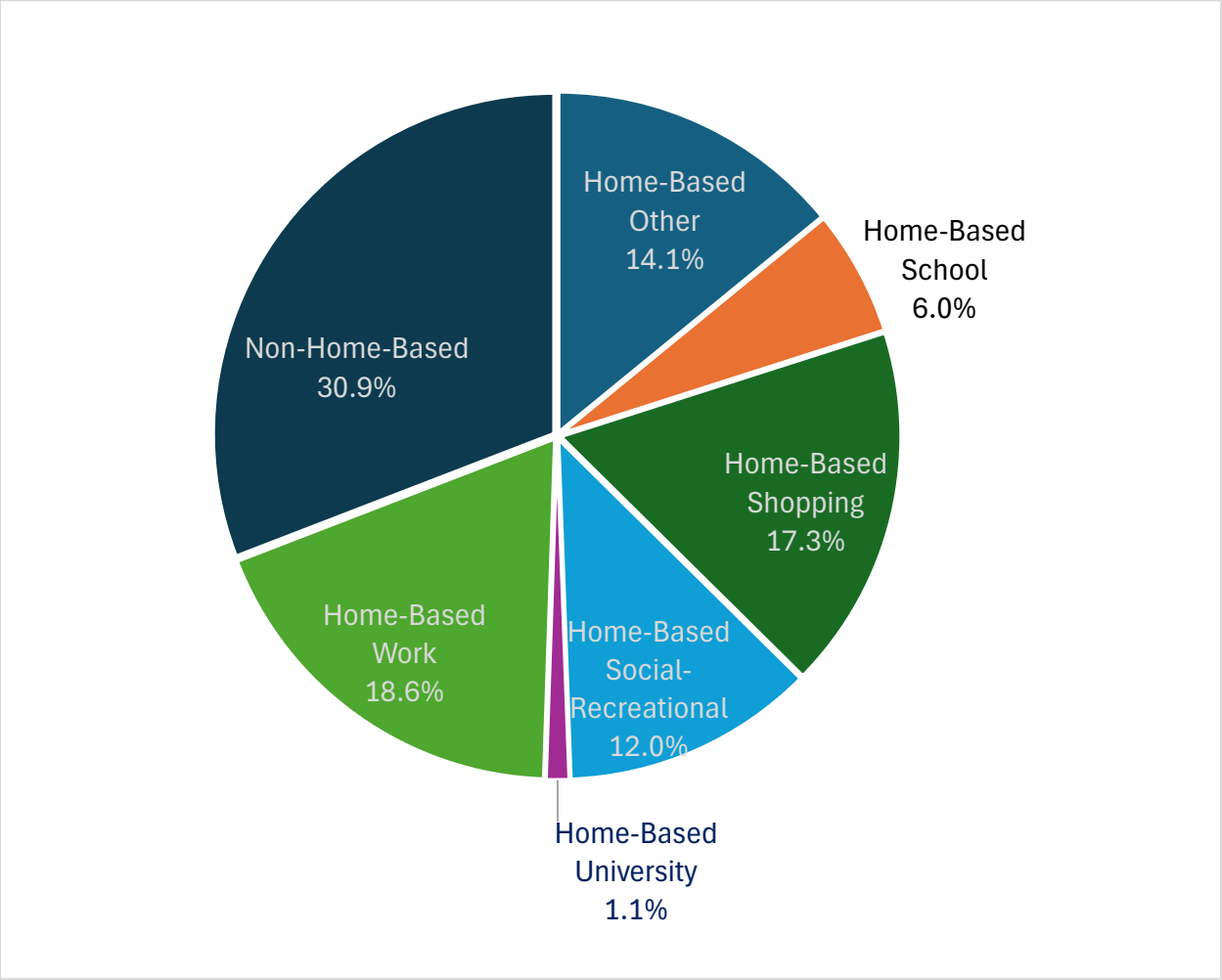


Figure 9 shows trip purposes for weekday walking trips. Home-based work trips make up less than 10% of walking trips, reflecting the fact that few people live within easy walking distance of their workplace. Non-home-based trips make up the largest share (39%) of all trips taken by foot, indicating that people often make short trips by foot during their day away from home. Home-based social-recreational trips are the next largest category (20%) of pedestrian trips.

Figure 9. Weekday Trip Distribution by Purpose, Walking Trips

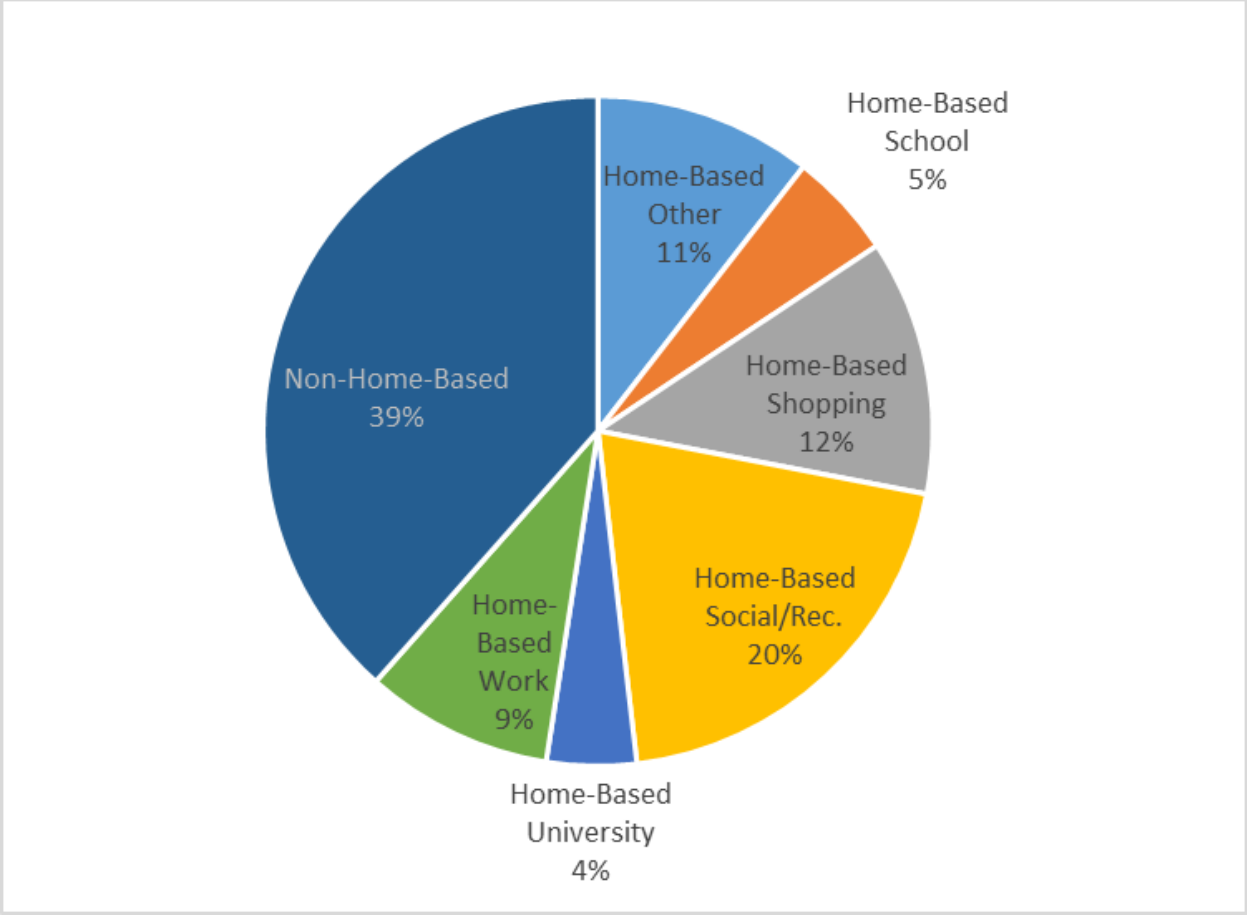
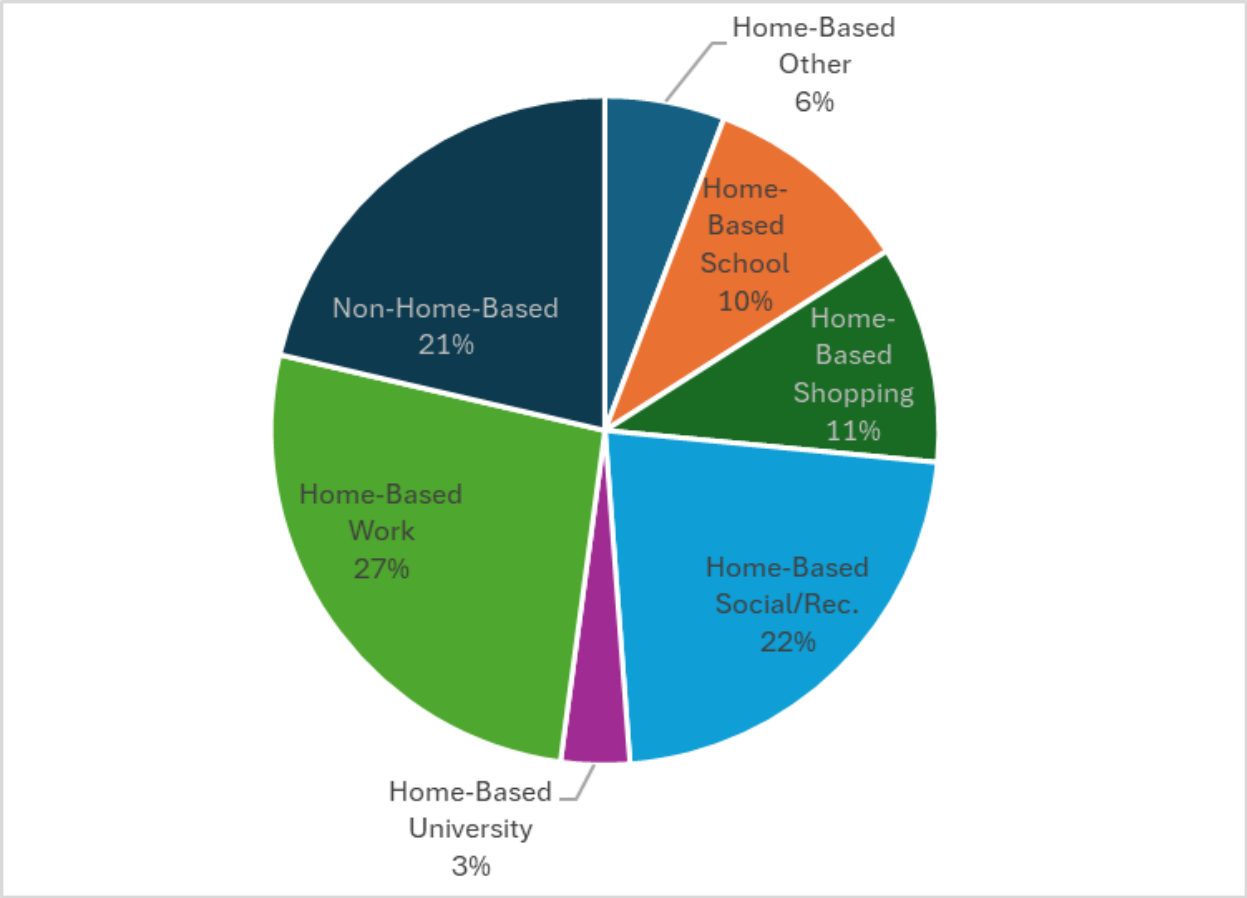


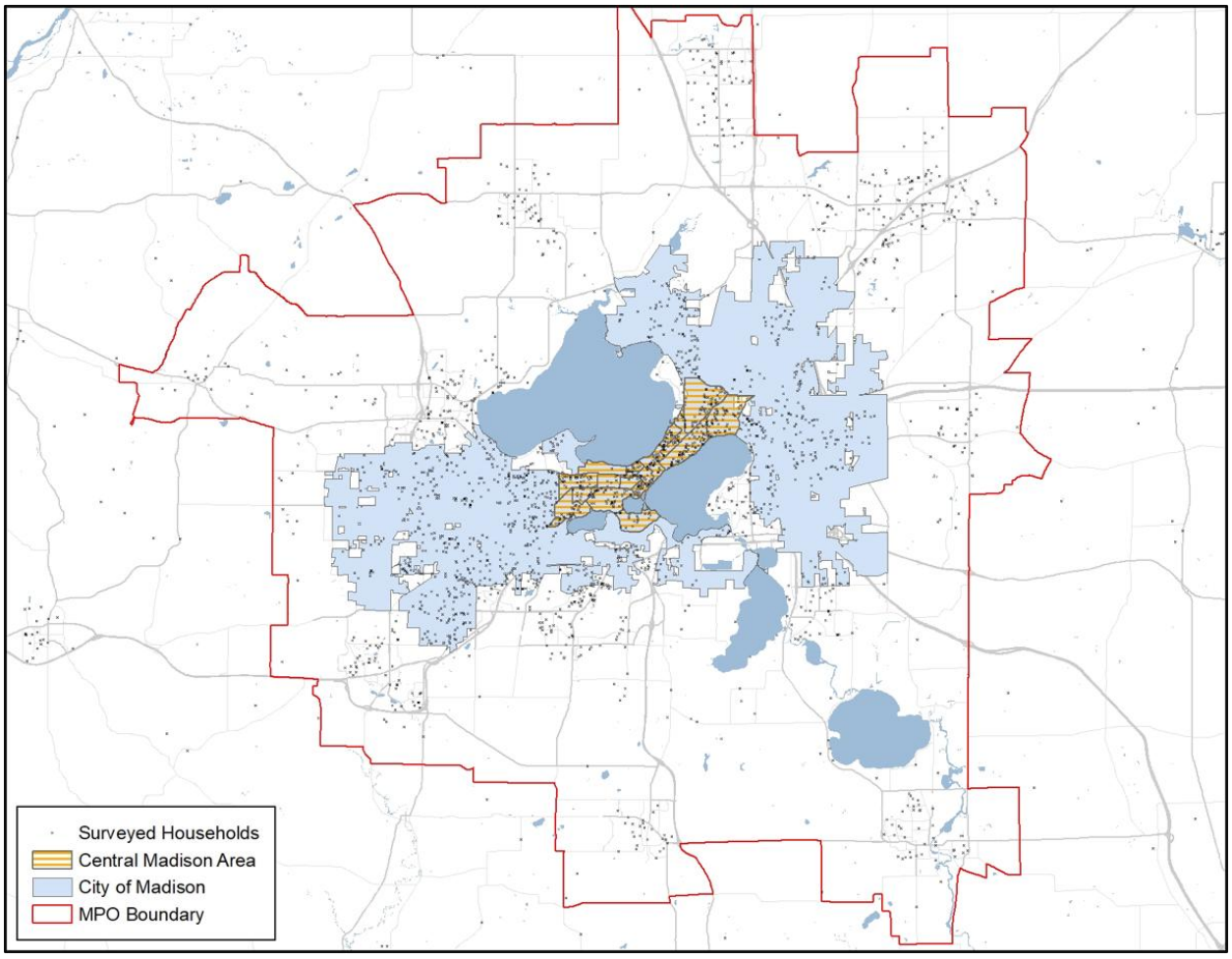
Figure 10 shows trip purposes for weekday bike trips. Home-based work trips make up the largest share of bike trips (27%) followed by home-based social-recreational trips (22%), reflecting the popularity of bikes for commuting and recreation. Trips between homes and schools (10%) and universities (3%) also make up a significant share of bike trips.

Figure 10. Weekday Trip Distribution by Purpose, Bike Trips



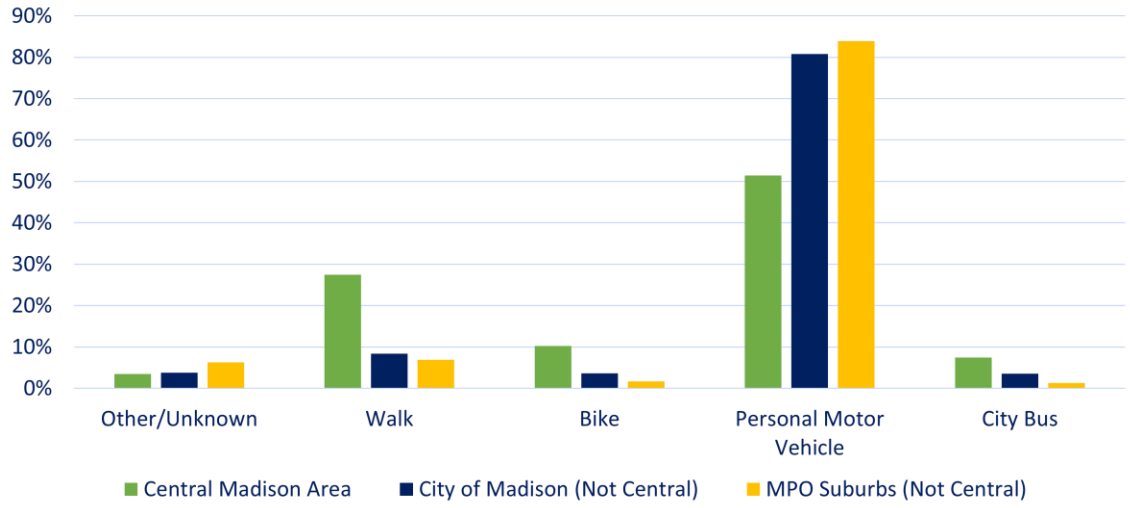
Travel behavior differs substantially based on where people live. Comparing the travel behavior of people living in the Central Madison Area, to people living elsewhere in the City of Madison, and to people living in other communities in the MPO Planning Area highlights the importance of density and land use on travel behavior. Map 7~~Map 6~~ shows the comparison areas used for the following analyses.

Map 7~~6~~. NHTS Comparison Areas



People living in the Central Madison Area make more of their trips by biking, walking, and transit than do people who live in other parts of the MPO area, as shown in Figure 11. People living in suburban MPO communities tend to make a larger percentage of their trips by driving as do people living in Madison outside of the central area.

Figure 11. Weekday Trip Distribution by Mode



Not only does the frequency of trips by biking and walking vary by where people live, the types of trips people make by bike and by foot also varies by where people live. As shown in Figure 12 and Figure 13, people living in the Central Madison Area have a more balanced profile for the types of trips they take by foot and bike than do people living in other parts of the City of Madison and in MPO suburbs. This indicates that biking is more feasible for more types of trips in the Central Madison Area than in more outlying communities.

Table 2. NHTS Trip Purpose Abbreviations

Trip Purpose	**Abbreviation**
Home-Based Other	HBO
Home-Based School	HBSCH
Home-Based Shopping	HBSHOP
Home-Based Social-Recreational	HBSOCREC
Home-Based University	HBUNIV
Home-Based Work	HBW
Non-Home-Based	NHB

Figure 12. Weekday Bicycle Trip Distribution by Purpose

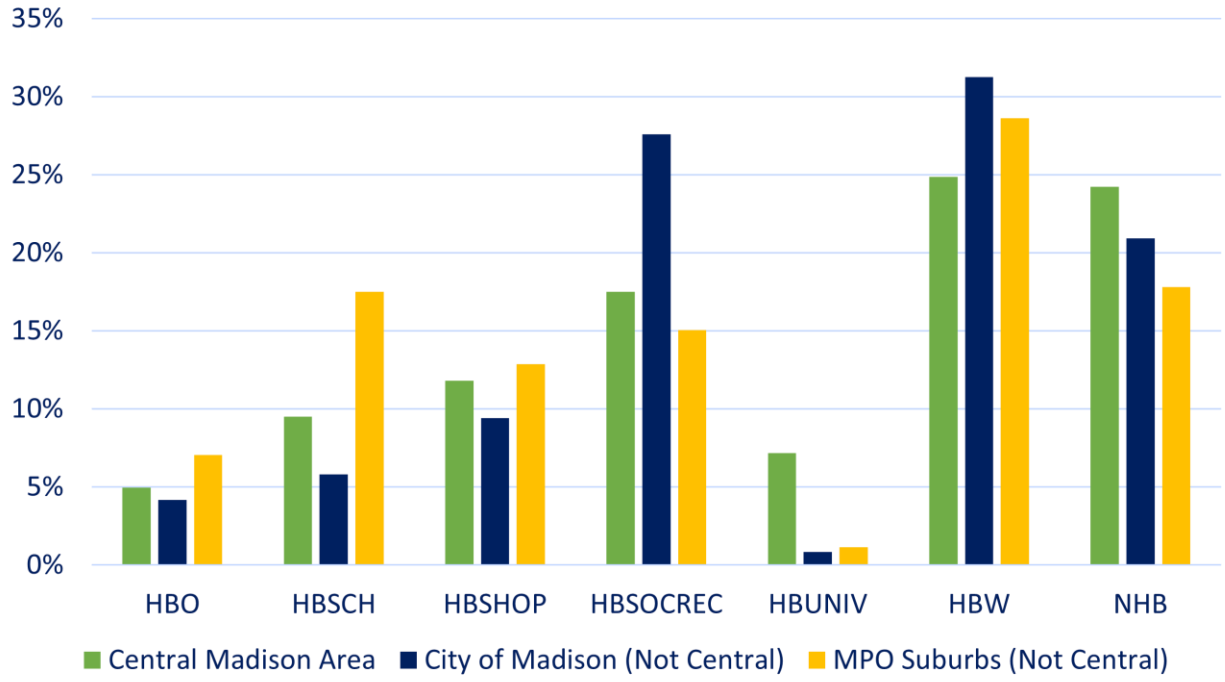


Figure 13. Weekday Walking Trip Distribution by Purpose

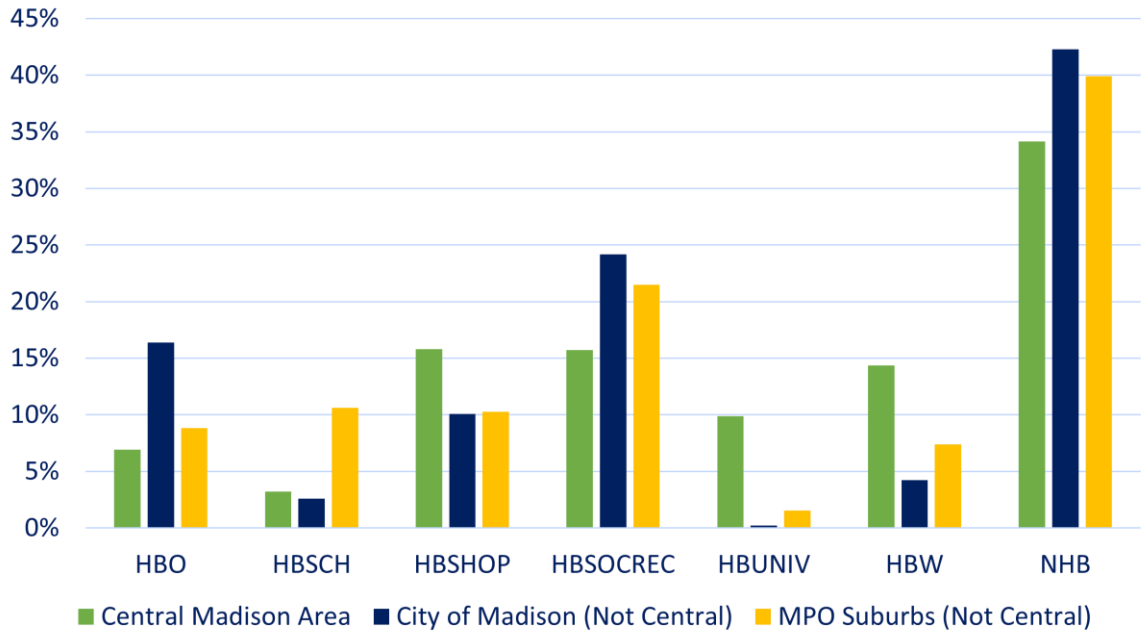
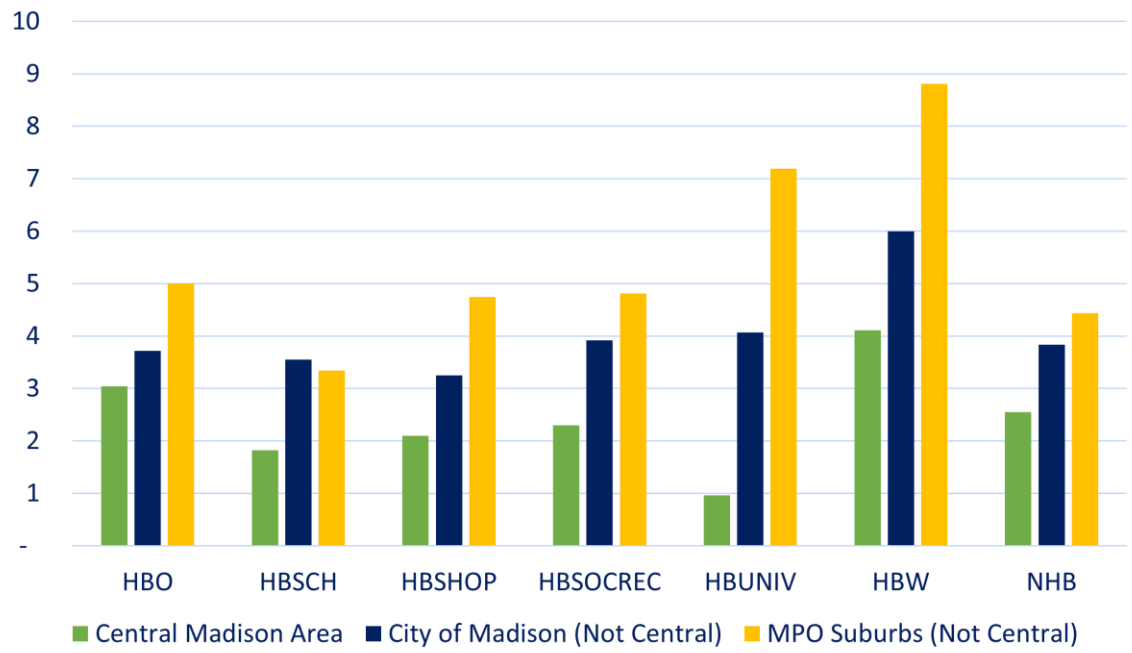


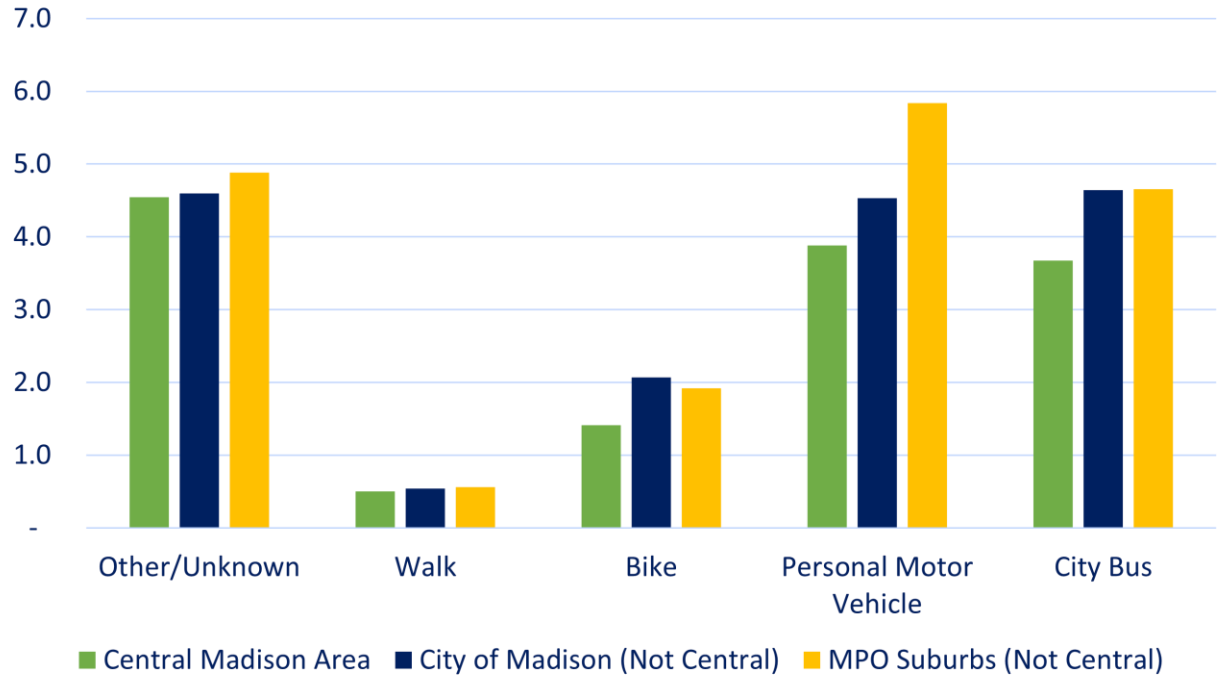
Figure 14 shows the average distance traveled by people living in different parts of the MPO Planning Area for different trip purposes. Unsurprisingly, people living in the Central Madison Area travel shorter distances for all types of trips than do people living in the rest of Madison and in MPO suburbs. This is likely the most important factor influencing their high bike ridership.

Figure 14. Average Weekday Trip Length (in Miles) by Purpose



While people in the Central Madison Area tend to have shorter trip distances than people living in other areas, people throughout the MPO Planning Area tend to travel similar distances by different modes, as shown in Figure 15. This supports the conclusion that, with supportive infrastructure and a greater density of destinations in closer proximity, people living outside of the Central Madison Area would be more likely to travel by bike and by walking or rolling.

Figure 15. Average Weekday Trip Length by Mode



Demographic Trends

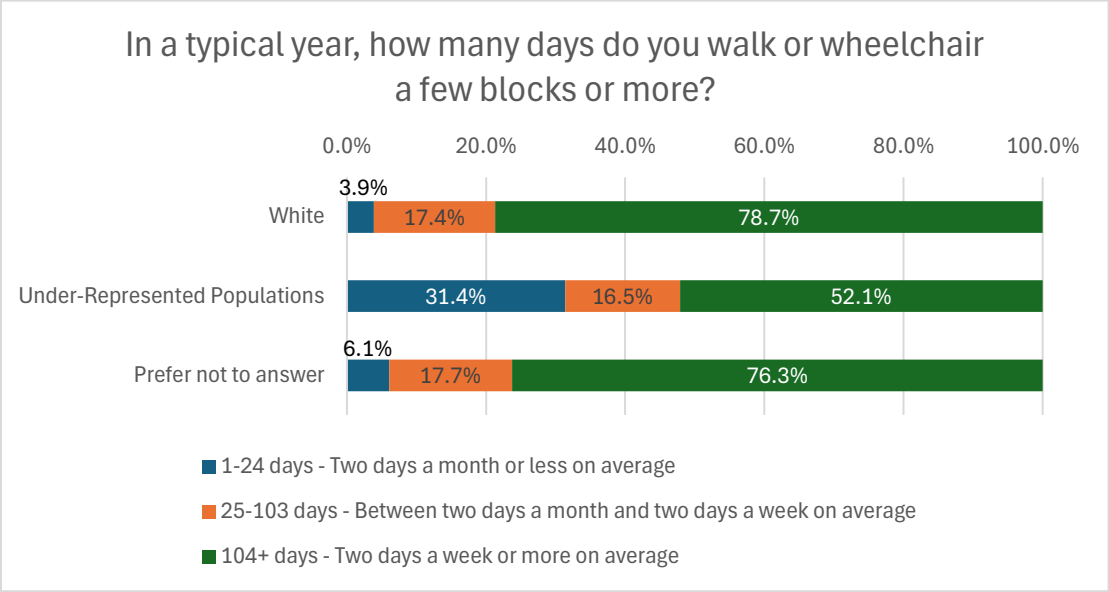
The public engagement efforts for this plan and similar efforts revealed several trends in use and behavior differences between racial, ethnic, age, income, disability, gender, and other demographic groups. Notable differences between preferences and needs between these groups are described below.

Responses to the Greater Madison MPO's public survey for this plan show that different demographic groups are using different active transportation modes at different frequencies. Due to limited response rates from most racial and ethnic groups, it is important to note that responses only show how those respondents feel or act; a statement that 100% of American Indian or Alaska Native respondents walk or roll two or more days each week would not mean that 100% of American Indians or Alaska Natives living in, working in, or visiting Dane County walk or roll two or more days each week. Although there are interesting differences in responses from racial and ethnic groups that warrant additional research to better serve the needs of all, small sample sizes risk data being skewed toward niche populations (e.g. a Black bicycle club or a Hmong walking group whose members all complete the survey could skew responses for that racial group) instead of representing the entire population of that racial or ethnic group. For this reason, charts include an Under-Represented Population category; even this combined group only includes 128 respondents and should therefore not be considered representative of the overall minority population.

While respondents of all racial and ethnic groups report walking or rolling at similar rates (84-89%), the frequency of how often groups walk or roll varies greatly, as shown in Figure 16. Fewer under-

represented respondents than White respondents walk 104 or more days a year (52% v. nearly 79%).

Figure 16. Walking or rolling frequency by race



White respondents ride non-electric bicycles at a higher rate than do under-represented respondents (72.5% v. 66%), as shown in Figure 17.

Figure 17. Riding a non-electric bike by race

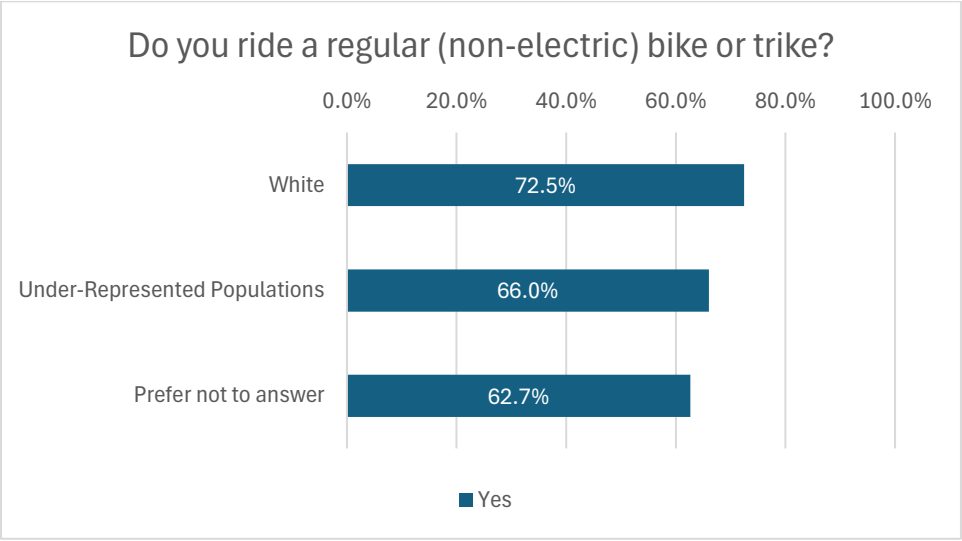
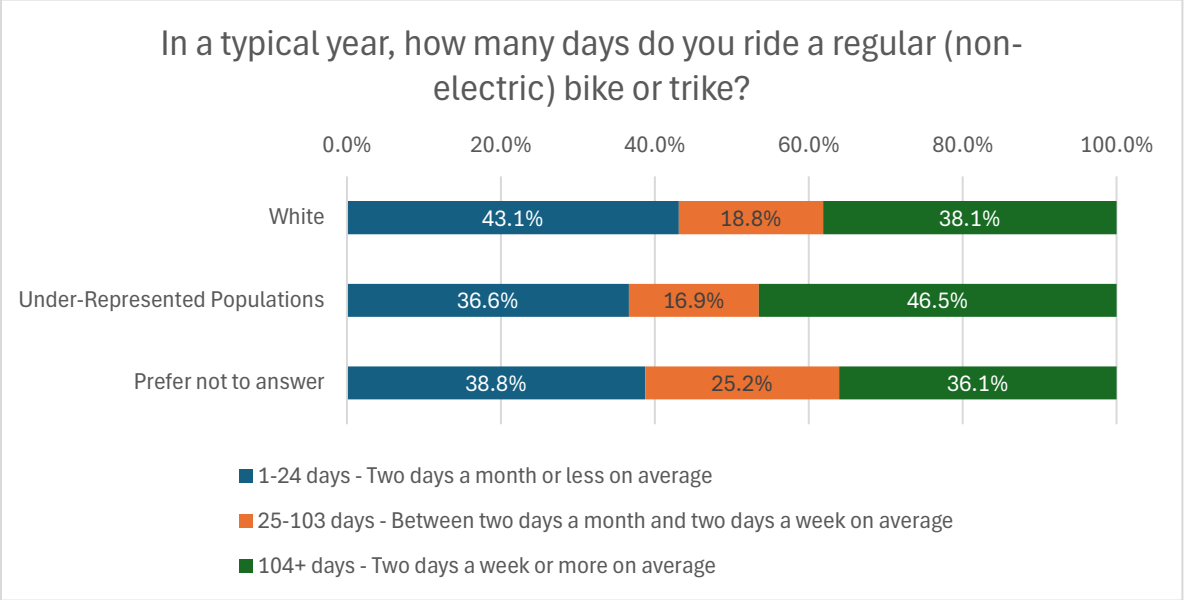


Figure 18 shows that although under-represented respondents report riding non-electric bicycles at a lower rate than do White respondents, those under-represented respondents who do ride non-electric bicycles report doing so with more frequency than White respondents do, with over 46% of

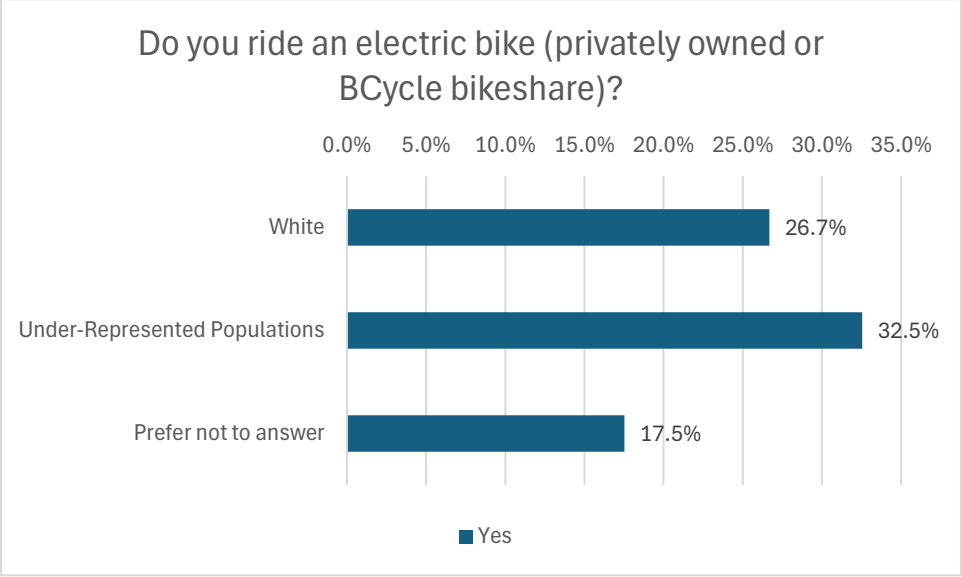
under-represented respondents riding 104 or more days a year, while only 38% of White respondents ride this frequently.

Figure 18. Bicycling frequency by race



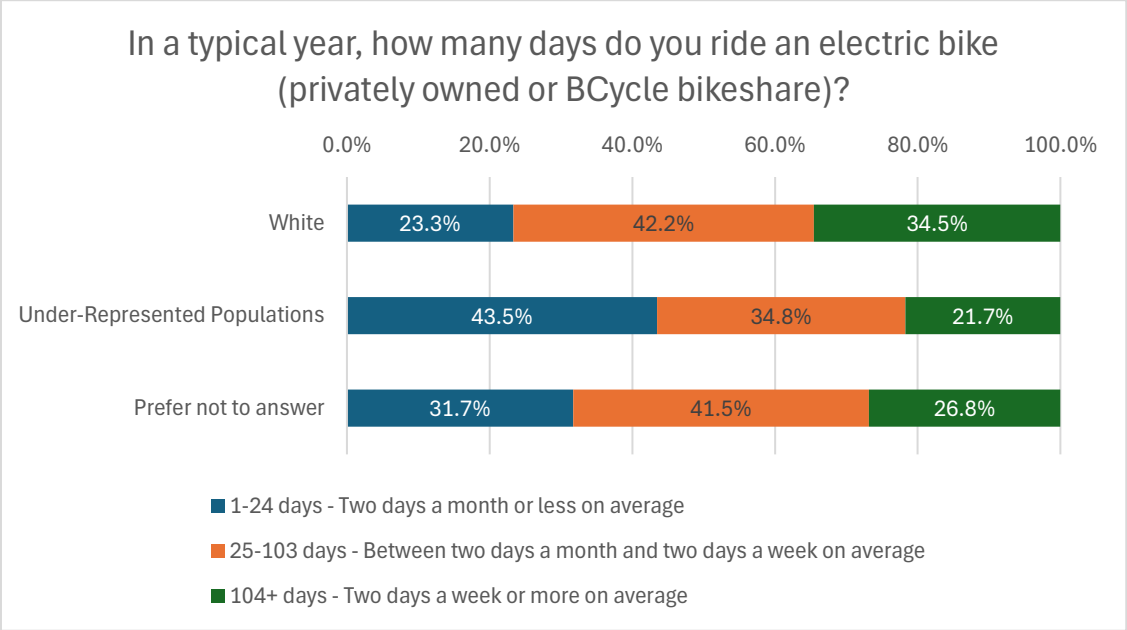
Electric bike use is more common among under-represented respondents than among White respondents (32.5% v. 26.7%), shown in Figure 19.

Figure 19. Electric bike use by race



In contrast to frequency of riding non-electric bicycles, under-represented respondents report riding e-bikes 104 or more days a year at a lower rate than White respondents do (21.7% v. 34.5%), shown in Figure 20.

Figure 20. Frequency of e-bike use by race



While overall reported use of both electric and non-electric other micromobility devices is low, there are notable differences between racial group adoption of these devices, as shown in Figure 21 and Figure 22. Under-represented respondents use these devices at roughly twice the rate as White respondents.

Figure 21. E-mobility device use by race

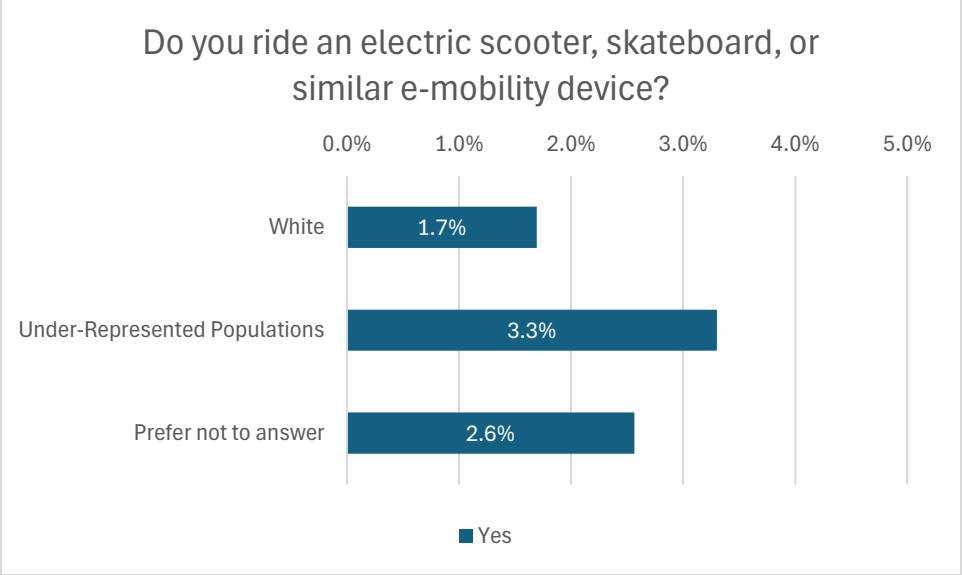
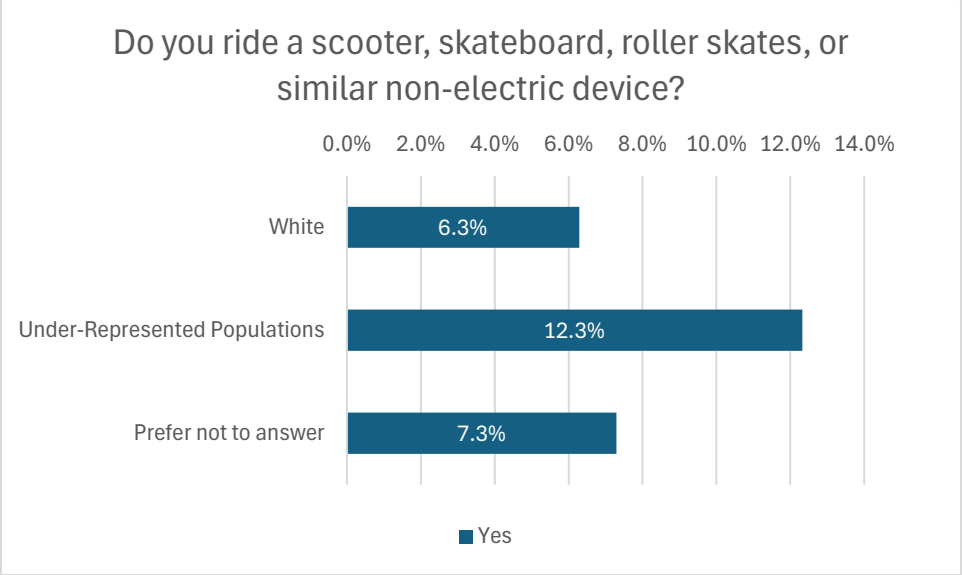
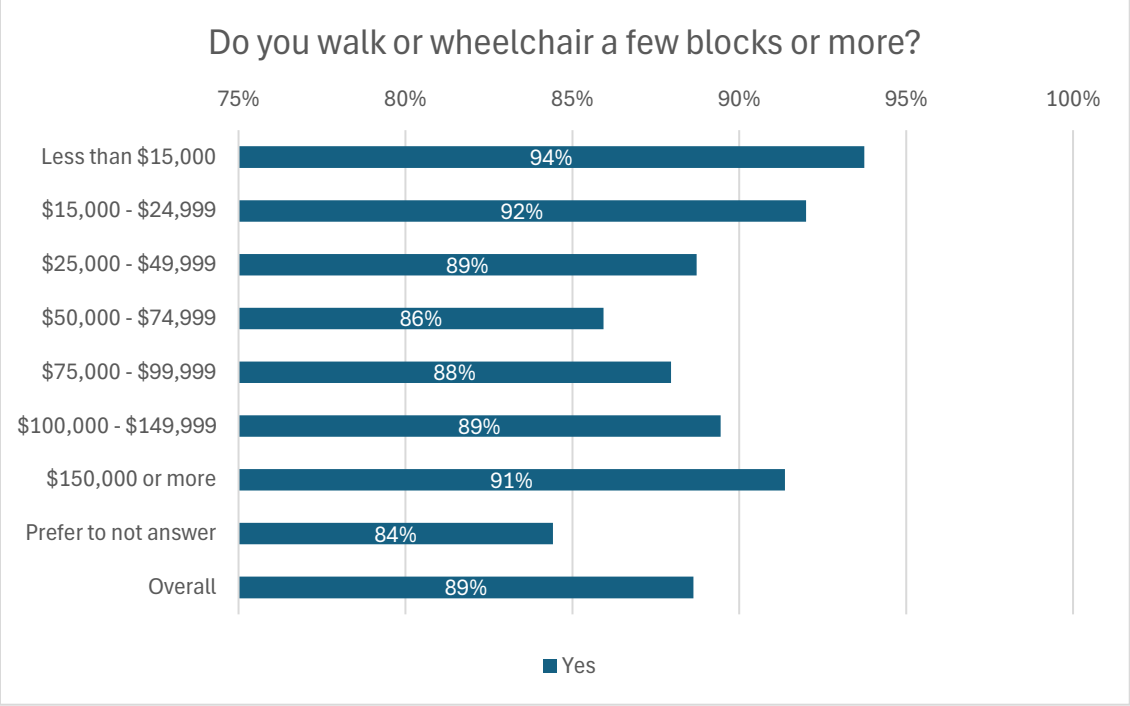


Figure 22. Other non-electric device use by race



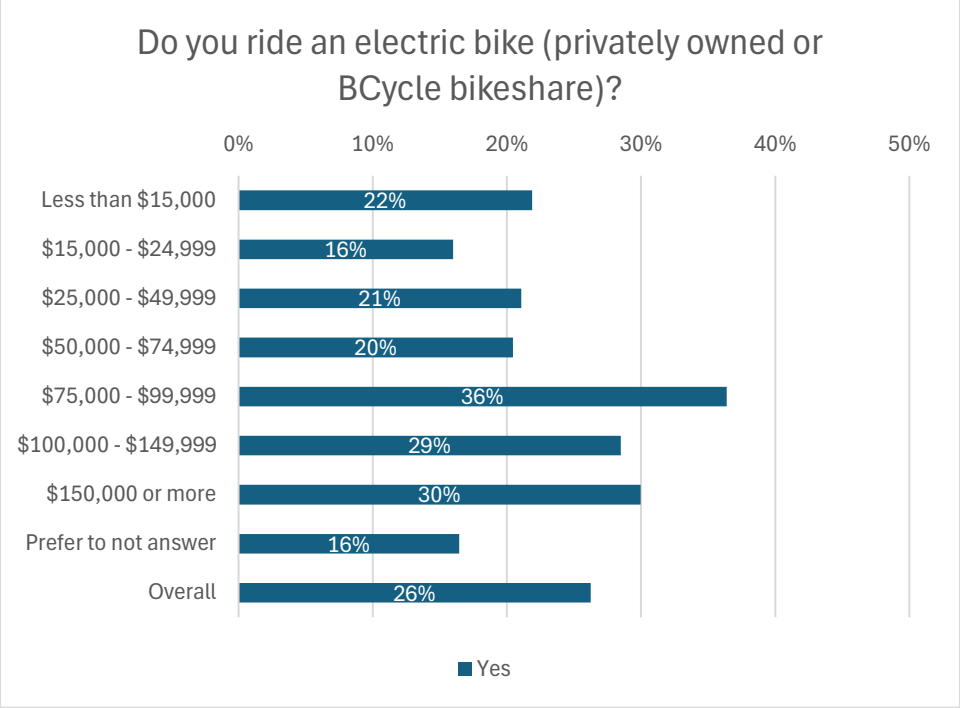
Interestingly, respondents from both lower- and higher-income households report walking and rolling at higher rates than do those from middle-income households, shown in Figure 23.

Figure 23. Walking and rolling by household income



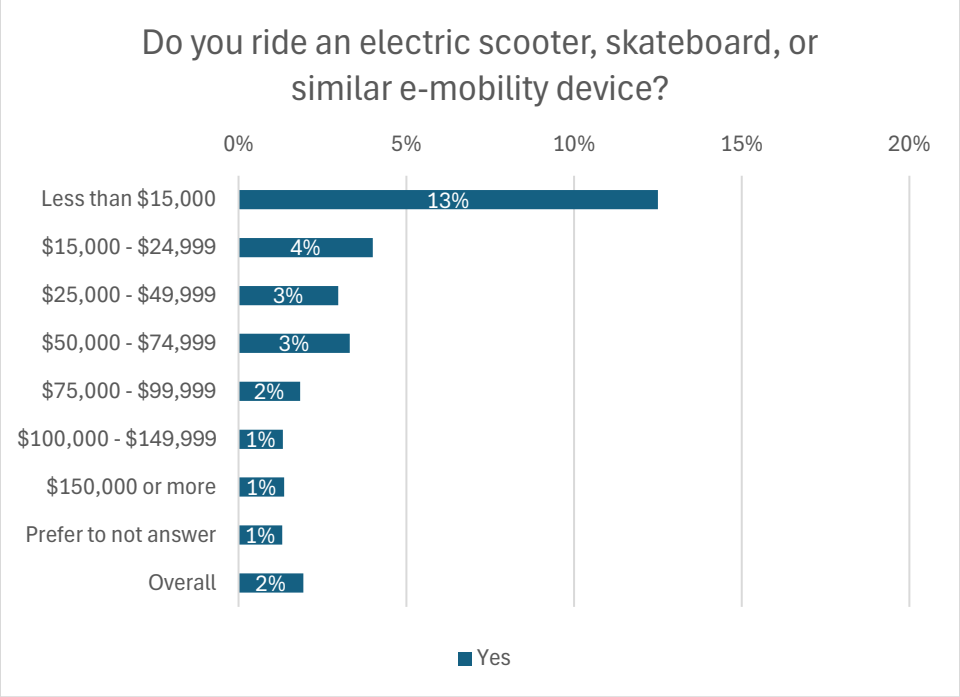
Use of non-electric bicycles is fairly consistent across income brackets, with a low of 52% in the $15,000-$24,999 bracket and between 66-79% of respondents in other income categories riding bicycles. The use of e-bikes, however, is much higher among higher-income households than it is among middle- and lower-income households, as shown in Figure 24.

Figure 24. E-bike use by household income



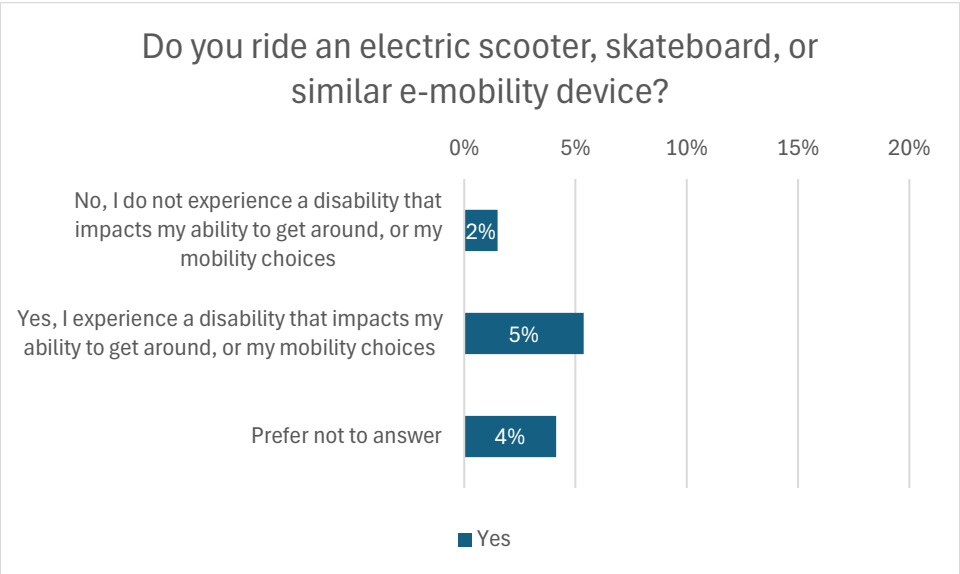
In contrast to the use of e-bikes, the use of other e-mobility devices is much higher among the lowest-income households and diminishes as household income increases, as is shown in Figure 25.

Figure 25. E-mobility device use by household income



No significant differences were reported between respondents who experience a disability or mobility impairment and those who do not when asked about walking, rolling, or riding either non-electric or e-bikes. However, as Figure 26 shows, respondents who experience a disability or mobility impairment report using e-mobility devices at over twice the rate as those who do not experience a disability. This illustrates that these devices are filling a critical niche in the transportation environment for people who experience difficulties in their ability to get around.

Figure 26. E-mobility device use by disability or mobility impairment

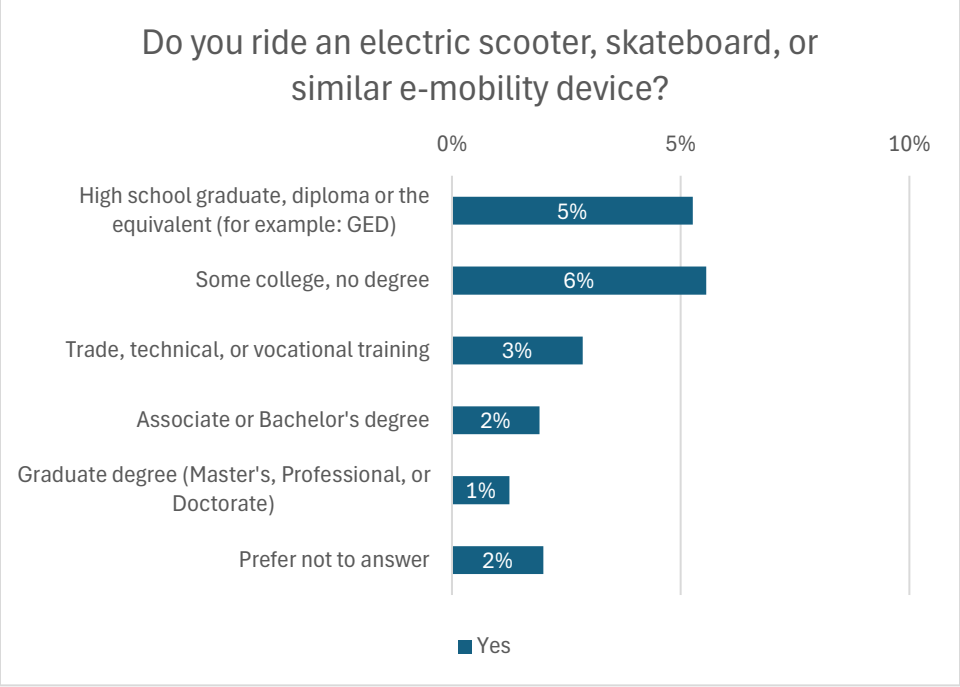


During development of this ATP, MPO staff spoke with several users of e-micromobility devices and e-trikes who stated that they could not use standard bicycles due to health conditions or disabilities. One of these individuals, Mark, was riding his bike when he was hit by a car in 2024. He now relies on an e-trike for transportation, as it provides the extra stability demanded by his traumatic brain injury.

Photos: Ben Lyman, Greater Madison MPO

Walking or rolling is common for all educational attainment groups but increases from 75% for High School graduates or equivalents to 91% for those with Graduate degrees. Riding non-electric bikes similarly increases fairly linearly from 41% for High School graduates to 77% for those with Graduate degrees. Use of e-bikes, however, is less predictable but fairly consistent across all educational attainment levels, from a low of 24% for those with some college but no degree to a high of 30% for those with trade, technical, or vocational training. Figure 27 shows that the use of e-mobility devices is most common for High School graduates (5%) and those with some college but no degree (6%), and decreases as more education is achieved, with only 1% of respondents with Graduate degrees reporting use of this type of device.

Figure 27. E-mobility device use by educational attainment



Although women (26%) report riding electric bicycles at nearly the same rate as men (27%), they report riding non-electric bicycles at a much lower rate than do men, as shown in Figure 28. Women's preference for riding e-bikes over non-electric bikes is further demonstrated by BCycle system ridership, which is composed of over 50% women riders and just over 40% ridership by men.[31]

[31] BCycle 2024 Annual Report

Figure 28. Non-electric bicycle use by gender

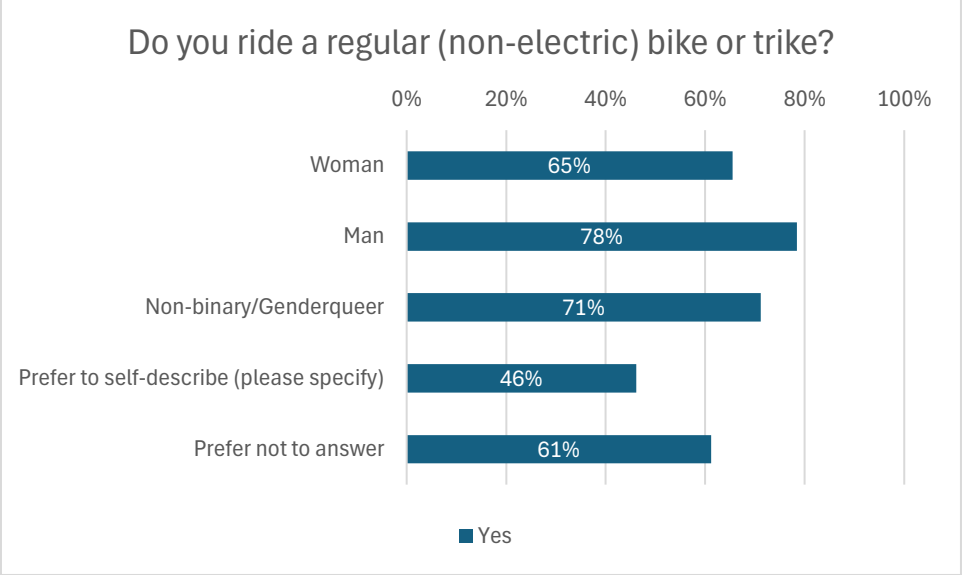
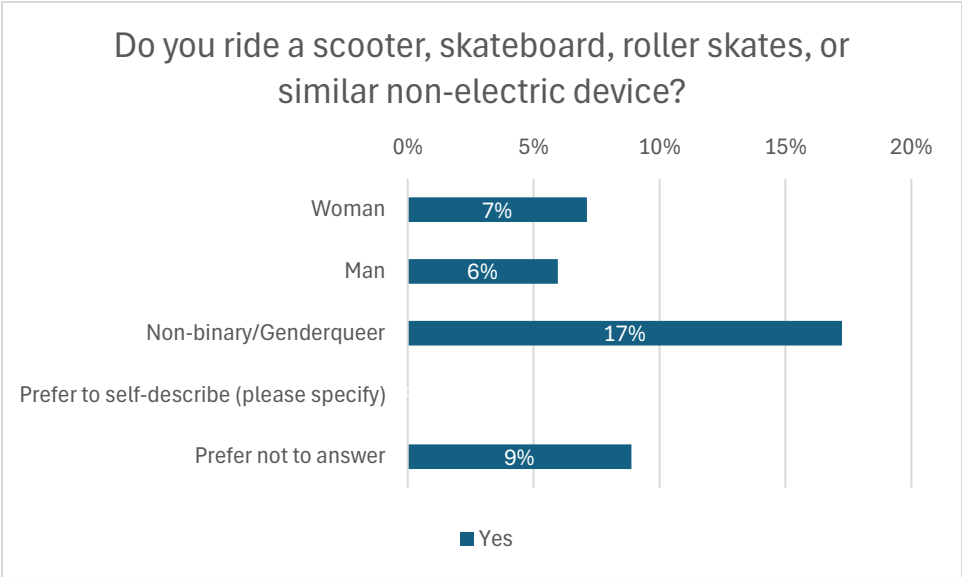


Figure 29 shows that Non-binary or genderqueer respondents report walking, rolling, riding non-electric bikes, riding e-bikes, and using e-mobility devices at levels similar to all other gender groups, but report using non-electric devices such as scooters, skateboards, and roller skates at more than twice the rate of those who identify as Women or as Men.[32]

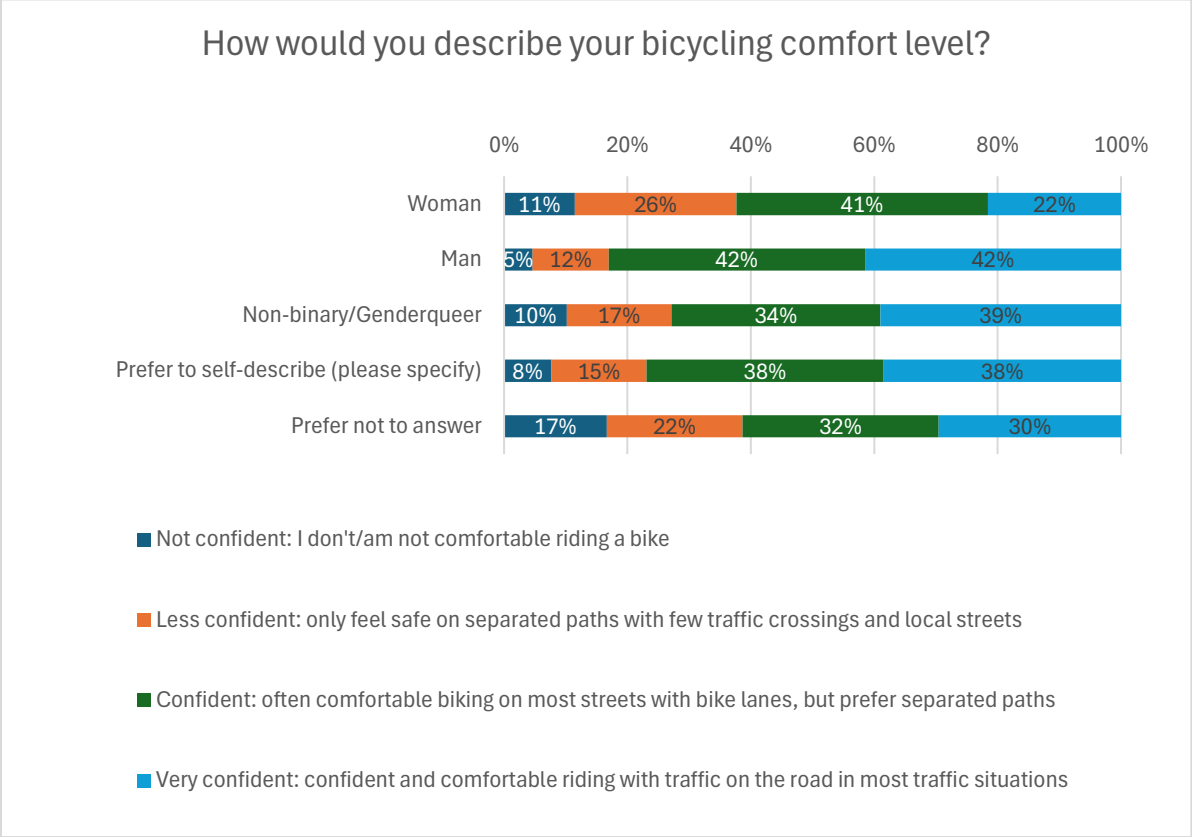
Figure 29. Non-electric device use by gender



[32] Although this dramatic difference between how non-binary/genderqueer and other gendered respondents report using these devices may be attributable to statistical noise or small sample size, 58 non-binary/genderqueer respondents answered this question – a large enough sample that it may be representative of this population at large.

Figure 30 shows that bicycling comfort level varies strongly by gender, with most of the difference accounted for by the proportion of each gender group who feels “very confident” riding with traffic on the road, with 42% of Men feeling “very confident” and just under 40% of both non-binary/genderqueer and those who prefer to self-describe feeling “very confident”, versus just 22% of Women.

Figure 30. Bicycling confidence by gender



Roughly 80%-90% of all age groups reported walking and rolling rates with some frequency. By contrast, respondents reported profound differences in their use of bicycles, both non-electric (Figure 31) and e-bikes (Figure 32). While 100% of respondents aged under age 18 report riding a regular bicycle, 0% of them report riding an e-bike. For nearly all other age groups, regular bicycle use is approximately 2-3 times more common than e-bike use is. For all age groups other than those under 18, the use of both non-electric and e-bikes peaks in the 35-44 age group. Interestingly, 6% of respondents in the 85 and older age group report riding both regular and e-bikes.

Figure 31. Non-electric bicycle use by age group

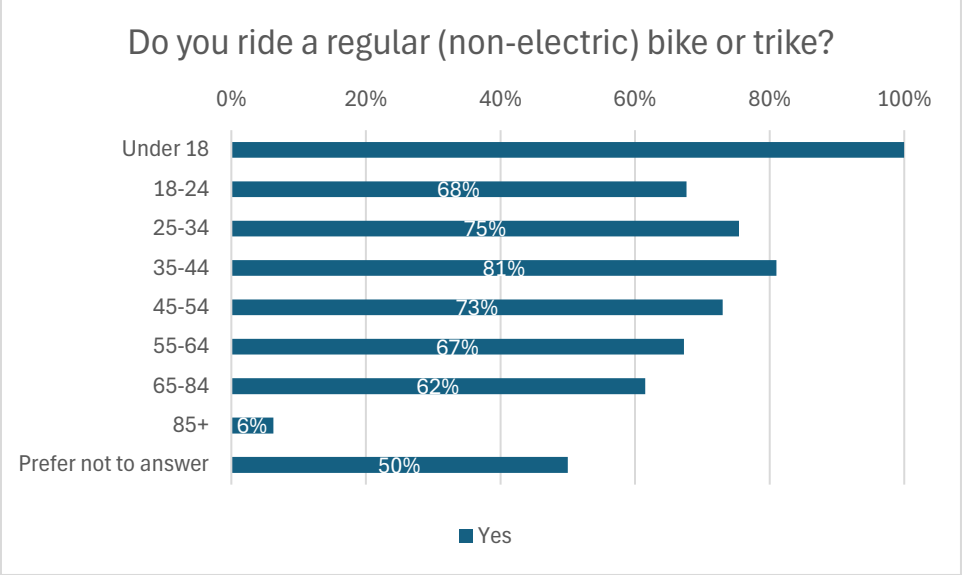
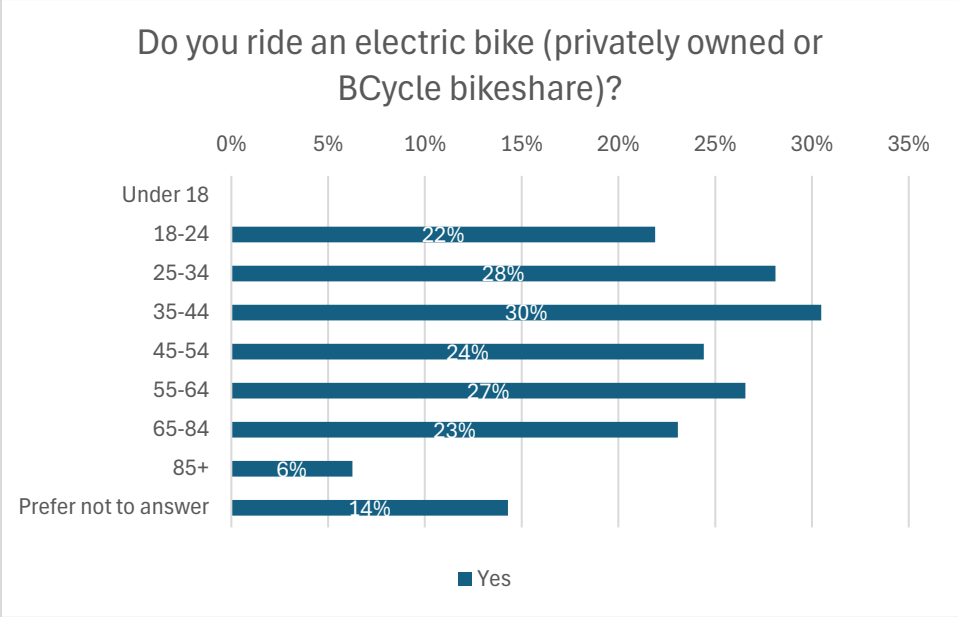


Figure 32. E-bicycle use by age group



Safety

Safety issues related to active transportation modes may be related to infrastructure, such as insufficient lighting, uneven or displaced surfaces, or other features, or they may be related to behavior, such as red-light running, speeding, or distracted driving/walking/rolling/bicycling.

In recent decades, transportation planning has begun shifting from prioritizing vehicle throughput to prioritizing user safety, including the safety of vulnerable road users such as pedestrians and bicyclists. Although there are some differences between them, lenses such as Vision Zero and the Safe Systems Approach to planning and design both prioritize designing and constructing facilities to reduce the likelihood of human error resulting in death or serious injuries to all users of the transportation network. The City of Madison has been recognized as a Vision Zero community the Vision Zero Network, and the City of Sun Prairie adopted a Vision Zero Action Plan in 2025, important steps toward prioritizing the design and policy changes needed to achieve the goal of reducing all traffic fatalities and serious injuries to zero by an established deadline.

The federal government requires the MPO to track the five-year rolling average annual number of non-motorized fatalities and serious injuries in Dane County. This number peaked at 44 in 2021 and has been declining for the past few years, reaching 40.2 in 2024, its lowest level since 2018.

While the MPO is a planning agency and does not build infrastructure or set local policies, safety is one of the MPO's key priorities and is a factor in selecting projects for funding through the Transportation Alternatives Program (TAP) and the Surface Transportation Block Grants – Urban (STBG-U) program. For infrastructure projects, safety accounts for up to 15% of TAP project scores, and for up to 20% of STBG-U project scores. Safety enhancement scores are based on the expected impact of proposed safety improvements and the crash history of the location.

Crash Data

The Wisconsin Traffic Operations and Safety Laboratory (TOPS Lab) provide crash data and copies of police crash reports as a service to the WisDOT Bureau of Traffic Operations. The data is classified as per the injury type, cause, and contributing factors, and includes information on motor vehicle crashes involving pedestrians and bicyclists. For the analysis, the data has been retrieved from MV4000 dataset for Dane County from January 2015 to December 2025 to compare annual changes in the overall crashes and crashes involving pedestrians and bicyclists.

Figure 33 shows that overall crashes have declined by 30%, from 10,052 crashes in 2015 to 7,045 crashes in 2025. The number of crashes resulting in serious injuries has similarly declined by 18%, from 168 crashes in 2015 to 137 crashes in 2025. However, the number of fatal crashes has remained fairly constant, with 30 fatal crashes in 2015 compared to 29 fatal crashes in 2025.

Figure 33. Dane County total crashes vs total fatal crashes across all modes of transport, 2015 - 2025

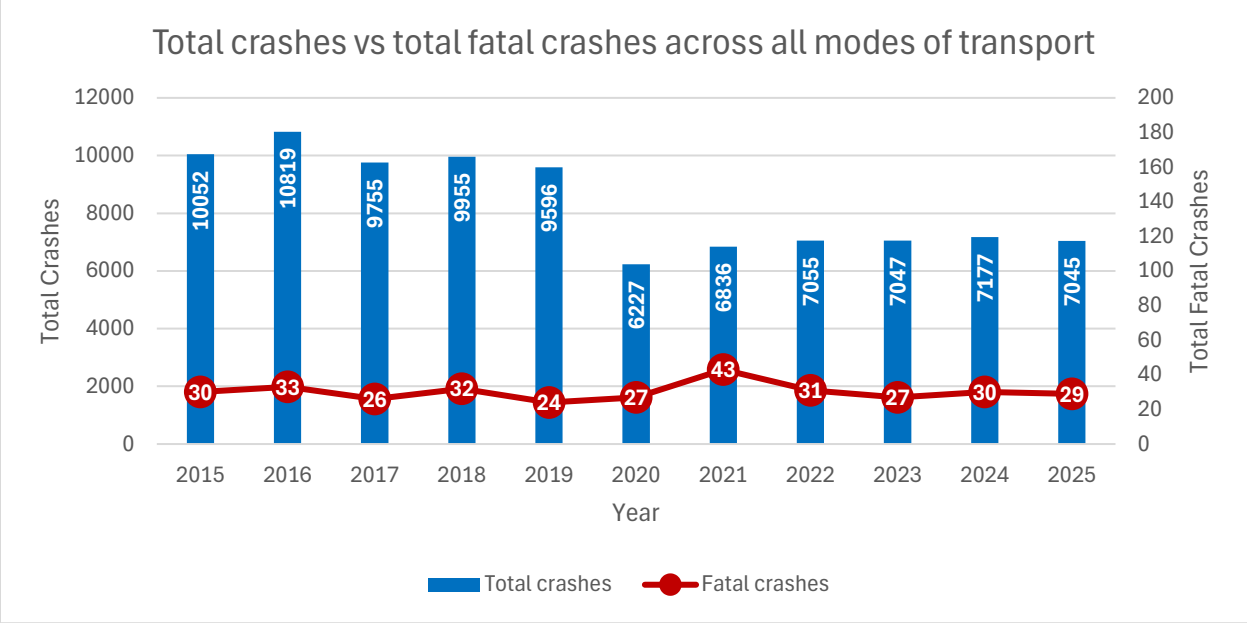


Figure 34 shows that crashes involving bicyclists and pedestrians declined 24% during this 2015-2025 period, falling from 289 in 2015 to 220 in 2025. While pedestrian and bike crashes combined represent just 3% of total crashes, they accounted for 19% of fatal crashes and 20% of serious injury crashes between 2015 and 2025, shown in Figure 35.

Figure 34. Dane County pedestrian and bike crashes vs total fatal pedestrian and bike crashes, 2015 -2025

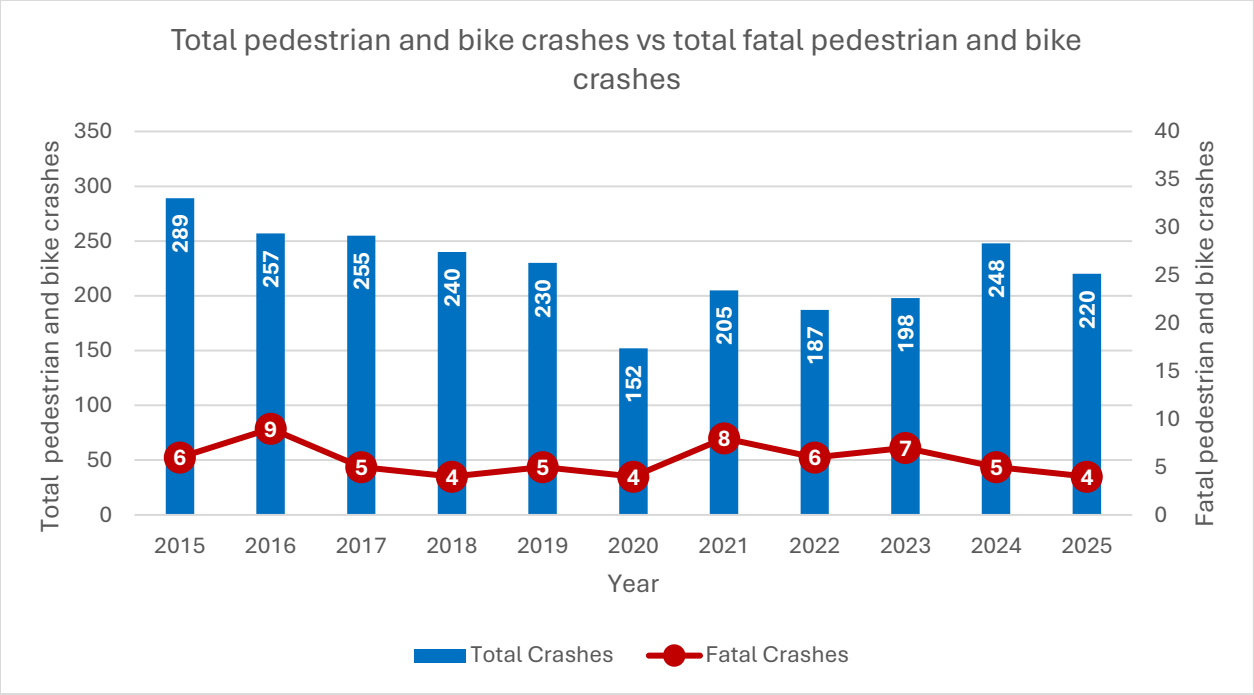


Figure 35. Dane County share of pedestrian and bike crashes that led to a fatal or serious injury, 2015 - 2025

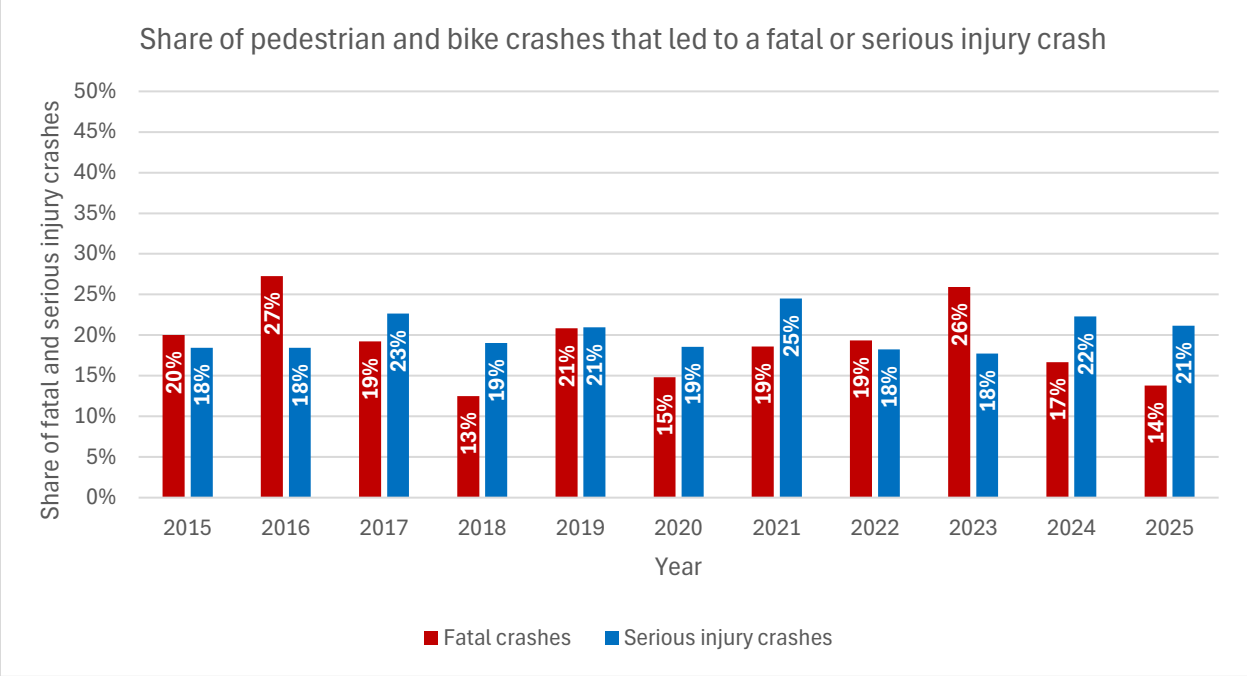
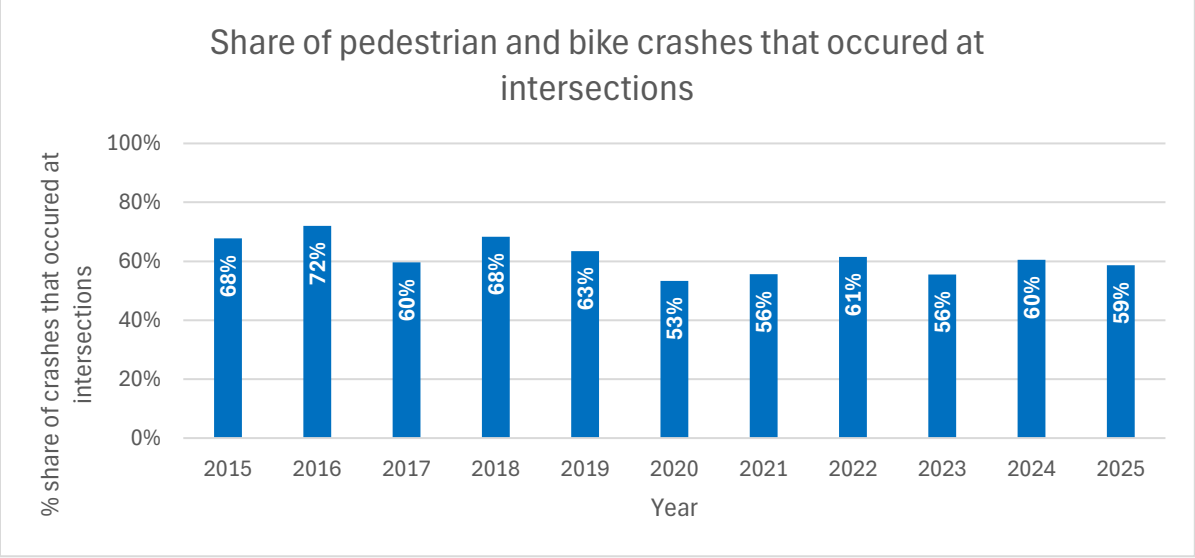


Figure 36 shows that a majority of pedestrian and bicycle crashes have occurred at intersections, representing on average 61% of total crashes from 2015 to 2025. Out of the total pedestrian and bike crashes, 2016 had the highest share of 72% crashes occurring at intersections, and 2020 had the lowest share of crashes at 53%.

Figure 36. Dane County share of pedestrian and bike crashes that occurred at intersections, 2015 - 2025



In addition to the crash data, the Community Maps website managed by the TOPS Lab hosts a mapping platform for viewing these crashes geographically. Screen captures from the website, below, show the locations of fatal crashes across all modes of transport from 2015 to 2025 (Figure 37) and fatal pedestrian and bike crashes from 2015 to 2025 (Figure 38).

Figure 37. Map representing fatal crash locations across all modes of transport in Dane County, 2015 - 2025

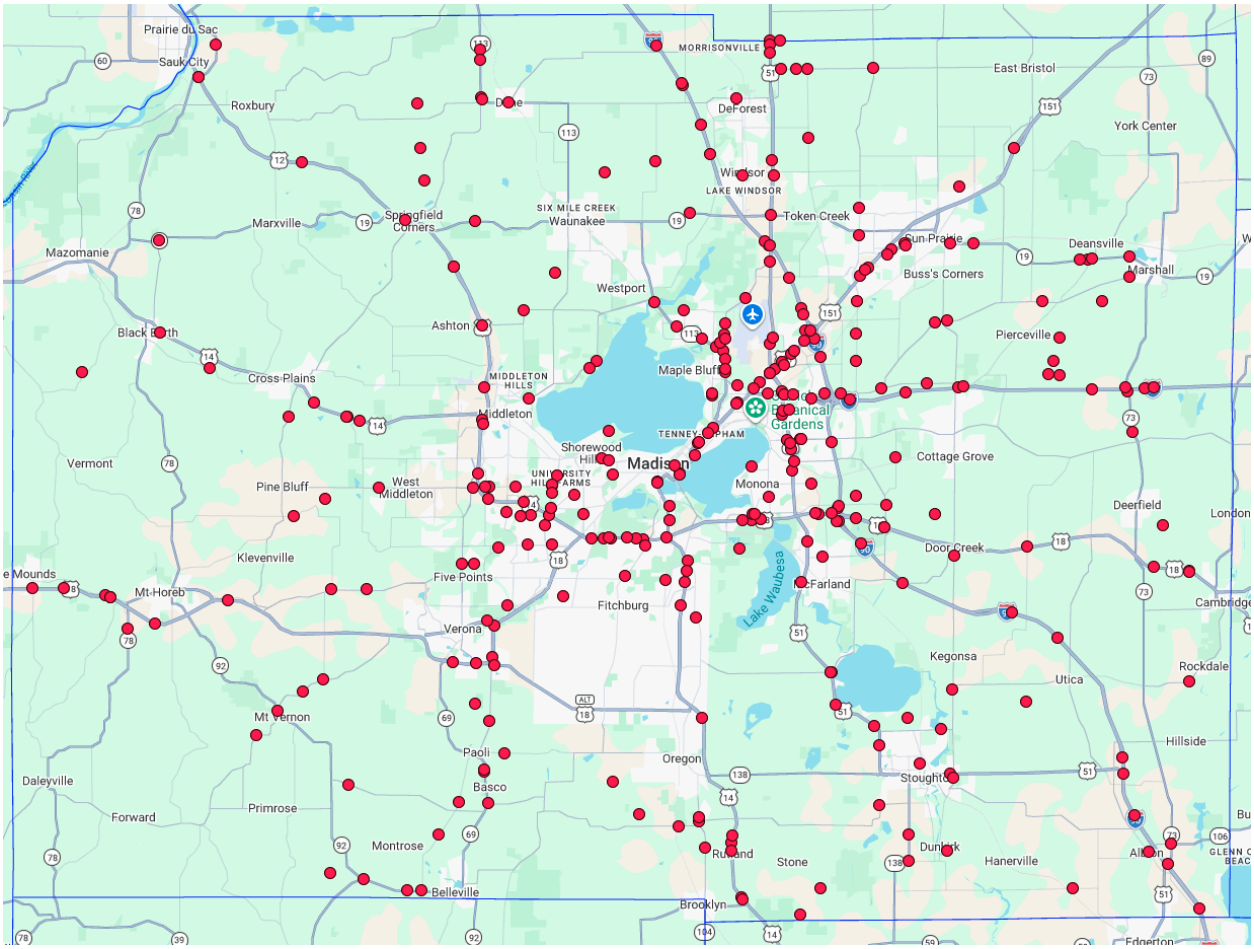
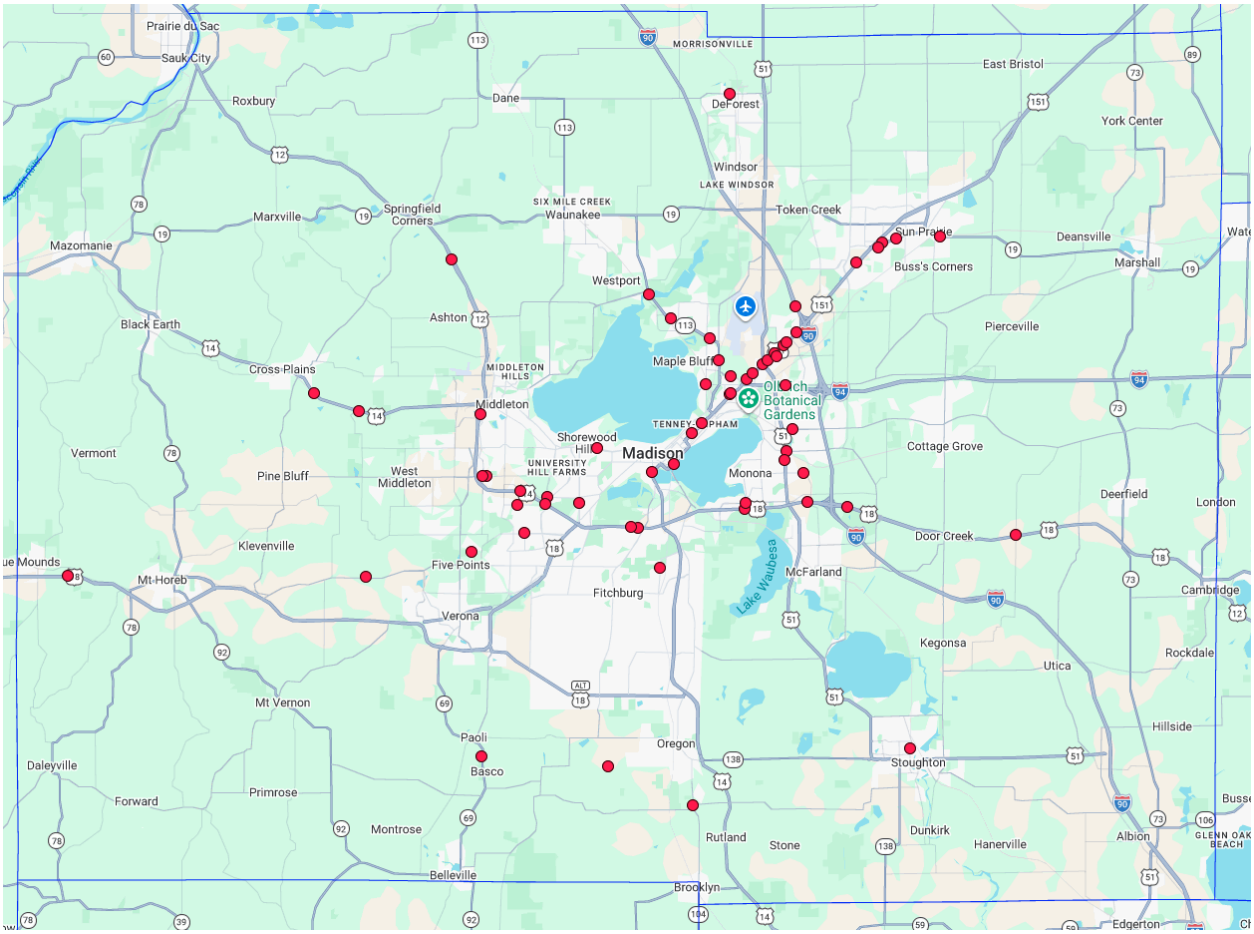


Figure 38. Map representing fatal pedestrian and bike crashes in Dane County, 2015 - 2025



Active Travel Crash Under-Reporting

Although serious injuries and fatalities resulting from active transportation crashes involving motor vehicles are tracked, there is an acknowledged gap in data regarding crashes for which no police report is filed. The MPO contracted with the UW – Madison TOPS Lab to investigate potential sources for additional data on these crashes, including ERs, 911 dispatch, and other sources. Although TOPS Lab research established that there is a gap in crash data around these more minor crashes, they were unable to estimate the degree to which crashes are under-reported. Modifications to the State's standard crash reporting form (DT-4000) would help close some of these gaps, but additional research and data collection will be required to be able to estimate the degree to which minor crashes are under-reported.

MPO Safety Efforts

Safety is a key priority for the Greater Madison MPO and is a consideration throughout our activities. A variety of MPO efforts, both ongoing and project-based, have safety improvement as a primary goal.

MPO staff serve on the Dane County Traffic Safety Commission alongside representatives from local law enforcement, safety-focused organizations, and WisDOT to review crash data, identify contributing factors, and discuss potential safety improvements.

The MPO has also:

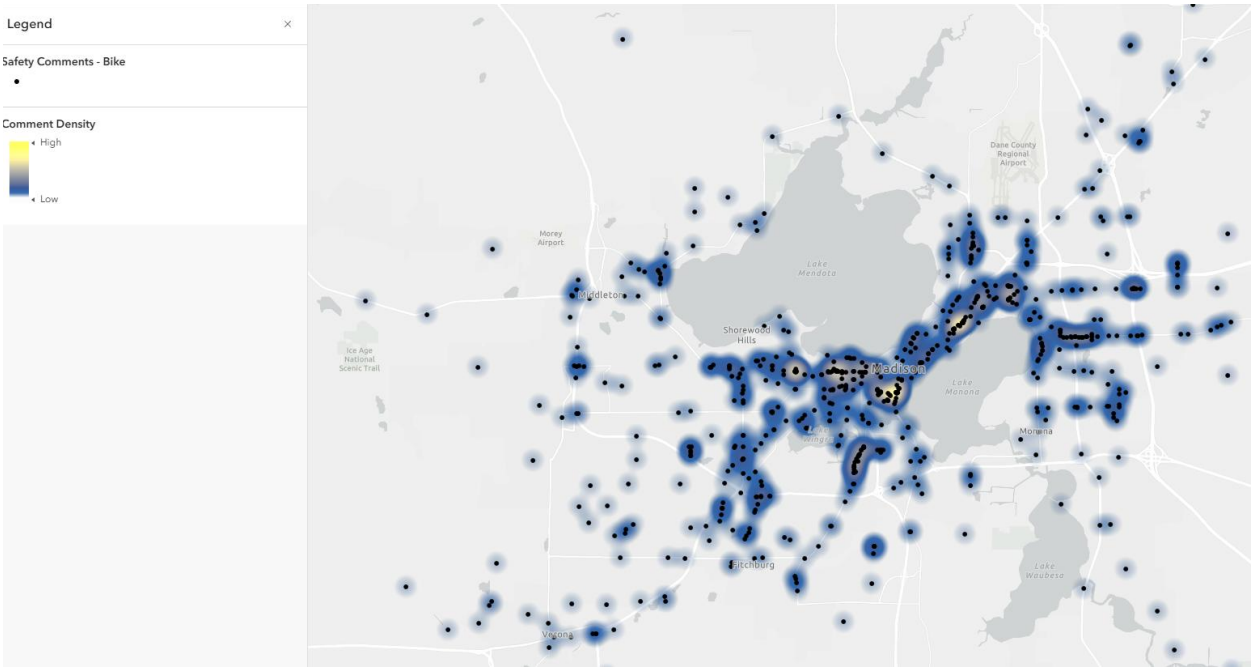
- Worked with area communities to develop the Regional Safety Action Plan, including the High-Injury Network (HIN) (2024).
- Completed several safety-related studies and reports including the Dane County Bicycle and Pedestrian Crash Study (2018), the Pedestrian/Bicycle Facility Requirements, Policies, & Street Standards: Review of Community Requirements in the Greater Madison MPO Planning Area and Recommended Best Practices report and addendum (2021).
- Adopted a new Complete Streets Policy (2023).

Speeding

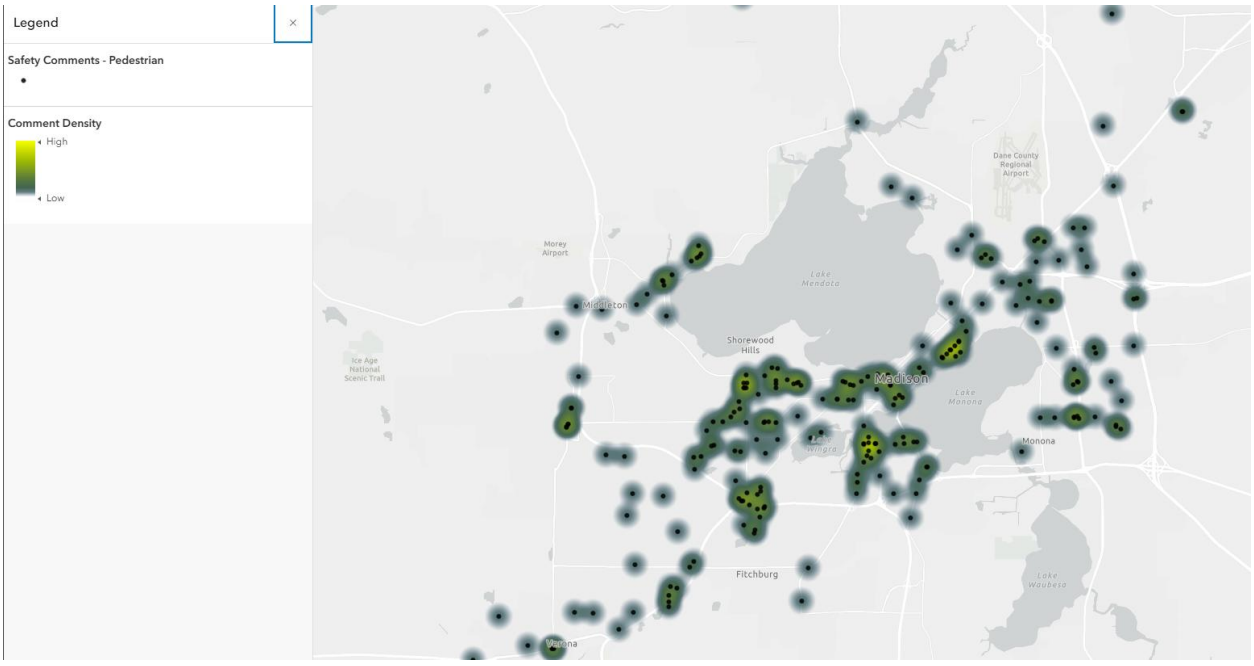
Speeding is a major factor in both crash frequency and severity. Faster-travelling vehicles require a longer distance to come to a stop than do slower-travelling vehicles. They also do more damage when they crash. The Federal Highway Administration website cites multiple research papers finding that, while pedestrians have only a 5%-10% likelihood of suffering a fatal injury when struck by a motor vehicle traveling at 20 mph, their risk of a fatal injury climbs to 85%-90% when struck by a vehicle traveling 40 mph.

While speeding motor vehicles pose an undeniable danger to vulnerable road users, speeding is also a concern on separated paths, where speed differentials between pedestrians and other users result in people feeling unsafe and potentially avoiding paths as a result. This issue was raised in the MPO's public survey and online commenting map that were used to gather public input for this plan. Locations where safety-related comments were placed on the commenting map are shown in Map 8~~Map 7~~ and Map 9~~Map 8~~.

Map 87. Safety-related bicycle comments



Map 98. Safety-related pedestrian comments



[embedded web maps to be added]

Although not a concern included in the survey's standard response options, 4% of pedestrians and 6% of bicyclists identified the behavior of travelers using other modes as a source of concern or frustration, as shown in Figure 39 and Figure 40.

Figure 39. Whose Behavior is Deemed Unsafe by Pedestrians?

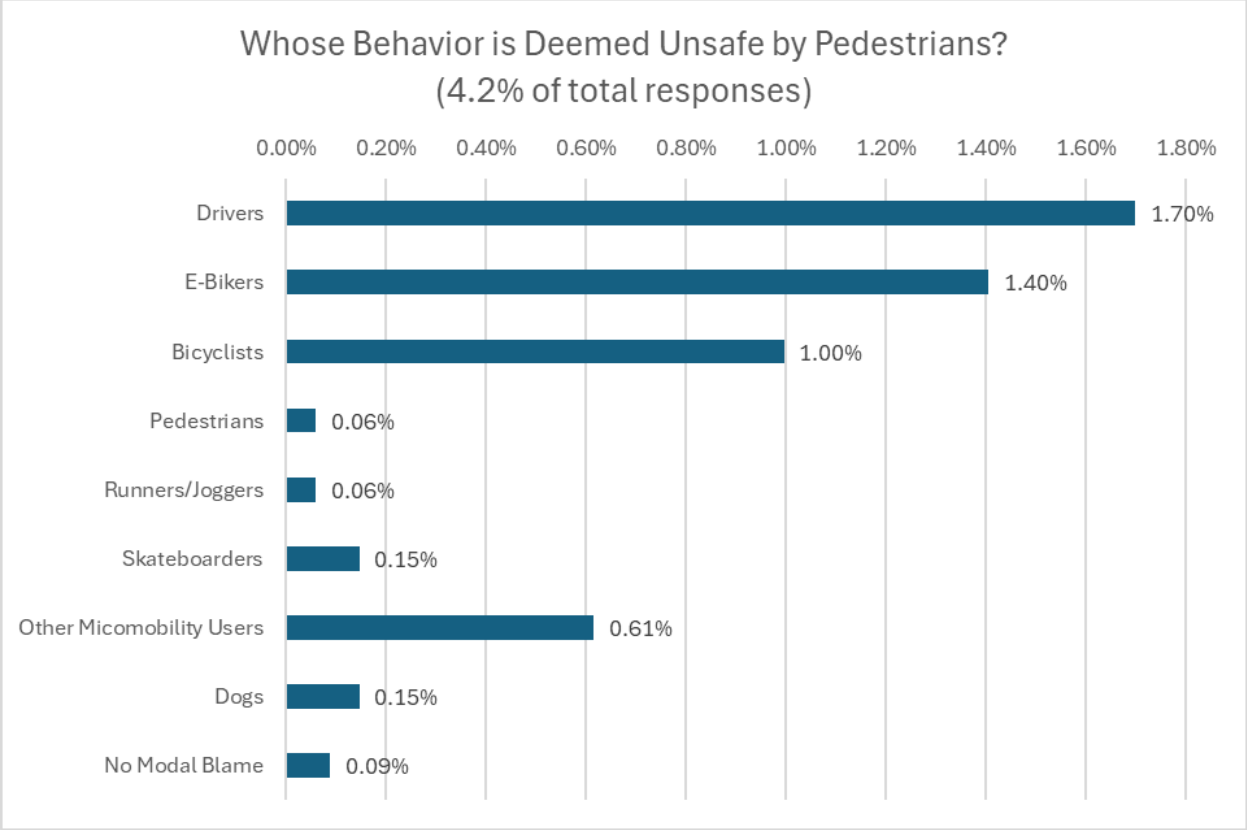
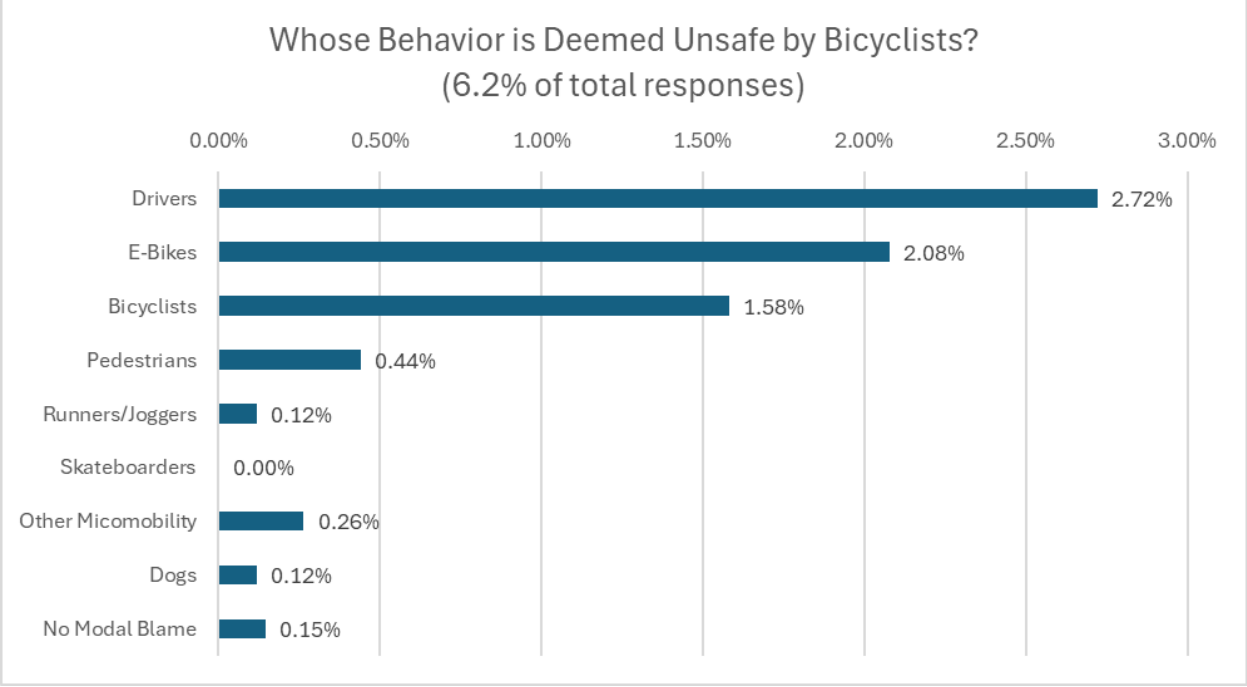


Figure 40. Whose Behavior is Deemed Unsafe by Bicyclists?



While these concerns were voiced by a small number of survey respondents, they are indicative of latent need for increased education, and in some instances increased enforcement. As one respondent put it, “cyclists, pedestrians, drivers oblivious to the presence of others.” Others wrote that their concern was with “electric bikes, many drive too fast and don't understand rules,” or that “bike riders try to pass each other in an unsafe manner and put pedestrians in danger.” Another respondent wrote: “I'd rather add that it's not that the cars are too fast or the routes too crowded, it's more that everyone is so GD inconsiderate, oblivious, or flat-out sadistic that bike riding is harmful to ones [sic] health.”

While enforcement of path rules and speed limits can appear to be a straightforward approach to reducing the incidence of these behaviors, years of experience and limited resources available for enforcement activities have led law enforcement agencies to the conclusion that such efforts are not worthwhile. Instead, focusing resources on education about path rules and etiquette is seen as more effective in changing behaviors and retaining them over the long term. As is discussed in the Enforcement section of this plan, the Greater Madison MPO supports the Governor’s Highway Safety Council’s recommendations to focus enforcement on safety-related behaviors such as stop sign and red light running, riding bicycles against traffic, and other high-risk behaviors.

Facility Design

Many factors of facility design affect the safety of people using the facility. Some of these are relatively obvious, such as the appropriate location and design of crosswalks on high-speed, multi-lane roadways. Others are less obvious but no less important to safety outcomes for users of the facility. These design elements include both adequate lighting and appropriately designed lighting, where for example pedestrians are not backlit to improve their visibility to oncoming vehicles. The curb return radius at intersections is another seemingly minor factor that has large safety ramifications, as larger turn radii allow both higher turning vehicle speeds and increase the intersection crossing distance. Similarly, wider roadways encourage higher vehicle speeds, while narrower roads with trees, buildings, heavily utilized on-street parking, and other elements near the travel lanes provide “friction” that encourages lower vehicular travel speeds.

The MPO’s report on local street design requirements report details what area cities and villages have adopted locally for these metrics, as well as providing comparable recommendations from national organizations.

Trusted design guides are available from a number of nationally recognized organizations that facility designers can reference to ensure that facilities are built with pedestrian and bicyclist safety in mind. The National Association of City Transportation Officials (NACTO) design guides, which are used extensively by the MPO and area communities, are available on-line for free and offer excellent resources for all project stakeholders as well as to designers.

In addition to physical attributes of the built environment, its management is also critical to safety. Overgrown or poorly placed vegetation can block visibility at corners and driveways and is often a low priority for enforcement or maintenance crews. Similar sight obstructions can be caused by vehicles parked close to busy driveways or intersections—prohibiting parking or loading in these locations is known as “daylighting” intersections. This approach may result in the loss of one or

two parking spaces along the approaching leg, but the safety benefits of improving intersection visibility affect all travelers, regardless of whether they are driving, biking, walking, or rolling.

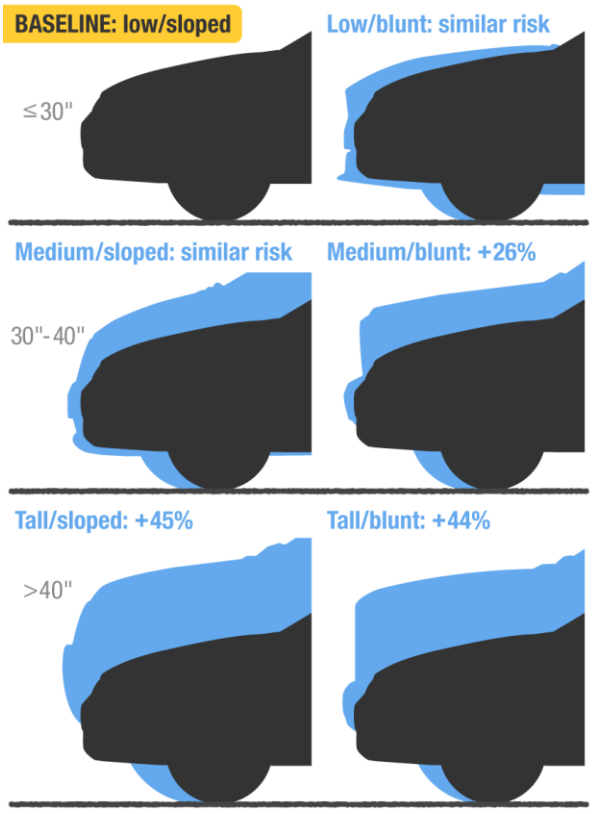
Vehicle Design

A motor vehicle's design can affect both the likelihood that it will strike a pedestrian or other vulnerable user as well as the severity of resulting injuries.

Front End Design

Among the most important factors is the height and slope of a vehicle's front end. Recent research from the Insurance Institute for Highway Safety (IIHS) found that in a crash with a pedestrian, the design of a vehicle's front end was among the greatest determinants of whether the pedestrian suffered a fatal injury. As shown in Figure 41~~Figure 41~~~~Figure 42~~, vehicles with taller, more vertical front ends are more likely to kill pedestrians when they strike them.

Figure 41. Comparative risk of pedestrian fatality by hood leading edge height and shape[33]



Hood Design

Beyond the geometry of the vehicle's front end, the height of the vehicle's hood above the rigid components below it is key determinant in the severity of head injuries suffered by pedestrians in

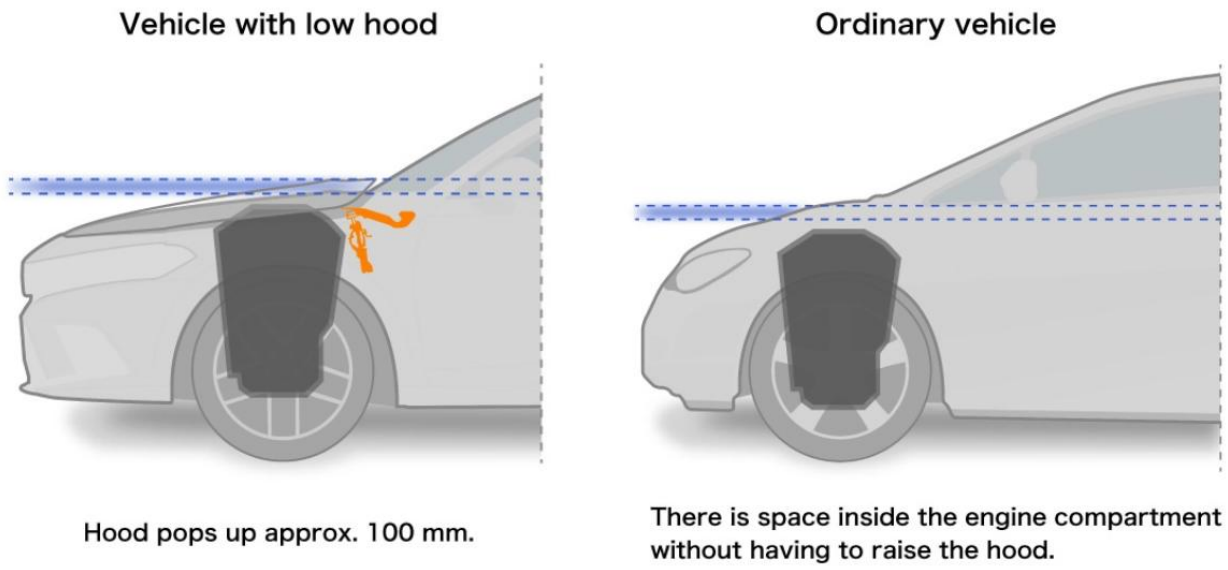
[33] IIHS. https://www.iihs.org/news/detail/vehicles-with-higher-more-vertical-front-ends-pose-greater-risk-to-pedestrians

the event of a crash. More space allows the hood to absorb some of the force of the impact before it is stopped by the engine and other components.

Low-profile hoods can be made safer with technology that lifts the hood several inches to soften the impact in the event of a pedestrian crash. Pop-up hoods use sensors in the front bumper to detect pedestrian collisions and then deploy actuators to raise the hood before it is struck by the pedestrian's head. Pop-up hoods are widespread in Japan and Europe and are becoming more common worldwide.

Figure 42~~Figure 42~~Figure 43 shows how a pop-up hood on a vehicle with a low-profile hood can provide the same space to absorb the impact with a pedestrian as a standard hood on a vehicle with a higher profile.

Figure 42. Comparison between a low-profile pop-up hood and an ordinary higher profile hood[34]



Driver Field of Vision

Drivers' field of vision is another key variable affecting the likelihood that a driver might be involved in a collision. As the design of many popular vehicles has evolved over the last 25 years, the ability of drivers to see areas within 10 meters (32.8 feet) of their vehicles has declined significantly. This is due primarily to changes to the design of vehicle hoods, rearview mirrors, and the A-pillars (posts framing the windshield). The sharpest declines in visibility were for SUVs, with visibility in some models declining by more than 50%.[35]

Headlights

Headlights have become significantly brighter in recent years, dramatically improving visibility for drivers. At the same time, glare from oncoming headlights which causes discomfort and impairs

[34] Honda. https://global.honda/en/tech/Pop-up_Hood/
[35] IIHS. New IIHS measurement technique points to growth in vehicle blind zones

visibility has become more of a problem for drivers and other road users. Drivers squinting and distracted due to oncoming headlights are less likely to see pedestrians and bicyclists in their path.

Two key trends in vehicle design have contributed to this problem. The first is the lights themselves. While most cars on the road still use halogen headlights, there has been a shift towards brighter alternatives. High-intensity discharge (HID) lights, which debuted in the 1990s, are much brighter than halogen headlights and became increasingly popular until the 2010s. However, the vast majority of new cars sold in the US today now feature LED headlights. These are much brighter and more efficient than the halogen and HID headlights. The second trend is the shift towards larger vehicles. The higher headlight position in larger trucks and SUVs causes the light to shine more directly into the eyes of people in smaller vehicles.

Adaptive driving beam (ADB) headlights, sometimes called smart headlights, use sensors and special lighting units to automatically adjust the shape, direction, and brightness of the lights to maximize visibility while shielding other road users from the glare. Some ADB systems also adjust to weather conditions, enabling them to direct their light downward and to the side in foggy conditions for better visibility. Some ADB lights are also curve-adaptive, allowing them to shift their focus to the side to better illuminate the roadway when the vehicle is turning. As shown in Figure 43~~Figure 43~~~~Figure 44~~, ADB headlights can illuminate the roadway and roadside without casting their glare on preceding and oncoming traffic.

Figure 43. Artist rendering of Audi adaptive headlight beam technology[36]

One of the key benefits of ADB lights is that they provide the visibility benefits of high beam lights without requiring drivers to shift between high and low beam. ADB lights are not the same as automatic high-beam headlights. Automatic high-beam headlights use a camera to detect other

[36] GMAuthority. Adaptive Headlight Beams to be Made Legal in the U.S.

vehicles and lighting conditions and shift from high to low beams accordingly. However, these systems vary widely depending on the make and model of the vehicle, and can malfunction, leading to flickering, delayed transitions between low and high beams, or the use of high beams in inappropriate situations.

ADB lights have been widely used in Europe and Asia for about 15 years but were illegal in America until legislation authorizing their use was included in the Bipartisan Infrastructure Law (BIL) in 2021. ADB headlights are currently available only on a small number of vehicles sold in the US, but this number is expected to continue to grow in the coming years.

Crash Avoidance Technologies

There are a number of currently available and developing technologies that help alert drivers to potential crashes with bicyclists and pedestrians. These range from backup cameras to automatic braking systems that can detect bicyclists and pedestrians. Research into the effectiveness of these types of braking systems has found that they can reduce the incidence of pedestrian crashes by 27-35%.[37] However, the ability of many vehicles to detect pedestrians and bicyclists is still falling short of its potential. Many of these systems struggle in dark conditions and when pedestrians are wearing retroreflective clothing, intended to make them more visible to drivers.[38]

Autonomous Vehicles

Autonomous vehicles generally have more sophisticated pedestrian detection systems than are provided in human-driven vehicles, but the technologies used by different autonomous vehicles differ substantially, making it important to evaluate them individually rather than as a group.

Waymo, the most widespread robotaxi operator in the US, uses level 4 self-driving vehicles, which are fully autonomous within certain service areas. Waymo's robotaxis have been operating commercially since 2020 and are now working in several different metropolitan areas across the country, although not in Wisconsin. Researchers evaluating the performance of Waymo's vehicles, using data from 7.1 million miles of driverless trips, found that they have had 80% fewer crashes resulting in injuries and 55% fewer crashes overall than would be expected from human drivers.[39]

Tesla robotaxis, which are currently only used in Austin, Texas, began operating in July 2025. So far, they appear to have a substantially higher crash rate than Waymo vehicles, despite having a human "safety monitor" in the car who can stop the vehicle at any time. One analysis found that, based on crash data submitted to the National Highway Traffic Safety Administration (NHTSA), Tesla robotaxis are crashing roughly 50% more frequently than Waymo robotaxis on a per-mile basis.[40]

No privately-owned vehicles have self-driving capabilities at the level of Waymo and Tesla robotaxis. Tesla's Full Self-Driving (FSD) mode, an advanced driver assistance system available on private vehicles is a level 2 autonomous driving system. It controls braking, acceleration, and steering but the driver, who must be ready to assume control of the vehicle, maintains

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[37] IIHS. Crash avoidance technology

[38] IIHS. High-visibility clothing may thwart pedestrian crash prevention sensors

[39] Kusano, Scanlon, et al. Comparison of Waymo rider-only crash data to human benchmarks at 7.1 million miles

[40] Electrek. Tesla 'Robotaxis' keep crashing despite 'safety monitors'

responsibility. NHTSA is currently investigating Tesla's FSD system, following some high-profile crashes, to evaluate its compliance with traffic laws.

Other automakers also produce vehicles with level 2 autonomous driving systems. Many of these systems are only functional on higher speed roadways, where interactions with pedestrians and bicyclists are uncommon.

It is unclear whether level 2 automation provides safety benefits to vulnerable road users or others. A study conducted by IIHS found no crash-reduction advantage for cars with level 2 autonomous driving compared to vehicles from the same automakers that were equipped with only crash avoidance technologies. Partially autonomous vehicles can be problematic because drivers often overestimate the systems' capabilities and may not remain sufficiently engaged to assume control when necessary.

Obstructions and Encampments along Non-Motorized Facilities

To be useful, paths, sidewalks, and other non-motorized facilities need to be free of obstructions and feel safe. While construction projects and events such as farmers' markets, football games, and community festivals can result in non-motorized facilities being crowded or obstructed, these issues are normally for limited periods of time and are unlikely to have lasting impacts on the behavior of bicyclists and pedestrians.

In recent years, the unhoused population has grown substantially across the United States, and in the Madison Area. As housing demand has outstripped supply, growing numbers of people lack stable housing. Untreated mental illnesses, including addiction, have exacerbated the problem.

As these people seek safe places to rest and socialize, they have become more visible throughout our communities, including along certain bicycle and pedestrian paths, leading to both real and perceived safety issues.

People obstructing paths with their belongings and congregating on or immediately adjacent to them increases the risk of collisions. This risk is exacerbated when people on or next to paths are exhibiting unpredictable behavior due to intoxication or mental health issues. When people congregate or create encampments on paths in confined underpasses, ~~, such as where the West Towne Path passes under Gammon Road,~~ these concerns are heightened by the lack of maneuvering space to avoid potential crashes and the isolated locations that block visibility from the street. Figure 44, shows an encampment occupying the westbound lane of the Gammon Road bike and pedestrian underpass.

Figure 44 Encampment in the Gammon Road Underpass, April 9, 2026

In addition to ~~the legitimate safety iss~~raising the risk of crashes, the presence of encampments in underpasses makes it impossible for people at the path entrance to see who is in the underpass, negating one of the benefits of having underpasses well lit. They can also make path users feel like unwelcome intruders in someone else's living space.~~ues, concerns about safety impact decisions about whether to bike or walk and which route to take.~~

In the City of Madison's outreach for their Pedestrian Plan and AAA Bike Network Plan, the focus group for women walkers and bicyclists reported that:

- Dark areas, tunnels, and underpasses feel unsafe.
- Locations were described as "scary," "isolating," and "places people avoid even when they are the shortest route."
- Shared space conflicts; feeling unseen.
- Desire for mirrors, lighting, clear signage, and blue-light emergency stations at regular intervals.[41]

The great cost of constructing bike and pedestrian underpasses should motivate local governments to ensure that they feel safe and are kept clear of obstructions.

Electric Micromobility Devices

The proliferation of e-bikes, e-scooters, and most importantly e-motos in recent years has resulted in increased levels of concern regarding how and where these devices are ridden. With the exception of e-motos, these devices provide important transportation options for lower-income riders, people experiencing disabilities, and others.

[41] Pedestrian Plan & AAA Bike Network Engagement Summary, page 12

While these devices fill important gaps in our transportation system, their rapid profusion in recent years has outpaced both the regulations governing them and public understanding of their risks.

The proliferation of these devices has resulted in increased emergency room visits by micromobility users, many of whom suffer from head injuries. Locally, SSM Health reported that injuries resulting from e-bike, e-scooter, and related vehicle crashes increased 750% between 2024 and 2025. As many riders choose not to wear helmets, these injuries are often severe. According to a national study of 2024 ER visits conducted by ERideHero:

- The number of under-15s injured by electric scooters more than doubled to 17,641 in 2024.
- The age group that suffers the most electronic scooter injuries is 15–24-year-olds (23.2%).
- 20,960 or 18.4% of all electronic scooter injuries in 2024 were head injuries.
- 67.7% of electric scooter injuries in 2024 happened to males.
- E-scooter injuries have grown by 3.9 times since 2020.

Discussion of these devices and the threat posed by the unregulated sale and use of e-motos is provided in **Error! Reference source not found.**~~Appendix D: Greater Madison MPO Municipal guidance on e-moto and other e-micromobility device regulation.~~~~the MPO's draft Municipal Guidance on e-things, anticipated to be completed in early 2026.~~

6 Es of Active Transportation Planning

Many communities and organizations use the lens of the "6 Es"[42] to cover all relevant topics in active transportation planning. The 6 Es used in this plan are:

1. Education
2. Encouragement
3. Enforcement
4. Economic Opportunity
5. Engineering
6. Evaluation

Education

The Wisconsin Bike Fed has provided K-8 Safe Routes to School (SRTS) programming in Dane County since 2016, with funding support through federal Surface Transportation Block Grant – Transportation Alternatives Program (TA or TAP) funding awarded by the MPO. Initially, this work was overseen by Dane County and the UW-Health-led Healthy Kids Collaborative. With changes to eligibility requirements adopted with the IIJA/BIL, non-profits became eligible to apply directly for these funds and High School SRTS programming became an eligible program type. The Bike Fed has subsequently submitted its own applications for county-wide SRTS programming and expanded its program to include all grades K-12. The Bike Fed employs two full-time SRTS Coordinators in Dane County.

[42] Although use of the 6 Es approach is common, various jurisdictions may include or omit one or more of these lenses or may use different terminology for one or more of them.

In 2024, 925 K-9 students participated in Bike Fed SRTS programming; some of these were one-time events, but others were four or more days, and one ran for three months. 1,095 High School students participated in SRTS programming in 2024; most of these are Bike Club or Environmental Science classes that presumably have repeat participants.

Madison Schools and Community Recreation (MSCR) offers bicycling classes throughout the year, both for adults (18+ and 50+ classes) and for families with children (8+). Classes are taught by a League of American Bicyclists Certified instructor.

The City of Madison supports bicycle education through a variety of programs, including a partnership with the Bike Fed SRTS program, stand-alone in-school programming, walk and bike education, and an SRTS plan update that began in 2024.

There is growing concern throughout the region and nationwide regarding the behavior of users of e-micromobility devices. Often this concern is phrased as being about "fast e-bikes", but many of the devices travelling at high speeds are not legally defined Class I, II, or III e-bikes but are instead devices that are illegal to use on public roads, paths, and sidewalks. Regardless of the legality, many riders of both these devices, as well as e-bikes and regular bikes, lack an understanding of the rules of the road and path etiquette. Communities should work to improve the dissemination of this information and to encourage better behavior through clearly defining expectations and requirements. For communities interested in exploring the regulation of these devices, see **Error! Reference source not found.**~~Appendix D: Greater Madison MPO Municipal guidance on e-moto and other e-micromobility device regulation.~~ ~~the MPO has drafted guidance on e-bike, e-moto, and other e-micromobility device regulation and anticipates completing this guidance in 2026.~~

Encouragement

Bicycle Friendly America

The League of American Bicyclists *Bicycle Friendly America* program, which includes Bicycle Friendly ~~Cities~~ Communities (BFC), Bicycle Friendly Universities (BFU), and Bicycle Friendly Businesses (BFB), is a benchmark for measuring the comparative bicycle-friendliness of communities, universities, and businesses across the country. These programs help educate staff of cities, universities, and businesses on how to become more bicycle-friendly, as well as encouraging employees and visitors to ride bicycles.

Madison Metropolitan Area communities submitted the first-ever regionally coordinated applications for BFC recognition in 2015, with most communities making concerted efforts to improve their ranking with every three-year application cycle. The City of Madison is one of only five Platinum-level BFCs, and UW-Madison is one of only nine Platinum-level BFUs, together ~~making~~recognizing that the central urban area is one of the best places to bicycle in the United States.

Within Dane County, Bicycle Friendly Community and University awardees include:

- Dane County (Bronze BFC)
- Fitchburg (Silver BFC)
- Madison (Platinum BFC)
- Monona (Bronze BFC)

- Sun Prairie (Silver BFC)
- Verona (Bronze BFC)
- University of Wisconsin – Madison (Platinum BFU)

~~Thirty-four~~Forty-three of Wisconsin's ~~51~~48 Bicycle Friendly Businesses (BFBs) (~~66~~90%) are within Dane County[43], and ~~22~~35 (~~42~~73% of all BFBs in the state) are within the City of Fitchburg, where the local bicycle advocacy organization Bike Fitchburg has worked extensively with local businesses to increase support for cycling in recent years. As the quote below shows, the primary benefit of the Bicycle Friendly America program is that it builds awareness and encourages additional bicycle use:

> "While the recognition is great, the real benefit of our BFB recruitment is the increase in bike friendliness that results. We're getting folks to install or improve bike parking, learn about Roundtrip's emergency ride home program, and merchants to join Bicycle Benefits." – Steve Arnold, Treasurer, Bike Fitchburg, and former Mayor, City of Fitchburg

RoundTrip and Greater Madison MPO

The RoundTrip program of the Greater Madison MPO helps individuals and employers in Dane County connect to convenient alternatives to driving alone. The program supports walking, biking, riding the bus, carpooling, and vanpooling through outreach, education, incentives, and tools. By encouraging more sustainable trips, RoundTrip helps reduce traffic congestion, improve mobility and affordability for travelers, increase the longevity of the transportation system, and reduce the environmental impacts of driving. RoundTrip promotes the following encouragement initiatives:

- **Emergency Ride Home (ERH) Program:** ERH is a free program that makes it easier for commuters in Dane County to leave their personal vehicle at home without worrying about how they will get home from work or school in an emergency. ERH provides up to six $75 taxi vouchers annually to adult commuters who primarily walk, bike, ride the bus, or carpool, for use in qualifying emergencies. ERH is funded by the Dane County Highway & Transportation Department.
- **Regional Challenges:** RoundTrip hosts annual challenges in April and September that encourage Dane County residents and commuters to swap drive-alone trips for walking/rolling, biking, riding the bus, carpooling, and vanpooling—and to celebrate those already choosing these options. Participants earn chances at prize drawings by logging eligible trips and can participate both as individuals and as members of a workplace team.
- **Bike Buddy Program:** RoundTrip's Bike Buddy Program connects experienced bicycle commuters in Dane County ("Bike Buddies"), with new and curious riders needing extra support to make biking part of their commute routine. Bike Buddies gives experienced riders a way to contribute to the local community, while new riders can feel confident reaching out to Bike Buddy matches for advice or support on a test ride.

[43] Following the ~~September 2024~~Fall 2025 BFB Awards. https://bikeleague.org/bfa/award-database/#business

- **How-to-Rides:** RoundTrip partners with Metro Transit, Madison BCycle, and local organizations and employers to organize educational outings that help participants understand and feel confident using the local transit and bikeshare systems.
- **Week Without Driving (WWD):** WWD is a nationwide initiative that invites elected officials, transportation professionals, policymakers, and community members to step into the shoes of the estimated 30-40% of residents who are non-drivers. The goal of WWD is to raise broad public awareness and inspire consistent action to improve mobility and access for all. The Greater Madison MPO works with regional partners to plan and implement this awareness campaign annually in Dane County.

Other Encouragement Activities and Programs

Many regularly scheduled community bike rides and related activities are offered throughout the year, including mountain bike trail maintenance events hosted by CORP Trails, Queer Bike Rides, bike-packing and camping trips, weekly slow-rolls, bike and brewery relays, and others. Madison Bikes offers a variety of events throughout the year, including book clubs, the Winter Bike Fashion Show, Bike Week events, bicycle film festivals, as well as supporting or tabling at other events that are not bicycle-specific. These events build community and encourage bicycling for a wide range of participants.

The Wisconsin Bike Fed offers its organizational members the benefit of providing large-scale bicycle parking corrals at their community events, as well as providing parking corrals at UW-Madison Badgers home football games through an agreement with UW-Madison Transportation Services. In partnership with Wheels for Winners, DreamBikes, and Bike for Kids Wisconsin, the Bike Fed provides free bike repairs at community events throughout the region through their Madison Mobile Bike Repair program. The Bike Fed also hosts the annual Santa Cycle Rampage, a holiday-themed costume bike ride that serves as a fundraiser to support the organization's youth and family-based education and encouragement programs in Dane County.

Madison Santa Cycle Rampage. Photo courtesy Wisconsin Bike Fed, Beth Skogen Photography.

Enforcement

Although the 6 Es were also the backbone of the League of American Bicyclists Bicycle Friendly America rankings for many years, in 2020 the League removed Enforcement from their criteria and has used the other five Es since then. As the League states: "Enforcement" does not equal 'Safety' for many people of color, particularly Black Americans. The racial disparities in over-policing of our streets is a barrier that prevents many from considering biking for transportation or recreation. Enforcement as a stand-alone traffic safety tactic is not particularly effective in achieving long-term safety outcomes for anyone biking or walking."[44]

This Active Transportation Plan retains all 6 Es, reasoning that enforcement is an important part of curbing safety-related traffic violations, such as failure to stop at red-lights and stop signs, and reinforcing norms of behavior that promote positive interactions between drivers, pedestrians, and bicyclists. It is important to note that speeding is also a concern on separated paths, where speed differentials between pedestrians and other users result in people feeling unsafe and avoiding paths. See the "The State of Technology: Bicycles, E-Bikes, Micromobility, and E-Motos" and "Enforcement" sections of this plan for discussion of these issues.

[44] https://bikeleague.org/pedaling-toward-a-more-just-bfa-program-removing-enforcement-from-our-framework/

Although Enforcement has fallen out of favor with some bicycle advocacy groups as a measure of bicycle-friendliness, largely due to the potential for racial profiling or discriminatory enforcement, ensuring that facilities are safe to use requires some level of enforcement.

There is, however, potential for state laws and local ordinances to result in what have been termed "arrested mobility" laws—laws that are unclear or that the pubic may not be aware of, that have little to do with public safety, and that could easily be enforced unevenly against various demographic groups. Laws frequently cited as examples of arrested mobility laws include mid-block crossing (jaywalking) and prohibitions against riding bicycles on sidewalks or using skateboards in roadways. The MPO anticipates publishing a report summarizing research and recommendations regarding the issue of "Arrested Mobility" in Dane County communities in 2026.

The results of the public survey conducted for this plan reveal that concerns about interactions with law enforcement while biking and walking tend to be lower among White respondents than among other racial/ethnic groups (Figure 45 and Figure 46).

Figure 45~~44~~. Walking Concerns: I don't feel safe from law enforcement by Race

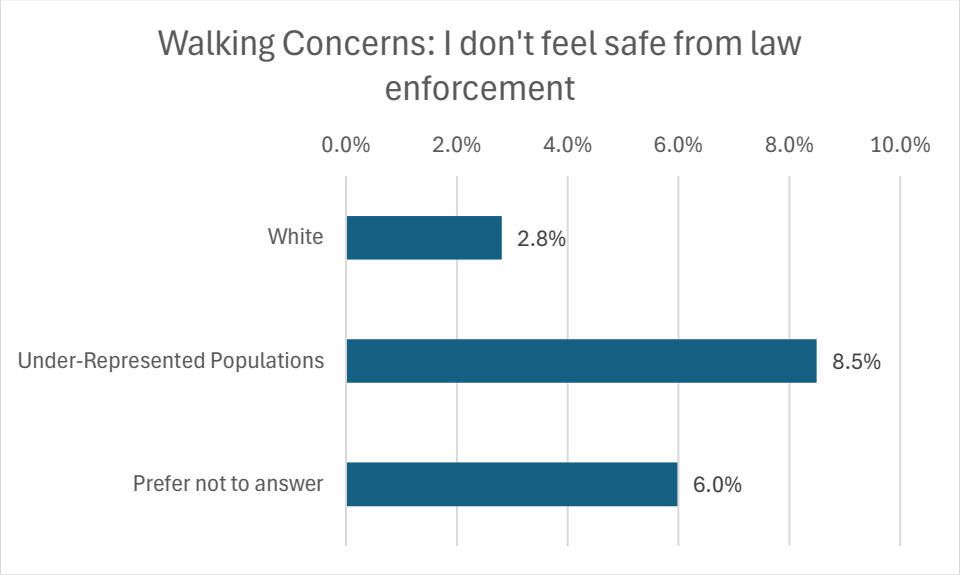
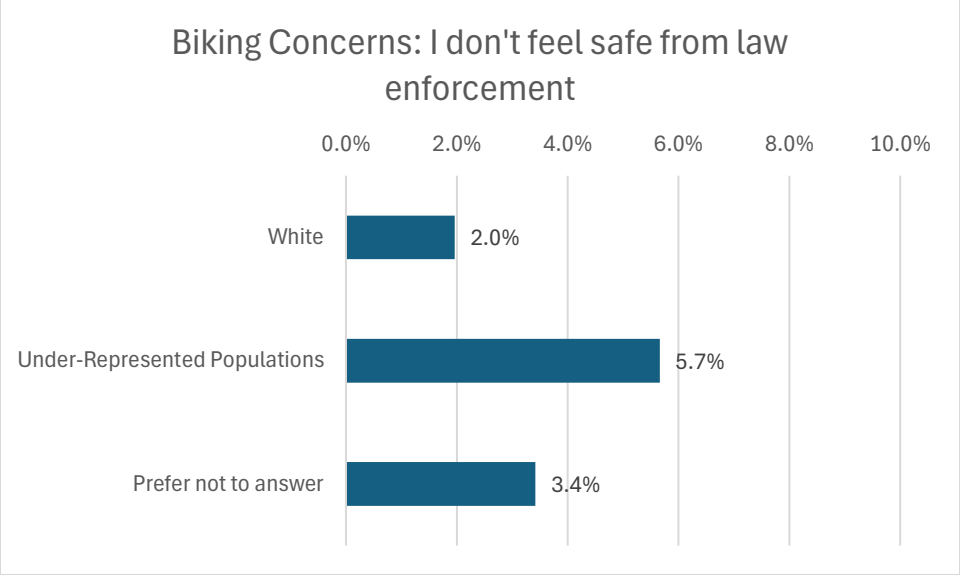
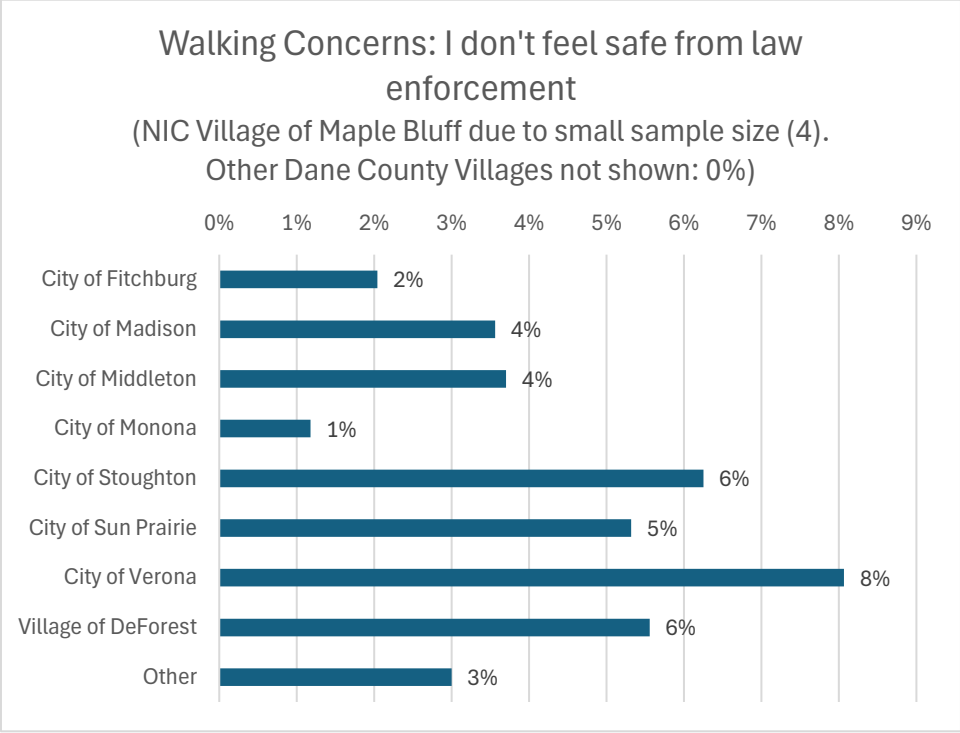


Figure 46~~45~~. Biking Concerns: I don't feel safe from law enforcement by Race



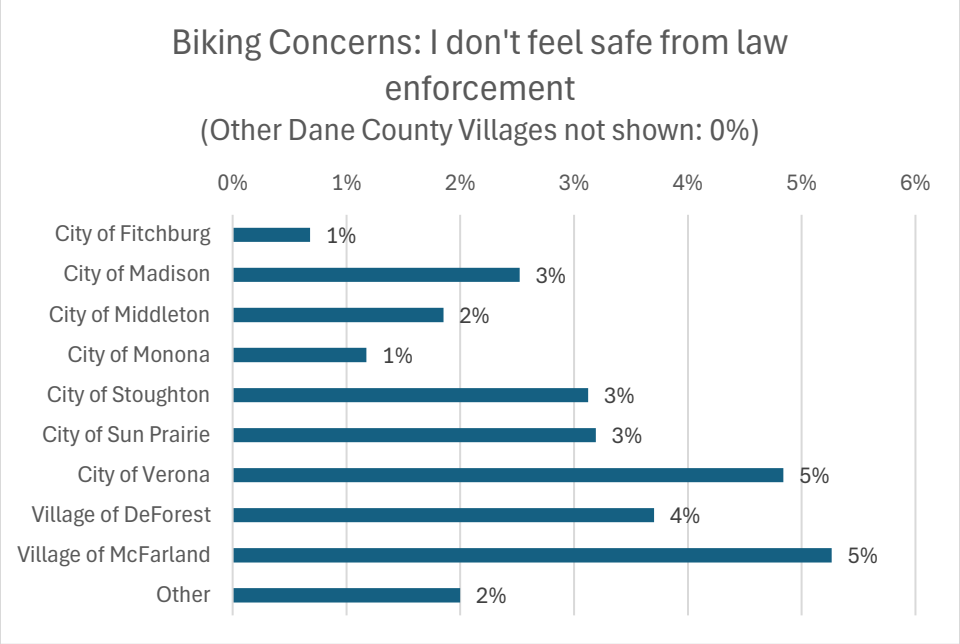
Perceptions of the risk of encountering law enforcement vary by community,[45] as shown in Figure 47 and Figure 48.

Figure 47~~46~~. Walking Concerns: I don't feel safe from law enforcement by Community



[45] Community of respondent residence: responses could be influenced by respondents' concern about walking or bicycling in communities other than where they reside.

Figure 48~~47~~. Biking Concerns: I don't feel safe from law enforcement by Community



No area communities other than Madison include a breakdown of walking, biking, or other non-motorized types of traffic enforcement data in their annual police department reports. Reporting this information could help to build trust and educate the public about the relative validity of such concerns. For example, the Madison Police Department (MPD) reports that it issued only 15 hazardous municipal and traffic citations to bicyclists or pedestrians in 2023, and 17 in 2024.[46] These account for 0.20% of 2023 hazardous municipal and traffic citations and 0.18% of 2024 hazardous citations issued by MPD. MPD issued 75 citations for failure to yield right-of-way to pedestrians in 2023 (1.01% of total), and 84 in 2024 (0.90% of total).[47]

Traffic Enforcement Cameras

Traffic enforcement cameras have been used in communities across the country and around the world to cite speeders, red light runners, and other drivers who break traffic laws remotely, without requiring an enforcement officer to be present or even witness the violation. While some enforcement camera systems have been criticized for targeting minority or low-income communities by being concentrated in areas with higher populations of these groups, with careful placement at problem intersections and corridors, this technology offers the ability to consistently enforce important safety-related traffic laws at targeted locations. Using traffic enforcement cameras also eliminates the possibility of violent escalations during traffic stops and the potential for pretextual traffic stops. Although this technology has been used in many communities with

[46] 2024 Madison Police Department Annual Report
[47] ibid

documented safety outcomes[48,49], it is currently prohibited under Wisconsin law[50]. The City of Milwaukee has lobbied to be allowed to use camera enforcement, and bipartisan bills AB 371 and SB 375 have been introduced to the 2025-2026 legislative session to allow the use of camera enforcement on a five-year pilot basis, but only in First-Class Cities (Milwaukee only).

The Greater Madison MPO supports enabling legislation to allow Wisconsin communities to use combined radar and camera systems to conduct traffic safety enforcement remotely and uniformly at locations identified as hot spots for speeding, red light and stop sign running, and failure to yield.

Prioritizing Safety-Related Enforcement

The Greater Madison MPO recommends that area law enforcement agencies prioritize enforcement efforts targeting unsafe behaviors, especially speeding, stop sign and red light running, and distracted and impaired driving. The MPO supports the Governor's Highway Safety Association's (GHSA) adopted policies and priorities[51] for enforcement of traffic safety laws.

> *The proper enforcement of traffic safety laws is crucial for the safety and well-being of the public and will remain an essential element of safety programs for the foreseeable future. Traffic enforcement and criminal justice elements of highway safety provide significant value, including by reinforcing social norms, creating general deterrence for dangerous driving, stopping dangerous driving when it occurs and preventing recidivism among high-risk offenders.*[52]

GHSA encourages a data-driven approach to highway safety traffic enforcement planning, including:

- Involving impacted communities in highway safety planning.
- Promoting the collection and analysis of standardized data for every traffic stop to better understand potential disparities and allocate funding toward more effective enforcement.
- Encouraging law enforcement partners to work proactively to identify and eliminate bias in traffic stops or traffic enforcement.
- Refocusing traffic enforcement efforts on traffic safety; prioritizing the most dangerous and unlawful driving behaviors, such as speeding, distracted driving and impaired driving, that put all road users at risk; and reducing pretextual traffic stops for traffic violations that often do not advance safety and thus undermining trust in highway safety programs.
- Encouraging modernized police recruitment and training standards to ensure that law enforcement agencies more closely align with the communities they serve.

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[48] https://www.nhtsa.gov/book/countermeasures-that-work/speeding-and-speed-management/countermeasures/enforcement/speed

[49] Effectiveness of speed cameras in reducing speed: a systematic review. Amanco et. al. Accident Analysis & Prevention, June 2026.

[50] Wisconsin Statutes 349.02(3)(b)

[51] https://www.ghsa.org/resource-hub/ghsa-policy-traffic-safety-and-law-enforcement

[52] Ibid, August 2025 update

- Partnering with Vision Zero, Road to Zero and Safe System communities to promote holistic and collaborative approaches to highway safety.
- Supporting driver licensing policies that focus on changing driver behavior such as ensuring that license sanctions are limited to moving violations and exploring more flexible fee and payment structures for traffic citations, driver license fees and vehicle registration.
- Empowering state, community and law enforcement leadership to hold accountable police officers who have violated public trust.

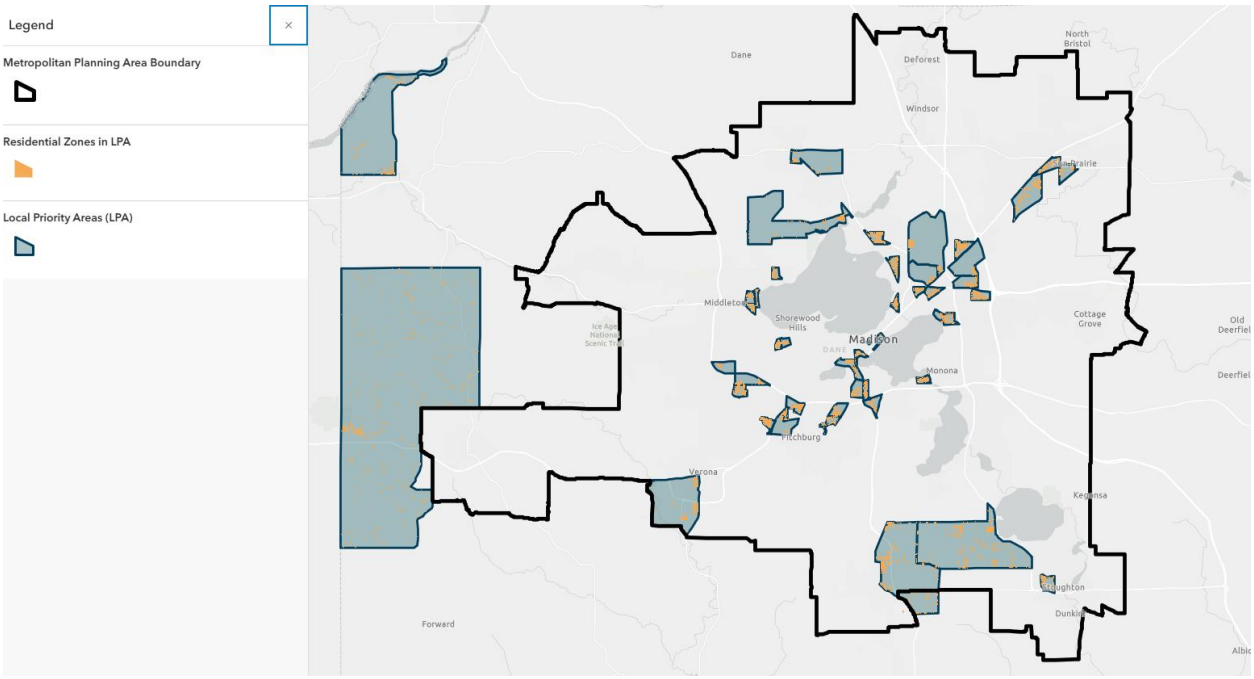
GHSA also recommends using high-visibility enforcement as a proven countermeasure and cornerstone of effective enforcement, as well as safety and wellness training for enforcement officers.

Economic Opportunity

Transportation is a key determinant of economic opportunity. The MPO maintains a particular focus on improving the ability of lower-income people to reach their jobs, schools, and other destinations safely and conveniently.

The MPO's Local Priority Areas (LPAs), shown in Map 10~~Map 9~~, are neighborhoods with higher proportions of lower-income people than other parts of the Greater Madison Area. One way the MPO evaluates how well the transportation system serves our disadvantaged communities is by examining how well our LPAs are integrated into the transportation network. Because lower-income people are less likely to have access to a motor vehicle, transit, bike, and pedestrian connections are especially important for these neighborhoods.

Map 10~~9~~. Local Priority Areas



[Embedded map to be added]

The MPO also uses LPAs to evaluate planned projects applying for funding through the TAP and STBG-U programs, with benefits for projects providing meaningful connections to or within these areas.

Engineering and Evaluation

In the 6 Es of Active Transportation Planning, Engineering covers the built environment, including roadways, bicycle lanes, separated paths, sidewalks, curb cuts, intersection crossings, pedestrian and bicycle signals, and more. Evaluation is the process through which the existing system is assessed to determine how well it meets the needs of the traveling public, and how and where it should be improved. In this plan, Engineering and Evaluation are considered congruently. The following sections describe and evaluate current facilities, assess the need for new or improved facilities, describe gaps and barriers, and list priority projects.

Current and Planned Facilities

Active Transportation Data Sources

The Greater Madison MPO maintains several primary GIS datasets related to active transportation:

1. Roads.
2. Bicycle and shared-use paths.
3. Sidewalks and pedestrian paths.
4. Bicycle level of traffic stress (LTS).
5. Bicycle and pedestrian point features.

The MPO's road centerline data is built upon Dane County's road centerline data. Each year, the MPO downloads an updated version of the County's data and then updates a number MPO-maintained fields related to bicycle and pedestrian facilities.

The MPO collects and maintains its bicycle and shared-use path data independently. At the end of each year, MPO staff update the data after contacting local and county government agencies throughout the planning area to gather information about new bicycle or shared-use facilities that they constructed during the year. Updates are also made manually throughout the year whenever MPO staff learn about new or changed facilities.

The MPO also maintains data on planned roads and planned bicycle and shared-use paths. This information is derived primarily from official maps and plans produced by communities in the MPO Area.

The MPO's sidewalk and pedestrian path data was developed primary by MPO staff reviewing aerial photography and manually drawing sidewalks and paths in the appropriate locations. Updates are normally made manually, based on analysis of newer aerial photography.

The LTS network combines the MPO's road and bicycle and shared-use path networks. The LTS network is used by the MPO's Low-Stress Route Finder application and in LTS analyses conducted by the MPO. Because it requires substantial time and effort to produce, the LTS network is updated on an ad hoc basis as new and improved bike facilities are added and is completely rebuilt every few years using the most recent road and path data.

The MPO also maintains data sets for a number of bicycle and pedestrian related point features. These include bike and pedestrian bridges, bicycle repair stations, and other features. The most important active transportation-related point features are those related to bicycle and pedestrian transition points—places where roads, paths, and sidewalks intersect the roadway network or where steps are located along sidewalk or path. These features are critical to understanding the accessibility of our bicycle and pedestrian networks.

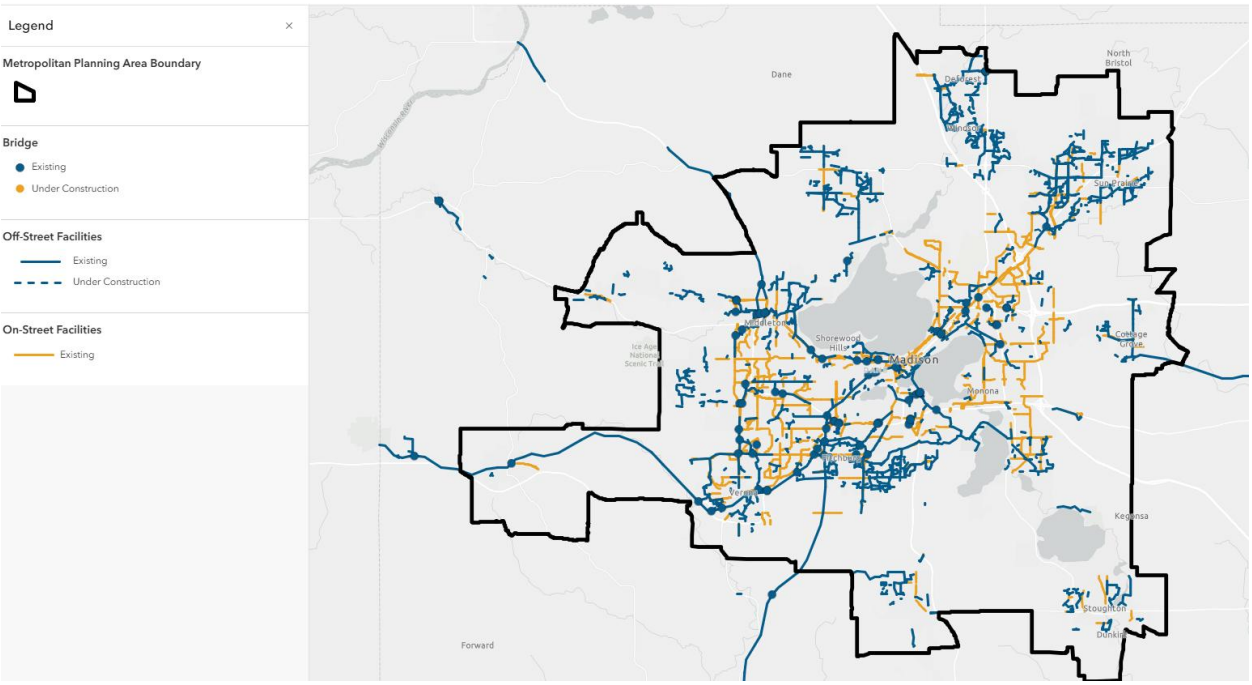
In 2025, the MPO purchased bike and pedestrian infrastructure data from Ecopia, a vendor that uses artificial intelligence (AI) to develop transportation datasets based on aerial images. The MPO sent Ecopia 2024 aerial photography of Dane County and received GIS data showing bike lanes, bike and pedestrian paths, sidewalks, and truncated domes (the yellow or brown textured panels that are placed on sidewalk and path curb ramps). MPO staff used the data from Ecopia to identify facilities missing from MPO datasets.

The Bicycle Network

The bicycle network consists of nearly every public facility on which it is legal to ride a bicycle. While it is generally legal to ride bikes on sidewalks in Madison Area communities, sidewalks are substandard bike facilities and are normally not included as a part of the bike network.

Current on- and off-street bike facilities are shown in Map 11~~Map 10~~. For additional detail, see the MPO's Dane County Bike Map, which is available in print, .pdf, and in an interactive online map application.

Map 11~~10~~. Existing On- and Off-Street Bike Facilities



[Embedded map to be added]

Facility Types

As bicycling has grown in popularity over the last few decades and communities have invested in new facilities to meet their needs, there has been a profusion of new types of infrastructure and terminology. The MPO maintains a large amount of GIS data about the bicycle network that feeds into the MPO's public-facing maps and mapping applications and which we also share with our partner communities.

The structure of the MPO's bicycle data and the terminology used for it are driven by three key priorities:

- Consistency.
- Clarity.
- Technical requirements.

Several national organizations and agencies including the American Association of State Highway and Transportation Officials (AASHTO), the National Association of City Transportation Officials (NACTO), and the Federal Highway Administration (FHWA) have released new bicycle facility typologies that differ with the MPO's definitions, shown in Table 3, in some ways. The MPO's classification system has a higher level of detail than these other systems and users of the MPO's bicycle data can mirror these alternate classification systems by grouping different facility types.

It is important to note that some of the facility types shown in Table 3 are not considered by the MPO to be "bicycle facilities." Like local roadways, pedestrian paths, bus lanes, municipal lots, and shoulders are important parts of the bicycle network but are not built with the primary goal of serving bicyclists.

Table 3. Bicycle Facility Types

Facility Type	Description
Bike Boulevard	Local street designed for low-stress bicycling with signage identifying it as a Bike Boulevard.
Bike Lane	Standard bike lane separated from traffic by a single stripe.
Bike Lane – Buffered	Bike lane separated from traffic by a painted buffer area at least 1 foot wide.
Bike Lane – Contraflow	Standard bike lane flowing against traffic on a one-way street.
Bike Path – One-way	One-way path intended for bikes only. Also known as cycletracks or separated bike lanes.
Bike Path – Two-way	Two-way path intended for bikes only. Also known as cycletracks or separated bike lanes.
Bus Lane – Bikes Allowed	Lane intended for buses that may also be used by bicycles and right-turning vehicles.
Mountain Bike	Unpaved mountain bike trails. Normally single track.
Municipal Lot	Route through a parking lot, etc. (not a defined path passing through or adjacent to a lot).
Other	Other facility type or combination of types.
Pedestrian Path - Bikes Allowed	Path or sidewalk not specifically designed for bikes on the bike network.
Protected Bike Lane	Bike lane separated from traffic by a physical barrier (plastic bollards, parked cars, etc.). Also known as cycletracks or separated bike lanes.
Protected Bike Lane - Contraflow	One-way street-level contraflow bike lane protected by parking, plastic bollards, or other physical separation from traffic. Also known as cycletracks or separated bike lanes.
Protected Bike Lane - Two-Way	Two-way bike lane separated from traffic by a physical barrier. Also known as cycletracks or separated bike lanes.
Shared-Use Path	Path at least 8' wide and/or striped, designed to accommodate bikes and pedestrians.
Shoulder 3'	Striped shoulder 3 feet in width.
Shoulder 4'+	Striped shoulder 4+ feet in width.
Wide Sidewalk	Sidewalk (≥8') that is intended to accommodate bikes.

Bike Boulevards

Bike boulevards are signed local streets that provide continuous, comfortable bike routes. They have low traffic speeds and low traffic volumes. Bike boulevards are often equipped with traffic diverters, speed humps, and painted sharrows to reduce cut-through traffic, slow cars, and improve safety for bicyclists and pedestrians.

Bike Lanes

Bike lanes are marked roadway lanes dedicated for bicycle use. Standard bike lanes use a single line to separate bikes from motor vehicles traveling in the same direction. Buffered bike lanes use two lines, normally one to three feet apart, to create a buffer area between bicyclists and motor

vehicles traveling in the same direction. Contraflow bike lanes use two solid yellow lines to separate bicycles from one-way motor vehicles traveling in the opposite direction.

Bike Paths

Bike paths are paved off-street paths intended for bikes only. In the MPO area, bike paths exist only where there is an adjacent parallel sidewalk or other pedestrian facility. Bike paths may be designed for one -or two-way bike traffic. One way bike paths are normally located on either side of a two-way street, with bicycles traveling in the same direction as motor vehicles in the nearest travel lane. Because they are only constructed in locations where there is a parallel pedestrian facility, bike paths are expected to remain a small part of the bike network.

Bus Lanes - Bikes Allowed

Bus lanes are marked roadway lanes for use by buses where bicyclists are permitted to ride. These lanes often also serve as right turn lanes for motor vehicle traffic in the adjacent travel lane(s). While the MPO tracks the presence of bus lanes, they are not a preferred facility for bicyclists due to presence of buses and right-turning traffic. While there has been expansion of bus lanes to serve Madison Metro Transit's BRT service, most of these lanes are not intended for bicyclists, such as the center-running bus-only lanes on East Washington Ave, University Ave, and Mineral Point Road.

Mountain Bike

The MPO does not currently map purely recreational mountain bike trails. However, the MPO does map mountain bike trails that serve transportation needs. The Shred to School Path, for example, was constructed in 2023 alongside the Cannonball Path near Leopold Elementary School to provide students and others with a more exciting bike route that would hopefully encourage more kids to travel by bike.

Other

The MPO's "other" category includes bike facilities that do not meet the definition of any of the other types of bike facilities tracked by the MPO. In 2015, the "other" category was used to refer to streets like University Avenue through the UW-Madison campus, which had two different types of bike facilities on opposite sides of the street. Today, however, the MPO has a more flexible classification system, and facilities identified as "other" are often substandard.

Pedestrian Paths on the Bike Network

Pedestrian paths on the bike network include a variety of paths and sidewalks that are not designed as bicycle facilities, but which are part of the bike network by virtue of their location and the lack of alternate routes. They may be paved or unpaved and are often narrow—generally less than eight feet in width and sometimes under six feet. Sidewalks included in this designation are often adjacent to high-traffic streets lacking other bike facilities and are key connections between other bike facilities.

Protected Bike Lanes

Protected bike lanes are one-way, two-way, and contraflow bike lanes that are protected from traffic in the adjacent travel lane by physical barriers—plastic bollards, jersey barriers, parked cars, or curbs.

Shared-Use Paths

Shared-use paths make up the lion's share of off-street bike facilities in Dane County and are what most people think of when they think of "bike paths." They are open to both bicycles and pedestrians and are normally at least eight feet wide. Shared use-paths are normally paved in urban areas and are often unpaved in rural areas.

Shoulders

Shoulders tracked by the MPO are the paved edges of roadways in rural areas without curb and gutter that are delineated by a stripe at the edge of the travel lane. The purpose of paved road shoulders is primarily to create emergency stopping space and to preserve travel lane pavement. However, they are also valuable for bikers traveling on rural ~~highways —~~highways, providing bikers with separation from fast-moving traffic.

Wide Sidewalks

Wide sidewalks are sidewalks of at least 8 feet in width that are intended to accommodate bicycles. They often connect seamlessly with shared-use paths and are often built around roundabouts to provide a safer passage for bicyclists and pedestrians navigating the intersection. Extra-wide sidewalks that are not designed and intended for bicycle traffic, such as those directly in front of retail shops and restaurants around the Capitol Square, are not classified as wide sidewalks in the MPO's bicycle geodatabase.

Changes to the Bicycle Network Since 2015

Dane County has added an enormous amount of bike infrastructure in recent years, with total bike facility mileage increasing by 57% over the last decade. ~~-~~ Table 4 shows the total milage of transportation facilities for use by bicyclists in Dane County in 2025 and 2015. Please note that the table does not include approximately 3,500 miles of roads and highways in the county where bikes are permitted but which lack shoulders or bike lanes.

Table 4. Bike Facility Miles in Dane County

	Miles	
Facility Type	**2025**	**2015**
Bike Boulevard	8.6	9.3
Bike Lane	234.4	152.7
Bike Lane - Buffered	19.7	1.7
Bike Lane - Contraflow	1.1	0.5
Bike Path - One-Way	1.9	1.0
Bike Path - Two-Way	1.3	0.0
Bus Lane - Bikes Allowed	3.2	5.2
Mountain Bike	0.9	0.0
Other	4.8	1.6
Pedestrian Path on the Bike Network - Paved	19.6	4.2
Pedestrian Path on the Bike Network - Unpaved	0.5	0.4
Protected Bike Lane	0.8	0.0
Protected Bike Lane - Contraflow	0.9	0.0
Protected Bike Lane - Two-Way	0.2	0.0
Shared-Use Path - Paved	357.0	229.8
Shared-Use Path - Unpaved	61.1	55.7
Shoulder - 3-feet	198.7	191.4
Shoulder - 4+ feet	477.3	231.0
Wide Sidewalk - Paved	30.0	6.0

While the mileage of pedestrian paths on the bike network has increased from less than 5 miles to roughly 20 miles over the last decade, this growth is primarily due to the addition of previously existing facilities to the MPO's geodatabase.

The reduction in the total length of bike boulevards in the Dane County is due primarily to definitional changes. For example, while State Street was classified as a bike boulevard in 2015 and is not currently classified as a bike boulevard, it is still a key low-stress bike route in downtown Madison.

Planned Bike Facilities

MPO data on planned roads and planned on- and off-street bike facilities is gathered from official maps and planning documents from MPO communities. As new roads and bike facilities are built, MPO staff make adjustments to ensure that the alignment of planned facilities is reasonable with respect to the location of existing infrastructure.

The MPO classifies planned paths on a scale of feasibility, ranging from "under construction" to "conceptual." Most planned paths that the MPO is aware of fall under the category of "planned-feasible." However, when the MPO becomes aware of significant obstacles to path construction—particularly challenging terrain, major opposition from landowners, etc.—paths may be classified as "planned-obstacles" or "conceptual," indicating their lower likelihood of completion.

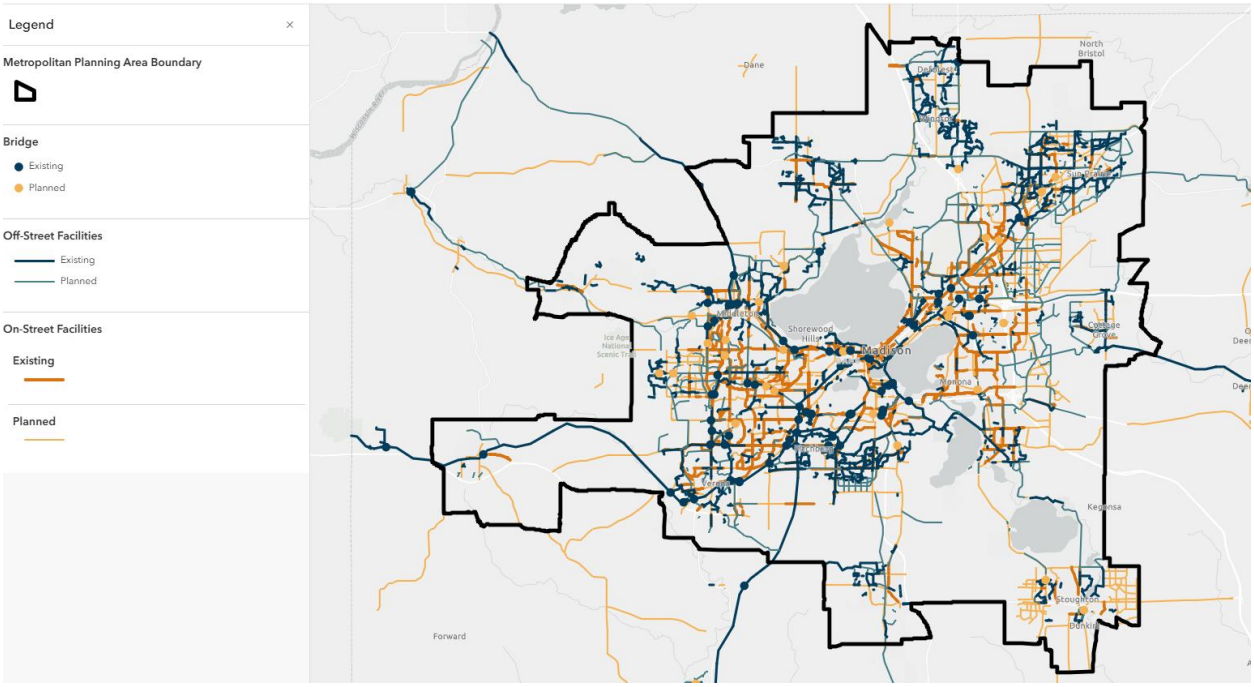
Planned paths that proceed to construction often undergo many changes before they are built. They may be renamed, merged with other path projects, realigned, constructed in bits and pieces,

or only constructed in part. A single planned path may end up being constructed as multiple non-contiguous separate paths or multiple planned paths may end up as a single continuous path.

The only categories of planned paths that are truly on track to be built are those that are "under construction" or "programmed." Programmed projects have secured funding and are scheduled for construction.

Map 12~~Map 11~~ shows existing and planned on- and off-street bicycle facilities in Dane County. Planned facilities identified as "conceptual" and "planned-obstacles" are not shown.

Map 12~~11~~. Existing and Planned Bike Facilities

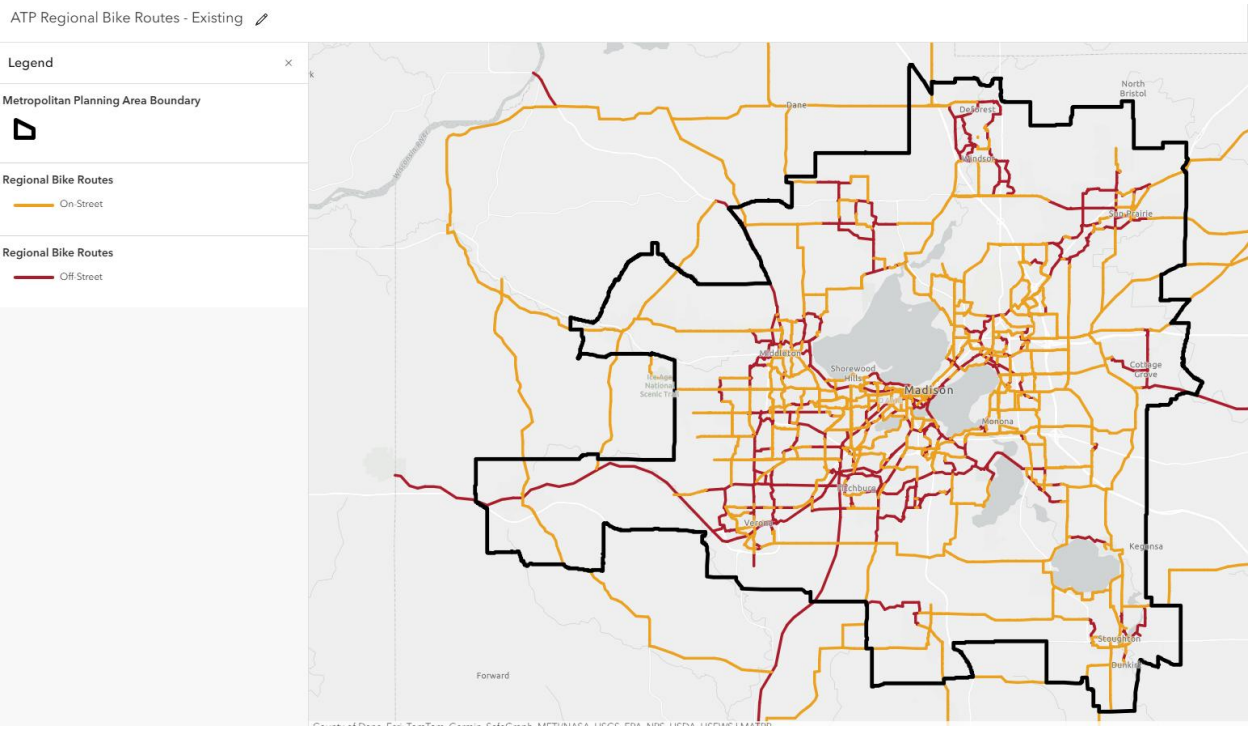


[Embedded map to be added]

Regional Routes

In the 2015 Bicycle Transportation Plan, the MPO used a three-tiered bicycle functional classification system. These tiers differentiated between primary routes, which provide direct connections between communities or major destinations; secondary routes, which fill the gaps between primary routes and neighborhoods; and other facilities, considered local routes. The MPO recently revised the functional classification to combine the primary and secondary classifications into a single regional bike network, shown in Map 13~~Map 12~~. The MPO implemented this change to simplify data management and make the functional classification system easier to understand. In addition, many smaller important local connections have been removed from the regional network to ensure that it includes only regionally significant routes.

Map 13~~12~~. Existing Regional Routes



[Embedded map to be added]

The regional network consists of 859 miles of paths and roads across Dane County. Table 5 details the percentage of low-, moderate-, and high-stress routes included in the regional network.

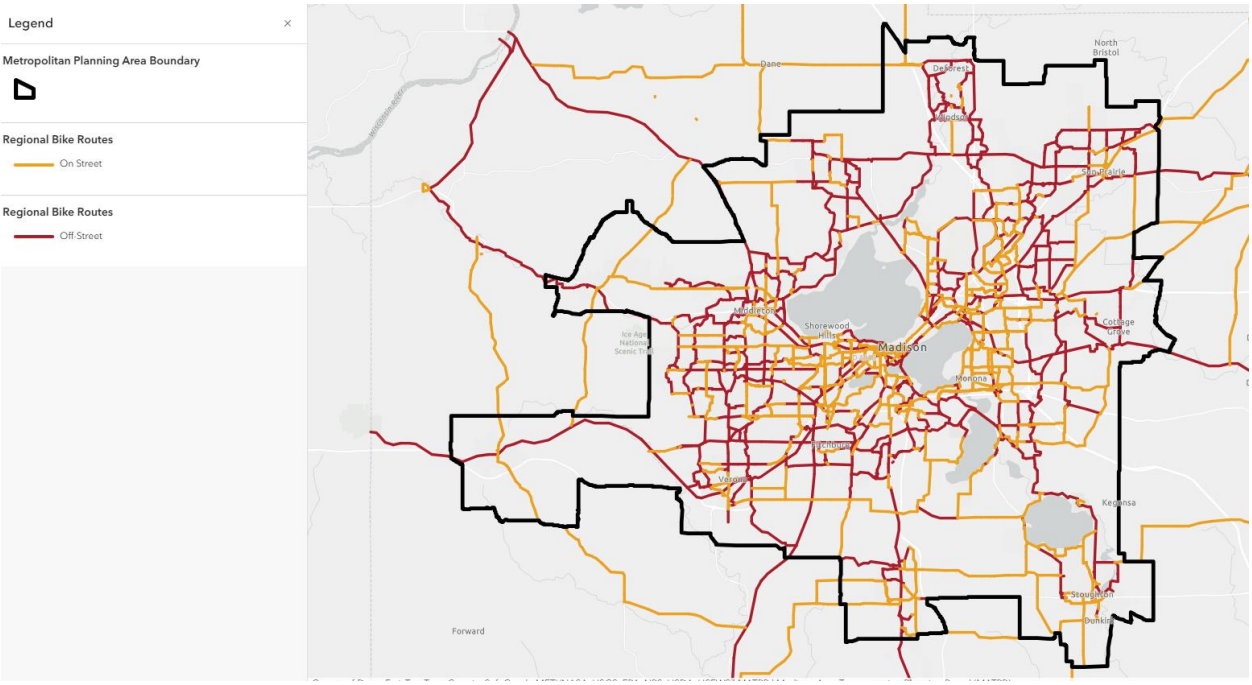
Table 5. LTS on Regional Routes

Level of Traffic Stress (LTS)	Dane County 2025	
	Miles	Percentage
Low Stress (1&2)	381	44%
Moderate Stress (3)	137	16%
High Stress (4)	341	40%
Total	859	100%

In defining the regional network, MPO staff look for direct continuous low-stress routes between communities and neighborhoods. When the most direct route is high stress, a somewhat more circuitous low-stress parallel route is used instead. Regional routes typically include shared-use paths, buffered and protected bike lanes, bike lanes on moderate-volume streets, and low-volume streets or bike priority streets. However, some regional routes, particularly in rural areas and in areas with poor road network connectivity, include high-speed, high-volume roadways. The regional route network typically provides two to four routes per mile in developed areas, and fewer in rural areas.

The MPO has also identified a planned regional network, shown in Map 14~~Map 13~~. The planned regional network consists of existing and planned roads and paths and is defined using the same criteria as the existing network. It includes many of the same regional routes that are a part of the existing regional network. In areas where new paths, roads, or on-road bicycle facilities are expected to create new lower-stress and/or more direct routes, they are included in the planned regional network—either replacing existing routes or as entirely new connections.

Map 14~~13~~. Planned Regional Routes



[Embedded map to be added]

Currently, the MPO's eligibility requirements for the STBG-U bicycle projects include that the project be on the primary or secondary bicycle networks. This requirement will be amended following the adoption of this Active Transportation Plan to ensure that proposed projects located on either the existing or planned regional networks are eligible. Current MPO scoring metrics for TAP funding applications award points for projects on the primary or secondary bicycle networks but do not distinguish between the two network tiers.

Bicycle Facility Evaluation Measures

Identifying the best locations and types of improvements to improve bicycling conditions across Greater Madison Area requires an understanding of how the system works, and how and where to improve it. Because of the different conditions in urban and rural areas, the MPO uses different approaches to evaluate urban and rural facilities.

Assessing Urban Bicycle Facilities

The two most common methodologies used to evaluate how well urban streets and paths accommodate bicyclists are Bicycle Level of Service (BLOS) and Bicycle Level of Traffic Stress

(LTS). BLOS ranks facilities on a scale of A (best) to F (worst), with scores for a given section, or segment, based on the link scores of each block and the scores of each intersection. LTS scores range from 1 (least stressful) to 4 (most stressful), with intersections factored into the overall score of each link. Facilities with LTS scores of 1 or 2 are considered low stress.

The MPO's 2015 Bicycle Transportation Plan included a map (Figure 4-10, p. 50) detailing BLOS link scores on urban streets in the Madison Metropolitan Area but also noted shortcomings of the BLOS methodology. Calculating BLOS scores requires input data that is unavailable available at the regional level in the Madison Area. The results are also sometimes counterintuitive.

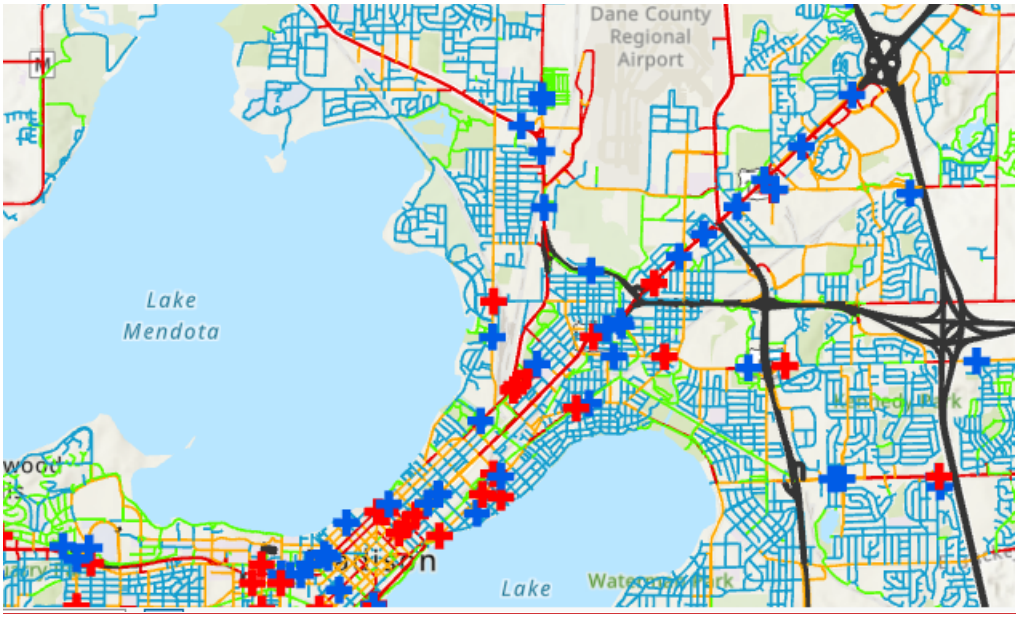
In 2018, the MPO began evaluating bicycle facilities using LTS. As the name suggests, LTS is more tightly focused on the stress felt by bicyclists in the presence of motor vehicle traffic, which is the critical factor affecting how willing most people are to travel by bicycle. The LTS scoring methodology is also much easier than BLOS for the MPO to implement at the regional level using information that the MPO already has, allowing every street and path to be evaluated.

The LTS scoring methodology used by the MPO relies on information about facility type, width, traffic speed, the number of travel lanes, average daily traffic, curbside parking, and turn lane configuration. When new facilities are built or traffic volumes or speeds change, LTS scores can be updated fairly easily. Figure 49~~Figure 49~~~~Figure 49~~ provides a graphic representation of the MPO's LTS scoring methodology for urban roadways. See Appendix B for the full LTS methodology. ~~Appendix A: Current MPO LTS Methodology.~~

Figure 49~~48~~. Level of Traffic Stress (Urban Contexts)

LTS is also clearly related to safety outcomes for both bicyclists and pedestrians. The methodology the MPO uses to calculate LTS relies on speed limit, daily traffic volume, and number of travel lanes as key inputs. These factors are strongly related to the likelihood and severity of crashes involving bicyclists and pedestrians. As shown in Map 15~~Map X~~, most crashes involving bicyclists and pedestrians occur on roads rated LTS 3 or LTS 4, indicating moderate and high stress respectively.

Map 15~~14~~13. Fatal and Serious Injury Crashes Involving Bicyclist and Pedestrians, 2020-2024



[embedded web map to be added]

Another benefit of the LTS system is its compatibility with efforts to expand All Ages and Abilities (AAA) bicycle facilities. A~~ll Ages and Abilities~~ AA bicycle facilities feel safe and comfortable for all types of riders, including children, older people, people with disabilities, and others not traditionally well served by urban bike facilities. In 2023, the MPO revised the LTS segment scoring methodology to bring it into better alignment with the NACTO guidance on building AAA bike facilities ~~for people of all ages and abilities~~ and to account for traffic levels (ADT) on streets with bike lanes. Under the MPO's LTS methodology, LTS 1 is generally consistent with NACTO's AAA standards.

Rating the LTS on every street and path in Dane County has given the MPO and its constituent municipalities the ability to use this data in a variety of new ways:

- Assessing the need for new or improved bicycle infrastructure.
- Assessing how well different neighborhoods are served by the low-traffic-stress bicycle network.
- Evaluating potential infrastructure improvements.

Sidebar: All Ages and Abilities Bike Facilities

In recent years, the concept of an All Ages and Abilities (AAA) bicycle network has grown in popularity. An AAA network is proactively designed to serve a wide range of users on a wide variety of bicycle types and other devices. AAA facilities are designed to accommodate side-by-side riding, people riding at different speeds, and people with different levels of comfort and experience

interacting with other users. The NACTO Urban Bikeway Design Guide notes three important aspects of AAA facilities:[53]

1. **Build for comfort, not for speed.** Bikeways that provide comfortable, low-stress conditions for people on bikes will encourage more people to ride bikes. Polling indicates that nearly two-thirds of the adult population of the U.S. would be interested in riding more often if they had better places to ride, particularly protected bike lanes. Safe, comfortable bikeways will attract traditionally under-represented bicyclists, including women, children, and older adults.
2. **Design for growth in biking and micromobility.** Build bikeways with an eye toward tomorrow. More people will bike when there's a connected, safe, and comfortable network of bikeways that helps people reach everyday destinations and opportunities. When making decisions about allocating space or slowing down motor vehicle drivers, assume that benefits for people on bikes will multiply as time passes.
3. **Invest in lasting infrastructure to improve safety.** Plan for durable bikeway separation approaching intersections and driveways to reduce conflicts and boost safety–even for non-protected bike lanes and shared conditions. Build appropriate traffic-calming and volume-management tools for long-term, dependable, and positive impacts on overall street safety.

Assessing Rural Bicycle Facilities

Unfortunately, the LTS methodology does not reveal gradation in cyclist comfort on roadways with traffic speeds over 35 mph. At higher speeds the roadway will score an LTS 4 regardless of the presence, or width, of paved shoulders. The LTS methodology is therefore largely unable to assess differences among rural roadways, most of which have speed limits above 35 mph.

The MPO's current rural road rating system, shown in Table 6, is designed to assess suitability for more confident riders, who are comfortable near higher speed (≥40 mph) motor vehicle traffic. It is based on the methodology described by Philip Van Valkenberg in his 1993 Wisconsin Department of Transportation report, "Planning for Rural Bicycle Routes," which relies on estimated traffic volumes, and the presence and width of road shoulders. Since the MPO's adoption of the LTS system as a way to evaluate urban roadways, we have been interested in improving our system for evaluating rural roads as well.

Table 6. Current Greater Madison MPO Rural Roadway Bicycle Rating Methodology

Shoulder	Average Annual Daily Traffic (AADT) Volumes*		
None	Under 1,292	1,292-1,748	Over 1,748
3ft	Under 2,686	2,686-3,634	Over 3,634
4ft+	Under 4,250	4,250-5,750	Over 5,750
	Most Suitable	**May Be Suitable**	**Least Suitable**
	**Seasonally adjusted by dividing AADT by 0.907 to adjust for increased traffic during warmer weather*		

[53] https://nacto.org/publication/urban-bikeway-design-guide/designing-bikeways-for-all-ages-and-abilities/

In 2024, the MPO contracted with Toole Design to suggest revisions to the MPO's methodology for evaluating rural roadways that would incorporate additional factors to better align with how rural roads are experienced by bicyclists.

Toole Design proposed the following changes to how the MPO rates rural roadways for bicycling suitability:

1. Use a consistent, context-based approach for applying ratings in urban-to-rural transition areas (i.e., when LTS scores should be used instead of rural ratings).
2. Add additional nuance to the ratings to account for the impact of wider shoulders, rumble strips, truck traffic, and vertical and horizontal roadway curvature (which will require collecting or creating new data).
3. Add a *more comfortable* category to preserve the *most comfortable* category for only the lowest traffic roadways and other low volume roadways equipped with wide shoulders.
4. Use big data resources to provide better estimates of traffic volumes and/or truck volumes on roadways where actual count data does not exist or has not been updated within the past three years.
5. Collect or develop data identifying shoulder presence and width at intersections and auxiliary lanes (e.g., T-intersection bypass lanes) so that gaps in paved shoulders at these locations are accounted for in the suitability ratings.

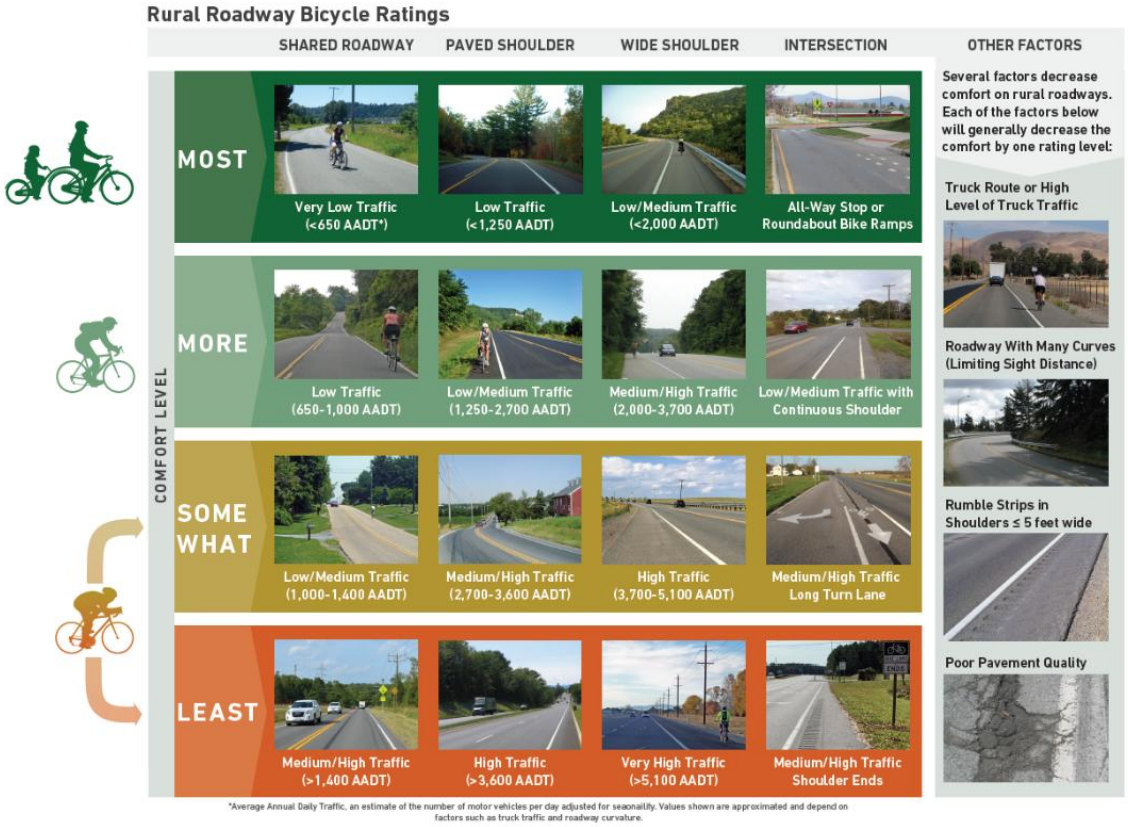
Toole suggested that rural roadways be evaluated using the methodology shown in Table 7. Figure 50 provides a graphical representation of the proposed methodology.

Table 7. Updated Greater Madison MPO Rural Roadway Bicycle Rating Methodology

Shoulder*	**Average Annual Daily Traffic (AADT) Volumes****				**Truck Route*** AADT Adjustment**	**Curvaceous Roadway AADT Adjustment ******
None or < 3ft	Under 650	650-1,050	1,050-1,440	Over 1,440	+500	+400
3 ft	Under 1,250	1,250-2,686	2,686-3,634	Over 3,634	+1,000	+400
4 ft	Under 1,500	1,500-3,443	3,443-4,730	Over 4,730	+750	+400
5 ft	Under 2,000	2,000-3,742	3,742-5,143	Over 5,143	+500	+400

8 ft+	Under 3,000	3,000-4,790	4,790-5,750	Over 5,750	+500	+400
	Most Comfortable	**More Comfortable**	**Somewhat Comfortable**	**Least Comfortable**		
**Effective width free of rumble strips with a PCI of 70 or higher*	***Seasonally adjusted by dividing AADT by 0.907 to adjust for increased traffic during warmer weather*				****Or truck traffic >10% of AADT*	***** >60% of roadway length has solid yellow line*

Figure 50~~49~~. Rural Roadway Bicycle Ratings



Uses for Bicycle Facility Assessments

Assessing the adequacy of bicycle facilities across the region is a key piece of the MPO's work in bicycle and pedestrian planning. The MPO's rural road rating methodology was first developed about 25 years ago for the first version of the Dane County Bike Map, with the primary purpose of helping the public choose rural bicycling routes. The MPO's LTS methodology was developed

primarily as a planning tool to assess the quality of the bike network across the region, identify disparities between neighborhoods, and evaluate potential improvements. Soon after its development, LTS ratings were made more accessible to the public with the development of the MPO's Low-Stress Route Finder application.

Informing Bicyclists

The most common use for the MPO's facility assessments, whether LTS or the MPO's rural road rating system, is to assist bicyclists in selecting routes for their rides. For people who would like to travel by bike but are uncomfortable riding near heavy traffic and fast-moving vehicles, being able to map out a route where they are likely to feel comfortable before they leave on their ride makes biking a much more attractive option.

The MPO's Low-Stress Route Finder app allows users to enter their start and end points and acceptable stress level (Low, Moderate, or Unrestricted) and generates their optimal route. This is a great tool for new cyclists, people traveling to new destinations, or people riding with children or less experienced riders.

The Dane County Bike Map provides similar information by ranking rural roads by cyclist comfort level. However, these ratings assume a fairly high level of confidence among bike riders as rural roadways tend to have higher speed limits than those in urban areas and, due to their speed, are generally rated as high stress under the LTS scoring system.

Assessing the Need for New or Improved Bicycle Infrastructure

The LTS scoring system is a simple way to assess how well bicycle infrastructure serves the community. While lower-stress routes are generally more appealing to all types of riders, they are particularly important on corridors used to reach schools, parks, and other places where children are likely to travel by bike.

LTS ratings are an easily understandable way to identify the most stressful portions of the bicycle network, both as a way to prioritize areas for improvement and to help riders choose comfortable riding routes. The straightforward methodology used to calculate LTS scores also acts as a guidepost, with clear metrics that designers can use to ensure that new roads and bike facilities are able to achieve the desired traffic-stress level. These metrics also allow the MPO to be transparent in its scoring methodology and eligibility requirements for STBG-U and TAP funded projects.

Assessing Disparities between Neighborhoods

In past plans, including the 2015 Bicycle Transportation Plan and the 2022 Regional Transportation Plan, the MPO considered race and ethnicity as well as household income and disability in evaluating disparities between neighborhoods in their access to the transportation system, and related costs and benefits. Following the issuance of Executive Orders 14151, 14168, and 14173 in 2025, the MPO will conduct this type of evaluation in two ways:

1) Title VI review of projects and plans will continue to consider race, color, and national origin as well as disability as required by law.[54, 55]

[54] https://www.dol.gov/agencies/oasam/regulatory/statutes/title-vi-civil-rights-act-of-1964
[55] https://www.ada.gov/

2) For purposes of project selection for MPO-awarded federal funding, including through the STBG-U and TAP programs, only income-related factors will be considered in selecting local priority areas (LPAs) for project scoring.

Evaluating Potential Infrastructure Improvements

LTS network maps make it easy to identify locations where roads increase from low- to high-stress. Comparing the attributes of the lower-stress segment to those of the higher-stress segment makes it easy to identify the factors that are leading to the different LTS ratings. Understanding the factors contributing to a segment's rating clarifies the options for reducing its stress level. In some cases, a standard bike lane may be enough to create a low-stress route. When high LTS scores are due to high traffic volumes, higher speed limits, or multiple travel lanes, providing a low-stress route may require a physically protected bike lane or an off-street path.

The MPO uses LTS to determine the eligibility roadway projects for funding through the Surface Transportation Block Grant – Urban (STBG-U) program. To be eligible for funding, projects must generally result in a low- or moderate-stress (LTS 1-3) facility, and in project scoring, lower-stress facilities earn more points than higher-stress facilities.

The Pedestrian Network

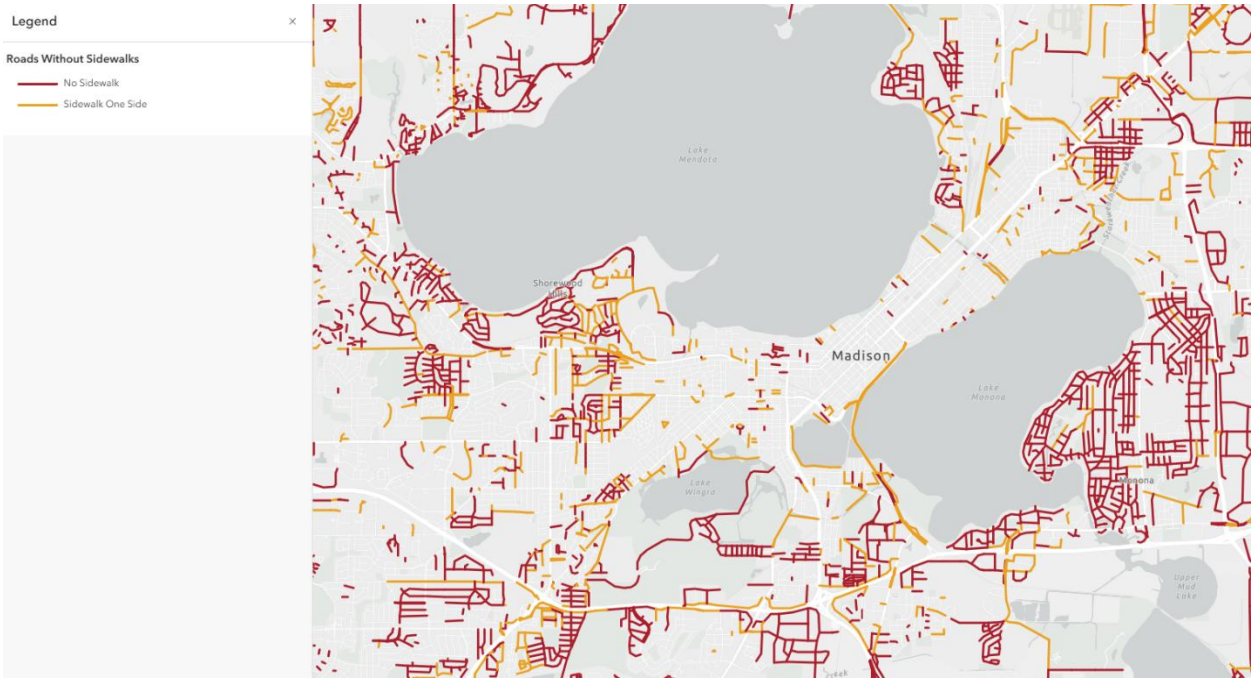
The pedestrian network is made up of paths, sidewalks, and local streets that lack sidewalks. The MPO maintains a large amount of GIS data about the pedestrian network that feeds into the MPO's public facing maps and mapping applications, and which we share with our partner communities and use for our planning work internally.

Information about sidewalks and other pedestrian facilities in two primary ways:

- As part of our road centerline data, which shows sidewalk and path coverage relative to the roadway network.
- As distinct features in sidewalk, bike path, and curb cut (transition point) datasets, which, when used in combination, show the precise location of pedestrian facilities, including crosswalks, and whether transition points are accessible.

Map 16~~Map 15~~~~Map 14~~ shows the road network where no sidewalk is present or is present on only one side of the street. Currently, 47% of urban roads have sidewalks on both sides and another 14% have sidewalks on one side. 39% of urban roads lack sidewalks.

Map 16~~15~~14. Roads with no sidewalks or sidewalks on only one side



[Embedded web map to be added]

Facility Types

To provide a greater level of detail about the location and type of pedestrian facilities and their accessibility, in 2018 the MPO began assembling a sidewalk centerline dataset that includes all sidewalks and pedestrian paths in Dane County.

The MPO maintains a large amount of GIS data about the pedestrian network that feeds into the MPO's public-facing maps and mapping applications and which we also share with our partner communities. Table 8 details the pedestrian facility types included in the MPO's sidewalk centerline dataset.

Table 8. Pedestrian Facility Types

Facility Type	Description
Sidewalk	Sidewalk. Paved walkway along a street.
Pedestrian Path	Walking path that is not alongside a street. Generally paved.
Crosswalk	Legal marked or unmarked crosswalk. Unmarked crosswalks are routes extending straight across a road, perpendicular to the road centerline, from where a sidewalk end abuts a roadway at an intersection and no marked crosswalk is available, whether or not there is a sidewalk on the opposite
Hiking	Hiking paths or trails. Generally unpaved.
Municipal Lot	Connecting route through a parking lot (usually government-owned).
Connecting Path	Links from sidewalks, paths, etc. to other facilities, including road centerlines that do not fall into any of the other category of pedestrian facility. Needed for network connectivity.

In addition to these pedestrian-specific facilities, several shared facility types that are part of the bike network also serve as pedestrian facilities. These include shared-use paths, wide sidewalks, and pedestrian paths on the bike network.

The third component of the MPO's pedestrian network data is our transition point (curb cuts) dataset. Transition points are places where sidewalks or other pedestrian or bike facilities intersect with roads or parking lots. The transition point dataset also includes points identifying steps located along sidewalks and pedestrian paths. Table 9 shows the types of transition points included in the MPO's transition point dataset. The most important attribute of these transition points is whether they are accessible to people with disabilities. Unfortunately, the MPO is currently unable to determine whether transition points meet ADA requirements, as we are unable to discern the degree of slope on curb ramps and other design details covered by PROWAG.

Table 9. Transition Point Types

Facility Type	Description
Curb Cut, Accessible	Wheelchair-accessible curb cut/ramp.
Driveway Apron, Accessible	Driveway apron serving as a curb cut at a crosswalk or other transition point.
No Curb Cut, Accessible	Pedestrian and wheelchair-accessible transition point where there is no curb.
Inaccessible	Transition point that is inaccessible due to the lack of a needed curb cut or a gap in the paved surface, or a location where a marked or unmarked crosswalk meets an inaccessible curb with no sidewalk connection across the terrace to the sidewalk, or at the end of a crosswalk extending across a street that lacks a sidewalk on the far
Steps, Inaccessible	Steps or stairway on walkway.

The MPO's online Pedestrian Facilities Map provides a detailed view of pedestrian facilities and transition points, as well as the location of pedestrian signals and rectangular rapid flashing beacons (RRFBs).

Pedestrian Facility Evaluation Measures

The most important factors affecting the comfort and safety of pedestrians are the presence of sidewalks and pedestrian paths that separate them from motor vehicles, and safe crossings at intersections that are accessible to people with disabilities. Beyond comfort and safety, pedestrian infrastructure needs to connect people with places that they want to go.

While the MPO has not employed any sophisticated methodology akin to bicycle LTS for the evaluation of pedestrian facilities, our GIS data allows us to assess how well-connected different neighborhoods are to the pedestrian network and whether there are inaccessible transition points limiting access along key corridors.

The City of Madison is now using a more sophisticated method of assessing pedestrian stress at intersections. The Pedestrian Crossing Level of Traffic Stress (PxLTS) methodology is based on many of the same characteristics that are used to calculate scores in the MPO's Bicycle LTS methodology, including traffic volumes, speeds, and the number of traffic lanes on the intersecting streets. See the City of Madison's Pedestrian Plan for more information.

Both the sidewalk centerline data and the sidewalk information stored in the MPO's road centerline dataset play an important role in assessing system performance. The sidewalk centerline data, coupled with the transition points and the shared-use facilities included in the bike network facilitates the detailed analysis of the extent and accessibility of pedestrian networks at the neighborhood level. The sidewalk data stored in the MPO's road centerline database allows for larger-scale regional or community-level assessments.

Gap and Barrier Analysis

Far from being easily defined and distinct from one another, the terms "gaps" and "barriers" may describe the same facility from different perspectives, as in the case of a major highway being a barrier and the lack of a safe crossing of that highway being a gap in the network. Other barriers may be economic or informational. Accordingly, the terms "gaps" and "barriers" are used somewhat interchangeably and may vary by context in the following section and are meant to describe a wide range of variables that could prevent walking, rolling, and/or biking.

Reducing the physical, economic, and safety-related barriers to biking is the best way to increase the number of people willing and able to travel by walking, rolling, or bicycle. Addressing missing sidewalks and other links in the pedestrian network will help complete the system envisioned in the Active Transportation Plan and Regional Transportation Plan. Where road network circuity inhibits direct travel by walking or rolling, new path or road connections can offer new shortcuts that make travel faster, more efficient, and potentially safer.

Similarly, ongoing efforts to improve intersection safety and local street network connectivity, and to reduce conflicts between bikes, pedestrians, and transit and delivery vehicles will help to reduce

pedestrian traffic stress and make walking and rolling a more appealing option across the metropolitan area.

Primary barriers to providing appropriate active transportation facilities include right-of-way (ROW) constraints, property owner or neighborhood opposition, and a lack of funding. Funding strategies are addressed as a menu of available opportunities in its own section below.

Rights-of-Way and Eminent Domain

Right-of-way (ROW) constraints can impact both the reconstruction of existing streets and the design of new streets. Although greenfield and brownfield developments are generally required to provide new streets and facilities and must meet locally adopted standards for ROW width, street width, sidewalks, separated paths, and other facilities, street reconstructions are generally limited by available ROW and new street connections typically require ROW acquisition. Although municipalities may resort to the use of eminent domain to acquire needed ROW, this ~~a contentious~~is a contentious tool and generally only used as a last resort. When the use of eminent domain is required due to property owner opposition, state law[56] restricts municipalities from condemning property for the purpose of constructing a "pedestrian way". In 2023 and 2024 Wisconsin municipalities operated under the guidance of a Court of Appeals decision that sidewalks were pedestrian ways and therefore eminent domain could not be used to acquire ROW for sidewalks – this interpretation resulted in the construction of ~~both~~ streets without sidewalks in communities across the state[57] and the abandonment of all or part of planned separated paths.[58]

In June 2024 the Wisconsin Supreme Court[59] reversed the Court of Appeals decision after finding that the definition of "pedestrian ways" in state statutes did not include "sidewalks", which are defined as "that portion of a highway between the curb lines, or the lateral lines of a roadway, and the adjacent property lines, constructed for use of pedestrians."[60] Although this was a welcome decision for municipalities, it fell short of repealing the subject statutes to enable communities to provide appropriate transportation facilities where they are needed to provide safe and efficient active transportation networks.

Railroad Rights-of-Way

ROW issues also affect active transportation facilities where paths would cross or parallel railroad tracks. 2024 decisions by the Office of the Commissioner of Railroads (OCR) denied petitions for the at-grade railroad crossings needed for three regionally significant path projects in Dane County: The Lower Yahara River Trail, the Capital City Path-Glacial Drumlin Connector and the Cannonball Path due to safety and operational concerns. OCR also required the removal of rectangular rapid flashing beacons (RRFBs) along the Southwest Commuter Path (at West Washington St. and Northshore Dr.) and the Cannonball Path (at Fish Hatchery Rd.). Given the safety benefits of providing active transportation users separated paths as an alternative to heavily trafficked high-

[56] Wis. Stat. § 32.015 and 61.34(3)(b)
[57] e.g. Richard Davis Lane in Madison
[58] e.g. Pleasant View Road Path in Middleton north of the bicycle/pedestrian overpass
[59] Sojenhomer LLC v. Village of Egg Harbor
[60] Wis. Stat. § 340.01(58)

speed roadways, OCR's denial of these crossings is likely to reduce overall transportation network safety.

A more detailed discussion of the OCR's role in approving new railroad crossings appears later in this report.[61]

Neighbor Opposition

Although active transportation facilities have been found to increase community health metrics, property values, and demand for neighborhood-scale businesses, they can still face neighborhood opposition for a number of reasons:

- Community sidewalk cost assessments. Some communities, including the City of Madison, have removed property owner assessments for sidewalk improvements to reduce opposition to new sidewalks in established neighborhoods.
- Damage or removal of existing trees or landscaping during construction.
- Perceived reductions in the size of residential yards, which are actually within the public right-of-way.
- Sidewalk snow and ice removal requirements. Property owners may not want to assume responsibility for winter maintenance.
- In neighborhoods with large low- and moderate-income household populations, resident fear of gentrification and displacement. The City of Madison has developed an Equitable Development in Madison report on how to address gentrification-related concerns, largely through ensuring early neighborhood involvement in developing project recommendations and developing a sense of ownership over the project to reduce these fears.

Bicycle Gaps and Barriers

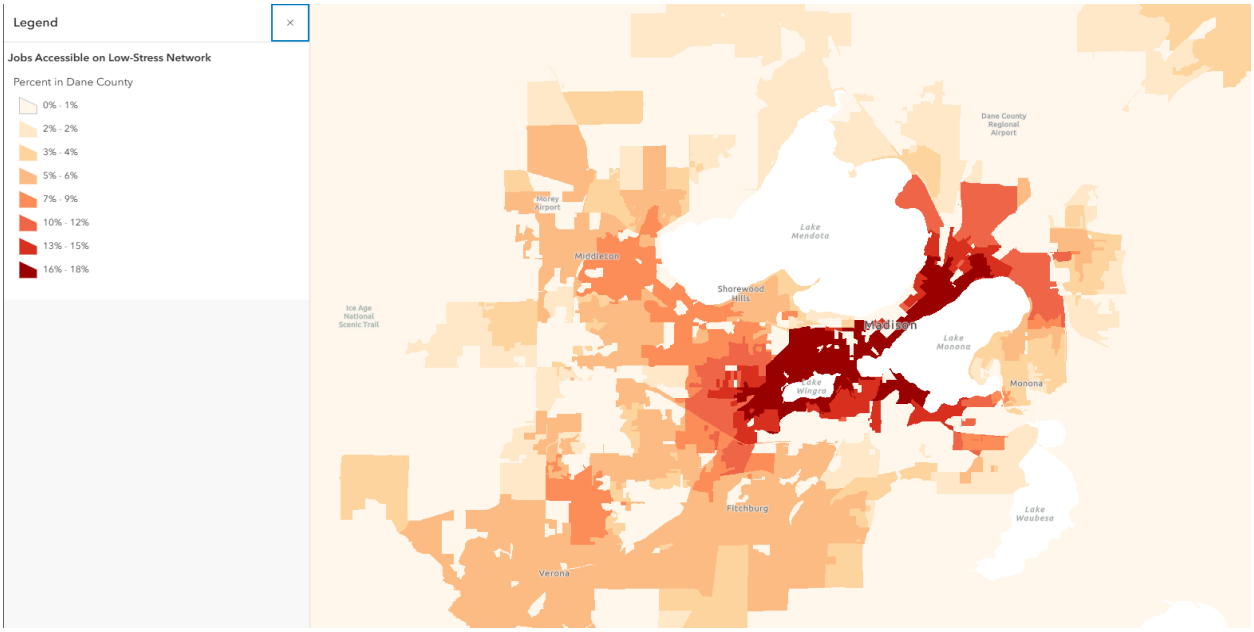
Network Gaps

Bicycle network gaps are places where bike travel is interrupted due to the lack of a bike facility or, in the case of gaps in the low-stress network, the lack of a low-stress route. Gaps in the low-stress network are scattered throughout Dane County, as seen on the MPO's Low-Stress Route Finder application. One way to make sense of how gaps in the low-stress network affect the ability of people to travel by bike is through accessibility analysis.

Mapping access to jobs by bike within 30 minutes on low-stress routes shows how well neighborhoods are served by the entire network of roads and paths on which bikes are allowed. As shown in Map 17~~Map 16~~~~Map 15~~, job accessibility by the LTS network varies widely between neighborhoods.

[61] See Sidebar: Office of the Commissioner of Railroads~~Sidebar: Office of the Commissioner of Railroads~~

Map 17~~16~~15. Low-Stress Job Access

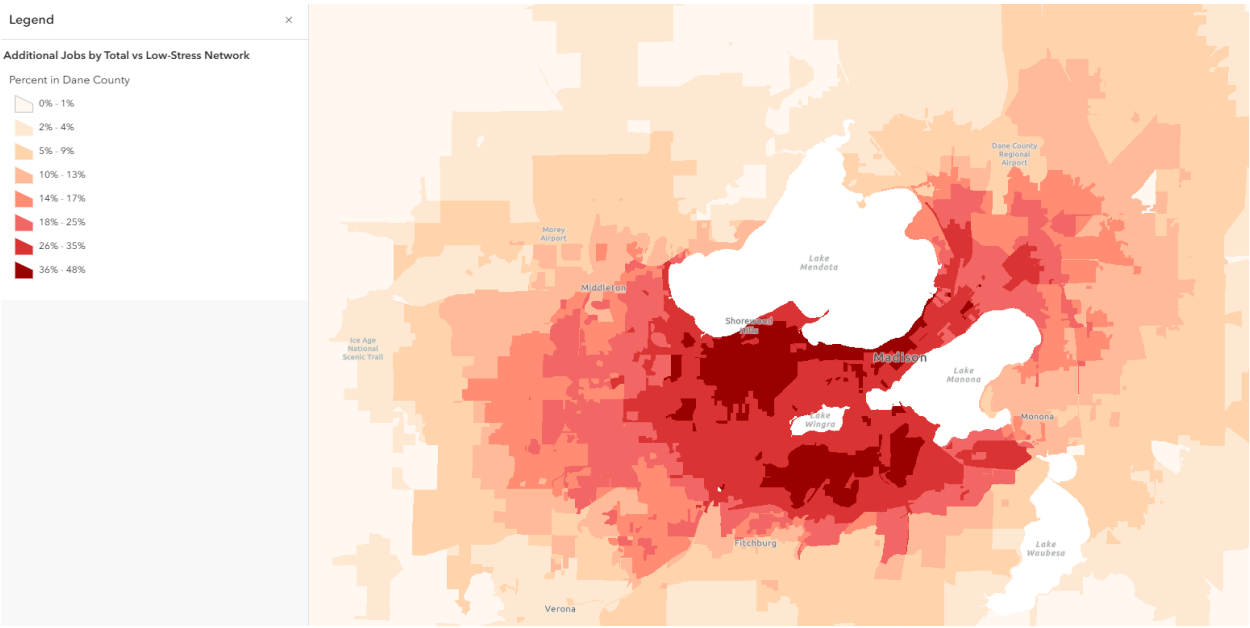


[web map to be embedded]

Outlying areas have lower job accessibility via the low-stress network because there are fewer jobs accessible within a 30-minute ride. Low job accessibility in more centrally located areas, however, indicates gaps in the low-stress network. It is important to note that not all of the accessibility gaps shown on the map are equally detrimental to bicycle travel. In some cases, a bicyclist could walk their bike across a high-stress street at a signalized intersection or bike on the sidewalk for a short distance and reach their destination with a minimal detour. In other cases, however, gaps in the low-stress network may preclude bike travel by all but the most confident riders.

Another way to visualize low-stress job accessibility is to map the difference in accessibility using the current network against the low-stress job accessibility that neighborhoods would have if all roadways were low stress. Map 18~~Map 17~~~~Map 16~~ details the relative employment accessibility of neighborhoods in Dane County. This map highlights the areas with the greatest disparity between their current low-stress accessibility and what it would be if all roadways were low stress. Areas with the highest percentage of additional jobs that could be reached if all roads were low stress are those where additional low-stress bike facilities could have the largest impact. Some of the economically disadvantaged neighborhoods on the south side of Madison are among the areas that could most benefit from new low-stress facilities.

Map 181716. Relative Employment Accessibility on the Low-Stress Network



[web map to be embedded]

Providing low-stress facilities to bridge the ~~missing~~ Missing Llinks described below would dramatically improve bicycle accessibility in Dane County.

Missing Links

Missing ~~links~~Links, as defined in Connect 2050, are the most important locations where key routes on the low-stress bike network are interrupted by high-stress intersections or road segments, or where a new connection is needed to bridge an existing gap in the network.[62] Priority ~~paths~~ Paths identified in the plan were more commonly longer-distance routes connecting communities or neighborhoods.

Of the 106 miles of ~~missing~~ Missing ~~links~~ Links identified in Connect 2050, the MPO's 2022 regional transportation plan (RTP), about 20 miles have been improved with new on- and off-street infrastructure, and improvements are programmed on another 7 miles. The plan also identified 95 Ppriority Papath projects for the 2022-2050 horizon. Of those, 19 were completed by the winter of 2025-2026, with eight more partially completed or under construction. Due to the structure of the Ppriority Ppath and Mmissing Llinks data sets, including some overlap between them, it is not possible to determine the total combined percentage of completed projects.

To make it easier to understand the highest priority locations for improvements and to make it easier to assess progress going forward, Ppriority Ppaths have been integrated into ~~missing~~ Missing

[62] Planned regional paths not classified as ~~missing~~ Missing ~~links~~ Links may be intended to connect communities, serve developing or planned neighborhoods, or provide local connections that do not rise to the level of regional significance.

~~links~~Links. The ~~missing~~ Missing ~~links~~ Links shown in this plan reflect the highest priority areas for improvement to serve bicyclists traveling both within and between communities.

Ten narrow sidewalks and pedestrian path segments that have been identified as regional routes have also been added as ~~missing~~ Missing ~~links~~Links. Pedestrian paths on the bike network, while not specifically designed for bikes, serve as useful connections over relatively short distances and are often sufficient in locations where they serve fairly low volumes of bicyclists and pedestrians. However, pedestrian paths less than six feet wide that are a part of the regional bike network should be improved. As key bike routes, these facilities often carry higher volumes of bicyclists and pedestrians, increasing the risk of conflicts between users. Tight turns and insufficient widths increase these risks. These locations should be prioritized for expansion to a width of at least ten feet.

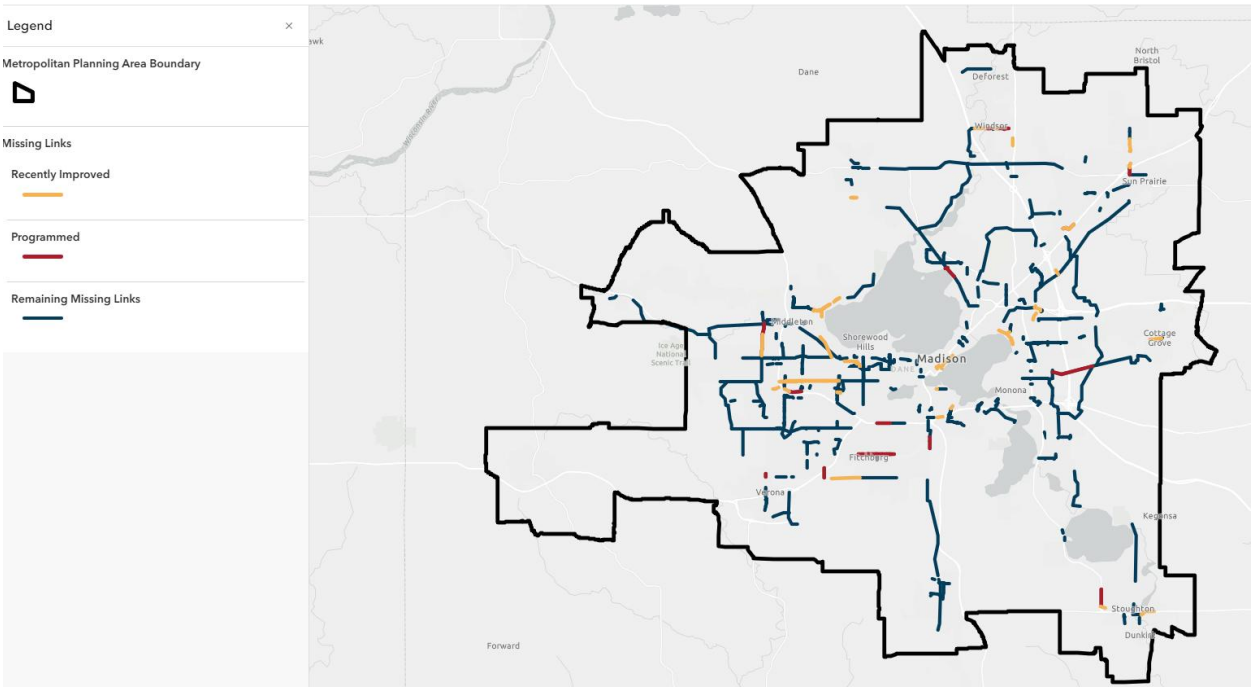
Beyond these additions, several other locations were added as M~~m~~issing L~~l~~inks based on changes to the low-stress network and feedback received through the public survey and commenting map and in response to the draft plan, including the ~~two~~ four key segments below.

- A northeast-bound connection along Mifflin Street between the top of State Street and the intersection of East Mifflin Street and Pinckney Street. This was identified by many respondents as a needed connection. Currently, the only legal way to bike from the top of State Street to the East Mifflin Street Bike Boulevard is to travel all the way around the capitol building via Carrol, Main, and Pinckney Streets, which adds six blocks – with traffic signals at each intersection – to the route.
- A connection along Gammon Road between the Mineral Point Path and Tree Lane. This connection would provide a safer route for students commuting to school at Memorial High School and Gillespie Middle School and would also serve residents living along the eastern part of Tree Lane.
- Connections across South Grand Avenue in Sun Prairie, a high-traffic stress area which separates the low-traffic-stress networks to its east and west.
- Connections from Independence Lane through the East Towne Mall area and along High Crossing Boulevard, a high-traffic-stress area with no reasonable alternative low-stress routes that connects Sun Prairie and the American Center to the rest of the City of Madison.

The M~~m~~issing L~~l~~inks analysis is intended to serve as an initial screening based on the existing and planned bikeway network. A more detailed engineering evaluation is needed to determine how best to accommodate bicycles within the corridors identified. While a detailed feasibility analysis of the identified corridors was not conducted, constrained street corridors with no available right-of-way and/or recently reconstructed streets are generally excluded.

Addressing ~~missing~~ Missing L~~l~~inks in the bicycle network, shown in Map 19~~Map 18~~~~Map 17~~, will help complete the bicycle route system envisioned in this plan and the Regional Transportation Plan. High-stress roadways can often be remedied with new side paths or bike lanes: conventional, buffered, or protected. Where road network circuity inhibits direct travel by bike, new path or road connections can offer cyclists new short cuts that make travel by bike faster, safer, and more efficient.

Map 1918~~17~~. Missing Links



[web map to be embedded]

Sidebar: Project Prioritization and Selection for Funding

~~Every~~ While every community ~~or~~and agency involved in transportation project funding has its own method of prioritizing projects~~:, however, there are some factors in common between many agencie~~they take many of the same factors into account~~s~~. In addition to ~~factors such as addressing a~~ safety concern~~s or~~and ~~accommodating~~ travel demand, decision makers must ~~also~~ consider ~~the complexity of~~ right-of-way acquisition~~; wetland, stream crossing, or other~~ , environmental permitting,~~; project~~ cost,~~;~~ and coordination with other projects ~~such as street reconstruction~~. ~~For the~~Street reconstruction schedules are the most important factor influencing the timing of many active transportation projects~~, the consideration of when a street will be reconstructed is perhaps the most important of these factors.~~. Integrating active transportation projects into planned street projects reduces construction costs and results in designs that better accommodate the needs of all users. A planned path along a roadway in poor condition with water or sewer utilities in need of replacement is therefore a better candidate for construction than one along a roadway with good pavement condition and modern utilities.

~~Not only are design and construction costs of stand-alone active transportation projects higher than when they are integrated into street projects, but the design of the street can better accommodate the adjacent bicycle and pedestrian facilities when they are designed and built together. This means that a path along a roadway with good pavement condition and modern utilities is likely to be de-prioritized compared to a path along a roadway in poor condition with water or sewer utilities in need of replacement.~~

Once a ~~project has been selected by the responsible~~n agency decides to pursue a project, it ~~must be included in~~is added to their ~~C~~capital ~~i~~improvement ~~P~~program or similar budget, typically with design, ROW acquisition, and construction ~~being~~ spread over three or more years.

If the ~~responsible~~ agency decides to ~~pursue~~seek funding through grants awarded by the USDOT, WisDOT, DNR, Dane County, the MPO, or others, they ~~will complete the appropriate application~~need to apply for funding~~, which will include information that is important to the funding agency/program's adopted goals~~. Each ~~awarding agency and~~ grant program ~~will have~~has distinct goals, so ~~a project that has no chance of being funded under one program may be a perfect fit for funding through another.~~ project sponsors should make sure that they are applying for grant(s) that are most likely to fit the project well.

The MPO does not build projects itself, but selects projects for two federal funding programs that are ~~regularly~~ used to build active transportation infrastructure, STBG-U and TAP, with project selection based on the MPO's scoring criteria.[63] Table 10. Greater Madison MPO STBG-Urban Project Scoring System~~Table 10. Greater Madison MPO STBG-Urban Project Scoring System~~ ~~The maximum number of points awarded for each category of scoring metrics is shown in Figure 50~~shows the scoring criteria for ~~for~~ the STBG-U program. ~~_____~~Table 11 shows the scoring criteria for the TAP program.~~.~~

[63] See the Funding Strategies section of this plan for more information on these and other funding programs.

~~*Figure 50. Greater Madison MPO STBG-Urban Project Scoring System*~~

Table 10. Greater Madison MPO STBG-Urban Project Scoring System

	Category	Scoring System			
		Roadway	Transit (Infrastr.)	ITS	Bike
1	Importance to Regional Transportation System and Supports Regional Development Framework	18	25	15	25
2	System Preservation	20	15	5	5
3	Congestion Mitigation/TSM	12	15	20	5
4	Safety Enhancement	20	5	20	20
5	Enhancement of Multi-modal Options/Service	12	15	15	25
6	Environment	8	10	15	5
7	Local Factors	10	15	10	15
	Total	100	100	100	100

Table 11. Greater Madison MPO TAP Project Scoring System

	Category	Points
1	Importance to Regional Transportation System and Supports Regional Development Framework	35
2	Access and Service Area	20
3	Congestion Mitigation	5
4	Safety Enhancement	15
5	Environment	5
6	Local Factors	15
7	Cost Efficiencies	5
	Total	100

Network maps in this plan, including Planned Regional Routes~~Regional Bike Routes~~, Missing Links~~Missing Links~~, and Pedestrian Gaps and Barriers, with Intersection Density~~Pedestrian Gaps and Barriers~~, and other maps including the Level of Traffic Stress, ~~as well as~~and CARPC's Regional Development Framework Centers and Corridors[64], are used to determine scores for Safety Enhancement and I~~For both roadway projects that include active transportation facilities and~~

[64] Page 25

~~stand-alone bicycle/pedestrian facilities, the~~ importance to the Regional Transportation System and Supporting the Regional Development Framework. ~~are important, with this category accounting for 18% of roadway project possible points and 25% of bicycle/pedestrian project possible points. Safety improvements account for another 20% of potential points for both project types. These categories relate to the mapped networks in this plan, including identified Regional Routes and Missing Links.~~

~~The MPO's TAP project scoring criteria for bicycle/pedestrian infrastructure projects are grouped under the following categories with the point totals (out of 100):~~

~~1. Importance to Regional Transportation System and Supports Regional Development Framework (35 points)~~
~~2. Access and Service Area (20 points)~~
~~3. Congestion Mitigation (5 points)~~
~~4. Safety Enhancement (15 points)~~
~~5. Environment (5 points)~~
~~6. Local Factors (15 points)~~
~~7. Cost Efficiencies (5 points)~~

While the MPO uses the above scoring criteria as the primary factor in TAP and STBG -U funding decisions, the MPO Board also takes other factors into consideration when making funding decisions, including:

- The distribution of project funding across MPO communities.

~~HFor TAP scoring, 35% of potential points come from the project's importance to the Regional Transportation System and supporting the Regional Development Framework, and another 20% come from what area the facility is serving and improving access for. Safety accounts for another 15% of potential points for these projects. All three of these metrics relate to the Regional Routes and Missing Links identified in this plan.~~

- ~~The MPO also considers the~~ ow sponsoring agencies~~'s own prioritization between~~prioritize their proposed projects. ~~but does not necessarily honor that prioritization in project selection.~~
- Minimizing the amount of unspent TAP and STBG-U funding.

The MPO's project selection metrics for both the STBG-U and TAP funding programs will be updated following the adoption of this Active Transportation Plan~~. The overall point distribution between factors may or may not be changed, but references to previously-adopted plans will be updated~~ to reflect changes to Missing Links and Regional Bike Routes, described in this plan. ~~to reflect this plan's combination of Priority Paths and Missing Links, as well as the combination of the previous two-tier Regional Routes into a single list of projects.~~

Economic Barriers

Economic barriers present another obstacle to increasing bicycle usage. In addition to the cost of a bicycle, helmet, maintenance, lights, lock, and weather-appropriate clothing, four state-owned trails in the Madison Area – the Military Ridge State Trail, the Badger State Trail, the Glacial Drumlin

State Trail, and portions of the Capital City State Trail – require bicyclists to carry a permit. While the fees for state trail passes help pay for trail maintenance and new construction, they also pose a barrier to entry and negatively impact transportation equity. For potential users who either lack the ability to purchase their passes online or cannot afford the $25 annual or $5 daily pass, these facilities may as well not exist. Local governments, Dane County, and the MPO should work with the Wisconsin Department of Natural Resources to explore alternate funding mechanisms that would allow these facilities, which are critical components of the regional bicycle network, to be used by bicyclists free of charge.

Support Facilities

End-of-trip facilities such as showers, lockers, secure (and ideally covered) bicycle storage, and even charging capacity for e-bikes are not just amenities. In many cases these facilities are necessary for people to be able to use bicycles to commute to work or school, especially in inclement weather or on hot summer days. In addition to potentially attracting and retaining employees, employers that offer such facilities are recognized through the League of American Bicyclists' Bicycle Friendly Business program (see Encouragement, above) and may benefit from customer's desires to support businesses that support bicycling.

Bicycle Parking

Bicycle parking is a critical end-of-trip facility, both to provide safe and secure places for bicyclists to lock their bikes and to help reduce the number of bikes parked in inappropriate or unsafe locations. Where adequate secure and convenient bicycle parking is available, bicyclists are less likely to resort to locking their bikes to signposts, trees, railings, and other locations where they may damage vegetation or impede pedestrian access routes. Numerous organizations and agencies have adopted bicycle parking guides that cover the design, placement, and number of bicycle parking spaces needed to support the use of bicycles.[65] As e-scooters and other micromobility devices proliferate, the demand on existing bicycle parking also increases; it is not uncommon to see bicycle racks with at least as many of these devices as bicycles locked to them. Additionally, as cargo bikes, trikes, and other larger devices gain popularity, it is important to provide appropriate parking locations for these vehicles where they will not impede pedestrian access routes.

The City of Madison has adopted minimum bicycle parking requirements,[66] with new or changed uses generally required to provide enough bicycle parking spaces to serve 5-20% of the expected visitors, with a minimum of two bicycle parking spaces (one double-sided rack) required. Madison also offers a Bicycle Parking Program that provides bicycle racks where certain conditions are met and they are requested by area businesses.

Local governments considering adding bicycle parking requirements to their zoning ordinances or development regulations should consider:

- Requiring a certain percentage of spaces to be covered.
- Requiring distribution of spaces at various public entrances.

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[65] See the City of Cambridge, MA Bicycle Parking Guide; APBP Essentials of Bike Parking; and League of American Bicyclists' Roundup of Bike Parking Resources.
[66] MGO 28.141 Table 28I-3. Off-Street Parking Requirements.

- Requiring a certain percentage of spaces be able to accommodate a bicycle trailer or longer cargo bike.
- Requiring signage indicating the location of bicycle parking if it is not visible from the street or other access points, such as from a separated path.
- Requiring full compliance with bicycle parking requirements in non-compliant older buildings when they are rehabilitated or undergo a change in use.
- Allowing conversion of some auto spaces to bicycle spaces (either year-round or seasonally).
- Allowing a reduction in the minimum required number of auto parking spaces to provide bicycle parking.

Pedestrian Gaps and Barriers

Pedestrians need safe, accessible, direct routes to their destinations. On very low volume local streets, pedestrians may feel comfortable walking on the side of the road. But in most places, people will feel much more comfortable if they can walk on a sidewalk or path with some separation from motor vehicle traffic. For this reason, sidewalk coverage is one of the most important factors in determining the quality of the pedestrian network.

Beyond sidewalk coverage, the quality of the pedestrian network is largely determined by the following factors:

- High-stress crossings.
- Accessibility.
- Intersection density.
- Barriers.

High-stress crossings are intersections that feel unsafe for people walking, biking, and rolling. They often lack or have inadequate traffic signals and may have high volumes of fast-moving traffic, long crossing distances, and missing or worn-out pavement markings.

Facilities that are not accessible to people using wheelchairs or who are otherwise limited in their mobility, are not serving the needs of the people most reliant on them. A person's ability to manage their daily travel needs can be thwarted by single step, a missing curb ramp, or an overgrown shrub overhanging the sidewalk.

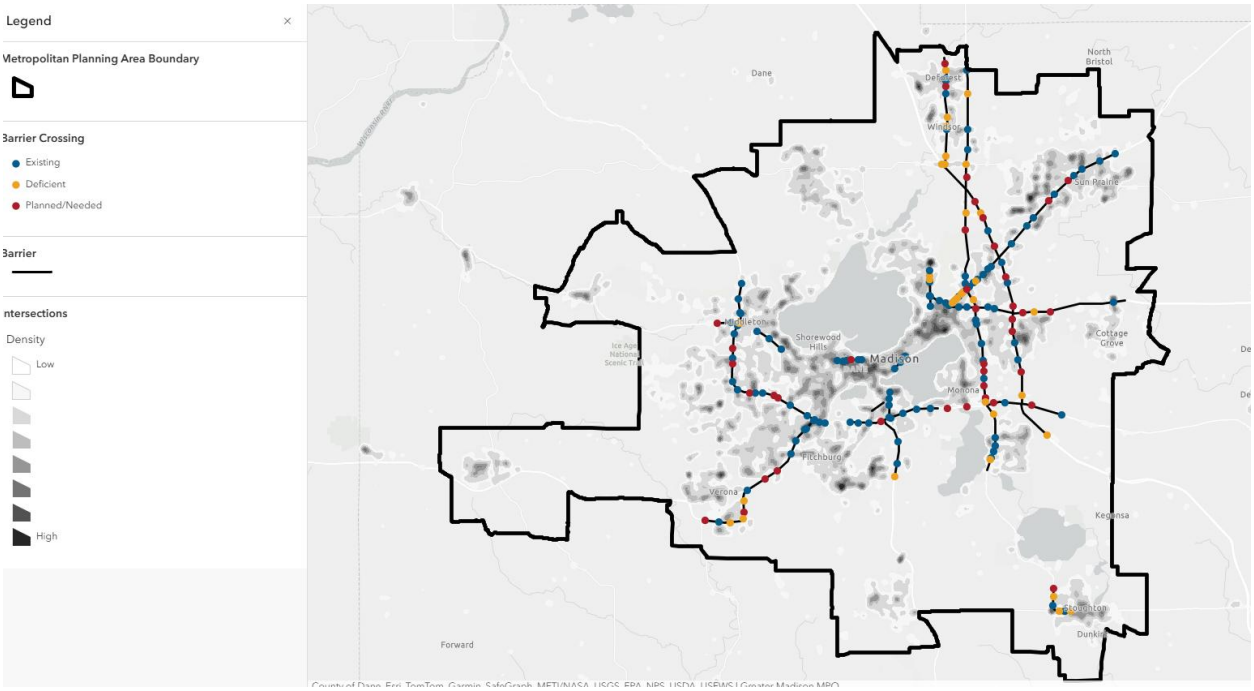
Intersection density, the number of intersections per square mile, is closely related to how often people walk. In places with a dense network of roads and paths, people have many destinations nearby and can reach them using fairly direct paths.

Finally, barriers, such as freeways and railroad tracks, interrupt the network, dramatically increasing the travel distances. Longer travel distances are one of the biggest obstacles to people walking for transportation.

Map 20~~Map 19~~~~Map 18~~ shows intersection density and key pedestrian barriers in the Greater Madison MPO Planning Area. While freeways and railroads present barriers to crossing throughout

their extent, only those that divide otherwise walkable areas present significant barriers to pedestrian travel.[67]

Map 201~~918~~. Pedestrian Barriers and Intersection Density



ADA Transition Planning

Gaps and barriers in the pedestrian network exist not only in those places where there is no sidewalk or alternate facility such as a multi-use path, but where curb ramps are missing or are designed in ways that prevent people with mobility limitations from using them, as well as where sidewalk panel displacement has occurred and where signalized intersections do not include Accessible Pedestrian Signals with audible, visual, and vibro-tactile signals. It is critical – and a legal requirement – for all communities to conduct self-assessments to identify these barriers, and to make a plan to address them. Communities with 50 or more employees must complete this self-assessment as part of an Americans with Disabilities Act (ADA) Transition Plan.

A Transition Plan is a tool to help the community identify and prioritize barrier removal that will improve the safety and usability of the transportation network by all residents in addition to the target population of people experiencing disabilities. Additionally, ADA is federal law, and not having a Transition Plan can lead to a "consent decree" against the community that requires barriers to be removed within a short time period (often four years). Having a plan to address barriers and non-compliant facilities helps to protect the community and spread costs over longer periods such as the next ten years.

[67] For discussion of the importance of intersection density and pedestrian barriers, see Connect Greater Madison 2050 Regional Transportation Plan, https://www.greatermadisonmpo.org/planning/documents/Ch-03-ConnectRTP-web.pdf, page 3-31

Another type of gap or barrier results from construction projects both within and outside the public ROW. Although temporary, these gaps and barriers can be especially problematic for users who are not aware of them ahead of time, and who become stuck or stranded where a facility unexpectedly ends or is closed, with no alternative route provided. Alternate Pedestrian Access Routes are required by the ADA and are described in detail in the Public Right of Way Accessibility Guidelines (PROWAG) section R204. Additional resources for ensuring that construction zones do not obstruct pedestrian access routes include the NACTO's Bikeways and Construction Management Plans, the 2019 Work Zone Guidelines from the UW Madison Transportation Information Center,[68] and WisDOT's 2021 Work Zone Field Manual.

Micromobility Gaps and Barriers

Although micromobility issues and barriers generally correspond to those for bicycles, these emerging technologies do pose their own unique challenges. Paramount among these is that of the safety repercussions of having widely available, relatively high-speed, devices which require no special training or licensing to operate, and which are operated largely outside norms of the traditional "rules of the road".

E-Motos

In addition to legally defined and regulated e-bikes and e-scooters, a wide variety of other e-micromobility devices have proliferated in recent years. While many of these devices serve as important transportation options for their operators, a growing number of them do not fall within any legal classification of such devices and as such are not currently regulated at the state or federal level. Commonly referred to as "e-motos" or "OCEVs" (Out of Class Electric Vehicles), these devices are capable of much higher speeds than legally defined e-bikes are, and most cannot be legally operated on either roadways or separated paths. Nevertheless, they are sold by both brick-and-mortar retailers and online—often with misleading labels such as having a "street legal e-bike mode"—with no warning to the consumer that the only place the device can legally be operated is on private property. ~~The Greater Madison MPO has drafted municipal guidance on defining and regulating these vehicles and anticipates finalizing this guidance in early 2026.~~See **Error! Reference source not found.**~~Appendix D: Greater Madison MPO Municipal guidance on e-moto and other e-micromobility device regulation~~ for more information.

Shared Micromobility

To date, no Dane County communities have adopted enabling legislation to allow shared micromobility such as the scooter-share systems available in other areas. These programs operate under a "dockless" or "docked" system. A common complaint regarding dockless systems is that scooters are left where they block pedestrian access routes or otherwise interfere with travel within the right-of-way. Any area communities that consider adopting enabling legislation for these systems should carefully consider whether to operate a dockless or docked system, and if a dockless system is selected, careful attention must be given to geofencing and adequately signing acceptable parking areas. For both systems, geofencing to prevent use of shared scooters in inappropriate locations should also be carefully considered.

[68] Pages 54-56 deal specifically with pedestrians.

Implementation

Roles and Responsibilities

Greater Madison Metropolitan Planning Organization (MPO)

The MPO's primary roles in developing the regional bicycle and pedestrian networks and promoting active transportation are:

- Providing funding for regional ~~priority~~ path projects and on-street facilities with the MPO's allocation of federal TAP and STBG-U funding.
- Maintaining regional transportation network GIS data and making it available via the City of Madison Open Data Portal.
- Producing informational and educational materials about the bicycle and pedestrian networks, including the Dane County Bicycle Map and the Low-Stress Route Finder application.
- Providing transportation planning information and assistance to area communities.
- Operating the RoundTrip program, which offers assistance and encouragement to help people swap drive-alone trips for biking, walking, taking the bus, carpooling, and vanpooling.

The MPO will continue to maintain and strengthen these activities, as detailed in this plan.

Local Governments & Dane County

Municipalities are strongly encouraged to incorporate the recommendations detailed in this plan into their local comprehensive plans and their own local bicycle and pedestrian facility plans. Active transportation facility planning should be incorporated into detailed land use and street planning at the neighborhood level. Shared-use paths, for instance, are most effective when used to supplement, not replace, the local street system. MPO staff are available to assist in these efforts.

Additionally, local land use plans can support active transportation by prioritizing:

- Street designs that slow traffic and improve safety for all users.[69]
- Street network connectivity.
- A mixture of land uses.
- Pedestrian-friendly building and landscape design, including eliminating or reducing parking minimums.
- Amenities such as benches, outdoor dining, street trees, bike racks, and other features that improve the built environment for bicyclists and pedestrians.

[69] See the Greater Madison MPO's *Pedestrian & Bicycle Facility Policies and Street Design Standards* report (2021)

Local governments control important tools to achieve these ends through land use planning and development regulations, including zoning, minimum off-street parking requirements, and subdivision regulations.

Dane County, the City of Madison, and Wisconsin DNR hold regular coordination meetings to discuss cross-jurisdictional bicycle projects such as the Capital City Trail-Glacial Drumlin Connector. Similar local coordination meetings among neighboring communities or between departments in larger municipalities would help quality bicycle projects move forward in a timely and coordinated manner. MPO staff ~~is~~are available to assist with these efforts.

Dane County could ~~dramatically~~significantly improve the low-traffic-stress bicycle network by installing shared-use paths instead of paved shoulders alongside county highways during reconstruction projects. Because paved shoulders have been shown to increase vehicle speeds and offer bicyclists no physical separation from traffic, they offer only marginal improvements for bicyclists. (At typical rural roadway speeds (45 mph or higher), any shoulder or bicycle lane width is still considered a "high ~~traffic~~ -stress" facility under the MPO's methodology.[70]) Installing shared-use paths on regional bike routes and Missing Links, as well as on other highways that offer direct connections between communities, would dramatically improve long-distance bike connectivity in the county, providing safer lower-stress routes than can be achieved

Wisconsin Department of Transportation (WisDOT)

WisDOT manages the interstate, national, and state highway systems, and leads planning and design work for these facilities in coordination with local jurisdictions. This means that any new or improved crossings of these facilities—which are often barriers to active transportation—must be coordinated with WisDOT. Additionally, side paths within these highway rights-of-way must be designed and developed by, or in partnership with, WisDOT.

WisDOT also administers FHWA formula funding programs, STBG-U and TAP, in coordination with the MPO and local project sponsors.

USDOT (FHWA and FTA)

Through the United State Department of Transportation (USDOT), and its Federal Highway Administration (FHWA) and Federal Transit Administration (FTA), the federal government provides funding support for roadway, transit, and active transportation projects. The MPO administers project selection for some of these formula funding programs, such as STBG-U and TAP, with WisDOT administering the grants themselves, while USDOT administers discretionary funding programs such as Safe Streets and Roads for All (SS4A), Areas of Persistent Poverty (AoPP), and others directly. Both formula and discretionary programs are subject to change, including elimination, with every new transportation funding bill. The IIJA expires on September 30, 2026, so changes to project eligibility, funding amounts, and other details of federal funding programs are expected in the near future.

[70] See Appendix B

Public

Active transportation facilities development needs to continue to actively engage the public. Active transportation network users represent a large source of information for identifying maintenance problems and other hazardous conditions. Meaningful public engagement should also be used during the planning and design of pedestrian and bicycle facilities so that they can best serve the future users of the system.

Sidebar: Office of the Commissioner of Railroads

The State of Wisconsin's Office of the Commissioner of Railroads (OCR) is a small independent agency, distinct from WisDOT, responsible for ensuring safety of the public at railroad crossings in the State of Wisconsin. OCR has primary responsibility for making determinations of the adequacy of warning devices at railroad crossings as well as approving the installation of new railroad crossings, changes to existing crossings, and closing or consolidation of existing crossings.

OCR's role in approving new railroad crossings gives it a major role in determining the fate of many non-motorized path projects in the State of Wisconsin. Three of our region's most important path projects are currently navigating delays due to railroad crossing denials issued by OCR. Two of those, the Cannonball Path and the Capital City-Glacial Drumlin Connector Path, are being redesigned to avoid the need for new rail crossings and the potential for additional delays. The third of these projects, the Lower Yahara River Trail (LYRT), which will link the City of Madison, the Village of McFarland, and the City of Stoughton, has no suitable alternate route.

Dane County Parks planners have been working on the LYRT project for over 25 years, and the project has received over $16 million in funding from local and federal sources. These expenditures have been based on the expectation that the LYRT will, at completion, provide a low-stress non-motorized route between Madison and Stoughton. Without offering a complete low-stress connection between these communities, its value will be significantly degraded.

OCR presents a particular challenge for efforts to expand the non-motorized trail network for several reasons:

- It becomes involved only at the end of the process, when a denial renders previous planning and design efforts and right-of-way acquisition wasted.
- It takes an extremely limited view of its responsibility to promote safety, discounting safety concerns on alternate routes that could be alleviated with new crossings.
- It tends to defer to railroad representatives, even on questions of bicyclist safety and behavior.
- Public opinion is only considered by OCR if presented during the public comment period for the potential crossing under consideration; public support for a planned crossing expressed via public outreach processes during the development of adopted plans hold virtually no weight with OCR judges.
- Public comment periods for crossing petitions, while listed on the OCR website, are not widely publicized.

The Commissioner of Railroads has the authority to overrule OCR decisions made by the presiding administrative law judge and could implement changes that would remedy many of these issues.

Communities planning to petition OCR for new railroad crossings for new non-motorized paths should:

- Enter into discussions with the affected railroad well in advance of their petition and seek a signed written agreement with railroad identifying the acceptable crossing design.
    - Absent a signed written agreement with the railroad, petitioners should assume that the railroad will oppose the crossing.
- Ensure that testimony and exhibits offered in support of the petition make the best possible case for the necessity of the new crossing and the unsuitability of potential alternatives.
- Engage residents and community groups supporting the project to stress the make-or-break nature of the OCR proceedings, and the critical need for supporters to make their voices heard during the public comment period.

Funding Strategies

Active transportation projects are financed through a range of local, state, federal, and even private mechanisms. It is typically most efficient for local municipalities to fund smaller projects themselves, or with special assessments, local taxes, general obligation borrowing, and development impact fees or other private contributions, as the administration of state and federal grants can add considerably to project costs. WisDOT sets minimum project costs for funding programs to ensure that only projects of sufficient complexity or cost are considered; exceptions to these minimums can and have been granted for simpler, less-costly projects such as the purchase and installation of bicycle share stations that require less oversight than most construction projects do.

Larger active transportation projects often rely on a combination of funding sources including federal, state, county, and local funding. Funding for maintenance of bicycle facilities is a significant issue as the path network continues to grow.

Generally, federal grant funding is only available for new construction or reconstruction with substantial improvements.

A few of the most important funding sources for bicycle projects are discussed in more detail below.

Transportation Alternatives Program (TAP)

The Transportation Alternatives (TA) Set-Aside from the Surface Transportation Block Grant (STBG) program provides funding for a variety of smaller-scale transportation projects.

The MAP-21 federal transportation legislation merged three previously existing funding programs (Safe Routes to School, Transportation Enhancements, and Recreational Trails programs) into the Transportation Alternatives Program (TAP). The funds from TAP, which are administered by the Wisconsin Department of Transportation (WisDOT), are used primarily for off-road bicycle and pedestrian projects. Although eligible project types at the federal level include the construction of scenic overlooks and historic preservation, MPO policy limits eligible project types to pedestrian and bicycle facilities, including accessible routes to transit stops; Safe Routes to Schools planning and programming; and the development of ADA Transition Plans. The IIJA/BIL continued the TAP

program as revised under MAP-21. The Greater Madison MPO receives an allocation of TAP funding to award to projects in the MPO's planning area based on the 2020 Census population within the Madison Urban Area. Projects located within the Urban Area or the Planning Area are eligible for the Greater Madison MPO's allocation of TAP funding. Outside Urban Areas,[71] municipalities may compete for statewide pools of funding.

The Recreational Trails Program (RTP) was merged into the Transportation Alternatives Program under MAP-21, and a portion of TAP funds are set aside for the development of trail and trail facilities for both motorized and non-motorized vehicles. RTP funds in Wisconsin are overseen by the Department of Natural Resources (DNR). The program benefits hikers, bicyclists, in-line skaters, equestrian users, cross-country skiers, snowmobilers, off-road motorcyclists, all-terrain vehicle riders, four- wheel drivers, and others.

Surface Transportation Block Grant – Urban (STBG-U)

Surface Transportation Block Grants provide federal funding for projects to preserve and improve the conditions and performance on any federal-aid highway or bridge on any public road, for pedestrian and bicycle projects and for transit capital projects. The Greater Madison MPO receives an allocation of STBG-U funding to award projects in the Madison Urban Area. Eligible types of bicycle/pedestrian projects include:

- On-road bicycle lanes and paved shoulders.
- Shared-use paths.
- Bridges and underpasses for bicycles and pedestrians.

The adopted selection process for STBG-U projects indicates that all projects funded through the STBG-U program must be consistent with the MPO's Regional Transportation Plan, federal Title VI requirements, and the MPO's Complete Streets Policy. The last requirement prohibits the use of this funding for roadway projects resulting in a bicycle Level of Traffic Stress (LTS) 4, although exceptions can be made under certain conditions.

Safe Streets and Roads for All (SS4A)

The SS4A program funds regional, local, and tribal initiatives through grants to prevent roadway fatalities and serious injuries. Established under the IIJA/BIL with $5 billion in appropriated funding for 2022-2026, this discretionary program provides funding for two main types of grants: planning and demonstration grants for Action Plans, including supplemental safety planning and/or safety demonstration activities, and implementation grants. A comprehensive safety action plan (referred to as an "Action Plan") is a plan to prevent roadway fatalities and serious injuries in a locality or region or on Tribal land. Action Plans are the foundation of the SS4A grant program.

The SS4A program has awarded funding to eight projects in the Madison Area to date:

- City of Madison FY 2022 Action Plan Grant Award of $267,680.
- City of Madison FY 2023 Implementation Grant Award of $6,267,668.

[71] The City of Stoughton is its own Small Urban Area following the 2020 Census and competes against other Small Urban Areas for statewide funding.

- Greater Madison MPO FY 2024 Planning & Demonstration Grant Award of $1,000,000, with five sub-recipients:
    1) Up to $300,000 ($240,000 federal + $60,000 local match) to the City of Fitchburg to develop a Vision Zero Plan,
    2) Up to $150,000 ($120,000 federal + $30,000 local match) to the City of Verona to develop a Safe Routes to School Plan,
    3) Up to $150,000 ($120,000 federal + $30,000 local match) to the Village of Cottage Grove to develop an Active Transportation Plan,
    4) Up to $150,000 ($120,000 federal + $30,000 local match) to the Village of Shorewood Hills to develop a Safety Action Plan, and
    5) Up to $500,000 ($400,000 federal + $100,000 local match) to Dane County to develop a County Highway Comprehensive Safety Action Plan.
- City of Sun Prairie FY 2025 Planning & Demonstration Grant Award of $ 204,000.

With funding for the program only appropriated through 2026, the future of this program is uncertain.

Other funding sources and grant programs

The USDOT maintains a spreadsheet of Pedestrian and Bicycle Funding Opportunities from federal highway, transit, and safety programs. This spreadsheet is updated periodically as warranted by changing federal transportation laws and authorizations.

A number of WisDOT programs are also used to make improvements to bicycle and pedestrian facilities. The Local Road Improvement Program (LRIP) assists local governments in improving county highways, town roads, and city and village streets. The improvements can include sidewalks, bike lanes, and other bicycle facilities.

The Highway Safety Improvement Program (HSIP) funds highway safety projects at sites that have a history of high crash rates. Emphasis is on low-cost options that can be implemented quickly. Bicycle and pedestrian projects are eligible for this program. Many states choose to use HSIP funds to implement FHWA's Proven Safety Countermeasures. Recently, bicycle lanes (including protected bike lanes), crosswalk visibility enhancements, lighting, rectangular rapid flashing beacons, appropriate speed limits for all road users, and speed safety cameras were added to FHWA's Proven Safety Countermeasures. The IIJA/BIL also clarified that reducing vehicle speeds, installing or upgrading traffic signals for pedestrians and bicyclists, protected bike lanes, pedestrian crossing islands, and protected intersection features are eligible for HSIP funding.

The Wisconsin DNR manages the Knowles-Nelson Stewardship Program which funds projects that create or support nature- based outdoor recreational opportunities. Funds from this program are frequently used to acquire land for non-motorized trails.

Dane County has a number of budget initiatives that support active transportation programming. Dane County Parks introduces new trail initiatives into each annual capital budget. Dane County also funds a grant program for local municipalities called the PARC & Ride Program, which was built upon the former Partners for Recreation and Conservation (PARC) grant program. The PARC &

Ride Program provides assistance for expanding trail connectivity, providing destination- oriented non-motorized trails, and improving bicyclist and pedestrian safety.

Dane County Parks also requires users of the Capital City Trail to have a state trail pass. Dane County receives 70% of the sales revenue generated from the passes sold along the Capital City Trail and uses those funds to help offset maintenance costs. Annual county revenues from state trail passes for the Capital City Trail typically are about $75,000.[72]

Pedestrian and bicycle accommodations are also routinely included as part of local street projects and some local municipalities include specific funding in their budgets for bicycle facilities and programs. For example, the City of Madison has specific line items for bicycle improvements in its annual budget as well as project-specific funding in the capital budget for new infrastructure. The City of Madison budget includes the following funding programs:

- Bikeways: This program is for bicycle-related improvements and path resurfacing throughout the City. The goal of this program is to improve the pavement quality of the existing bike paths to meet City Standards and provide new paths to close gaps in the network. Projects within this program are prioritized based on pavement quality rating of existing bikeways and projects awarded federal funds through the Transportation Alternatives Program.
- Sidewalk: This program is for repairs to defective sidewalks and installation of new sidewalks. The goal of this program is to provide consistent maintenance of sidewalks for safe conditions and reduced chance of injury and also to improve and maintain ADA compliance. Each year the Sidewalk Program repairs sidewalk in two or three Council Districts on a 10-year replacement cycle.
- Safe Streets Madison: This program funds Vision Zero projects focused on eliminating serious and fatal crashes. This program also provides funding to close gaps in the pedestrian and bicycle network to ensure accessibility for people of all ages and abilities. Projects are selected using the Safe Streets prioritization metric that was approved August 2021. Typical projects include proven safety countermeasures such as Rectangular Rapid Flashing Beacons, pedestrian islands, curb extensions, improved pavement markings and signs, and new/improved bike lanes.
- Safe Routes to School: Funding for signs, lighting, curb ramps, short sidewalk segments, median islands, pavement retreatments, and traffic calming installations. In addition, funds may be used to improve access to city parks.
- Traffic Safety Infrastructure: This program is for traffic control devices, signs, traffic safety studies, and other items to respond to public safety concerns. The goal of this program is to improve traffic safety and accessibility for pedestrians, bicyclists, motorists, and transit users.
- Traffic Signal Installation: This program is for replacing and modernizing the City's traffic signal network. The goal of the program is to provide energy efficient and dynamic traffic signals that are readily adaptable to provide for safe, efficient traffic flow for pedestrians, bicycles and vehicles.

[72] $77,764 in 2024, $74,146 estimated in 2025. Adopted 2026 Dane County Budget, p. 221.

- Project-Specific Funding: Projects are detailed in each capital budget, which also includes estimates of future projects expected to be undertaken in the next five years.

Grants for small projects are available through a variety of philanthropic and non-governmental organizations, including the AARP's Livable Communities Community Challenge grants, Bloomberg Philanthropies grants for street art and safety projects, and others.

Bike and pedestrian infrastructure is also sometimes constructed as part of new developments. Developing infrastructure in this way, helps to ensure that it is available when residents arrive, and is encouraged. If requiring the construction of necessary facilities during the development process is not feasible, the rights-of-way needed for new facilities should be reserved for their later construction.

Funding for projects and programs also comes from a variety of other sources.

Financial Analysis

There are three major considerations in the financial analysis of active transportation projects:

1) The economic benefit brought by the projects.
2) The relative economic benefit brought by active transportation projects compared to roadway projects.
3) The financial capacity to complete the projects.

The 2025 report *Evaluating Active Transport Benefits and Costs: Guide to Valuing Walking and Cycling Improvements and Encouragement Programs*[73] describes 21 benefits and costs to active transportation projects and details the expected costs and benefits per person-mile or vehicle-mile travel reduced. For urban areas at peak travel times, this report estimates a total of $2.95 in savings for every person-mile traveled and vehicle-mile reduced.

Estimating Benefits of Closing Gaps in Active Transportation Networks[74] provides methodology for estimating benefits for:

- Behavior change.
- Safety benefits.
- Emissions benefits.
- Enhanced travel options benefits.
- Health benefits.
- Local economic benefits.

These resources can be used on a project-by-project basis to estimate local benefits of the project.

[73] Litman, Todd. © 1997-2025 Victoria Transport Policy Institute. https://www.vtpi.org/nmt-tdm.pdf
[74] NCHRP Research Report 1149, 2026.

Economic Benefit of Projects

WisDOT released a report on the Economic Impact of Bicycling in Wisconsin in 2024. This report estimates the statewide impact of bicycle-related industries to have been $5.36 billion in 2022 - up from an estimated $1.5 billion in 2010.[75] Because the report does not include the direct economic benefits of facility construction, which include the wages of the engineers and tradespeople who construct the facilities, the true impact is likely to be higher than these estimates.

A number of tools have been developed to estimate the economic impact or cost/benefit analysis of active transportation projects. These tools include a World Bank report[76] on the benefits of bicycle transportation and infrastructure, and Smart Growth America's Benefits of Complete Streets tool, both of which can be used to evaluate the local impact of specific projects.

Additional economic benefits of active transportation projects can include increased home and property values.[77] The flip side of this benefit is that improved bicycle and pedestrian facilities can be seen as harbingers of gentrification and displacement by current residents, who may oppose projects that are meant to benefit. To alleviate these concerns, residents should be involved in project identification and design so that they have a sense of ownership over the projects in their neighborhood.[78]

Relative Economic Benefits of Active Transportation versus Roadway Projects

Constructing bicycle and pedestrian facilities is a more labor-intensive process compared to roadway construction, which is much more dependent on materials and heavy machinery. This means that a higher percentage of active transportation construction dollars remains in the local economy through laborer wages than is the case for road construction projects. Studies have also shown that the cost per new commuter is much lower for active transportation commuters than for automobile commuters. Between 1995 and 2010, the Portland, Oregon metro area spent 11 times more for automobile infrastructure than they did for active transportation infrastructure *per new commuter* by that mode.[79]

When active transportation facilities are constructed as part of larger roadway projects, they add only incremental costs to the entire project; even as stand-alone projects, their cost is markedly lower. For example, when developing project cost estimates the City of Madison uses baseline

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[75] Grabow, Hahn & Whited, "Valuing Bicycling in Wisconsin," The Nelson Institute for Environmental Studies Center for Sustainability and the Global Environment, University of Wisconsin-Madison, 2010.

[76] World Bank. 2025. The Case for Cycling Infrastructure Investments. © World Bank

[77] See summary of research in: Litman, Todd. © 1997-2025 Victoria Transport Policy Institute. https://www.vtpi.org/nmt-tdm.pdf (p. 18); however, a 2025 report found inconsistent correlation between the construction of new bicycle facilities and property values in 11 US cities: Dahir, Abdirashid & Le, Huyen T.K., 2025. "Impacts of bicycle facilities on residential property values in 11 US cities," Journal of Transport Geography, Elsevier, vol. 123(C).

[78] See the City of Madison's Guide to Equitable Development, 2019, for strategies to avoid displacement and support resident buy-in to project success.

[79] https://bikeleague.org/the-cost-effectiveness-of-active-transportation-investments/

figures of $500-$3,000 per lineal foot for roadway reconstruction projects, $100-$500 per lineal foot for separated paths, and $50 per lineal foot for sidewalks.[80]

Financial Capacity to Complete Projects

The Connect Greater Madison 2050 Regional Transportation Plan's Fiscally Constrained Plan includes the Regional Priority Path list in Figure A-e. This project list is updated below (Table 12~~Table 12~~~~Table 10~~) with the status of completed or underway projects and the removal of one path projects that MPO and local staff no longer consider a Regional Priority Path due to the development of a nearby parallel facility: Sun Prairie's O'Keefe Rd Path, from White Oak Dr to Yellow Daisy Ln.

Table 12~~12~~~~10~~. 2050 RTP Update Figure A-e Regional Priority Multi-Use Path Projects with 2025 Status

2050 RTP Update Figure A-e Regional Priority Multi-Use Path Projects					
Regional Priority Multi-Use Path Projects: 2022-2050					
Priority Regional Multi-Use Paths	**Path Segment Limits**	**ESTIMATED TIMING AND PRELIMINARY COSTS ($1,000s)**			**2025 Status**
		2022 to 2026	**2027 to 2035**	**2035 to 2050**	
1,000 Oaks Path	Ice Age Junction to Lower Badger Mill Creek Path		$1,371		Mostly Complete - a few small segments remain
8th St Path	S Holiday Dr to S Klein Dr		$51		
Allen Boulevard Path	Maywood Avenue to Century Avenue		$114		Complete
American Parkway Path	Bauer Dr to Hoepker Rd		$50		
Autumn Ridge Path	Hiestand Park to Commercial Ave	$4,347			Complete
Badger-Rusk Path	Beltline Overpass at Sirloin Strip to Nygard St	$1,171			Complete
Bird Street Path	Windsor St to Schumann St		$2,390		North sections (2) complete, south section remains to be completed
Blooming Grove Path	Glacial Drumlin to Marsh Rd			$4,177	
Blooming Grove Path	I-94 to Glacial Drumlin			$3,489	

[80] Including lighting, storm water, traffic control, mobilization, etc. for all project types. Cost ranges depend on number of lanes, traffic, complexity, grading, etc.

Blooming Grove Path	Milwaukee Rd Path to I-94			$2,811	
Broom St Path	W Main St to John Nolen Dr		$152		Complete
Campus Drive Path	Easterday Lane to Babcock Drive		$155		
Cannonball Path	Fish Hatchery Road to Wingra Creek Path	$2,047			Revised project planned for 2026
Capital City Trail	Cottage Grove Road to Buckeye Road and Vondron Rd to I-39		$2,610		Cottage Grove Rd to Vilas Rd complete; Vondron Road to I-39 TAP funding for 2026-2027
Century Ave Path	Community Dr to Eighth St		$90		
Colladay Point Path	Colladay Point Dr connector			$151	
Commercial Ave Path	WSOR/Sherman Flyer to Demetral Park Path		$267		
Cross Country Rd Path	Badger Prairie Ln to Ice Age Junction Path and East Pass to Mammoth Cr Path		$203		
CTH M Path	Cross Country Rd to Bering Dr		$431		TAP funding for 2030
CTH M Path	CTH PB to Liberty Dr/Thousand Oaks Trl			$110	
North Mendota Trail (CTH M Corridor Segment)	Woodland Dr/N Mendota Trail to WSOR at STH 113	Const.			Complete
Dutch Mill Bike Path	Collins Ct to Tradewinds Pkwy/Dutch Mill Rd			$2,802	
Elver Connector Path	Raymond Road to Elver Park			$677	STBG-U funding for 2030-31 (Mid-Town/Raymond Rd project)
Femrite Dr Connector Path & Overpass	Copps Ave to E Broadway Service Rd			$2,592	
Fitchburg to Oregon Path	Lacy Road to Oregon via Syene Road and RR corridor			$3,313	
Fitchburg to Oregon Path - Cusick Pkwy Connector	Cusick Pkwy to shared-use path			$68	
Fitchburg to Oregon Path - Jefferson St Connector	Shared-use path to Main St		$376		

Gammon Rd Path	Mineral Point Rd to Colony Dr		$375		
Glacial Drumlin Trail	I-39/90 to Vilas Rd		$1,739		I-39 to Buckeye STBG-U funding for 2027
Good Neighbor Path - Middleton	Eau Claire Ave to Middleton			$2,301	
Good Neighbor Path - Old Sauk Connector	Old Sauk Rd to Low Rd/Twin Valley Rd Int.			$590	
Good Neighbor Trail	Middleton to Cross Plains			$3,786	
Goodman Path	STH 30 to USH 151 Path / West Sun Prairie			$4,145	
Hammersley Rd Path	Brookwood Rd to Southwest Path	$838			Complete
Helgeson-Hob Path	Hob St to Helgessen Dr			$2,505	
Hiestand Path	Milwaukee at Fair Oaks to Autumn Ridge Path at STH 30		$2,604		
High Point - Pleasant View Rd Connector Path & Beltline Overpass	Blackwolf Dr to N High Point Rd			$2,686	
High Point Rd Path	D'onofrio Dr to Ice Age Junction Path - Tree Ln Connector		$249		
Hwy 12 Corridor - Pheasant Branch Creek Connector path	Schneider Rd to Donna Dr		$1,004		
State Trunk Highway (STH) 19 Corridor Path	Century Ave to Heatherstone Dr			$6,853	
U.S. Highway 51 Path	Jackson St to Rutland-Dunn Town Line Rd	$461			Construction in 2026-2027
County Trunk Highway (CTH) BB Corridor Path	Southing Grange to N Main St		$200		Complete
CTH C Corridor Path	Saint Albert the Great Dr to Stonehaven/McMahon Dr Path			$100	
Ice Age Junction Path	S Pleasant View Rd to Mineral Point Rd		$1,333		
Ice Age Junction Path - Tree Ln Connector	Tree Ln connector		$225		
Ice Age Trail Extension - Badger Mill Creek Path	Ice Age Trail Extension to Military Ridge State Trail	$639			
Jackson St Path	Silverado Dr to USH 51		$165		
Lacy Rd Path	Lacy Rd Path to Devoro Rd	Const.			Complete to Wayfair, Wayfair to Devoro not complete

Lower Badger Mill Creek Path	McKee Rd to Mineral Point Rd			$3,303	
Lower Yahara River Trail - Broadway Connector, incl Beltline Overpass	Broadway to Lower Yahara River Trail (Phase 1)			$3,174	
Lower Yahara River Trail - South Towne Connector	Gisholt Dr to Broadway Connector			$269	
Lower Yahara River Trail (Phase 2)	Fish Camp Rd to Williams Dr	Const.			Complete
Lower Yahara River Trail (Phase 3)	Williams Dr to Burritt Rd		$1,036		
Lower Yahara River Trail (Phase 4)	Elvehjem Rd to CTH AB at Fish Camp Rd		$830		
Main St Path	Rickel Rd to Bird St		$499		
Main St (CTH N) Corridor Path Extension	I-94 to Northlawn Dr	$604			Complete
Mandt Park path	Page St to Riverside Dr		$122		
Marsh Rd Path	Voges Rd to Siggelkow Rd		$373		
McKee Rd (CTH PD) Corridor Path	Seminole Hwy to Fish Hatchery Rd		$1,071		
Mid Town Path	Pleasant View Rd to Silverstone Ln		$225		
Midvale Blvd. Corridor Path	Southwest Path to University Ave		$1,389		
Military Ridge-Nesbitt-Lacy Connector Path	Nesbitt Rd to Quarry Vista Dr		$2,156		
Milwaukee Road Path	Burke Road / Goodman Path to Bird St			$1,907	
Mineral Point Rd Path - West	Pioneer Rd to Pleasant View Rd		$1,184		
Mineral Point Rd Path - East	Segoe Rd to Beltline Hwy	$6,094			Complete, except Whitney to Segoe (east end)
North Mendota Trail	CTH Q to 0.2 miles south of Bishops Bay Pkwy		$897		
North Mendota Trail - North Shore Bay	CTH M to Reynolds Ave	Const.			Complete - except portion within park
North Mendota Trail - Century Ave	Allen Blvd to CTH Q	$1,367			Complete
North Street Corridor Path - East	Stevenson St to USH 51	Const.			Complete
North Street Corridor Path - West	River Rd to Nelson Ct		$1,016		

North Towne Rd Path	0.15 miles north of Bear Tree Pkwy to Banbury St		$221		Complete
Olbrich Park Path	Welch Ave to Walter St	$1,331			Complete
Old PB Path	Military Ridge State Trail to CTH M			$3,784	
Packers Ave Path	Packers Ave at International Ln to Dane County Airport			$753	
Peacefull Valley Pkwy	CTH Q to Connery Cv		$120		Complete
Pleasant View Rd Path - North	Timber Wolf Trl to USH 14	Const.			Complete
Pleasant View Rd Path - South	Mineral Point Rd to Timber Wolf Trl		$898		STBG-U funding for 2030-31
Seminole - Cannonball Connector Path	Seminole Hwy to Cannonball Path		$830		TAP funding for 2029
Sherman Flyer Path	Commercial Ave to Troy Drive			$2,047	
Sherman Flyer Path	Troy Drive to Waunakee			$1,558	
Sherman Flyer - North Mendota Trail Connector Path	Sherman Flyer to Woodland Dr			$305	
Stoughton Riverfront Path	Dunkirk Ave Connector	$3,494			In Progress, partially complete
Struck St Path	Seybold Rd to Schroeder Rd		$269		
Tancho Path	Tancho Dr to Goodman Path at USH 151		$760		In Progress, complete in 2026
Token Creek Connector Path	Token Creek Path to Fieldwood Rd			$586	
Token Creek Path	Token Creek Path at I-39 to STH 19			$3,071	Partially complete - south of STH 19 to USH 51 in 2025
Upper Yahara River Path	STH 113 to STH 19			$2,058	
Walter St Path	Atwood Ave to Capital City Path		$108		Complete
West Beltline Path	Whitney Way to Southwest Path			$472	
West Towne Path	High Point Rd to Gammon Rd		$4,608		In Progress, TAP funding for High Point to Zor Shrine complete 2025, remainder STBG-U

					funded in 2028
West Towne Path	Commerce Dr to Junction Rd	$580			Complete
Wilson St Cycletrack	Broom St to Blair St	$3,522			Complete
Windsor Rd - Hwy 19 Path	Dalmore Rd to Conservancy Way			$919	
Windsor Rd Path	River Rd to Charlie Grimm Rd	$107			Complete
Total		$26,603	$34,396	$67,362	
Average Annual Cost		$5,319	$3,822	$4,491	

The Connect Greater Madison 2050 Regional Transportation Plan identified 95 Pp~~p~~riority Pp~~p~~ath projects for the 2022-2050 horizon. Of those, 19 had been completed by the winter of 2025-2026, with eight more partially completed or under construction. These amount to 20% of all identified projects being completed and an additional 8.4% being underway in the first three years of the RTP's horizon – 10.7% of the period covered by the RTP. Similarly, the amount of funding dedicated to projects completed in this three-year period is 11.4% of the total expected cost of all Priority Path projects, not including partially complete projects or those whose funding had been obligated prior to 2022. This shows that area communities have recognized the importance of these facilities and are actively working to complete them, in many cases years before they were anticipated. Thirteen projects have been awarded federal funding through 2031 by the MPO – 13.7% of all planned Priority Path projects.[81] Four of the remaining ~~priority~~ Priority ~~path~~ Path projects have been awarded federal funding (STBG-U or TAP) by the MPO, and two are scheduled for construction in 2026-2027 with local funding. These figures demonstrate that area communities and funding agencies have the capacity to complete important active transportation projects at a rapid pace, and that identified projects are priorities for communities across the region.

Recommendations

MPO staff have identified nine broad recommendations to improve biking, walking, and rolling in Dane County, with a variety of supporting ~~actions~~ activities for each.

[81] This plan combines the Priority Paths from the most recent RTP (Connect Greater Madison 2050, 2022) with ~~the m~~Missing Llinks ~~and gaps and barriers~~ in order to provide a single set of ~~identified~~ high-priority locations for improvements. ~~missing or substandard paths, so this type of facility is not discussed elsewhere in this plan.~~

The responsibility for implementing these recommendations is shared by communities and agencies throughout Dane County, as well as by the county itself, the State, local businesses, nonprofit organizations, and residents. The MPO conducts planning activities intended to stitch together the plans and priorities of area communities into a unified regional whole. However, the MPO cannot enact or enforce laws, build or maintain infrastructure, or implement local policies or programs.

Implementing the recommendations below requires action from communities and agencies, as well as businesses and individuals~~,~~ across Dane County. See Project Prioritization and Selection for Funding for more information about project development, funding, and implementation.

Recognizing that each of these entities has its own priorities, resources, and constraints, aside from a few specific cases~~,~~ the MPO decided not to identify specific parties responsible for implementing these recommendations. ~~Most will be self-evident, as municipal and county government build infrastructure, while they can be joined in education and encouragement activities by community organizations and non-profits.~~ Similarly, ~~we~~the MPO decided against including specific timelines for implementation as these will ~~be~~ differ~~ent for~~ based on each community's ~~based on their own needs and~~ unique priorities.

Over the last decade the bicycle and pedestrian networks in Dane County have grown dramatically; communities have implemented a variety of policy and infrastructure changes to improve conditions for people biking, walking, and rolling; and businesses have made changes to better accommodate bicyclists and pedestrians. These improvements demonstrate a shared commitment to making active transportation as safe and convenient as driving.

The recommendations and supporting activities detailed below should be pursued by the agencies, communities, businesses, and individuals that can implement them as soon as they are able.

The implementation of each recommendation is expected to result in changes to its related performance measures.

~~Expand the active transportation network to serve all communities and neighborhoods.~~

~~Closing gaps in bicycle and pedestrian networks is critical to provide residents with access to goods, services, and the larger non-motorized networks in a convenient and safe way. To improve the bike network, communities should prioritize the installation of low-stress bicycle connections in locations identified as missing links. Many of these improvements will also benefit pedestrians. However, to maximize the benefits of the pedestrian network, communities should also focus on providing safe routes to schools and other key destinations, building out their sidewalk networks, and providing safe pedestrian crossings of major streets and new access routes across key pedestrian barriers.~~

~~Following adoption of this plan, MPO staff will work to revise both STBG-U and TAP project scoring metrics to ensure that projects providing low-stress bike connections in locations identified as~~

~~missing links and projects providing access across pedestrian barriers are rewarded in project scoring.~~

~~At a smaller scale, it is critical for area communities to conduct self-evaluations for compliance with the Americans with Disabilities Act (ADA) and for communities with more than 50 employees to develop or update ADA Transition Plans. These plans identify inaccessible features of the built environment within the public right-of-way and establish a plan for addressing and eliminating those barriers. Improperly designed or missing curb cuts, sidewalk panels in poor repair, stairs, and pedestrian crossing signals must all be identified to ensure that the community has a comprehensive understanding of maintenance, rehabilitation, and new construction or retrofit needs. Community staff can use the MPO's Pedestrian Facilities web map to identify locations where curb cuts do not exist but should. This data set, however, does not include important details such as the width, slope, or surface condition of curb cuts, nor does it include details on the type of detectable warning surface that may or may not be present in the curb cut. Stairs are identified, but displaced sidewalk panels and obstructions to the accessible pedestrian route are not. Public input is needed to ensure that planned projects adequately address local concerns.~~

~~1. Staff should discuss their plans with neighboring communities to make sure new infrastructure will merge seamlessly with the existing network.~~

1. Expand the active transportation network to serve all communities and neighborhoods.

Without safe, accessible, and convenient connections to sidewalks, paths, and low-stress bike routes, people are unlikely to walk or bike. Providing these connections to all communities and neighborhoods in Dane County will ensure that all residents can benefit from our active transportation system.

Related Performance Measures:

1. Miles of Pedestrian Facilities
2. Low-Stress Bicycle Facilities on the Regional Network
3. BCycle Utilization
4. Pedestrian and Bike Fatalities and Serious Injuries
5. Transit Ridership
6. SOV Commuting Percentage
7. Transportation Funding Allocated to Bike/Pedestrian and Transit Projects
8. Transportation Funding Allocated to Safety, Maintenance, and Capacity Expansion
9. Per Capita VMT
10. Miles and Percentage of Urban Streets without Sidewalks and with Sidewalks on Both Sides
11. Miles of Off-Street and Protected Bike Facilities

12. Total Motor Vehicle Crashes Involving Bicycles and Pedestrians

Install or upgrade bike and pedestrian facilities to provide low-stress connections that eliminate identified Missing Links and provide access across key barriers.

Closing gaps in bicycle and pedestrian networks is critical to provide residents with access to goods, services, and the larger non-motorized networks in a convenient and safe way. To improve the bike network, communities should prioritize the installation of low-stress bicycle connections, such as shared-use paths, in locations identified as Missing Links.[82] Many of these improvements will also benefit pedestrians. To maximize the benefits of the pedestrian network, communities should also focus on providing safe routes to schools and other key destinations, building out their sidewalk networks, and providing safe pedestrian crossings of major streets and new access routes across key pedestrian barriers.

Provide high quality bicycle and pedestrian access routes to schools, commercial and employment centers.

The Missing Links and key barriers identified in this plan represent the highest regional priority locations for improvements. Communities should also evaluate the key bike and pedestrian routes that are used to access their schools and employment centers and commercial activity. While these routes may not be regionally significant, they are a critical part of creating communities where people feel comfortable biking and walking. One small stressful gap in an otherwise low-stress route can lead people to choose to drive rather than bike or walk.

Conduct ADA self-evaluations/transition plans.

At a smaller scale, it is critical for area communities to conduct self-evaluations for compliance with the Americans with Disabilities Act (ADA) and for communities with more than 50 employees to develop or update ADA Transition Plans. These plans identify inaccessible features of the built environment within the public right-of-way and establish a plan for addressing and eliminating those barriers. Improperly designed or missing curb cuts, sidewalk panels in poor repair, stairs, and pedestrian crossing signals must all be identified to ensure that the community has a comprehensive understanding of maintenance, rehabilitation, and new construction or retrofit needs. Community staff can use the MPO's Pedestrian Facilities web map to identify locations where curb cuts do not exist but should. This data set, however, does not include important details such as the width, slope, or surface condition of curb cuts, nor does it include details on the type of detectable warning surface that may or may not be present in the curb cut. Stairs are identified, but displaced sidewalk panels and obstructions to the accessible pedestrian route are not. Public input is needed to ensure that planned projects adequately address local concerns.

Cultivate consistent communication among agencies and staff to ensure collaboration happens early and often in the planning, design, development, and funding processes.

Community planners and engineers should discuss their plans with neighboring communities to make sure new infrastructure will merge seamlessly with other existing and planned facilities. This is a key area of focus for the MPO.

[82] **Error! Reference source not found.**~~Appendix B: Current MPO LTS Methodology~~ details how the MPO defines low-stress bike facilities.

The MPO's Technical Coordinating Committee is a forum for community staff to collaborate about project concepts, questions, and ideas. It also facilitates regional coordination by ensuring that communities are informed about plans and projects that their neighbors are working on. Finally, the MPO convenes and participates in ad-hoc work groups on topics of concern such as the statewide e-moto work group.

Install low-stress bicycle and accessible pedestrian facilities as street and utility infrastructure is built or during reconstruction or repaving as appropriate and feasible.

It is easiest and most efficient to add safe, low-stress biking and walking facilities concurrently with road construction, reconstruction and repaving projects.

> Seize the opportunity to make bike and pedestrian improvements during roadway and utility projects.

Communities should consider adding protected bike lanes or shared-use paths and crossing improvements in high-stress locations whenever roads and highways are reconstructed.

> Retrofit sidewalks into existing neighborhoods on both sides of all street reconstruction projects and require sidewalks on both sides of all new streets in newly developed areas.

Sidewalks should be a standard addition on both sides of urban roads when they are built or reconstructed. Resurfacing projects trigger the requirement to update any sidewalk curb cuts within the project limits.

> Reserve public space for future pedestrian and bicycle projects through land development projects and along transportation corridors when immediate construction is not viable.

It is not always possible to construct bike and pedestrian infrastructure concurrently with land development or road construction projects. In these cases, communities should require land to be reserved so that these facilities can be added later.

Repeal state prohibition against use of eminent domain to acquire right-of-way for non-motorized transportation infrastructure.

The statewide prohibition on the use of eminent domain to acquire land for non-motorized paths significantly hinders efforts to expand active transportation infrastructure. Repealing this legislation would enable communities to fill key gaps in their bicycle and pedestrian networks.

Install parallel shared-use paths rather than paved shoulders during highway reconstruction projects.

Because paved shoulders provide no physical separation from motor vehicle traffic and often lead to higher vehicle speeds, they offer only a marginal benefit to bicyclists. On highway corridors identified as Missing Links or Regional Bike Routes (existing or planned), Dane County Highways should consider adding parallel shared-use paths rather than paved shoulders during reconstruction projects.

Connect recommendations for active transportation network improvements in this plan to funding decisions.

The Greater Madison MPO will ensure its STBG-U and TAP scoring criteria align with the priorities of closing gaps in bicycle and pedestrian networks and improving safety as detailed in this plan.

2. ~~, and resurfacing projects trigger the requirement to update any sidewalk curb cuts within the project limits~~Make public input foundational in the planning and design of projects affecting active transportation.

People walking or biking experience the environment at a more granular level than do people traveling in motor vehicles.

Related Performance Measures:

NA

Seek input of pedestrians and bicyclists during the design phase of major projects.

Robust public input is particularly important when planning and designing active transportation improvements. Seemingly minor issues, such as a mistimed crossing signal or a too-narrow median island, can have major implications for bicycle and pedestrian accessibility.

Work to engage all residents in transportation planning conversations, particularly from neighborhoods and demographic groups that tend to be underrepresented.

Planning and engineering staff should work to engage all residents in transportation planning discussions, particularly those who do not regularly participate. These conversations are particularly important during the design phase of new projects, but ideally the dialog should be ongoing.

Develop and maintain interactive online tools for users to identify maintenance needs and safety concerns, and to comment on plans and projects.

Online tools that allow residents to flag areas of concern or identify unmet needs can help local governments better understand the needs and concerns of their constituents.

Project design staff should consult available sources of public comments and feedback, such as the MPO's ATP Comment Map, to ensure that public concerns and suggestions are considered.

When new projects first begin to come into view, community staff should review available sources of public comments and feedback, including the interactive comment map that informs this plan. It contains a wealth of public input about pedestrian and bicycle transportation throughout Dane County and is a valuable source of information about how residents experience the built environment, and specific challenges they face in different locations.

Ensure public engagement efforts are properly calibrated, communicated to the public, and that their impact on the final project is clear.

Communities should calibrate their public engagement efforts according to the phase of the project, with more engagement and in-depth consultation during planning and early design and more information-based engagement as the project moves forward into final design and construction. It is important that the public is aware of the goals for public participation and how input will be used. The International Association for Public Participation (IAP2) Spectrum of Public Participation provides a good overview of the spectrum of public engagement activities and ways to describe these different levels to members of the public. Following public engagement activities,

communities should provide a summary of the feedback that was received and the changes that were made in response.

~~2.~~3. Update laws and regulations for the 21st century.

The laws and regulations that shape our transportation system have grown and changed over time as new issues and concerns have arisen. Today, our laws and regulations need to be updated to account for the emergence of new technologies and our better understanding of how the built environment affects non-motorized transportation.

Related Performance Measures:

1. Miles of Pedestrian Facilities
2. Low-Stress Bicycle Facilities on the Regional Network
3. BCycle Utilization
4. Pedestrian and Bike Fatalities and Serious Injuries
5. Transit Ridership
6. SOV Commuting Percentage
9. Per Capita VMT
10. Miles and Percentage of Urban Streets without Sidewalks and with Sidewalks on Both Sides
11. Miles of Off-Street and Protected Bike Facilities
12. Total Motor Vehicle Crashes Involving Bicycles and Pedestrians

Adopt and implement complete streets goals, laws, and policies.

To ensure that the built environment supports walking and biking, communities should implement complete streets goals, laws, and policies. Complete streets are streets that are designed to help people get where they want to go, whatever their mode of choice. Serving the needs of those who have historically been marginalized in the transportation planning process and underserved by the transportation system is particularly important. While a complete street may or may not be equipped with facilities like sidewalks and bike lanes, the need for facilities to accommodate travelers using alternative modes should be thoroughly considered prior to construction. For more information, see the MPO's Complete Streets Policy.

Support and strengthen local land-use and parking policies for compact, mixed-use development in appropriate areas.

Land use and transportation are closely linked. Transportation infrastructure affects the types of land uses that develop in its vicinity. Land use, in turn, creates the need for changes to the transportation network. Biking and walking are particularly sensitive to density. As the number of destinations reachable within a short walk or bike ride increases, walking and biking become much

more viable alternatives to driving. Communities should ensure that their land-use and parking policies align with their active transportation goals. More information on the interplay between land use and transportation can be found in the Future Land Development section.

Adopt local ordinances and state statues defining and regulating classifications of e-mobility devices that do not fit any legal category under state law.

The growth in e-mobility in recent years has created whole new categories of vehicles that are not adequately addressed by existing laws. Our laws need to be revised to define and regulate these new types of vehicles to improve safety for their users and for those who share streets and paths with them. See **Error! Reference source not found.**~~Appendix D: Greater Madison MPO Municipal guidance on e-moto and other e-micromobility device regulation~~ for more information.

Pass enabling legislation to allow communities to use cameras for automated enforcement of traffic safety violations such as speeding, red light and stop sign running, and failure to yield.

The use of cameras to facilitate automated enforcement of traffic safety violations is largely prohibited in Wisconsin. However, research has shown that this type of automated enforcement can be very effective at reducing driving behaviors that endanger pedestrians and bicyclists. Allowing local communities to implement automated traffic enforcement systems would give them a powerful new tool to protect vulnerable users. If communities gain the ability to use automated enforcement, they should ensure that their policies and geographic deployment do not create disproportionate burdens for low-income communities and communities of color.

Encourage coordination and communication across municipalities and collaboration on policy adoption.

Because transportation involves moving from place to place, it is important that communities coordinate with their neighbors to avoid creating confusion or inadvertent ordinance violations when people cross jurisdictional boundaries. ~~The growth in e-mobility in recent years has created whole new categories of vehicles that are not adequately addressed by existing laws. Our laws need to be revised to define and regulate these new types of vehicles to improve safety for their users and for those who share streets and paths with them.~~

~~The use of cameras to facilitate automated enforcement of traffic safety violations is largely prohibited in Wisconsin. However, research has shown that this type of automated enforcement can be very effective at reducing driving behaviors that endanger pedestrians and bicyclists. Allowing local communities to implement automated traffic enforcement systems would give them a powerful new tool to protect vulnerable users.~~

~~To ensure that the built environment supports walking and biking, communities should implement complete streets goals, laws, and policies, and should ensure that their land-use and parking policies align with their active transportation goals.~~

~~3.~~4. Improve data collection and analysis.

Data is the bedrock of good decision making but there are a number of areas related to active transportation where our information is insufficient.

Related Performance Measures:

NA

Conduct transit accessibility analysis.

When the MPO began assembling our pedestrian facilities data, one of the goals was to enable an analysis focused on the accessibility of bus stops via sidewalks and paths. The MPO plans to conduct a transit accessibility study some time in the next few years.

Develop a reporting system to track all pedestrian and bicycle crashes resulting in injury or any property damage.

While WisDOT makes data about reported crashes available via the WisTransPortal System, including Community Maps, many bicycle and pedestrian crashes, some of which result in serious injuries, are not included because no crash report was ever filled out by a police officer. Crashes that do not involve a motor vehicle, such as those involving collisions between bicyclists or pedestrians or bicycle crashes stemming from railroad tracks or obstructions in the roadway, are not tracked. Hospitals and health systems should consider instituting a system to track these types of crashes. The State of Wisconsin could also play a role in promoting or incentivizing this data collection.

Improve and increase pedestrian and bicycle counting strategies and data sharing.

While there are bike and pedestrian counting devices in locations throughout the Madison Area, limited geographic coverage, a lack of testing, and data access and output issues limit their usefulness. Until 2022, the MPO had been able to access estimated bicycle and pedestrian counts on streets and paths from StreetLight Data, which were based on signals from location-based services (LBS) such as smartphone applications. While these estimates were imperfect, they appeared reasonable based on comparisons to actual count locations and were considered a fairly accurate reflection of relative bicycle and pedestrian activity from one location to another. However, reduced access to LBS data led StreetLight to stop providing segment-level bike and pedestrian travel estimates. Communities should work to improve their bicycle and pedestrian counting strategies and share their data in a more useable format. The MPO will continue to explore new technologies and partnerships to better understand pedestrian and bicycle travel in the region.

Monitor performance measures at both the regional and local level, including progress towards meeting adopted goals.

Ongoing monitoring of performance measures and progress towards adopted goals helps maintain positive momentum and provides an early warning if things are going off track.

The MPO tracks a number of regional transportation system performance measures, some of which relate to the bicycle and pedestrian networks, on our Performance Measures Dashboard.

Use the MPO's data bike to document pavement conditions on separated paths, roadway shoulders, and sidewalks as appropriate to improve maintenance agencies' prioritization of projects.

The MPO's new data bike will be used to gather information about pavement quality on bike facilities, which will be made available online.

Update the MPO's Rural Roadway Rating Methodology.

The MPO is planning to update the rural roadway suitability methodology, used to rate the suitability of rural roads for biking on the Dane County Bike Map, to align it with the updated methodology shown in Table 7.

The MPO should continue its leadership role in collecting and distributing regionwide transportation data.

The MPO maintains geographic information systems (GIS) data on the Madison Area transportation system, which is available on the City of Madison Open Data site. ~~Some of the most critical areas for improvement are in pedestrian and bicycle counting strategies, transit stop accessibility, information about unreported bicycle and pedestrian crashes, the pavement quality of off-street pedestrian and bicycle facilities. Ongoing monitoring of performance measures and progress towards adopted goals helps maintain positive momentum and provides an early warning if things are going off track.~~

~~4.~~5. Design infrastructure to promote safety without active enforcement.

While law enforcement is an essential part of maintaining a safe and effective transportation system, police officers can only observe a small fraction of the transportation system at any time. Designing roads and other infrastructure in a way that leads people to naturally drive at safe speeds, park in appropriate locations, and be aware of pedestrians and bicyclists ~~can reduce demands on law enforcement and~~ improves safety for everyone. It also reduces demands on law enforcement, allowing them to focus their attention on other priorities and locations.

Related Performance Measures:

1. Miles of Pedestrian Facilities
2. Low-Stress Bicycle Facilities on the Regional Network
3. BCycle Utilization
4. Pedestrian and Bike Fatalities and Serious Injuries
5. Transit Ridership
6. SOV Commuting Percentage
9. Per Capita VMT
10. Miles and Percentage of Urban Streets without Sidewalks and with Sidewalks on Both Sides
11. Miles of Off-Street and Protected Bike Facilities

12. Total Motor Vehicle Crashes Involving Bicycles and Pedestrians

Design facilities to minimize the need for active enforcement of traffic and parking rules.

Drivers respond to the physical environment intuitively, for example by reducing their speed when they encounter narrower travel lanes. Similarly, adding curb extensions is a more effective method of preventing drivers from parking too close to an intersection than a yellow painted curb and a No Parking sign. The NACTO Urban Street Design Guide details a number of street design changes that can be used to reduce speeds. Communities should consider including design features like these as a way to achieve desired traffic speeds without active enforcement.

Encourage schools to review their traffic safety plans to ensure they adequately consider the needs of pedestrians and bicyclists.

Schools, with their heavy traffic congestion, mix of transportation modes, and large numbers of children, present challenging environments for traffic safety. School districts should review their traffic safety plans to ensure that they are up to date and consider the needs of all users.

Ensure pedestrian and bicycle facilities are equipped with appropriate lighting, paying special attention to intersections.

Fatal crashes involving bicyclists and pedestrians are more likely to occur at night, despite lower overall traffic volumes. Better lighting, particularly at intersections, is one of the most effective ways to improve safety.

Design facilities following best national practices.

Facilities should be designed following best national practices, following design guides such as Urban Bikeway Design Guide, Urban Street Design Guide, Transit Street Design Guide, and Designing Streets for Kids. The LTS methodology used by the MPO to evaluate bike facilities can also help communities make design decisions that will facilitate travel by bike. Designing low-stress (LTS 1 or LTS 2) facilities, according to the methodology detailed in **Error! Reference source not found.**~~Appendix B: Current MPO LTS Methodology~~, ensures that they will be comfortable for bicyclists. Similarly, adopting FHWA-supported lane width policies would help WisDOT reduce speeding on state highways.

Encourage and facilitate coordination between enforcement agencies and transportation planners and engineers to balance police enforcement with infrastructure design changes.

Communication between law enforcement agencies and transportation planners and engineers can ensure that new and reconstructed transportation facilities are properly designed for their local context. Law enforcement officials can help project designers identify potential pitfalls prior to construction.

~~Schools, with their heavy traffic congestion, mix of transportation modes, and large numbers of children, present challenging environments for traffic safety, and should review their traffic safety plans to ensure that they are up to date and consider the needs of all users.~~

~~5.~~6. Tailor enforcement priorities to promote active transportation.

Because transportation-related law enforcement is typically focused on motor vehicles, the needs of people traveling by other modes often take a backseat. Modest adjustments to law enforcement priorities can help to maximize the benefits of non-motorized transportation networks.

Related Performance Measures:

3. BCycle Utilization

4. Pedestrian and Bike Fatalities and Serious Injuries

6. SOV Commuting Percentage

9. Per Capita VMT

12. Total Motor Vehicle Crashes Involving Bicycles and Pedestrians

Expand bicycle-mounted police programs.

Expanding bicycle-mounted police programs can help keep vulnerable users safe and ensure that law enforcement agencies are aware of emerging concerns affecting bicyclists and pedestrians. Traveling by bike gives officers a better understanding of how bicyclists and pedestrians experience the transportation system and can help make police departments aware of safety issues that drivers may miss.

Promote targeted enforcement of safety-related traffic violations.

While enforcement is a necessary part of upholding law and order, communities and police departments have discretion in determining their priorities. Prioritizing targeted enforcement of safety-related traffic violations can help shift driving behavior where it will have the greatest impact on safety. Enforcement should focus on behaviors like failure to yield to pedestrians and stop sign and red light running. Targeted enforcement in locations identified as hot spots, such as areas included in the High-Injury Network in the MPO's Regional Safety Action Plan, can maximize the benefits of these efforts. Communities should follow crash trends and adjust their enforcement priorities as new safety issues arise.

Expand alternative enforcement strategies/penalties for pedestrians and bicyclists who violate traffic laws.

To ensure that less experienced and disadvantaged residents feel comfortable traveling by bike and by foot, police departments should look for opportunities to expand alternative enforcement strategies/penalties for pedestrians and bicyclists who violate traffic laws. Concern that innocent mistakes will attract negative attention from police makes people reluctant to try less-familiar modes of transportation.

~~Promoting targeted enforcement of safety-related traffic violations, both local and() for some usersand conducting daily regular inspections of key bike and pedestrian underpasses, and for all expanding bicycle-mounted police programs can help keep vulnerable users safe and ensure that law enforcement agencies are aware of emerging concerns affecting bicyclists and pedestrians. To ensure that less experienced or otherwise disadvantaged residents feel comfortable traveling by bike and by foot, police departments should look for opportunities to expand alternative~~

~~enforcement strategies/penalties for pedestrians and bicyclists who violate traffic laws. Concern that innocent mistakes will attract negative attention from police makes people reluctant to try less-familiar modes of transportation.~~

~~6.~~7. Support education and encouragement programs that promote walking, rolling, and bicycling.

Education and encouragement programs to promote walking, rolling, and bicycling are low-cost ways to increase the number of people traveling by active modes and should continue to be supported and expanded. ~~These include:~~

Related Performance Measures:

3. BCycle Utilization
4. Pedestrian and Bike Fatalities and Serious Injuries
5. Transit Ridership
6. SOV Commuting Percentage
9. Per Capita VMT
12. Total Motor Vehicle Crashes Involving Bicycles and Pedestrians

Continue and expand activities that help people feel more comfortable navigating bicycle and pedestrian networks.

Many people who are not used to biking and walking for transportation feel uncomfortable getting started because of their lack of familiarity with the active transportation facilities or the "rules of the road" for people biking and walking. Helping people feel more comfortable navigating the area by bike and by foot makes it more likely that they will choose active transportation for more of their trips. ~~Activities that help people feel comfortable navigating the bicycle and pedestrian networks, such as by producing and distributing maps, running information campaigns to familiarize people with new types of facilities, installing wayfinding signage.~~

Continue to maintain and distribute information about active transportation infrastructure, including via the Dane County Bicycle Map and the Low-Stress Route Finder application.

People generally have a fairly good understanding of the major roads in their community. Non-motorized paths and low-traffic local roads, however, often go unnoticed by people who don't use them. Information sources like the Dane County Bicycle Map and the Low-Stress Route Finder application familiarize people with the active transportation network, giving them the information they need to plan trips using active transportation.

Improve wayfinding throughout the pedestrian and bicycle network.

While nearly every street intersection is equipped with signs, non-motorized path intersections often lack signage. Wayfinding signage along the path network reduces confusion and makes people more comfortable using active transportation.

Develop "safety town" spaces for parents and children to practice bicycle and pedestrian skills.

Teaching children to navigate spaces that are shared with traffic is always stressful for parents. "Safety towns," such as the one in Elmhurst, IL, are simulated communities with street networks where children can practice their bicycle and pedestrian skills without being exposed to motor vehicle traffic. They may be temporary or permanent and often host camps where instructors teach lessons about how to navigate intersections and interact with motor vehicles. These facilities are a great way to teach children about traffic safety in a safe environment and help parents feel more comfortable allowing their children to bike and walk.

Develop information campaigns that help pedestrians and bicyclists understand how to use new facilities.

Not knowing how to use unfamiliar new types of bicycle and pedestrian facilities, such as bike boxes, makes people uncomfortable and less likely to bike or walk. Information campaigns that help people understand how these facilities are used make people more likely to bike or walk and help them do so safely.

Expand pedestrian and bicycle education in Dane County schools, including through increased participation in the Safe Routes to School program.

Because schools are among the only institutions that reach virtually everyone, school-based pedestrian and bicycle education programs are a great way to ensure that everyone growing up in the area has a basic understanding about bicycle and pedestrian safety.

Promote the RoundTrip Bike Buddy program.

The idea of commuting by bike is intimidating to people who bike infrequently or have never used a bike to get to and from work. The Bike Buddy program pairs new riders with experienced riders who can help them choose a good route to and from work, discuss appropriate clothing and equipment, and accompany them the first time they test out their new commute.

Continue and expand the number of events and activities that promote active transportation.

Establish and promote "signature bike routes" in Dane County that increase interest in bicycling for recreation and support bicycle tourism.

Recreational bicycling is popular in the Madison Area and is one of the main drivers of tourism in Dane County. Establishing and promoting "signature bike routes" can inform residents about these facilities and draw additional bicycle-based tourism.

Promote programs such as Bicycle Benefits that encourage bicycling for non-work trips such as errands, dining, and events.

Bicycle Benefits is a program through which businesses offer reduced prices to people arriving by bike. These types of programs can benefit businesses by drawing new customers and encourage people to bike for more of their non-work trips.

Support services and organizations that encourage people to choose active transportation, including the Greater Madison MPO's RoundTrip program.

Once people get into a habit of traveling by car, they may not consider changing their mode of travel or may be intimidated due to their unfamiliarity with other options. Programs like RoundTrip Greater Madison, provide information and encouragement that makes travel by alternate modes seem more appealing and like less of a hassle.

Encourage employers to implement programs and events to support walking, rolling, and biking by employees and visitors.

Biking and walking require far less public and private expense than driving. By encouraging more employees and customers to bike, walk, and roll, businesses can save on parking expenses. Beyond saving money, programs to promote travel by bike and by foot can also build goodwill with employees and potential customers.

Promote bicycle-based cargo transportation.

As electric cargo bikes have become more available and grown in popularity, more businesses are using them for cargo transportation. While bike-based cargo transportation is not appropriate for all types of businesses or deliveries, when delivery distances and capacity needs are modest, cargo bikes are more efficient and maneuverable than conventional delivery vehicles.

Expand efforts to make biking more accessible to all.

While biking, walking, and rolling are generally among the most cost-efficient modes of transportation, a lack of experience, equipment, or money can still present barriers.

Offer state trail pass exemptions to low-income people.

Some of the most important non-motorized paths in Dane County require a state trail pass for bicyclists. While pedestrians are not required to have a pass, bicyclists are required to purchase a $25 annual or $5 daily pass. Providing low-income people with free passes to use state trails could make biking a more realistic transportation option.

Support programs and organizations that help seniors, low-income people, and people with disabilities bike and roll.

Dane County's Smart Cycling for Active Older Adults, offers bike skills training specifically geared towards older adults who may not have ridden a bicycle for a long time. Madison Adaptive Cycling helps people with disabilities determine what type of bike will work for them and helps them find sources of funding to help them purchase what they need. Bikes for Kids Wisconsin and Wheels for Winners both help people with low incomes get access to bicycles. These types of programs are critical to ensuring that everyone in our community is able to benefit from our active transportation system.

Expand promotion of the Dane County Emergency Ride Home program.

Dane County's Emergency Ride Home Program is a free program that offers up to six free taxi rides home per year for Dane County residents who commute by bike, foot, or bus in the event of a qualifying emergency. This program makes it easier for people to choose to travel by active modes by providing them with the confidence that they will be able to get home if their bike breaks down, if

they need to pick their sick child up from school, or if other emergencies occur that make their normal mode of transportation infeasible.

Expand driver education programs to increase awareness of vulnerable road users.

More bicycle- and pedestrian-related information should be added to the Wisconsin Motorists Handbook and written exam for drivers licenses. More driver education is needed about pedestrian right-of-way at crosswalks and path crossings, white cane laws, and bicyclists being granted all the rights and responsibilities of motor vehicle drivers. Educational campaigns to teach current drivers about new bike and pedestrian facilities is also needed to help them better understand and anticipate the actions of bicyclists and pedestrians.

- ~~Activities that help people feel comfortable navigating the bicycle and pedestrian networks, such as by producing and distributing maps, running information campaigns to familiarize people with new types of facilities, installing wayfinding signage.~~
- ~~Educational efforts, such as expanding pedestrian and bicycle education in schools and developing "safety town" spaces for parents and children to practice bicycle and pedestrian safety skills.~~
- ~~Assistance to people who face barriers in accessing bicycle and pedestrian networks, including supporting programs that provide education and assistance to disadvantaged groups and expanding trail pass exemptions to allow low-income people greater access to permitted trails.~~
- ~~Supporting promotional efforts to encourage people to bike and walk for more of their trips. Supporting transportation demand management (TDM) programs, including employer-based programs and those operated by non-profit organizations and government agencies, including Greater Madison MPO's RoundTrip program.~~

~~7.~~8. Maintain bicycle and pedestrian facilities in good condition year-round.

~~Maintenance of bicycle and pedestrian facilities is critical to~~ For people to rely on biking and walking as primary modes of transportation, they need to be confident that the facilities they rely on will be kept open and in good condition. Active transportation infrastructure needs to be well-maintained and kept clear of obstructions. When construction projects require the closure of roads, paths, or sidewalks detours should be accessible, clearly marked, and signed well in advance of construction.

extending their life and increasing their usage. Ensuring that pavement and pavement markings are in good condition requires that public agencies respond promptly to reports about unsafe conditions and that snow and ice is cleared in a timely manner. ~~When construction projects require the closure of roads, paths, or sidewalks detours should be accessible, clearly marked, and signed well in advance of construction.~~

Related Performance Measures:

3. BCycle Utilization

4. Pedestrian and Bike Fatalities and Serious Injuries

5. Transit Ridership

6. SOV Commuting Percentage

7. Transportation Funding Allocated to Bike/Pedestrian and Transit Projects

8. Transportation Funding Allocated to Safety, Maintenance, and Capacity Expansion

9. Per Capita VMT

12. Total Motor Vehicle Crashes Involving Bicycles and Pedestrians

Public agencies should respond promptly to complaints of unsafe road or path conditions.

Responding quickly to public complaints shows that complaints are taken seriously, making people more likely to report problems they encounter in the future.

Ensure access for pedestrians and bicyclists through corridors and to destinations during construction projects.

Construction activities often disrupt active transportation networks and hinder bike and pedestrian access to businesses and other destinations.

Implement and enforce access conditions for private construction projects in the public right of way.

Permits for private work within public rights-of-way should include plans for how bicyclist and pedestrian access will be maintained during construction and conditions requiring such access be maintained.

Ensure public construction projects maintain access for bicyclists and pedestrians.

Standard procedures should be adopted to ensure that public construction projects and maintenance work within public rights-of-way maintain bicyclist and pedestrian access during the project.

Ensure that bike and pedestrian underpasses are kept free of obstructions.

Using both local and federal (TAP and STBG-U) grant funding, Madison Area communities are making major investments in over- and underpasses to bridge gaps in the active transportation network and have dramatically improved connectivity for bicyclists and pedestrians. However, some of these underpasses are falling short of their potential and creating new safety concerns due to people congregating, sleeping, building shelters, and leaving their belongings inside them. These underpasses, like the one under Gammon Road, include only enough space for two-way bicycle and pedestrian traffic. Obstructions in these tunnels increase the risk of crashes and injuries. They also make the facilities feel unsafe to some users, which reduces their usage and potential benefits. Ensuring that key bike and pedestrian underpasses are clear and open for use could help to ensure that these facilities serve their intended purpose.

Ensure that access to public buildings is kept clear.

In addition to paths and sidewalks in the public right-of-way, sidewalks, paths, bike lanes, bike parking areas, and off-street routes that connect the right-of-way to building entrances (such as schools, libraries, and government buildings) need to be cleared of snow, ice, and other debris in a timely and reliable manner.

Support volunteer programs to assist seniors and people with disabilities in snow clearance.

Clearing snow and ice is a physically demanding activity and hiring someone to do the work is often quite costly. There are volunteer programs operating in some Madison Area communities and elsewhere in the U.S. that provide assistance with snow clearance for seniors and people with disabilities to help them remain in their homes and reduce their isolation during the winter months. Communities should seek ways to expand or duplicate these programs.

Improve coordination between maintenance entities to eliminate snow clearance gaps on bike and pedestrian routes.

When different entities are responsible for snow clearance on bike and pedestrian routes, uncleared gaps may remain, limiting accessibility. Entities responsible for maintenance on bike and pedestrian routes should reach out to those responsible for adjoining sections if adjacent areas are uncleared. Snow clearance staff should be asked to identify these problem areas.

Maintain pavement and pavement markings in good condition on active transportation facilities.

Responsible agencies should ensure that pavement and pavement markings are kept in good condition, prioritizing locations with high pedestrian and bicycle use and highest potential for conflicts with motor vehicles.

Establish clear local maintenance standards and enforcement approaches in ordinances pertaining to snow removal.

While specific requirements differ between communities, all area communities require that property owners clear snow and debris from their adjacent sidewalks. However, there are property owners in almost every community that fail to do so, severely limiting pedestrian accessibility, particularly for those who use wheelchairs or other mobility devices. Oftentimes enforcement is complaint driven, leading to better snow clearance in areas where residents are more comfortable lodging complaints with their city or village. Communities should ensure that standards and enforcement approaches are clear and that sidewalks in all neighborhoods are accessible.

~~8.~~9. Ensure that end-of-trip facilities and multimodal transfer points meet the needs of people walking, biking, and rolling.

Making it convenient to walk, bike, and roll is one of the most effective ways to change people's transportation habits.

Related Performance Measures:

3. BCycle Utilization

5. Transit Ridership

6. SOV Commuting Percentage

7. Transportation Funding Allocated to Bike/Pedestrian and Transit Projects

8. Transportation Funding Allocated to Safety, Maintenance, and Capacity Expansion

9. Per Capita VMT

Expand and improve bicycle sharing.

BCycle's expansion has provided a new way for people to get around and experience the bike network. Communities in the MPO Area should continue to support the expansion of the bike sharing network, as the installation of new stations improves the utility of the entire system. Communities should leverage private and business sponsorship, local funding, and federal grant programs such as STBG-U, TAP, and CRP to provide bicycle share across communities, including in lower-income residential areas where business sponsorship is less appealing to the private sector.

Incorporate bike parking requirements into local zoning ordinances.

For people to bike, they need to have a place to lock up when they reach their destination. The City of Madison includes bike parking requirements in its zoning ordinance. Other area communities should do the same.

Support the provision of facilities such as locker rooms with showers and bicycle maintenance stations.

Providing comfortable end-of-trip facilities, such as locker rooms and bicycle maintenance stations, reduces the hassle associated with biking for transportation, making it a more attractive option. Communities should consider providing their employees with facilities to make commuting to work by bike a more feasible option. They should also explore ways to encourage other employers to do the same.

Upgrade facilities to make it easier for people to make trips involving multiple modes of transportation.

The best way to get from place to place often involves using multiple forms of transportation. However, with multiple modes involved, there are more ways for things to go awry. Safety, security, weather protection, and wayfinding are some of the most common problematic issues. Communities served by transit should work with Madison Metro Transit to identify bus stops where people commonly park their bikes or cars and transfer to transit. These locations should be evaluated to ensure that there is adequate bike parking, adequate shelter and lighting, and that areas where people need to wait are visible from the street so that they feel safe. BRT stations often serve as multimodal transfer points for people biking or driving from outlying communities. While these stations tend to be sheltered, visible, and well lit, some lack adequate bike parking. However, there may be other non-BRT bus stops that could use additional improvements to serve people changing modes. Installing wayfinding guidance, such as signage and maps, at key bus stops and BCycle docks, can help people orient themselves and begin the next leg of their trip. Wayfinding guidance should show nearby street names, directions and distances to popular destinations, and directions to nearby bus stations and BCycle docks.

~~Expanding bicycle sharing and upgrading multimodal transfer points, such as park-and-ride lots and bus stops, makes it easier for people to bike and walk for a portion of their trips. Incorporating bike parking requirements in zoning codes and providing comfortable end-of-trip facilities, such as locker rooms and bicycle maintenance stations, reduces the hassle associated with biking for transportation, making it a more attractive option.~~

[The "Linking Recommendations and Supporting Activities to Performance" section and Table 11 were re-organized into the text above; the removed text is not shown in Track Changes in order to improve readability.]

Measuring Performance

Measuring performance of the active transportation system is difficult. Many of the characteristics that people care most about—connectivity, accessibility, etc. are, by nature, subjective. For many other measures there is a lack of data and/or quality control.

The MPO's 2015 Bicycle Plan included some performance measures for which data was unavailable, which were poorly defined, or which were otherwise unsuitable. With this plan, the MPO is revising our active transportation related performance measures to ensure that they are meaningful, readily available, and can be compared over time. Table 13~~Table 13~~~~Table 12~~ details the MPO's current and new performance measures related to Active Transportation.

Table 13~~13~~~~12~~. Current and New Active Transportation Performance Measures

	Current MPO Performance Measures ~~related~~Related to Active Transportation:	**Desired Trend**
1.	Miles of P~~P~~edestrian F~~F~~acilities (recommend replacement with new "Percentage of Urban streets with no sidewalk/sidewalks on both sides")	Increase
2.	Low-S~~S~~tress B~~B~~ike F~~F~~acilities on the R~~r~~egional B~~b~~ike N~~n~~etwork (recommend removal with next RTP update)	Increase
3.	BCycle Utilization (annual)	Increase
4.	Pedestrian and ~~Bicycle~~ Bicycle F~~F~~atalities and ~~Serious~~ Serious ~~Injuries~~ Injuries (5-year rolling average, annual)	Decrease – Goal of Zero
5.	Transit ~~Ridership~~ Ridership (annual)	Increase
6.	Single-~~Occupant~~ Occupant ~~Vehicle~~ Vehicle (SOV) ~~Commuting~~ Commuting ~~Percentage~~ Percentage (~~Mode~~ mode of ~~Transportation~~ transportation to ~~Work~~work) (5-year ACS, annual)	Decrease
	NEW Active Transportation Plan Performance Measures	
7.	Transportation F~~f~~unding (total and percent) A~~a~~llocated to P~~p~~edestrian/B~~b~~icycle, and T~~t~~ransit P~~p~~rojects [*currently collected and reported in the TIP, but not reported as a Performance Measure*] (annual)	Pedestrian/bicycle funding: Increase

		Transit funding: Increase
8.	Transportation Ffunding (total and percent) ~~allocated~~ Allocated to ~~maintenance/preservation,~~ Ssafety ~~, and capacity expansion~~ Pprojects [*currently collected and reported in TIP, but not reported as a Performance Measure*] (annual)	~~Safety funding:~~ Increase
9.	Per Cc~~c~~apita VMT (annual)	Decrease
10.	Miles and ~~Percentage~~ Percentage of ~~Urban~~ Urban S~~s~~treets with ~~no~~out S~~s~~idewalks and with S~~s~~idewalks on B~~b~~oth S~~s~~ides (annual)	No sidewalks: Decrease – Goal of 0% Sidewalks both sides: Increase – Goal of 100%
11.	Miles of Off-Street and Protected Bicycle Facilities (with updates to this plan)	Increase
12.	Total Motor Vehicle Crashes Involving Bicycles and Pedestrians~~Total Bicycle and Pedestrian reported crashes~~ (annual)	Decrease

Current MPO Performance Measures related to Active Transportation

1. Miles of Pedestrian Facilities

   MPO staff recommend replacing with a measure of *percentage of urban streets with sidewalks on both sides*. Because the mileage of pedestrian facilities will inevitably climb as the urban area grows, a simple calculation of mileage is not very meaningful. The *percentage of urban streets with sidewalks on both sides* will better reflect sidewalk coverage in a meaningful way. This new measure is listed as New Performance Measure #4 below.

   There are currently 2,267 miles of sidewalks and pedestrian paths in Dane County. Hiking paths, crosswalks, municipal lots, and connecting paths are excluded from this total.[83]

2. Low-Stress Bike Facilities on the regional bike network (recommend removal with next RTP update)

   MPO staff recommend removing this performance measure, for which 2025 figures are shown in Table 14~~Table 14~~~~Table 13~~. Since the regional bike network is regularly revised, to account for changes to the road and path networks, changes in this measure are not a valid reflection of the quality of the bike and pedestrian network. A new measure to replace this is listed as New

[83] Definitions of these facility types can be found in the Pedestrian Network Facility Types section of this plan.

Performance Measure #5 below, *Miles of Off-Street and Protected Bicycle Facilities*.

Table 14~~14~~13. LTS on Regional Routes

Level of Traffic Stress (LTS)	Dane County 2025	
	Miles	Percentage
Low Stress (1&2)	381	44%
Moderate Stress (3)	137	16%
High Stress (4)	341	40%
Total	859	100%

3. BCycle Utilization (annual)
   Shown on the Supplemental PMs page of the Performance Measures Dashboard.

4. Pedestrian and Bicycle Fatalities and Serious Injuries (5-year rolling average, annual)
   Shown on the Safety page of the Performance Measures Dashboard.

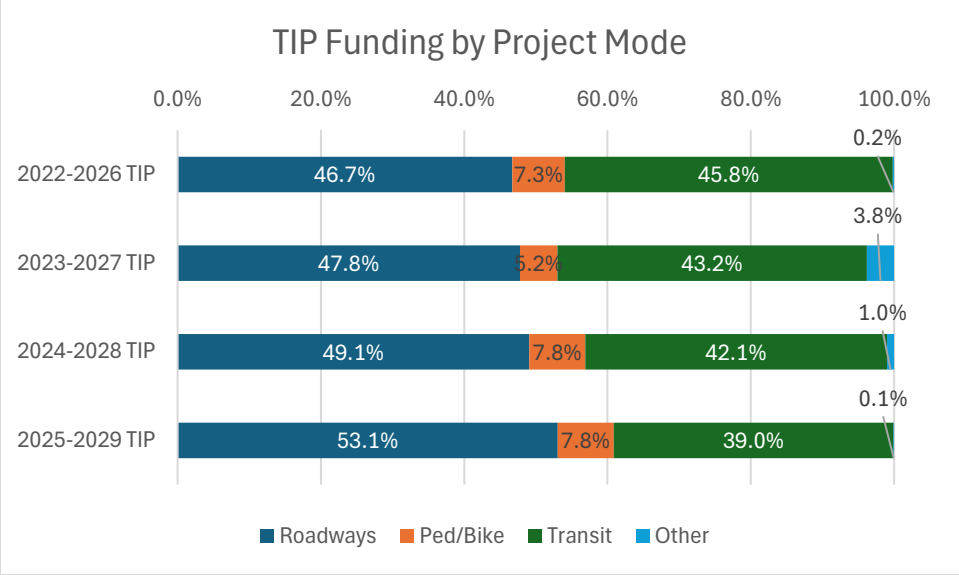
5. Transit Ridership (annual)
   Shown on the Supplemental PMs (cont.) page of the Performance Measures Dashboard.

6. Single-Occupant Vehicle (SOV) Commuting Percentage (Mode of Transportation to Work) (5-year ACS, annual)
   Shown on the Supplemental PMs (cont.) page of the Performance Measures Dashboard.

New Active Transportation Plan Performance Measures

7. Transportation funding (percent) allocated to pedestrian/bicycle, and transit projects [*currently collected and reported in the TIP but not reported as a Performance Measure*] (annual). Desired trend: Increased pedestrian/bicycle and transit funding.

Figure 5151~~50~~. TIP Funding by Project Mode

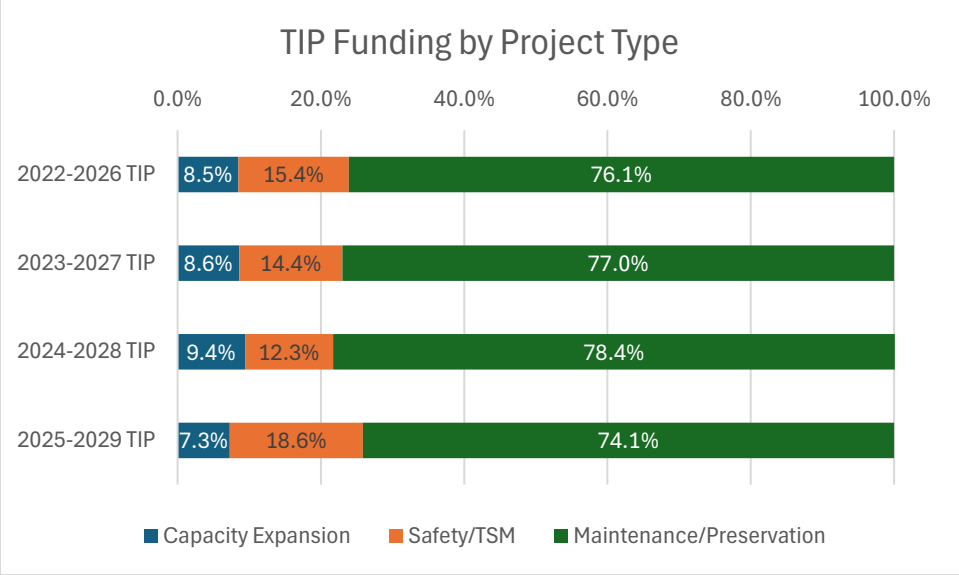


Since the baseline year of 2022, Pedestrian and Bicycle project funding has remained fairly flat in each TIP cycle, although it has increased incrementally over the baseline of 7.3% with a high of 7.8% of TIP funding dedicated to Pedestrian and Bicycle projects in both the 2024-2028 and 2025-2029 TIPS.

Transit funding peaked in the baseline year of 2022 and has decreased incrementally in every TIP cycle since then; however, this is due to the large influx of funding for the construction of East-West Bus Rapid Transit (BRT) and the purchase of 60-foot articulated buses for use in BRT service in 2022 and 2023, and not to a policy action that reduced transit funding.

8. Transportation funding (percent) allocated to maintenance/preservation, safety, and capacity expansion projects [*currently collected and reported in the TIP but not reported as a Performance Measure*] (annual). Desired trend: Increased safety funding.

Figure 5252~~51~~. TIP Funding by Project Type



Since the baseline year of 2022 (15.4%), funding for Safety and TSM projects has fluctuated in each TIP cycle, with a low of 12.3% in the 2024-2028 TIP and a high of 18.6% in the 2025-2029 TIP.

9. Per ~~capita~~ Capita VMT (annual)

   Shown on the Supplemental PMs page of the Performance Measures Dashboard.

10. Miles and Percentage of Urban Streets without Sidewalks and with Sidewalks on Both Sides ~~Percentage of Urban streets with sidewalks on both sides~~ (annual)

Table 15~~15~~14. Urban Streets in Dane County with Sidewalks, 2026

Sidewalk	Percent	Miles
Both Sides	47%	1,093
One Side	14%	339
None	39%	910

Both Sides	47%
~~One Side~~	~~14%~~
No Sidewalk	39%

Due to changes in how data has been collected over time, 2026 data is baseline data for this performance measure going forward. The desired trends are to decrease the milage and percentage ~~ge~~ of u~~U~~rban streets with no sidewalks and to increase the mileage and percentage with sidewalks on both sides of the street.

11. Miles of Off-Street and Protected Bicycle Facilities (with updates to this plan)

Table 161~~615~~. Off-Street and Protected Bicycle Facilities in Dane County, 2015-2025

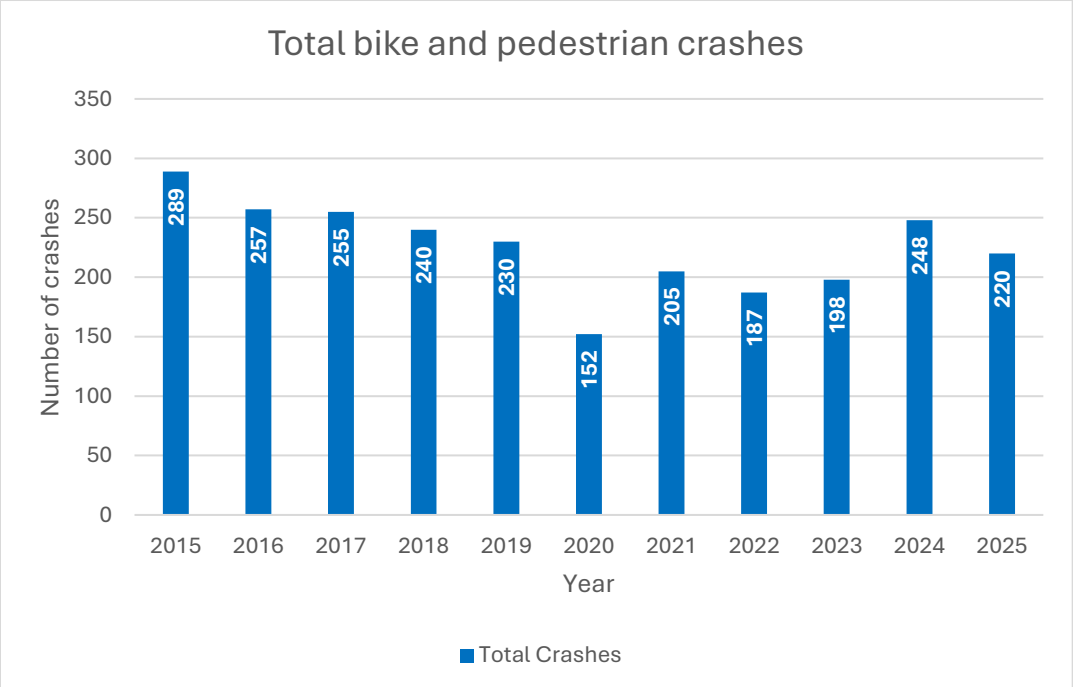
Facility Type	Miles 2025	2015
Bike Path - One-Way	1.9	1.0
Bike Path - Two-Way	1.3	0.0
Protected Bike Lane	0.8	0.0
Protected Bike Lane - Contraflow	0.9	0.0
Protected Bike Lane - Two-Way	0.2	0.0
Shared-Use Path - Paved	357.0	229.8
Shared-Use Path - Unpaved	61.1	55.7
Wide Sidewalk - Paved	30.0	6.0
Total	453.2	292.5

Note: Table excludes Mountain Bike and Pedestrian Paths.

The trend since 2015 has been to construct more off-street and protected bicycle facilities, and the mileage of every facility type has increased since the baseline year. The mileage of the most common facility types, Shared Use Paths – both paved and unpaved – and wide paved sidewalks have increased by 55.4%, 9.7%, and 400% respectively. The entire off-street and protected bicycle facility network has grown by 54.9% since 2015.

12. Total Motor Vehicle Crashes Involving Bicycles and Pedestrians ~~reported crashes~~ (annual)

Figure 53~~5352~~. Total annual motor vehicle crashes involving bicycles and pedestrians, ~~crashes,~~ 2015-2025



Due to data limitations, we are only able to accurately track bike and pedestrian crashes that involve motor vehicles. Crashes that do not involve a motor vehicle are not included in the available data.

The desired trend for total annual bicycle and pedestrian crashes is a decrease every year, and between 2015 and 2020 performance met the desired trend. Unfortunately, the desired trend has not been accomplished since 2021, and 2024 saw more of these crashes than any year since 2017. While 2025 saw fewer of these crashes than 2024, it still exceeded the number of crashes in 2020-2023 period and does not represent an overall improvement in the last six years.

Path Pavement Quality

One performance measure included in the 2015 bike plan, path pavement quality, has never been collected at the volume necessary to understand regional changes. To remedy this gap in our understanding, the MPO purchased and began data collection and testing of a "data bike" in 2025. The data bike uses an iPhone app to measure pavement roughness, and this data is used to develop surface condition maps to help facility managers prioritize path maintenance and reconstruction projects. A camera is used to collect geotagged photos of the path surface for review and verification of roughness ratings; these images are disposed of after verification. Lacking baseline data, pavement condition is not included as a performance measure in this ATP; however, after baseline data is collected in the coming years it is recommended that this performance measure be included in future updates to the ATP.

Public Opinion on Performance Measurement

During the public outreach for its AAA Bike Network Plan and Pedestrian Plan, the City of Madison asked respondents to indicate how they thought that the city should measure success in supporting active transportation. Potential classes of performance measures were selected as follows:

1) More people walking/rolling (counts): 77.0%
2) Fewer crashes/injuries: 66.4%
3) Better sidewalk/bike lane connectivity: 59.2%
4) More kids walking/biking to school: 48.3%
5) Higher satisfaction in surveys: 26.9%
6) Other measures: 8.6%

Of these measures, the top two are included in the MPO's current Performance Measures. The third – active transportation network connectivity – is one of the 2015 Bicycle Transportation Plan's Performance Measures, but even in 2015 no trend was identifiable for this metric due to the subjectivity of the measure, and the question of what constitutes a gap or a connection. As the network grows, old gaps will be closed, but new gaps will appear as new segments are developed in new neighborhoods and communities. Although the fourth Performance Measure – the number of children walking, rolling, or biking to school – is quantifiable, there is no consistent data set to measure this by. Similarly, although various surveys conducted by multiple agencies over the years have asked about respondent satisfaction with the transportation networks, this data has not been

collected consistently in a way that allows comparison of reported satisfaction over time and across geographies.