

Chapter 2: PLAN GOALS AND STRATEGIES

What has changed? The reason for the plan update

The initial push for bicycle transportation plans and greater accommodation of non-motorized vehicle modes came in the 1970s. Locally and nationally, plans were released to direct transportation investments to ensure bicycling was a viable component of the overall transportation system. In 1974, the Federal Department of Transportation released their “Bikeways – State of the Art” report to provide national guidance on designing bikeways. The following year, the City of Duluth released their Bikeways Plan calling for a network of bicycle friendly improvements to the city street network.

However, by the end of the 1970s a prominent and influential bicycle transportation engineer, John Forester, championed an alternative guidance toward bike facility priorities for planners' consideration. He asserted that sharing the road without separated bikeway facilities was far safer for cyclists. This idea was largely accepted across the United States and in turn efforts to build separated bikeway facilities stalled.

A return to dedicated bikeway planning arrived by 1991. That year federal funding was directed towards planning for the transportation system and specifically called on MPOs to put

together bicycle and pedestrian transportation plans. The MIC decided to create separate bicycle and pedestrian plans and completed the regional bicycle plan in 1994. This plan focused largely on bicycle commuters to work and recreational bicyclists and largely consisted of sharing-the-road bikeway facility recommendations.

Since then, there has been a significant change in thought on how to best accommodate cyclists. A move away from a primarily “sharing-the-road” system to one that provides separate facilities has emerged. This idea is linked to research showing that a majority of people would be willing to bike, but not where they would have to share the lane with motor vehicles.

The four types of cyclists, as established by Roger Geller, Bicycle Coordinator for Portland, Oregon in 2006 are:

- 1) Strong and fearless
- 2) Enthused and confident
- 3) Interested but concerned
- 4) No way, now how

“Interested but concerned cyclists make up a substantial proportion of the population (in Portland, it was estimated to be 60%), so providing bicycle infrastructure that makes them

feel safe is essential. Multiple surveys have shown that automobiles are the biggest concern to these individuals, so separated bike paths are essential to induce cycling demand, avoid bicycle-automobile crashes, and legitimize cycling as a form of transportation.

Over the last 10 years, great progress has been made within the Twin Ports to make it better and more accessible for people to bike. Jurisdictions are expanding bicycle transportation facilities, communities are redesigning streets with people who bicycle in mind, jurisdictions are installing bicycle support facilities, including bike route wayfinding signage, bike repair stations, bike racks and bike share system, and local governments are pioneering new bikeway designs. In addition, there are now national guidance documents for designing bikeways, through Federal Highway (FHWA) and National Association of City Transportation Officials (NACTO) Urban Bikeway Design Guide.

State governments are responding to changing transportation priorities as well. New laws such as Minnesota’s 2023 Bicycle Safety Act, otherwise known as the “Idaho Stop” law force the rules of the road to catch up with cycling behavior and address safety by emboldening riders to judge traffic conditions. Minnesota law amends the stopping requirements for bicycle operators when approaching intersections that contain stop

signs or traffic-control signals. Considering how full-stops increase the strenuousness of biking as momentum is lost with every stop, this law relieves that strain by decriminalizing a common commuting behavior and will likely encourage more ridership.

Laws like the “Idaho Stop” are at the forefront of addressing bicycle-motorist cultural friction as they reinforce the understanding that roadways are shared spaces that cyclists should be welcome to utilize. The cultural friction between cyclists and motorists functions as a barrier to bike facility accessibility and is a significant safety concern, particularly for less confident cyclists, seniors, people with disabilities, women, children, and the BIPOC (Black, Indigenous, and People of Color) community. If people feel unwelcome on their preferred mode or unwelcome by motorists who don’t understand the right of cyclists to share facilities, then the paradigm shift in transportation will remain unattainable. Harassment of cyclists is a huge barrier that prevents more cyclists from utilizing the road and bike facilities. While cross-cultural awareness training is a measure to help alleviate that concern, perhaps the best way to address this is through closing the bike network gaps (prioritizing separate and safe facilities for all ages and abilities) thereby getting more diverse

users utilizing the multimodal network and hence more visibility that can transform culture.

Another change in recent years is the widespread adoption of micromobility e-devices, particularly pedal-assisted e-bikes. These devices address activation barriers for some cyclists as they ease the strenuousness of the activity, particularly as it pertains to the steep hills and indirect routes in the MIC area. Additionally, the popularity of e-bikes has forced us to investigate better accommodations for bike parking facilities, consider recommendations for new tools at bike repair stations, and advocate for public charging.

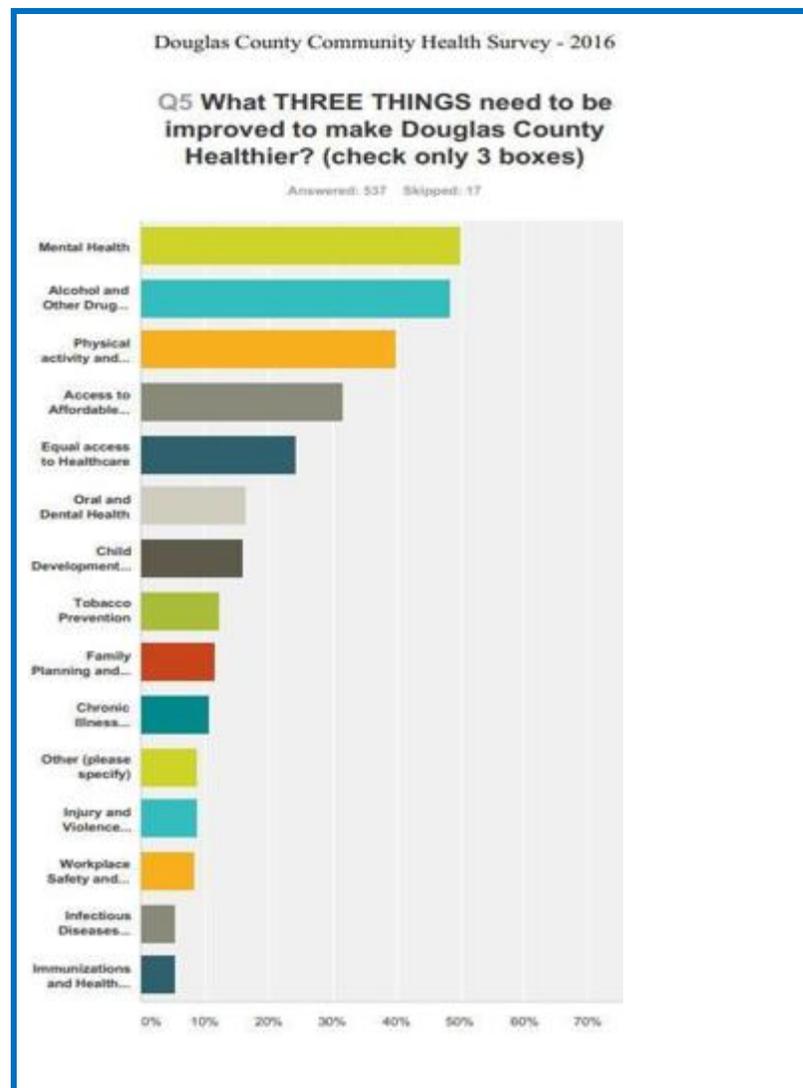
It is time to consider this renewed focus on the unique situation of urban streets that require innovative treatments. This bicycle transportation plan is focused on this urban viewpoint with solutions.

Vision

The vision on which the Duluth-Superior Metropolitan Bikeways Plan is built guides us toward the creation and maintenance of multimodal infrastructure to support meaningful transportation choices for all users, in all seasons, across the MIC region. We envision a place where more people choose to bicycle in all seasons, whether for a trip to the grocery store or a ride along the trail to get to school or work. We envision that people of all ages and abilities have the choice to use safe, direct, and well-maintained bike facilities to get to work, school, appointments, recreational facilities, major events, and social events.

Objectives

1. Bicycle transportation facilities are fully integrated into a seamless and complete multimodal transportation system and are treated as equal.
2. Safe, convenient and efficient bikeway system that is reliable all year, for people of all ages and experience levels to go about their daily activities all year by bicycle if they choose.
3. Location, type and design of bicycle transportation facilities are determined utilizing evidence-based solutions and appropriate land use.
4. Work in a common effort to investigate and address bicycle transportation needs through the development and promotion of the Duluth-Superior Metropolitan Bicycle Transportation Plan.
5. Increase opportunities to be physically active as part of everyday routine to reduce physical inactivity and subsequent associated negative health outcomes.
6. Design should consider and strive to be for all ages and abilities. Design should also consider ease of maintenance.



The Healthiest Wisconsin Goals for Physical Activity Include:

Increase physical activity for all through changes in facilities, community design and policies.

Every Wisconsin community will provide safe, affordable and culturally appropriate environments to promote increased physical activity.

Every Wisconsin community will provide safe, affordable and culturally appropriate environments to promote increased physical activity for individuals among populations of differing races, ethnicities, sexual identities and orientations, gender identities, and educational or economic status.

Safe System Approach Basics

- Adopted by USDOT
- Focus on human mistakes & vulnerabilities
- Designs a system with redundancies to protect everyone

Safe Systems Approach Principles

- Death & serious injuries are unacceptable
- Humans make mistakes
- Humans are vulnerable
- Responsibility is shared
- Safety is proactive
- Redundancy is crucial

Strategies – 6 E’s: Engineering, Education, Encouragement, Enforcement, Equity, Evaluation

Engineering

- Adopt a Complete Streets policy and offer implementation guidance. By adopting a Complete Streets policy, communities direct their transportation planners and engineers to routinely design and operate the entire right-of-way to enable safe access for all users, regardless of age, ability, or mode of transportation. This means that every transportation project will make the street network and safer for drivers, transit users, pedestrians, and bicyclists- making your community a better place to live.
 - Develop and implement streetscape design guidelines such as wayfinding, human scale lighting, street trees, and surrounding greenrain infrastructure that create a sense of place and mitigate environmental issues.
 - Offer more frequent and ongoing training opportunities in design, planning, and public engagement accommodating bicyclists for engineering and planning staff.
- Consider passing an ordinance or policy that would require larger employers to provide shower facilities and other end-of-trip amenities.
 - Work with jurisdictions to develop a standard practice for public bicycle parking across the region. Ensure that standards for bicycle parking conform to Association of Pedestrian and Bicycle Professionals (APBP) guidelines.
 - Promote active transportation by working to reduce traffic speeds where appropriate. Use traffic calming measures and low speed design principles to achieve higher compliance rates and encourage lower speeds lower than the state minimum. Speed has been identified as a key risk factor in road traffic injuries, influencing both the risk of a road traffic crash as well as the severity of the injuries that result from crashes.
 - For instance, pedestrians and cyclists have a 90% chance of survival if hit by a car travelling at the speed of 20 mph or below, but less than a 50% chance of surviving an impact of 30 mph or above. Studies also generally report a positive association between traffic safety (perceived and/ or measured) and walking and cycling, particularly among women. Join the statewide coalitions (BikeMN, MN Complete

Streets, etc.) in their effort to lower the statewide minimum speed.

- Implement more transportation policies and programs that encourage multi-modal transportation choices, such as no minimum car parking standards or shared parking allowances to complement the community’s infrastructure investments and programs.
- Adequately maintain on and off-road bicycle infrastructure to ensure usability and safety. Increase the frequency of sweepings, address potholes and other hazards faster, and make snow-clearing of bike facilities a priority.
- All bikeways except on low volume, low speed streets will have a physical separation from motor vehicle traffic.
- Prioritize developing a system of bicycle boulevards that utilize quiet neighborhood streets, creating an attractive, convenient, and comfortable cycling environment that is welcoming to cyclists of all ages and skill levels. Similar to a “slow streets” program for residential streets as advocated by municipalities that have adopted “twenty is plenty” speed limits. Learn how to do it at <http://www.ibpi.usp.pdx.edu/guidebook.php>. Use the

Bicycle Boulevards section of the NACTO Urban Bikeway Design Guide for design guidelines.

- Since arterial and collector roads are the backbone of every transportation network, it is essential to provide designated bicycle facilities along these roads and calm traffic speeds to allow bicyclists of all skill levels to reach their destinations quickly and safely. On roads with posted speeds limits of more than 35 mph, it is recommended to provide protected bicycle infrastructure, such as cycle tracks, buffered bike lanes or parallel 10ft wide shared-use paths.
- Ensure intersections are safe, comfortable, and convenient for cyclists. Include elements such as color, signage, medians, signal detection and pavement markings. The level of treatment required for bicyclists at an intersection will depend on the bicycle facility type used. Intersections with high ADT (average daily traffic) volume are a deterrent to cyclists and whenever possible the bike network should bypass or diverge from such intersections. See the NACTO design guidelines and the 2024 AASHTO Guide for the Development of Bicycle Facilities for recommended intersection treatments.
- Encourage engineers to move away from “share the road” signage toward more direct signs and language,

such as “Bikes May Use Full Lane.” This is intended to encourage motorists to avoid crowding cyclists and give them a minimum three feet when passing.

- Improve the bicycling and transit connection:
 - Improve bicycle parking at major transit stops including bike racks, secure lockers at transfer points between modes at transit centers, and at the bottom of the hill along key corridors.
- Increase bike capacity on buses, particularly on longer distance (greater than 3 miles) routes, hill climbing routes, where major gaps exist in the bikeways network, or where there are limited alternatives.
- Examine ways for transit to carry non-traditional bicycles (i.e. fat tire bikes, larger mountain bikes, etc).

Education

- Implement the Bicycle and Pedestrian Safe Routes to School curriculum in all schools. Encourage all schools to utilize Walk! Bike! Fun! Curriculum. More at <https://www.walkbikefun.org/>. The 2023 Minnesota State law requires walking and biking safety education in Minnesota public schools, with mandatory bike education from 4th-8th grades (<https://www.dot.state.mn.us/saferoutes/at-safety-education.html>).

- Encourage municipalities and businesses to disseminate brochures, pamphlets, tip cards, social media posts, and emails that explain each transportation modality’s rights, privileges, and responsibilities. An excellent example is “A Pocket Guide to Minnesota Bicycle Laws” which is produced by the State of Minnesota’s Non-Motorized Transportation Advisory Committee.
- Consider creating a paid Bicycle Ambassador program. Have Ambassadors attend community and private events year-round to talk to residents and visitors of all ages about bicycling and to give bicycle safety demonstrations. They can also offer bike commuting presentations for area businesses.
- Offer more adult education opportunities at the community centers targeting less confident and new cyclists. Ensure that the curriculum addresses the ‘vertical challenge’ of our unique urban topography.
- Host a Traffic Skills 101 or bike commuter course for engineers and planners to help them better understand cyclists’ needs. For more information visit: www.bikeleague.org/programs/education/
- Host a League Cycling Instructor (LCI) seminar to increase the number of certified LCIs in the community. Having local instructors will enable your

community to expand cycling education, recruit knowledgeable cycling ambassadors, deliver education to motorists, provide cycling education to motorists, provide cycling education to adults and kids, and have experts available to assist in encouragement programs Visit <http://www.bikeleague.org/programs/education/> for more information.

- Start a bicyclist ticket diversion program. Road users given a citation are offered an opportunity to waive fees for violations by attending a bicycling education course. This course should include a classroom and on-road component. See what Pima County and San Diego County have done.
- Educate the community on the DTAs “Bike and Bus” system, which is an effective way to commute and address the barrier of the hill.
- Communicate with elected officials to promote adequate funding toward bike facility infrastructure projects.
- Promote awareness with police departments on bike safety and encourage them to enforce people-friendly driving practices and document infractions.
- Promote increased awareness to new bike safety laws such as the Idaho Stop Law passed in

Minnesota. <https://www.bikemn.org/initiatives/education/courses-for-individuals/>

Encouragement

- Consider offering a ‘Summer Streets’ type event, closing off a major corridor to auto traffic and offering the space to cyclists, pedestrians and group exercise events.
- Set up and promote a bicycle-themed community celebration or social ride each time a new bicycle related project is completed. This is a great way to show off the community’s good efforts and introduce new users to the improvement.
- Support local agencies and organizations with encouragement type events, such as “Open Streets”, “Bike to Work Day”, “Bike to School Day” etc.
- Educate local leaders and business owners on how bicycle friendliness helps attract families, young talent, and loyal customers—which in turn keeps the area’s communities and businesses strong.
- Encourage the University of Minnesota Duluth and other local institutions of higher education(Duluth, St. Scholastic College. Lake Superior College, University of Wisconsin-Superior, etc) the hospitals (Essentia, St

Luke’s, etc) to promote cycling and to seek recognition through the Bicycle Friendly University program. Many colleges and universities have embraced the growing enthusiasm for more bicycle-friendly campuses by incorporating bike share programs, bike co-ops, bicycling education classes and policies to promote bicycling as a preferred means of transportation. The community could potentially profit as well

- Communities near a BFU such as Stanford or University of California at Davis have a very high number of regular cyclists (as many students bike to campus, shops and restaurants), less congestion around campus, safer streets and university-hosted public bicycle events, programs and classes.
- Develop a series of short (2-5 mi.) loop routes around the community and provide appropriate way-finding signage. Integrate these routes into local bike maps. See what Arlington, VA has done at <http://www.bikearlington.com/tasks/sites/bike/assets/File/Arlington-Loop.jpg>
- Establish a “bike bus”- community bike rides to school. Safe routes to school for students that live too far to walk and too close to take the bus. Parents or community members should be encouraged to

implement these bike buses that have become more popular in the US. Biking in groups is safer than as an individual, and not only are these bike buses safe, they create a culture of biking both within students and families, and with drivers who interact with these groups on the road.

- Encourage local leaders to prioritize better and more public bike parking options at event spaces, downtown, and high-density neighborhoods.
- Establish a “bicycling rewards program” in conjunction with local businesses.

Enforcement

- Have police officers use targeted information and enforcement to encourage motorists and cyclists to share the road safely. This could be in the form of a brochure or tip card explaining each user’s rights and responsibilities, such as “A Pocket Guide to Minnesota Bicycle Laws” produced by the Minnesota State Non-Motorized Transportation Advisory Committee. Have information material available in Spanish, if applicable.
- Provide safety amenities such as adequate path lighting and emergency call boxes and offer services

such as non-mandatory bike registration and missing bike recovery assistance.

- Pass more laws that protect cyclists, e.g. implement specific penalties for motorists for failing to yield to a cyclist when turning, making it illegal to park or drive in a bike lane (intersections expected), implement penalties for motor vehicle users that ‘door’ cyclists, ban cellphone use while driving, specifically protect all vulnerable road users, formalize a legal passing distance of 3 feet, and make it illegal to harass a cyclist. **Minnesota Statute 169.18, Subdivision 3:**
- Establish a standardized police reporting system for improper driving that directly targets those on bicycles.

Equity and Accessibility

- Year-round accessibility of bike routes through routine maintenance and clearing of bike lanes- clearing bike lanes of snow must be a priority for winter maintenance.
- Form partnerships with local groups and organizations to engage with diverse audiences.
- Create accessible ways to inform the community about biking in Duluth, both online, and in ways that are accessible to people that do not have internet access.
- Distribution of bike helmets, lights, and locks across the city
- Move towards establishing a (year-round) bike-share system (that includes e-bikes) in the Duluth-Superior MIC. This will make biking as transportation accessible to those without their bicycles, and will support flexibility in the network, with the bike share linking up to the DTA’s network.

Evaluation

- Ensure dedicated funding for the Bicycle Master Plan.
- Conduct official pre/post evaluations of bicycle-related projects in order to study the change in use, car speed and crash numbers. This data will be valuable to build public and political support for future bicycle-related projects.
- Adopt a target level of bicycle use (e.g. the percentage of trips) to be achieved within a specific timeframe and ensure data collection necessary to monitor progress.
- Expand efforts to evaluate bicycle crash statistics and produce a specific plan to reduce the number of crashes in the community. Available tools include Intersection Magic and the Pedestrian and Bicyclist Crash Analysis Tool. See the report Bicyclist Fatalities and Serious Injuries in New York City 1996-2005.
- Consider studying funding spent towards bike infrastructure and the return on investment in order to help guide future bikeway infrastructure investments.
- Conduct official pre/post evaluations of bicycle-related projects in order to study the change in use, car speed and crash numbers. This data will be valuable to build public and political support for future bicycle-related projects.
- Research best practices on creating a target level of bicycle use (e.g. percent of trips) to be achieved within a specific timeframe and ensure data collection necessary to monitor progress.
- Research best practices to prevent cyclist and driver confrontation.
- Establish a mechanism that ensures that bicycle facilities and programs are implemented in traditionally underserved neighborhoods.
- Work in a common effort to investigate and address bicycle transportation needs through the development and promotion of the Metropolitan Bikeways Plan.
- Measure the Bicycle Level of Service (BLOS)/Level of Traffic Stress (LOTS) on community roads and at intersections, to be able to identify the most appropriate routes for inclusion in the community bicycle network, determine weak links and hazards, prioritize sites needing improvement, and evaluate alternative treatments for improving bike-friendliness of a roadway or intersection:
 - <http://www.bikelib.org/bike-planning/bicycle-level-of-service/> (roads) and <http://www.bicyclinginfo.org/library/details.cfm?id=4425> (intersections)