Chapter 1: INTRODUCTION

Purpose – Role of the Metropolitan Bicycle Transportation Plan

The Duluth-Superior Metropolitan Interstate Council (MIC) has made a comprehensive update to the Duluth-Superior Metropolitan Bicycle Transportation Plan first developed and approved in 1994. One stand-out revision is the title change, from *Bikeways Plan* to *Bicycle Transportation Plan*. This change better expresses and aligns with the goal of the document which is to further legitimize biking facilities as accessible, and a well-accommodated mode of transportation in the MIC area. Additionally, the change from "bikeways" to "bicycle transportation" reduces confusion about the overlap with the area's recreational biking system. Obviously, many people bicycle for recreation and the Duluth-Superior area has many outstanding options for recreational biking. However, while recreational biking may be useful for transportation for certain individuals and in certain instances, it is not an all ages and abilities system. Thus, this plan may include trail segments and other facilities that are most often associated with recreational bicycling, but in the context that they provide connection within the proposed, planned bicycle transportation network.

This plan is to guide the development of the bicycle transportation network in the Duluth-Superior Urban Area for the next 25 years and sets forth a vision of where the region would like to be and guidance on how to get there.

Transportation vs. Recreation – Design for Whom?

Transportation – getting from point A to point B. Direct, without unnecessary stopping or detours.

Recreation – leisurely or a workout, does not need to be direct, should include loops.

This bicycle transportation plan is in support of the 2050 MIC long range vision to develop a community-supported multimodal transportation system that not only supports the diverse needs of people and commerce, but is also fiscally, socially, and environmentally sustainable over time. This Bicycle Transportation Plan is a complementary document to *Sustainable Choices 2050*, the existing Duluth-Superior Metropolitan Transportation Plan (MTP: *https://dsmic.org/long-range/*). The MTP establishes a 25-year vision for transportation in the urban area. A major component of this vision is an urban transportation system that is fully integrated and multimodal, where citizens of all

ages and abilities have convenient and desirable options. This Bicycle Transportation Plan provides a guide to advance the bicycling component of this vision.

This bicycle transportation plan lays out the next steps for developing bicycle routes for people of all ages and abilities as a component of the regional transportation system. As with any system, each segment of the bike network depends on the other connected segments to effectively function. The Plan guides roadway decision-makers on the design of bicycle facilities, development of encouragement and access programs, and prioritization of improvement projects.

In addition, this plan is a working document and is meant to be adaptable. As projects take place incrementally, including roadway and land use changes, bike routes may deliberately need to be adjusted, expanded, removed and/or changed in some way to meet the new conditions, or new funding sources. Additionally, as needs arise, this plan may be updated to expand the bicycle transportation network plans.

This plan contains goals and recommendations that are regional in scope and provides a planning framework to guide decision-making. While the MIC is responsible for this plan, the system and the implementation of the recommendations in this plan relies on the constituent roadway authorities. Therefore, it will take cooperation and coordination from state, regional, local agencies, organizations, and groups to realize this bicycle transportation system.

As such, the intent of this plan is to guide roadway jurisdictions and the general public on the future direction of the bicycle transportation network as a whole. This document is to be used for planning purposes and the actual routes and improvements will be ultimately determined by the appropriate roadway authority.

Vision

With this plan we seek to facilitate a paradigm shift in transportation thinking. To further legitimize bicycling as a more equitable part of the transportation system, and a well-accommodated mode of transportation that serves a greater function in our shared urban environment. Any trip through the Duluth-Superior Metropolitan Area ought to be feasible, and accessible to all ages and abilities, without the need for a motor vehicle (*see also*: the 5 visions of this plan). To make bicycling a viable transportation option throughout Duluth-Superior Metropolitan Area, the completion of the primary arterial bicycle network is a key priority. This network will complement the area's transit and pedestrian networks, to

create comprehensive, year-round transportation infrastructure that does not require a motor vehicle.

To produce a measurable increase in usage of bike facilities, we need to prioritize closing gaps in our existing bicycle network. There is significant latent demand from residents that could be addressed by creating a contiguous network, and by ensuring year-round maintenance of facilities is prioritized by municipalities and authorities.

While biking is the dominant mode of non-motorized vehicle transportation, we are seeing a measured increase in the adoption of other micromobility devices, such as e-scooters, e-skateboards, and self-balancing e-devices in addition to electric pedal-assisted bikes. These devices further the need for greater, safer, and more reliable bike/multimodal facilities. While this plan does not address "micromobility" directly, an improved bicycle network will benefit all people who use micromobility, and the rise of micromobility devices is crucial in bridging the gap between transit, bicycling, and walking. These other forms of micromobility will be addressed in future iterations of this plan.

Fundamental Principles

25-year vision for the urban bikeway transportation system.

Accommodates people of all ages and abilities.

Guiding document – for planning purposes, not for route finding, wayfinding or construction.

Plan is adaptable, not static.

Improvements to the bike routes are a shared responsibility among jurisdictions. Each segment of the system is reliant on the other congruent parts in order for the full system to function properly.

Federal Rules & Guidance

The Metropolitan Interstate Council is the officially designated Metropolitan Planning Organization (MPO) for the Twin Ports and receives federal funding to undertake transportation planning efforts on behalf of the Duluth-Superior urban area. Of the planning responsibilities that the MPO must undertake, one is to plan for the bicycle as a mode of transportation. The following is a review of the federal rules pertaining to MPO's and bicycle planning:

23 CFR 450 – Metropolitan Transportation Planning & Programming

(a) Set[s] forth the national policy that the MPO designated for each urbanized area is to carry out a continuing, cooperative, and comprehensive performance-based multimodal transportation planning process, including the development of a metropolitan transportation plan (20+ year long range plan) and a transportation improvement program (3-5 years short range program of projects) that encourages and promotes the safe and efficient development management, and operation of surface transportation systems to serve the mobility needs of people and freight (including accessible pedestrian walkways, ***bicycle transportation facilities***, and intermodal facilities that support intercity transportation, including intercity buses and intercity bus facilities and commuter vanpool providers), fosters economic growth and development, and takes into consideration resiliency needs, while minimizing transportation-related fuel consumption and air pollution;

450.306

(b)(2) Increase the safety of the transportation system for motorized and non-motorized users;

450.316

(vii) Seeking out and considering the needs of those traditionally underserved by existing transportation systems, such as low-income and minority households, who may face challenges accessing employment and other services;

450.324

Development and content of the long-range metropolitan transportation plan (MTP).

Why Bicycling?

The bicycle is particularly well suited as an integral component of an urban transportation system. Urban mobility is complex, because of all the modes involved, the multitude of origins and destinations, and the dynamic nature of people's travel patterns. Add to this the mobility demands due to the nature of higher densities and shorter distances placed upon the urban transportation system, where mode shift is dynamic and intricately linked with urban form and spatial structure.

Furthermore, transportation is dynamic. Various transportation modes can be the right tools to most efficiently and effectively serve the Duluth-Superior region. A majority of trips in urban areas (which includes all trips a person makes) encompass shorter distances, fewer than three miles. These shorter distances, coupled with the real limits on space and public infrastructure resources, creates an environment where bringing more people into smaller spaces calls for us to devise the best ways to provide more access with less space and to make connections between different modes.

When bicycling is added to the mix of transportation for people of all ages and abilities, the benefits are numerous. A highly bikeable community provides residents, workers and visitors with greater opportunities for physical activity that can be incorporated in their regular day-to-day activities. Regular physical activity reduces the risk for certain chronic diseases including high blood pressure, stroke, coronary artery disease, type 2 diabetes, obesity, colon cancer and osteoporosis. Furthermore, the built environment and overall environment can either deter or promote people being active. In St. Louis County, the Community Health Needs Assessment and Implementation Plan identified four priority areas. For the priority area of "active living", encouraging and supporting

Bicycling Benefits

One of the highest returning public infrastructure investments in an urban area with a fully connected network of all ages & abilities bikeways.

Equitable access to transportation.

Reduces health risks associated with physical inactivity.

Strengthens the local economy.

More affordable for the whole community.

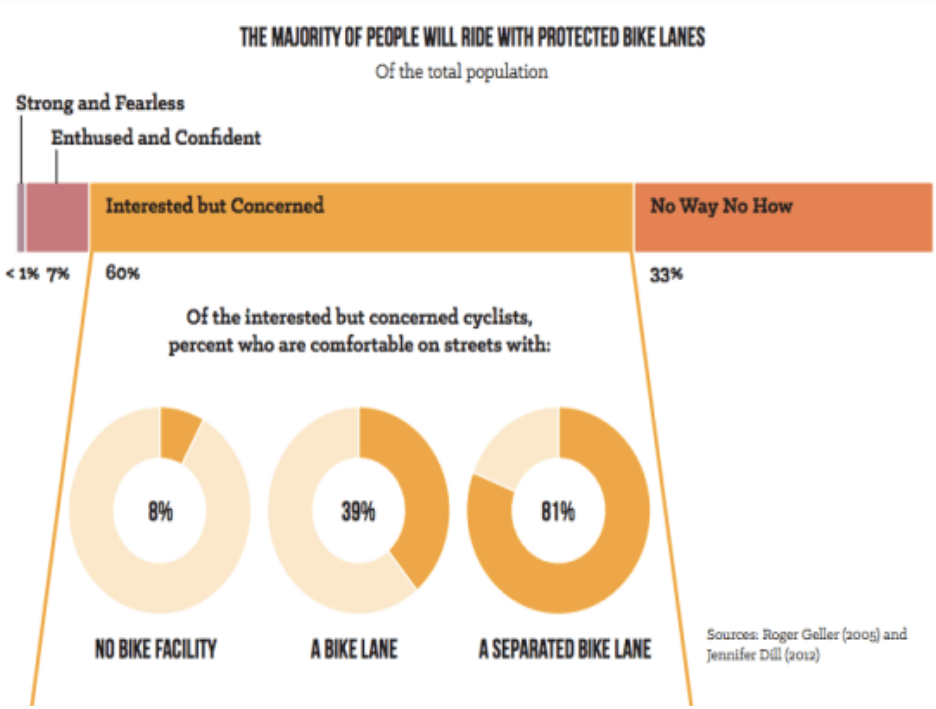
In areas of and times of congestion, it provides an increase capacity in traffic and parking, particularly in areas where space is limited, but more and more people are going.

physical activity is necessary. Douglas County's plan is similar and promotes healthy eating and physical activity to increase the health of their residents. Both plans call for increasing opportunities for people to be physically active as one of the key measures to improve healthy outcomes.

Our vision of a gradual paradigm shift in transportation priorities is also guided by the MIC's sustainability and carbon reduction goals. As the predominant self-propelled alternative mode, bicycle accommodation and use encouragement is integral to reducing urban transport GHG (greenhouse gas) emissions. In 2019, direct GHG emissions from the transport sector accounted for 23% of global energy-related CO2 emissions, with 70% of direct transport emissions coming from road vehicles. Case studies suggest that active mobility like walking and cycling could reduce emissions from urban transport by up to 10%.

Lastly, local surveys show a majority of residents have expressed an interest in better bicycle transportation facilities. The fast-paced adoption of new micromobility devices and e-bikes, assisted by state-sponsored rebate deals, has placed increasing upward pressure and demands for more bicycle facilities and infrastructure improvements. By planning for and building the micromobility infrastructure now that supports the growth potential of cycling spurred on by the rise of e-bikes we will better accommodate current and future micromobility users. Nationally, it has been found that the majority of the general public, nearly 70%, will bicycle for transportation with the proper infrastructure in place.

The area already has a substantial population of people who bicycle recreationally and are willing and capable to ride in winter conditions, on steep hills, and with limited daylight. The challenges of bicycle transportation here are not due to topography or weather, but rather due to a limited bicycle network. Developing a comprehensive, safe, and comfortable



cycling network in the area would induce demand for transportation via bicycle. Making this network suitable for all ages and abilities would enable all residents of and visitors to the Duluth-Superior Metropolitan Area to have bicycling as a transportation option.

Summary of Trends

Shift in travel behavior – general public desire for bicycle facilities.

Growing public health concerns due to physical inactivity.

Local government fiscal realities have created a need to gain better return on infrastructure investments.

Declining gas tax funding (largest source of funding for roads).

Lower rates of driving by young people.

Planning Process

The Bicycle Transportation Plan builds on previous planning efforts completed by the MIC, surrounding jurisdictions, and partner agencies and organizations. There are numerous existing planning efforts that have informed the development of this plan. The level of detail into which each of these plans gives regarding the bicycle network varies greatly. In addition, a number of bikeway planning efforts have influenced this plan, including the Downtown Duluth Bikeways Audit & Survey, Superior Active Transportation Plan, Michigan Street Protected Bikeway Demonstration Project and the various Safe Routes to School plans.

There is ongoing work to optimize and connect the existing bicycle network. The MIC is working closely with local partners on this update (including municipal governments, county governments, and local advocacy groups), in some cases serving in a supporting role, and in others as the lead, but all with the intention of incorporating the recommendations and ideas into the updated Plan. There are a number of issues that were considered in the formulation of this plan, and/or are ongoing. These include:

- Determination of which streets within the City of Duluth should have space dedicated to bike facilities, particularly conventional bike lanes and protected facilities.
- "Closing the gap" at the terminus of the Cross City Trail, connecting between the Munger and Gitchi Gami State Trails.
- Major connecting trails to Hermantown and surrounding townships
- Updating the Downtown Duluth bikeway network.

Key Planning Considerations

Resilience

A community that is highly connected, both physically and socially, is much more resilient and able to withstand major shocks regardless of whether it is due to a weather event, such as a major storm or drought, an economic event, such as a recession, or a social event, such as a baby boom or political instability. Social media and other digital technologies are broadening opportunities for social connections. Nevertheless, physical connections will continue to play a central role in facilitating social and economic connections as well as being critical to strengthening our ecological health.

Community Connections

A specific component of connectivity is bikeability. The benefits of a connected community are that it allows

population groups unable to use a car (e.g., children, disabled persons, older adults, and areas of low car ownership) to have access to destinations within a comfortable distance that are safe and, if possible, enjoyable. A highly accessible community also means people of all ages and abilities have opportunities for physical activity that can be incorporated as part of regular day-to-day activities.

Implementation

(*for more information on implementation, see chapter 5*)

This plan is a long-term vision for bicycle infrastructure within the Duluth-Superior Metropolitan Area. Concepts and goals in this plan are implemented in a number of ways. Funding is often a large barrier to building and maintaining bikeways, meaning implementation depends on coordination between jurisdictions and community members. Many bicycle and pedestrian improvement projects can be coordinated with scheduled street repair to leverage existing effort and funding if identified and prioritized early in the project. This is where a prioritized plan such as this can be useful in coordination. The implementation also involves working closely with the community, property owners, and others. Some projects can be accomplished with volunteers, some with the help of local jurisdictions or agencies, and some with donations or grants. Some bikeways will need to involve many partners in the implementation.

Additional considerations for bicycle infrastructure implementation involve refining alignments and designs, construction and engineering needs (specifically, the fact that bicycle infrastructure improvements are often timed with street repair projects, therefore the timing of improving this bicycle infrastructure is dependent on other long-term street projects), environmental impacts, liabilities, legal constraints, potential conflicts with other user groups, property ownership, maintenance -including winter maintenance specifically, security, marketing, wayfinding, and more. Some additional guides and resources are listed in the appendix that may be able to assist in some of these areas.

Implementation will only be possible with citizen buy-in/driven and will take a coordinated effort between roadway jurisdictions, private property owners, community groups, citizens and impacted stakeholders.

Key Past Regional Bike-Related Plans

2010 Connecting Duluth Report – Citizen-driven effort led by Fit City Duluth, conducted a complete bicycle system assessment. The local advocacy organization engaged bicyclists directly in the City of Duluth about where they ride currently and where they would prefer to ride. A series of public meetings were held throughout Duluth to gather this

input. A final report detailing preferred routes as well as recommendations was completed.

2011 Duluth Trail & Bikeway Plan – The plan created a vision for trails and bikeways in Duluth for both recreation and transportation purposes. The plan identified a system of transportation routes for bicycling, both on-street and off-street, and provided recommendations on what bikeway type should be installed. The plan also called for additional follow up, including feasibility evaluation, public outreach and a site specific design process, for each of these improvement projects. Some improvements involve simple addition of signage and pavement markings, others may be part of a larger road reconstruction, and some may require removal of on-street parking.

2013-14 – Plan for Duluth's Bikeways Duluth undertook an extensive evaluation of the recommended bikeways from past planning efforts. Another round of public meetings were held to gather input and revise a plan for bikeways. A final public meeting was held, then the plan was brought through the formal city processes, including approval from Planning Commission and Duluth City Council.

2011 Duluth Trail & Bikeway Plan - Bikeway System Evaluation

- On-road environment is largely bike-unfriendly
- Good base of existing bike routes
- Strong tourism market
- Positive Complete Streets policy
- Few paved trails and no bike lanes
- Few and hidden trailheads
- Challenging terrain and climate
- Off-street paved trails and on-street bike lanes are needed
- Bikeway advocacy group to promote road biking is needed
- Bikeway connections to downtown, schools and commercial areas are needed
- Safe, dedicated bike facilities (lanes, sharrows and bike parking) are needed downtown

2013-14 – Plan for Duluth's Bikeways Duluth undertook an extensive evaluation of the recommended bikeways from past planning efforts. Another round of public meetings were held to gather input and revise a plan for bikeways. A final public meeting was held, then the plan was brought through the formal city processes, including approval from Planning Commission and Duluth City Council.

2015-19 – Duluth-Superior Metropolitan Bikeways Plan Update – The planning efforts for this project began in 2015. The process moved slowly as a number of big issues arose and needed to be worked through before proceeding. These issues included determining the final alignment of the Cross City Trail, the backbone trail running the east-west length of Duluth at the bottom of the hill, as well as providing the key connection between existing and planned trails from the Twin Cities to Grand Marais. In addition, planning efforts took place to determine where bikeways would be placed in Downtown Duluth and the UMD campus. As these locations are the two of the largest generators of traffic in the region, it was key to gain a clearer direction on bikeways through these areas.

2020 Superior Active Transportation Plan - This plan forms the basis for future improvements to bike and pedestrian facilities and guides decisions as highways and streets are reconstructed. It has been implemented as a living document to reflect progress in the plan and the effects of completed elements. The City of Superior is committed to the plan's utilization to create a vibrant Active Transportation System. This project was funded by the WisDOT Transportation Alternatives Program. The Transportation Alternatives Program allocates federal funds to transportation improvement projects that "expand travel choice, strengthen the local economy, improve the quality of life, and protect the environment."

VISION: Superior is a healthy city where walking and bicycling are encouraged as attractive, safe, comfortable, and convenient options for residents and visitors at every age and life stage.

2023-25 – Duluth-Superior Metropolitan Bicycle Transportation Plan – This plan takes into consideration updates to the existing bicycle network in Duluth and Superior. Additionally, this plan incorporates the prioritization of emerging trends in our region, such as an emphasis on year-round reliability for all transportation modes. Also, one of the most common feedback is the need for physical separation of bicycle facilities, in the effort to unlock latent demand (attracting new riders to bicycle transportation), accommodate all ages and abilities, increase safety for all bicyclists, and in-general to acknowledge bicycling as a legitimate form of transportation on our region's public right-of-ways.

Previous Twin Ports Bikeway Planning Initiatives

1975 – Duluth Bikeways Plan (MIC)

1994 – Duluth-Superior Metropolitan Bikeways Plan

1998 – Duluth-Superior Metro Area Bikeways Status Report & Implementation Plan

2010 – Connecting Duluth Report

2011 – Duluth Trail & Bikeway Plan

2014 – Plan for Duluth's Bikeways

2015 – Downtown Duluth Bikeways Audit & Survey

2015 – Hermantown-Proctor Munger Trail Spur

2016 – Duluth Township Trails Plan

2017 – Cross City Trail Mini-Master Plan

2017 – Protected Bike Lane Demonstration Project

2018 – Canosia Township Trails Plan

2019 – Superior Active Transportation Plan

2019 – Campus Connector Mini-Master Trails Plan

2019 – Duluth-Superior Metropolitan Bikeways Plan

2021 – Central Entrance Vision Plan

2021 – Proctor Transportation Plan

2024 – Sustainable Choices 2050

2025-26+ – Safe Streets for All Plan (SS4A) - Upcoming

Priority Recommendations of the Duluth-Superior Metropolitan Bicycle Transportation Plan

This Bicycle Transportation Plan outlines a range of recommendations to facilitate accomplishing the regional goals of increasing the number of people who bicycle and the frequency of bicycle trips for all purposes, encouraging the development of Complete Streets, improving safety for bicyclists, and increasing public awareness and support for bicycling in the Duluth-Superior region. The recommendations include bicycle infrastructure improvements, bicycle-related programs, implementation strategies, and policy and design guidelines, as seen in Chicago, IL's Cycling Strategy and in Rochester MN's Active Transportation Plan.

The five major goals for this plan, as identified by the Bike Subcommittee and adopted by the Bike and Pedestrian Advisory Committee (BPAC) are as follows:

- Bikeability/accessibility of the bicycle transportation network
    - All trip sources and destinations (any point A-to-B) should be accessible without the necessity of a motor vehicle.
- Improve Year-Round Reliability:
    - Facilities for *all* modes of transportation should be reliable for all users all year, including winter maintenance (e.g., motor vehicle routes are typically, reliably passable/usable within 18-24 hours of any winter storm event, while bike facilities, and especially pedestrian facilities are often not passable for the entire winter season).
- Implement Low-cost/High Benefit projects:
    - This pertains to the idea of latent demand. From conversations with stakeholder groups, it has been made clear that there are a multitude of potential bicycle facility users that *would* bicycle, *but for* some small barriers that still exist in the bicycle transportation network, such as first- and last-mile connections to destinations, or small but insurmountable gaps in the bicycle transportation network. This could be tackled in two different timescales as appropriate to the situation:
        - Develop and fill gaps in the arterial system with permanent, separated, and safe bicycle infrastructure (see goal below)

- Implement Short Term Projects to Fill Gaps - Oftentimes, it is not financially feasible for ideal bike facilities to be built within the near term. This could be due to cost, ROW, street project schedule, or public acceptance, among other reasons. Therefore, lower cost and lower effort solutions for the short term will be implemented in the Duluth-Superior Metropolitan Area, until these gaps can be filled with a permanent and ideal project.

- <u>Inducing Mode-Shift Towards Increased Bicycling:</u>
  - This pertains to the carbon footprint of our transportation infrastructure. While electric vehicles are becoming increasingly more popular, studies have shown that the most effective way to reduce the carbon footprint of transportation, especially for short trips is mode-shift away from motor vehicles (either gas or electric).
- <u>Develop the "Primary Arterial Network"</u>:
  - This pertains to the idea that, similar to the new DTA Blue and Green "GO" lines, there should be some primary "bones" to the bicycle network that reach east-to-west across Duluth, and up-and-down the hill of Duluth, and reaching into the City of Superior, across the two bridges. This arterial network should be separated, well marked, and maintained in all seasons.

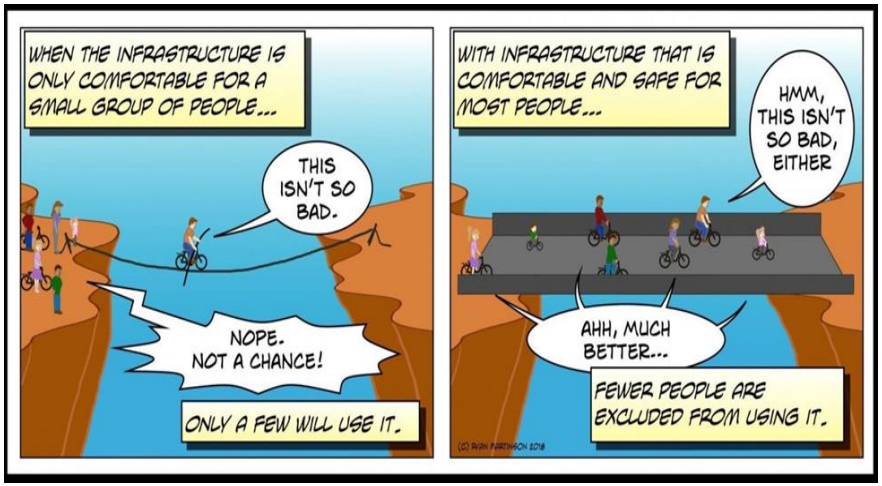
Urban Bikeways – Transportation Systems for Everyday Routines

Designing an urban transportation route has unique aspects that need to be accounted for and realized in comparison to designing a rural or long-distance route.

The previous plan focused more on long distance bicycling, after work, nights, weekends, group rides, and commuters getting directly to work and back. The plan missed the bicycling trip to everyday routine and social destinations (the majority of trips people make). These can include trips to convenience stores, to friends or family members' houses, and to a neighborhood hub where restaurants, bars, coffeeshop, bookstores, retail stores, pharmacies, etc. are located and usually in close proximity to each other.

It is generally acknowledged that non-motorized travel modes are not being used as extensively as they could be. Bicycling is sometimes viewed primarily as a recreational activity. Yet, for short, often daily trips, bicycling is highly efficient and inexpensive. This plan seeks to address the reasons why people don't choose to bicycle for these types of everyday trips."

The main incentives motivating bicycle usage are exercise and enjoyment, with some evidence that environmental concerns are also a factor. The main disincentives to bicycle are concerns over traffic safety, lack of safe bike facility infrastructure, lack of routes, lack of bicycle parking at destinations, potential theft, availability of bikes, and weather.



Regarding bicycle commuting specifically, the primary impediments are distance to the workplace, route safety, and the absence of shower and parking facilities. These concerns take on added significance when considering the major reasons why the automobile is preferred for commuting: quick travel time, convenience in not needing to plan for weather conditions, generally available parking in the Duluth-Superior metropolitan area, and the need of a car for work or other reasons (including the fact errands before/after work often require a car).

Mode Shift to Bicycling for Everyday Transportation

Policies to stimulate mode shifts to bicycling will have to address both the objections to bicycling and the advantages associated with driving. Consequently, no single improvement can be expected to attract all potential bicycle commuters to cycle, suggesting that an integrated approach will be necessary to maximize such mode shifts. Some key considerations to help promote mode shift to bicycling for everyday transportation include:

- Current latent demand for bicycling has not been adequately addressed. More effort should be expended in targeting specific demographic markets; for instance, all university towns and university districts in larger cities should be able-to achieve very high levels of bicycle usage.

- Removing perceptions of danger and lack of good routes are fundamental to tapping the feasibility of bicycling. If bicycling facilities are designed to allay safety concerns and are linked in such a way that access matches the access motorists have come to expect, then utilitarian bicycling will increase.

- Bicycling and walking must be made as convenient as possible in order to attract trips away from motorized travel modes. That means bicycle and pedestrian "friendliness" must be fully incorporated into all aspects of urban design in the short run. In the long run, that means emphasizing compact land use and development.

- The perceived low cost of taking another short trip in a car that one already owns underscores the perceived convenience of choosing it as a travel mode, thereby making it an easy choice for short trips that could easily be accomplished by bicycle or on foot. Non-motorized travel will remain severely under-utilized so long as the full social cost of driving is not paid by the driver. Making bicycling and walking more appealing is unlikely to generate a substantial shift to non-motorized travel modes as long as society continues to promote "auto-friendly" features which encourage distances between trip generators to grow.

- Considerably more remains to be learned about bicycling and walking before their full potential can be assessed. Almost nothing is known about walking habits and precious little about utilitarian bicycle trips which are not commute-related.

Glossary & Extra Information

Complete Streets – bicyclists are existing users of the roadways system. All users of the roadways and their safety and user attributes should be considered when planning, engineering and designing for streets. (MNDOT complete Streets, WISDOT complete street and Duluth Complete Street

Public Health – lack of physical activity, obesity epidemic. CDC Report on Physical Activity, Department of Defense Report on greatest threat to national security.

Fad or long-term trend?

Bicycling is often viewed as a childhood activity and not a mainstream adult activity (except for a small percent of the population). Within the MIC area, recreational bicycling is an all-year activity, primarily through mountain biking on the area's trails. Channeling this population of bikers to use biking as a mode of transportation is a key need for the MIC area's cycling to increase.