



Duluth-Superior Area Bicycle Transportation Plan



March 2025

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Prepared by

Duluth-Superior Metropolitan Interstate Council



Duluth and Superior urban area communities cooperating in planning and development through a joint venture of



[Arrowhead Regional Development Commission](#)

and

[Northwest Regional Planning Commission](#)



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CHAPTER 1: INTRODUCTION

Purpose of the Duluth-Superior Bicycle Transportation Plan

The Duluth-Superior Metropolitan Interstate Council (MIC) has made a comprehensive update to the Duluth-Superior Area 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 purpose of 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 plan is a complementary document to *Sustainable Choices 2050*, the existing Duluth-Superior Metropolitan Transportation Plan (<https://dsmic.org/long-range/>). The MTP establishes a 25-year vision for transportation in the urban area: *to develop a community-supported multimodal transportation system that supports the diverse needs of people and commerce, and is fiscally, socially, and environmentally sustainable.*

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.

The MIC implements the MTP through the programming of federal funds via the Transportation Improvement Program (TIP) and conducts plans and studies through the MIC's work program. MIC studies relevant to this plan are the MIC's Pedestrian Plan, most recently updated in 2022, and its various safety plans, including the Safe Routes to School plans for several Duluth and Superior schools, and the MIC Area Safety Action Plan, which is currently under development.

This plan provides a guide to advance the bicycling component of this vision, by laying out the next steps for developing bicycle routes as a component of the Duluth-Superior regional transportation system. As with any system, each segment of the bike network depends on the other connected segments to effectively function.

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.

Envisioning a Paradigm Shift

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. A guiding strategic assertion of this regional plan is that networks are more efficient when they are 1) complete and 2) there is a commitment to sustaining their use through four seasons.

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 designated Metropolitan Planning Organization (MPO) for the Twin Ports and receives federal funding to undertake transportation planning on behalf of the greater Duluth-Superior area. One of the planning responsibilities that the MPO must undertake is to plan for the bicycle as a mode of transportation.

MPOs and Bicycle Planning Requirements

The following are the federal rules pertaining to bicycle planning work by MPOs:

23 CFR 450.300(a)

Sets 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 (MTP) (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.

23 CFR 450.306(b)(2)

The metropolitan transportation planning process shall provide for consideration and implementation of projects, strategies, and services that will: Increase the safety of the transportation system for motorized and non-motorized users.

23 CFR 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.

23 CFR 450.324(a) and (f)(2)

A metropolitan transportation plan (MTP) shall be developed and shall, at a minimum, include: Existing and proposed transportation facilities (including ... nonmotorized facilities (e.g. ... bicycle facilities)) that should function as an integrated metropolitan transportation system.

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, create 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.

Bicycling Benefits

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

Benefits of Bicycling Infrastructure Investments

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.

priority area of “active living”, encouraging and supporting 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.

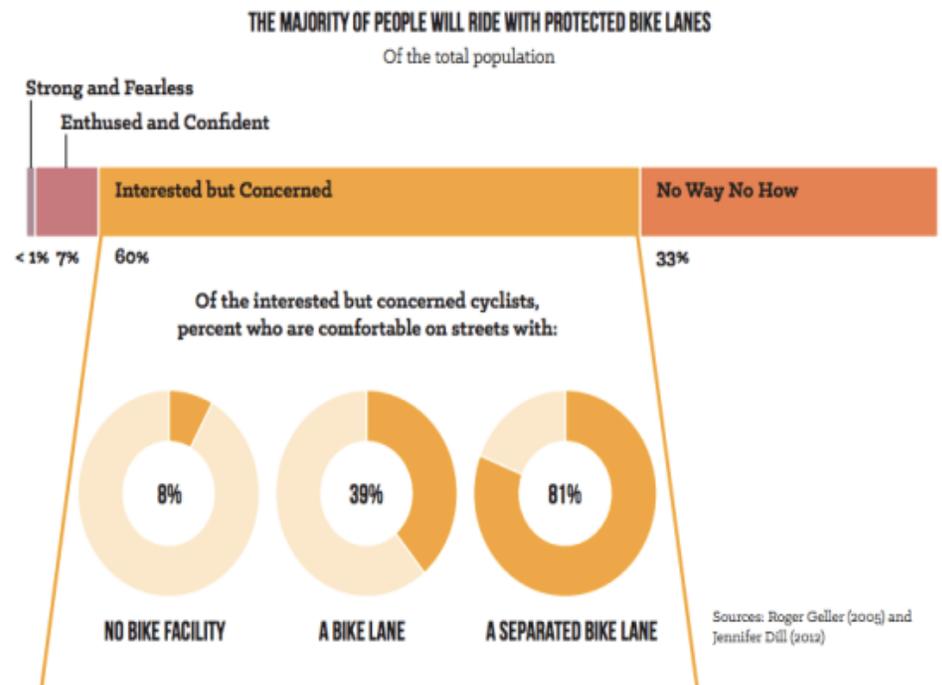
Our vision of a gradual paradigm shift in transportation priorities is also guided by the MIC’s sustainability and carbon reduction goals. As the predominant self-propelled alternative mode, bicycle accommodation and use encouragement is integral to reducing urban transport GHG (greenhouse gas) emissions. 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%.

Support for Improved Bicycle Infrastructure

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,

people with disabilities, 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 included that may be able to assist in some of these areas.

Implementation will only be possible with citizen buy-in 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

The City of 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

(2015-19) Duluth-Superior Metropolitan Bikeways Plan

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 arterial 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

The City of Superior’s 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 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 Area Bicycle Transportation Plan

This plan takes into consideration updates to the existing bicycle network in Duluth and Superior. Additionally, it incorporates the prioritization of emerging trends in our region, such as an emphasis on year-round reliability for all transportation modes.

Also, some of the most common feedback we hear is the need for physical separation of bicycle facilities, as one way 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

This 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](#).

Five Major Goals for This 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:

1. 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.

2. 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).

3. 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.

4. Inducing Mode-Shift Towards Increased Bicycling

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).

5. Develop the “Primary Arterial Network”

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

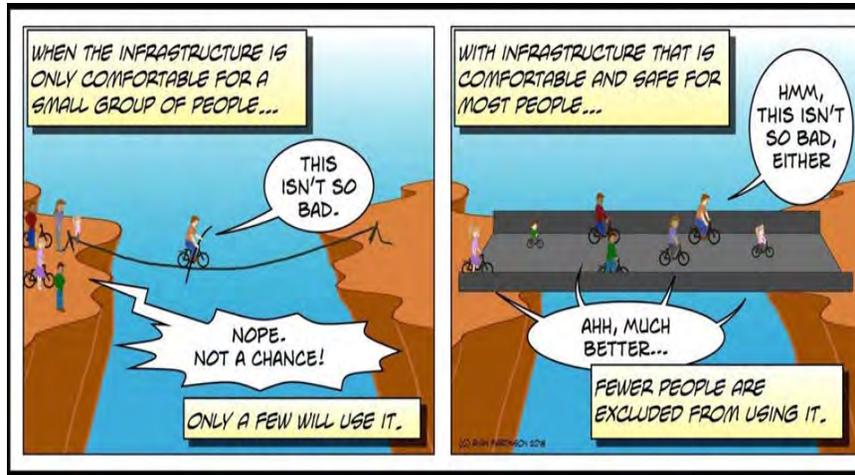
Designing an urban transportation route has unique aspects that need to be accounted for and realized in comparison to designing a rural or long-distance route.

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, coffee shops, 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).

Encouraging Mode Shift to Bicycling

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.
- Improving safety and providing direct, maintained, 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.

Additional Considerations

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 Streets)

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 percentage 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.

CHAPTER 2: GOALS AND STRATEGIES

What's 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, no 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, people with disabilities, women and nonbinary folks, children, older adults, 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.

Local baseline data currently doesn't exist to track the magnitude of this problem and requires additional tracking metrics. 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 Area Bicycle Transportation 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.

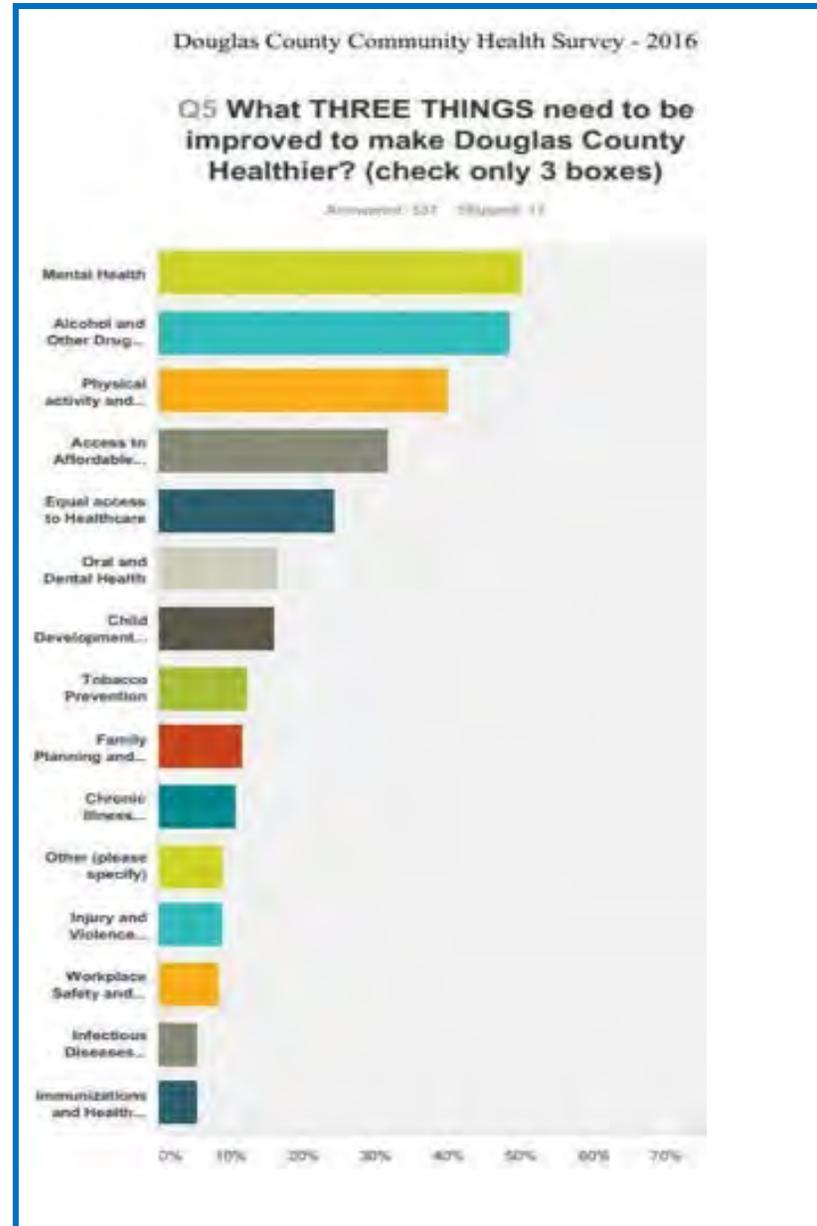
We envision a place where more people choose to bicycle in all seasons, whether for a trip to the grocery store or a ride along the trail to get to school or work. We envision that people of all ages and abilities have the choice to use safe, direct, and well-maintained bike facilities to get to work, 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-year-round, 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 Area 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 Healthy 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 green infrastructure that create a sense of place and mitigate environmental issues.
- Offer more frequent and ongoing training opportunities about accommodating bicyclists in design, planning, and public engagement 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 crashes 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 and street sweeping 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 www.ibpi.usp.pdx.edu/guidebook.php. Use the Bicycle Boulevards section of the NACTO Urban Bikeway Design Guide (3rd Edition) 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, e-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 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 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 including cyclist harassment.
- Promote increased awareness to new bike safety laws such as the Idaho Stop Law passed in Minnesota. 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 (The College of St. Scholastica, Lake Superior College, University of Wisconsin-Superior, Northwood Technical College, Fond Du Lac Tribal and Community College etc) and the hospitals (Essentia, Aspirus/St Luke’s, etc) to promote cycling and to seek recognition through the Bicycle Friendly University (BFU) 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 BFUs 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 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 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 and debris such as road salt/sand must be a priority for winter and spring 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.

- 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 Area Bicycle Transportation 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:
 - www.bikelib.org/bike-planning/bicycle-level-of-service/ (roads) and
 - www.bicyclinginfo.org/library/details.cfm?id=4425 (intersections)

CHAPTER 3: PLAN FRAMEWORK

Guiding Principles for Bicycle Facility Planning and Design

The fundamental goal of this plan is to create an environment where anyone able to bike can safely and comfortably bicycle as part of their everyday routines, regardless of their age or their skill level at riding a bicycle. The majority of people will not bicycle if they view a route as unsafe, uncomfortable or out of their way. As such, jurisdictions developing new bikeways should strive to design “all ages and abilities” infrastructure.

This chapter first describes this and other guiding principles used to create the bike network routes shown in Chapter 4 and on the Bike Plan Map. The second part of this chapter provides information pertaining to selection and design of various facility types (separated path, bike lane, bike boulevard, etc.).

This plan builds on previous planning efforts both completed by the MIC as well as surrounding jurisdictions and partner agencies and organizations. The level of detail into which each of these plans gives recommendations regarding the bicycle network varies greatly. In addition, a number of other bikeway planning efforts have informed this plan, including the

Connecting Duluth Report, the Downtown Duluth Bikeways Audit & Survey and the Michigan Street Protected Bikeway Demonstration Project.

Innovation in design of urban bicycle infrastructure is transforming urban streets and rapidly expanding bikeway infrastructure in cities across the United States. As new designs are being tried, new resources for urban bikeway design are also becoming widely available, particularly the NACTO guides, MnDOT’s Bicycle Facility Design Manual and supportive approaches and recommendations in the Vision Zero and Safe Systems approach.



Design matters when building a bicycle network for people of all ages & abilities.

Bicycle Network Planning Principles

All Ages & Abilities

A central component of this Plan is the focus on “all ages and abilities.” What does this mean?

In the past, bike planning and in turn infrastructure focused on the existing cyclists on the roads, riding with traffic, usually an adult who is in great physical shape and in good health and is riding for commute to work purposes and/or long-distance recreational trips. This plan instead is focused on people of all ages and all abilities and their numerous transportation trips made as part of their everyday routines.

NACTO has provided a clear and concise definition for “All Ages & Abilities” that this Plan is using as its definition (see images).

Further, In the Duluth-Superior metropolitan area, e-bikes have expanded accessibility for some populations where physical limitations previously existed, due to the hilly terrain or other reasons. This expansion means that there are more people who can use a bicycle as transportation.

Who is the “All Ages & Abilities” User?

To achieve growth in bicycling, bikeway design needs to meet the needs of a broader set of potential bicyclists. Many existing bicycle facility designs exclude most people who might otherwise ride, traditionally favoring very confident riders, who tend to be adult men. When selecting a bikeway design strategy, identify potential design users in keeping with both network goals and the potential to broaden the bicycling user base of a specific street.

 <p>Children</p> <p>School-age children are an essential cycling demographic but face unique risks because they are smaller and thus less visible from the driver's seat than adults, and often have less ability to detect risks or negotiate conflicts.</p>	 <p>Seniors</p> <p>People aged 65 and over are the fastest growing population group in the US, and the only group with a growing number of car-free households.¹⁴ Seniors can make more trips and have increased mobility if safe riding networks are available. Bikeways need to serve people with lower visual acuity and slower riding speeds.</p>	 <p>Women</p> <p>Women are consistently under-represented as a share of total bicyclists, but the share of women riding increases in correlation to better riding facilities.¹⁵ Concerns about personal safety including and beyond traffic stress are often relevant. Safety in numbers has additional significance for female bicyclists.</p>
 <p>People Riding Bike Share</p> <p>Bike share systems have greatly expanded the number and diversity of urban bicycle trips, with over 28 million US trips in 2016.¹⁶ Riders often use bike share to link to other transit, or make spontaneous or one-way trips, placing a premium on comfortable and easily understandable bike infrastructure. Bike share users range widely in stress tolerance, but overwhelmingly prefer to ride in high-quality bikeways. All Ages & Abilities networks are essential to bike share system viability.</p>	 <p>People of Color</p> <p>While Black and Latinx bicyclists make up a rapidly growing segment of the riding population, a recent study found that fewer than 20% of adult Black and Latinx bicyclists and non-bicyclists feel comfortable in conventional bicycle lanes; fear of exposure to theft or assault or being a target for enforcement were cited as barriers to bicycling.¹⁷ Long-standing dis-investment in street infrastructure means that these riders are disproportionately likely to be killed by a car than their white counterparts.¹⁸</p>	 <p>Low-income Riders</p> <p>Low-income bicyclists make up half of all Census-reported commuter bicyclists, relying extensively on bicycles for basic transportation needs like getting to work.¹⁹ In addition, basic infrastructure is often deficient in low-income neighborhoods, exacerbating safety concerns. An All Ages & Abilities bikeway is often needed to bring safe conditions to the major streets these bicyclists already use on a daily basis.</p>
 <p>People with Disabilities</p> <p>People with disabilities may use adaptive bicycles including tricycles and recumbent handcycles, which often operate at lower speeds, are lower to the ground, or have a wider envelope than other bicycles. High-comfort bicycling conditions provide mobility, health, and independence, often with a higher standard for bike infrastructure needed.</p>	 <p>People Moving Goods or Cargo</p> <p>Bicycles and tricycles outfitted to carry multiple passengers or cargo, or bicycles pulling trailers, increase the types of trips that can be made by bike, and are not well accommodated by bicycle facilities designed to minimal standards.</p>	 <p>Confident Cyclists</p> <p>The small percentage of the bicycling population who are very experienced and comfortable riding in mixed motor vehicle traffic conditions are also accommodated by, and often prefer, All Ages & Abilities facilities, though they may still choose to ride in mixed traffic.</p>

Source: NACTO Designing for All Ages & Abilities – December 2017

DESIGNING FOR ALL AGES & ABILITIES

Bikeway design must meet the needs of a diverse array of potential bike riders.⁸ Across North America, however, many existing bike facility designs provide enough comfort for only the boldest people biking and exclude many who might otherwise ride.

An **All Ages & Abilities (AA&A)** bikeway is one that feels comfortable and provides safety for all current and potential users. AA&A is inclusive of age, ability, type of bike or mobility device, socioeconomic status, race, gender, or any other identity and experience a person may hold. For many people, feeling safe and comfortable goes beyond just physical protection from motor vehicles. High-quality AA&A bikeways can create a sense of safety by helping people feel as though they belong, are safe from potentially dangerous interactions with police officers, and are welcome to use a variety of adaptive bikes and mobility devices.

AA&A bikeways are safe and comfortable for people:

Of all ages, sizes, and physical abilities. On an AA&A bikeway, grandparents and grandkids can ride bikes together. These designs support children and older adults, who sometimes have lower visual acuity and slower riding speeds, and people with disabilities who might use lower-profile or wider three-wheel adaptive bikes. Those with disabilities who are not using bikes or micromobility devices but need to cross or navigate around bikeways are also taken into account.

Of all races and ethnicities. Black and Latine people on bikes are more than four times as likely to be killed in a traffic crash than white people on bikes. Additionally, law enforcement officers issue a disproportionate number of traffic tickets to Black and Latine people on bikes for actions such as biking on the sidewalk. High-quality bike infrastructure makes streets safer and reduces police interactions. Research from Chicago found that major streets with bike lanes had half the number of tickets compared to similar streets without bike lanes.

Of all incomes. Low-income bicyclists make up half of all Census-reported commuter bicyclists, relying extensively on bicycles for basic transportation needs such as getting to work. Research shows that unhoused people are given a disproportionate number of bike tickets in some jurisdictions, including for minor issues such as riding helmetless. Basic infrastructure is often deficient in low-income neighborhoods, creating real safety issues for those who bike there.



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2.1 | IMAGINING A FUTURE BIKE NETWORK

Of all experience levels and despite past experiences. Bikeways need to be welcoming to people who have little experience biking on urban streets and those who have had previous negative experiences while riding a bike or other micromobility device. AA&A bikeways enable people to feel confident biking—and learn to feel comfortable biking on a wider variety of urban streets.

Of all gender identities and sexual orientations. In most North American cities, people who bike are predominantly male. Surveys reveal that women in particular cite safety and lack of bike infrastructure as core reasons why they choose not to bike. Women and LGBTQ+ people also report regular harassment while biking. High-quality facilities on urban streets create a sense of safety by being well-lit and highly visible to passersby. AA&A bikeways feel safe and welcoming for people of a diversity of gender expressions and experiences.

Working in a variety of industries. Often paid per delivery, workers who deliver on bikes need bike lanes that accommodate faster speeds and a wider range of devices, including e-bikes and cargo bikes. AA&A bikeways are suitably wide and feature intersection designs that enable these workers to get around at pace. People who work using bikes also benefit from infrastructure that limits interactions with police, as every interaction risks time and money lost from a day's work.

Using all types of bikes and micromobility devices. AA&A bikeways are designed for people moving goods or cargo, whose bikes are often wider and longer; caregivers with children on their bikes, who are extra concerned with safety and may require frequent stops; people riding electric scooters or electric bikes, who move faster than many other people on bikes; and people riding adaptive bikes and adult tricycles, whose bikes are larger and slower than other bike facility users.



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Source: NACTO Urban Bikeway Design Guide, third ed, pages 20-21

Everyday Routine

People traveling for their everyday routine activities—daily trips including commute to work, school, grocery store, shopping, visiting family or friends, etc.

Shorter Distances

People traveling shorter distances—focus on trips less than 3 miles. The distance that most people will shift modes from a bicycle to a motor vehicle is for distances greater than 3 miles. In addition, the majority of all trips people make, regardless of mode, is less than 3 miles in distance each way.

Plan Framework – Focus on 3 Principles

All Ages & Abilities

Everyday Routine

Short Trips

Bikeways Route Planning

Route selection is critical. Bikeways will under-perform or not serve the latent demand for bicycling at all when routing is illogical, requires frequent or unnecessary stopping, or requires shared lane usage on roadways with high traffic speeds and volumes without physical separation which makes the more vulnerable road user (the bicyclist) feel uncomfortable and/or unsafe.

Decision-Making Criteria

As part of designating a system of preferred routes, new projects should consider the following criteria:

1. Low-stress bikeway network facilities – continuous and direct route.
2. Designed with the end user in mind, i.e., people who ride bicycles from Point A to Point B for transportation, not just for recreation.
3. Trips – design for people making a variety of trips including short-trips (*see: Short Trips Generators Map(s)*) while also providing connectivity between for cyclists making longer trips.

4. Slope – avoid steep grades
 - a. Any roadway or path with a grade greater than 8% must be avoided (not reasonable).
 - b. Any roadway or path with a grade between 5-8% can be a bikeway for only 1 consecutive block if no other option is available.
5. Public Health - designed for people to conduct their activities via bicycle as part of their everyday routine.
6. All ages and all abilities network – building a system that the largest number of people can use, not just the confident road cyclists. This will also unlock “latent demand.”
7. Direct access to destinations --
 - a. Public schools.
 - b. Public transit centers and stations.
 - c. Civic & Community Institution (town hall, city hall, county courthouse)– places where public decisions are made i.e. places where public meetings are held.
 - d. Food Distribution– places where people purchase or pick up food.
 - e. Commercial destination centers
 - f. Medical Facilities – hospitals, doctor’s office, pharmacy.
 - g. Recreational places – parks and trails.
 - h. Desire line for bicyclists – closely follow a desire line for bicycle travel.
8. An understanding of which agency or municipality is responsible for maintenance and snow-clearing for any proposed bike facility. Ensure clear expectations for facility maintenance. That said, jurisdictions should guard against lack of current winter maintenance funding or equipment being the only factor that limits the ability to construct new bicycle facilities.

Following these criteria will help create a network that increases ridership. To do so, jurisdictions may find that they need to overcome the most frequent criticism about bicycle infrastructure.

Arguably, the most frequent criticism heard about bicycle infrastructure, regardless of location, is that “no one uses it”. This concern over bicycle infrastructure, including installing facilities on the street as well as practical and usable bike parking, may be a factor in limiting the infrastructure projects that are put into place.

Even if the infrastructure is put into place, the question arises whether or not this infrastructure really only serves a small number of people; and is that benefit worth the costs?

Of course, other value judgments are made here as well, maintaining the paradigm of car ownership as a primary means of transportation, and its corollary, that the built environment should continue to focus on making it easier and more convenient to drive a car, at the expense of the other modes.

Additionally, this area’s climate and hilly terrain further push bicycling to the margins of the area’s transportation system.

Despite these challenges, bicycling can be a viable transportation mode in the Twin Ports, as long as the bike routes center **all ages and abilities, everyday routine,** and **short trips**, following the criteria listed above.

Bikeway Facility Types

This section provides an overview of bikeway facility options. See MnDOT’s Bicycle Facility Design Manual, [Chapter 5 Bicycle Facilities](#), for more detailed facility descriptions and guidance.

Bike Lanes

Conventional Bike Lanes

The bike lane is located adjacent to motor vehicle travel lanes and flows in the same direction as motor vehicle traffic. Bike lanes are typically on the right side of the street, between the adjacent travel lane and curb, road edge, or parking lane. This facility type may be located on the left side when installed on one-way streets, or may be buffered if space permits. An example of this is 4th St in Duluth, east of 6th Ave East.

Buffered Bike Lanes

Buffered bike lanes are conventional bicycle lanes paired with a designated buffer space separating the bicycle lane from the adjacent motor vehicle travel lane and/or parking lane. An example of this is E 3rd St in Duluth.

Contra-Flow Bike Lanes

Contra-flow bicycle lanes are bicycle lanes designed to allow bicyclists to ride in the opposite direction of motor

vehicle traffic. They convert a one-way traffic street into a two-way street: one direction for motor vehicles and bikes, and the other for bikes only. Contra-flow lanes are separated with yellow center lane striping at minimum, but should be physically separated. Combining both directions of bicycle travel on one side of the street to accommodate contra-flow movement results in a two-way cycle track.

Left-Side Bike Lanes

Left-side bike lanes are conventional bike lanes placed on the left side of one-way streets or two-way median divided streets.

Paved Shoulders

Paved shoulders used as bike lanes are wide enough for bikes to use, however because their primary purpose is not a bicycle lane, they may be blocked at times. This is not an ideal bike facility, due to the fact that it is not consistently reliable. 6th Avenue East will have a wide paved shoulder, following its resurfacing in the summer of 2025.

Protected Bike Lanes (also called Separated Bike Lanes or Cycle Tracks)

One-Way Protected Bike Lane

One-way protected cycle tracks are bikeways that are at street level and use a variety of methods for physical protection from passing traffic. A one-way protected cycle track may be combined with a parking lane or other barrier between the cycle track and the motor vehicle travel lane.

Raised Protected Bike Lane

Raised cycle tracks are bicycle facilities that are vertically separated from motor vehicle traffic. Many are paired with a furnishing zone between the cycle track and motor vehicle travel lane and/or pedestrian area. A raised cycle track may allow for one-way or two-way travel by bicyclists. The new design of W. Superior St will have a raised, protected bike lane.

Two-Way Protected Bike Lane

Two-way cycle tracks (also known as protected bike lanes, separated bikeways, and on-street bike paths) are physically separated cycle tracks that allow bicycle movement in both directions on one side of the road. Two-way cycle tracks share some of the same design

characteristics as one-way tracks, but may require additional considerations at driveway and side-street crossings. An example of this is the bike lane that was on W. Superior St.

Which facilities make riders feel safer?

Shared-Use Path/Side Path, Separated Lane: 51-56%

Buffered Bike Lane/Bike Lane: 5-9%

Shoulder/Shared Lane: 4-7%

NHSTA/USDOT

Public input on this plan and specific road improvement projects in the MIC area also indicates a preference for separated bike facilities, with many residents saying “I am not comfortable biking on a busy road” or “I am not comfortable letting my kids bike on a busy road.”

Bicycle Boulevards (also called Neighborhood Greenways)

These are facilities that are to be implemented on low-volume, low-speed streets (typically residential streets), that are parallel to higher-volume roadways. The main objective of bike boulevards is traffic calming through design and an easy flow-through for cyclists. These would include implements such as bike sharrow on-street markings, wayfinding signage, and volume control (e.g., right-turn diverters at intersections for motor vehicles, which still permit through-travel for smaller vehicles such as bicycles, such as removable planters or other landscape implements).

Route Selection

Route selection for all bicycle facilities is critical. Specifically, Bicycle Boulevards will not work if they are routed in illogical ways, if they require frequent or unnecessary stopping, or if they follow higher traffic speed and volume roadways. Bicycle Boulevards/Neighborhood Greenways have the potential to play a key role in a low-stress bikeway network, as they can complement and provide strategic connections between off-street paths and conventional bike lanes.

Support Facilities for Bike Boulevards

- **Signs and Pavement Markings**

Signs and pavement markings create the basic elements of a bicycle boulevard, and are easy to find and to follow. They indicate that a roadway is intended as a shared, slow street, and reinforce the intention of priority for bicyclists along a given route. Signs and pavement markings alone do not create a safe and effective bicycle boulevard, but act as reinforcements to other traffic calming and operational changes made to the roadway.

Paint: Inexpensive, effective, can be used as a less-than-permanent solution and precursor to more permanent changes in road design and layout, should it be successful.

Conflict Zones/Shared Space: Green paint to identify a conflict zone or shared use space.

- **Speed Management**

Speed Management measures for bicycle boulevards slow motor vehicle speeds, bringing motor vehicle speeds closer to those of bicyclists. Reducing speeds along the bicycle boulevard improves the bicycling environment by reducing overtaking events, enhancing drivers' ability to see and react, and diminishing the severity of crashes if

they occur. Speed management is critical to creating a comfortable and effective bicycle boulevard.

- **Volume Management**

Volume Management measures reduce or discourage through traffic on designated bicycle boulevard corridors by physically or operationally reconfiguring select corridors and intersections along the route. The effect is to lower or reduce motor vehicle volumes. On roadways with shared travel lanes such as bicycle boulevards, motor vehicle traffic volumes significantly impact bicyclist comfort. Higher vehicle volumes decrease comfort and may lead to a greater potential for conflicts, as well as a loss of perceived safety.

- **Minor Street Crossings**

Minor Street Crossings for bicycle boulevards are intended to minimize bicyclist delay and typically involve the intersection of two residential or local streets with low motor vehicle volumes and speeds. At intersections with local streets and minor collectors, bicycle boulevards should have right-of-way priority and reduce or minimize delay by limiting the number of stop signs along the route. Stretches of at least a half mile or more of continuous travel without stop sign control are desirable.

- **Major Street Crossings**

Major street crossings may pose a significant barrier to the effectiveness and quality of a bicycle boulevard. Safe and convenient crossing treatments of high quality should be selected to mitigate these barriers.

- **Offset Intersections**

Offset Intersections are junctions at which two streets in a designated bicycle boulevard corridor align asymmetrically with an intersecting roadway. They are intended to provide clear and safe navigation through the intersection. Since bicycle boulevards typically utilize local streets, bicyclists are likely to encounter discontinuities in the street grid that require them to turn briefly onto another street before resuming their original direction. Offset intersection treatments are categorized into treatments for major street crossings and treatments for minor street crossings.

- **Green Infrastructure**

Making the inclusion of trees and native plantings part of roadway projects that include bike infrastructure enhance the environment and are helpful to bicyclists and the neighborhoods and streets that they bike through, writ large.

Incorporating green infrastructure into transit street design can improve water quality, detain stormwater flows, reduce the volume of stormwater runoff, and relieve burden on municipal water treatment systems.

Other Bicycle Facilities

Separated Path

A separated path is a two-way paved micromobility facilities that are separated, both in terms of grade and lateral physical separation, from their parallel roadways to ensure safety for *All ages and Abilities*, that are also ADA accessible, meaning that there is clear space for mobility devices to pass each other, either traveling in the same direction, or in opposite directions. The width of the facility may need to increase based on projected volumes and types of non-motorized traffic.

Recreational Trail

While not all ages and abilities bike connections are officially part of the bicycle map, it is important to acknowledge that individuals may choose to use the area’s recreational bike trails for transportation. Those who are capable of biking these trails to get to their destinations should be encouraged to do so and these trails should have clear way-finding and safe crossings with streets to facilitate safe integration of

these recreational trails with the bike network. The Duluth-Superior metropolitan area has plenty of recreation folks, both locals and tourists, who use bicycling as a form of recreation, and acknowledging that our green trails are natural transportation corridors is crucial to increasing bicycling among this major group.

Intersections

Bike Boxes

A bike box is a designated area at the head of a traffic lane at a signalized intersection that provides bicyclists with a safe and visible way to get ahead of queuing traffic during the red signal phase.

Intersection Crossing Markings

Intersection crossing markings indicate the intended path of bicyclists. They guide bicyclists on a safe and direct path through intersections, including driveways and ramps. They provide a clear boundary between the paths of through bicyclists and either through or crossing motor vehicles in the adjacent lane.

Two-Stage Turn Queue Boxes

Two-stage turn queue boxes offer bicyclists a safe way to make left turns at multi-lane signalized intersections from a right-side cycle track or bike lane, or right turns from a

left side cycle track or bike lane. Two-stage turn queue boxes may also be used at unsignalized intersections to simplify turns from a bicycle lane or cycle track, as for example, onto a bicycle boulevard. At midblock crossing locations, a two-stage turn queue box may be used to orient bicyclists properly for safe crossings. Multiple positions are available for queuing boxes, depending on intersection configuration.

Median Refuge Island

Median refuge islands are protected spaces placed in the center of the street to facilitate bicycle and pedestrian crossings. Crossings of two-way streets are facilitated by allowing bicyclists and pedestrians to navigate only one direction of traffic at a time. Medians configured to protect cycle tracks can both facilitate crossings and also function as two-stage turn queue boxes.

Through Bike Lanes

For bicyclists traveling in a conventional bike lane or from a truncated cycle track, the approach to an intersection with vehicular turn lanes can present a significant challenge. For this reason, it is vital that bicyclists are provided with an opportunity to correctly position themselves to avoid conflicts with turning vehicles.

Combined Bike Lane/Turn Lane

A combined bike lane/turn lane places a suggested bike lane within the inside portion of a dedicated motor vehicle turn lane. Shared lane markings or conventional bicycle stencils with a dashed line can delineate the space for bicyclists and motorists within the shared lane or indicate the intended path for through bicyclists.

Cycle Track Intersection Approach

The approach to an intersection from a cycle track should be designed to reduce turn conflicts for bicyclists and/or to provide connections to intersecting bicycle facility types. This is typically achieved by removing the protected cycle track barrier or parking lane (or lowering a raised cycle track to street level) and shifting the bicycle lane to be closer to or shared with the adjacent motor vehicle lane.

Signals

Bicycle Signal Heads

A bicycle signal is an electrically powered traffic control device that should only be used in combination with an existing conventional traffic signal or hybrid beacon.

Signal Detection and Actuation

Bicycle detection is used at actuated signals to alert the signal controller of bicycle crossing demand on a particular

approach. Bicycle detection occurs either through the use of push-buttons or by automated means (e.g., in-pavement loops, video, microwave, etc).

Active Warning Beacon for Bike Route at Unsignalized intersection

Active warning beacons are user-actuated amber flashing lights that supplement warning signs at unsignalized intersections or mid-block crosswalks. Beacons can be actuated either manually by a push-button or passively through detection.

Hybrid Beacon for Bike Route Crossing of Major Street

A Pedestrian Hybrid Beacon, also known as a High-intensity Activated Crosswalk (HAWK), consists of a signal-head with two red lenses over a single yellow lens on the major street, and pedestrian and/or bicycle signal heads for the minor street.

Signing and Marking

Colored Pavement

Colored pavement within a bicycle lane increases the visibility of the facility, identifies potential areas of conflict, and reinforces priority to bicyclists in conflict areas and in areas with pressure for illegal parking.

Shared Lane Markings

Shared Lane Markings (SLMs), or “sharrows,” are road markings used to indicate a shared lane environment for bicycles and automobiles.

Bike Route Wayfinding

A bicycle wayfinding system consists of comprehensive signing and/or pavement markings to guide bicyclists to their destinations along preferred bicycle routes. This is especially important for populations without access to smartphones (including children), and for people not familiar with the areas of our region. Signs are typically placed at decision points along bicycle routes – typically at the intersection of two or more bikeways and at other key locations leading to and along bicycle routes. This could include but is not limited to destination signs with distance and/or time indicated, or routes and turns that are indicated either with signs or on-street markings (per MUTCD (Manual on Uniform Traffic Control Devices) and/or NACTO guidance).

Additional Features

Lighting

Pedestrian scale lighting for bikeways makes bikers more visible, enables bikers to notice surface irregularities, is key in areas with traffic or limited visibility, and increases the

safety and comfort of bikers. The [MnDOT Roadway Lighting Design Manual](#) contains guidance on lighting.

Facility Transitions

Showers and bike rooms at work make bike commuting more feasible and comfortable.

Drainage

Grates in bike lanes should be bicycle compatible or have covers, to prevent those on bikes from catching their wheels in the gaps.

Maintenance

Year-round maintenance of the bicycle facility -including winter maintenance- is essential to maintaining the accessibility and safety of the bike route. During construction projects, bike detours should be planned in addition to motor vehicle detours.

Bike Parking

Bike parking that meets recommended standards is necessary along the bike routes and at key destinations. More information on ideal bike parking can be found in the Association of Pedestrian and Bicycle Professionals [guide](#) titled “Essentials of Bike Parking: Selecting and Installing Bike Parking that Works (2015)”.

Bike Repair Stations

Bicycle repair stations, with pumps and possibly other elements, are key along bike routes. These can be done in partnership with local bike shops or community organizations, or simply available adjacent to bicycle parking.

Design Resources

MnDOT Bicycle Facility Design Manual (October 2024)

Contains applicable guidance that will be of extra value to the Duluth-Superior MIC in cementing its bicycle network.

www.dot.state.mn.us/bike/bicycle-facility-design-manual.html

NACTO Broad Urban Street Design Guide

Street Design Principles

Streets are public spaces and in an urban context, street design must meet the needs of people walking, driving, cycling, and taking transit, all in a constrained space. The best street design also adds to the value of businesses, offices, and schools located along the roadway.

<https://nacto.org/publication/urban-street-design-guide/streets/street-design-principles/>

Residential Shared Street

Low-volume residential streets, especially in older cities, often have narrow or crumbling sidewalks. Many of these streets operate as de facto shared spaces in which children play and people walk, sharing the roadway with drivers. Depending on their volume and role in the traffic network, these streets have the potential to be redesigned and enhanced as shared streets.

<https://nacto.org/publication/urban-street-design-guide/streets/residential-shared-street/>

CHAPTER 4: BICYCLE NETWORK

The bicycle network was based on the following route selection criteria. The directness of the routes as well as the severity of slope have all been considered in route selection. In addition, population density and common destinations and activity hubs, whether they be schools, community centers, areas with large clusters of jobs and business districts have all been identified as key areas for bikeways.

Distance plays a key role in this plan, as well. Most bicyclists will not travel further than three miles per trip as part of their everyday routine. Therefore, the plan focuses on shorter distance trips.

However, the plan does include longer distance routes that connect between the major hubs. In the end, these bikeways have been devised not just for the small percentage of people who are comfortable riding among motor vehicles with no separation or protection, but for people of all ages and abilities who would bicycle if there were safe and comfortable routes available to them.

All streets were mapped out based on their percent grade.

- 9% grades—bicycle routes on streets with slopes greater than 9% were only considered if there was no reasonable

alternative but would continue for no more than one block in length.

- 12% grades—bicycle routes on streets with slopes greater than 12% were not considered as it is too extreme a grade to climb for regular transportation.



Bike Lane on Tower Avenue in Superior, WI. A majority of the trips that people make in urban areas are fewer than three miles, and commercial districts like this one are regular destinations. These shorter distances, coupled with the real limits on space and public infrastructure resources, mean that the bicycle is particularly well suited as an integral component of an urban transportation system.

Existing Bikeways System—All Ages & Abilities

The existing bikeways system depicts the routes that serve people of all ages and abilities currently. These routes take into account the type of bikeway, volume of traffic, speed of traffic and width of bikeway. Routes with existing wayfinding signage or bikeway pavement markings were not automatically included in this existing bikeway system map. For example, Kenwood Avenue in Duluth and 28th Street in Superior have sharrows marked on the pavement, yet both are excluded from this as neither bikeway is an all ages & abilities. Both streets have a high enough traffic volume that precludes it from being included. For reference, see the NACTO guide on “Designing for all ages and abilities”.

Existing Bikeways System Characteristics (2024):

- Signed Shared Lanes = 123 miles
- Conventional Bike Lanes = 33 miles
- Bikeable Shoulders = 191 miles
- Multi-use Paths = 35 miles
- Seasonal Multi-use = 64 miles
- Total Mileage of Existing Bikeways = 446 miles

Close the gaps, sooner than later

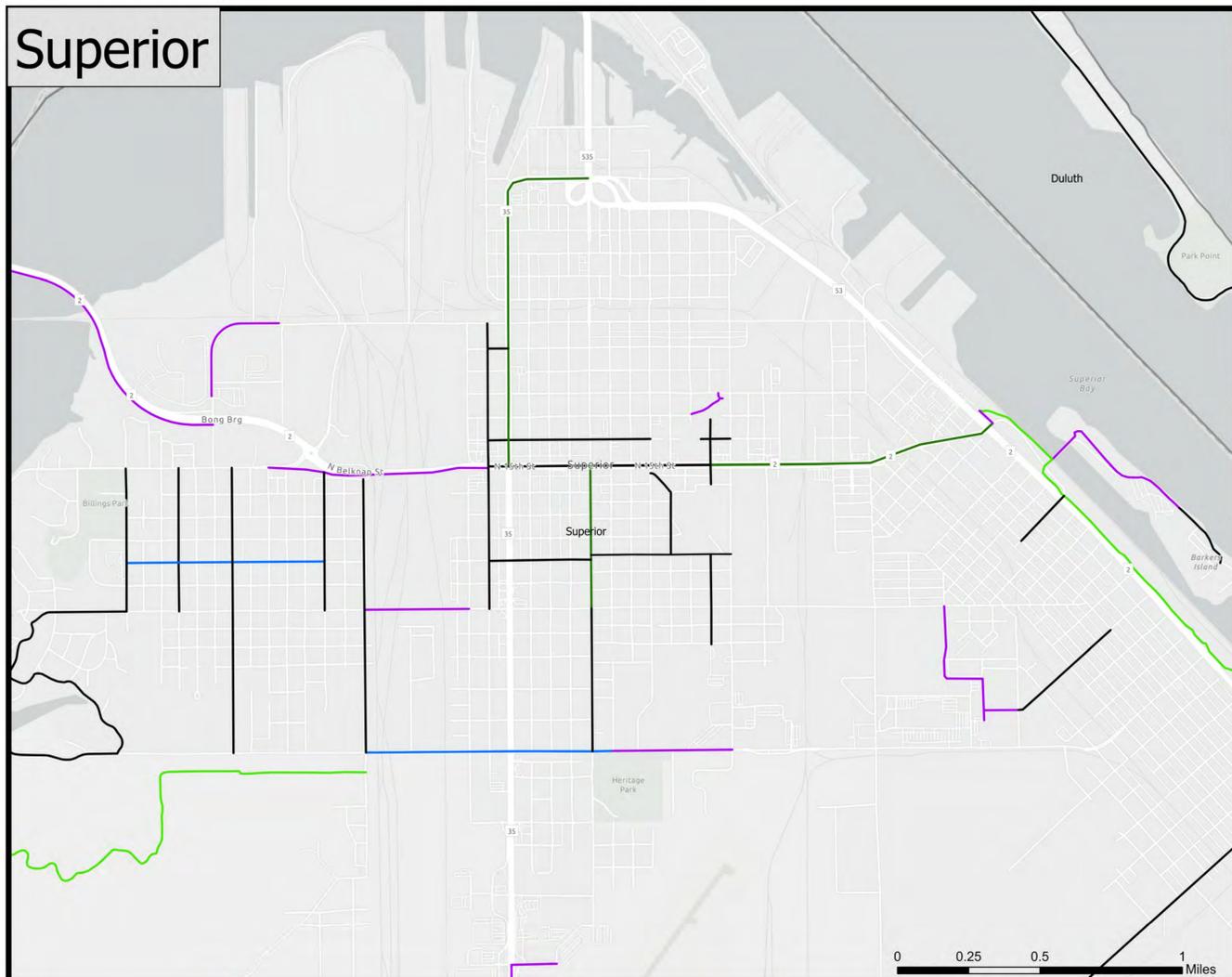
There are over 50 gaps in the existing bicycle transportation network. The majority of these gaps have alternate routes available on streets with low traffic volumes and low speeds. However, some routes have no reasonable alternative for a person bicycling as part of their everyday routine.

A list of the major gaps has been created (shown next page). These are the top places to focus resources on closing these gaps as soon as possible. With time being of essence, solutions to close these gaps may include trying out pilot projects or interim projects until a roadway is scheduled for major work or funding becomes available.

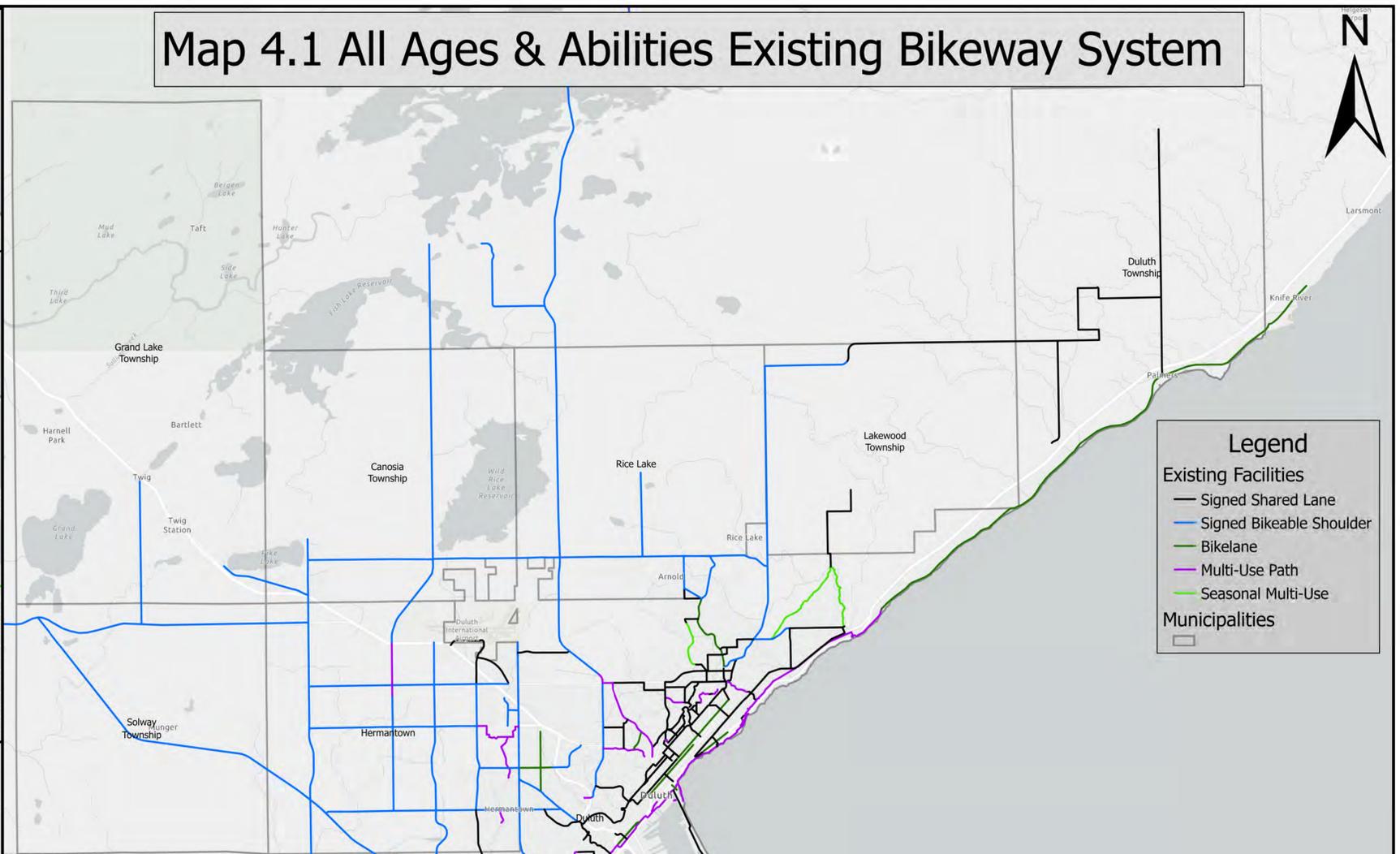
Existing Major Gaps in the Bikeway System

- London Rd/Superior St—between 6th Ave West to 14th Ave E and 21st Ave E to 26th Ave E
- Lake Ave —Superior Street to Lift Bridge
- St. Marie St—from Vermillion Rd to Carver Ave
- Downtown Superior to UWS—Tower Ave to Catlin Ave
- Grand Ave—63rd Ave W to Central Ave
- Central Entrance—Basswood Ave to Decker Rd
- Proctor—along 2nd Street from Hwy 2 to 9th Ave
- Arrowhead Rd—from Kenwood Ave to Haines Rd
- Woodland Ave—from 21st Ave E to Anoka St
- Ugstad—Falcon Dr to Roosevelt Dr

Superior



Map 4.1 All Ages & Abilities Existing Bikeway System



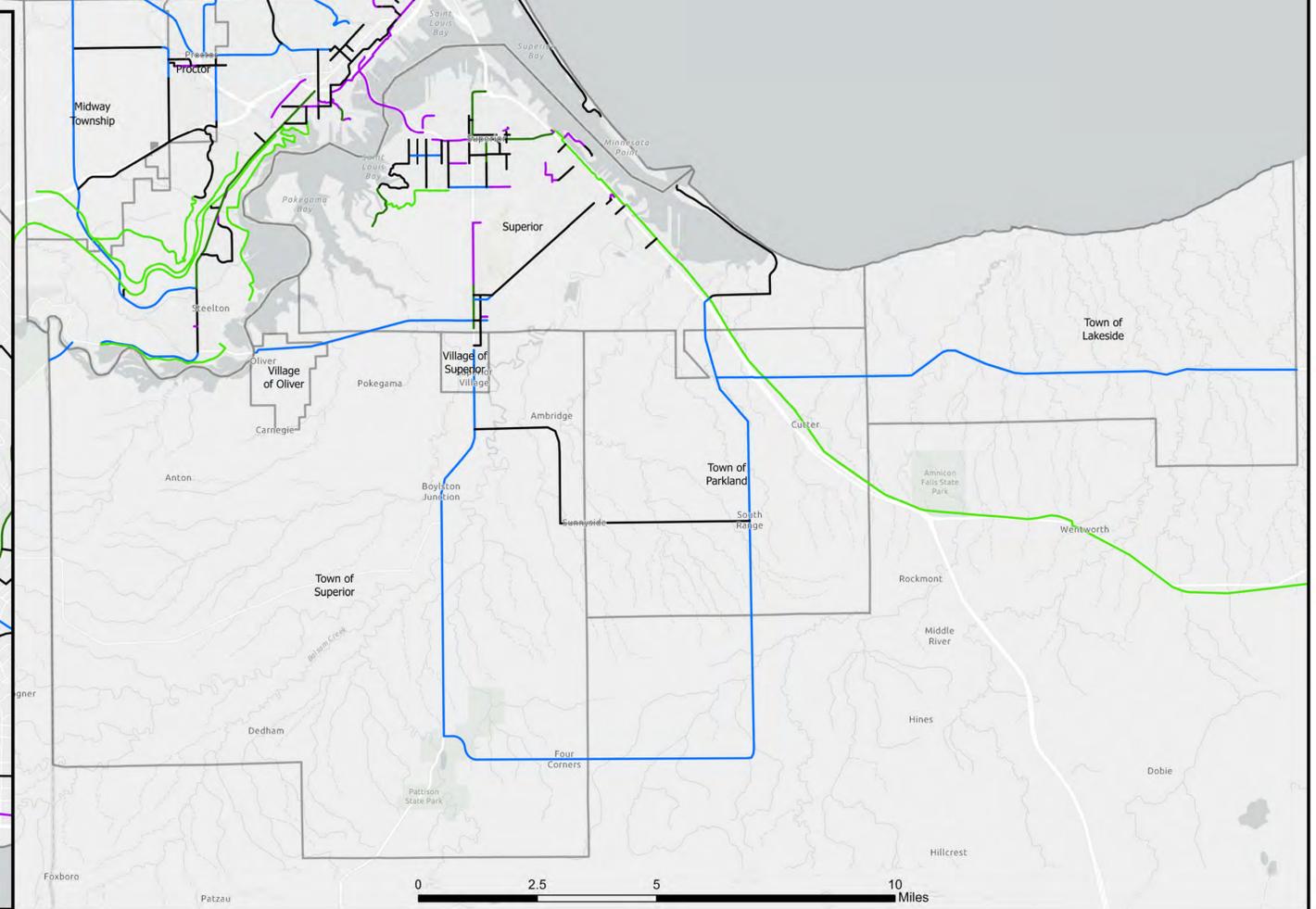
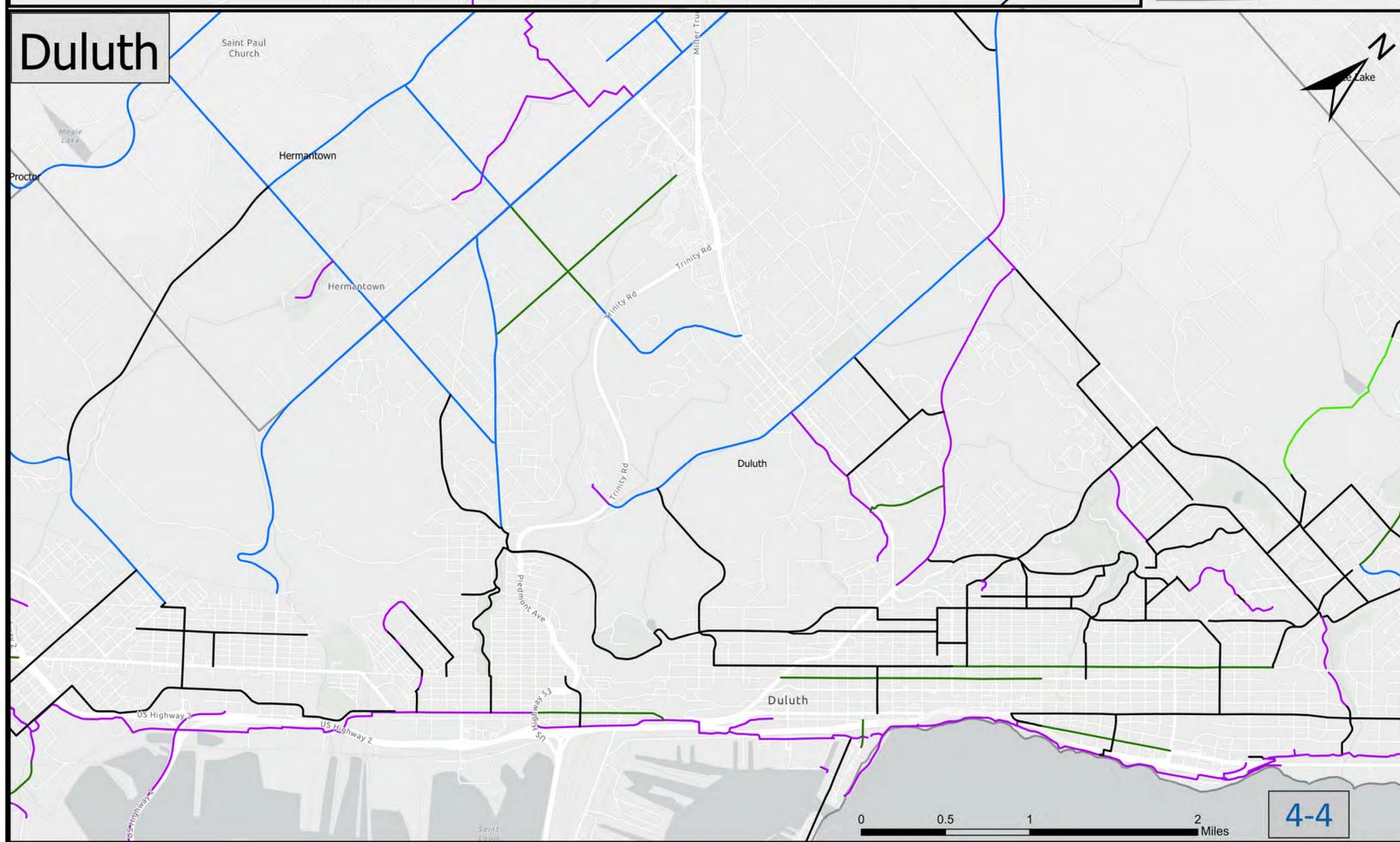
Legend

Existing Facilities

- Signed Shared Lane
- Signed Bikeable Shoulder
- Bikelane
- Multi-Use Path
- Seasonal Multi-Use

Municipalities

Duluth



Future Bikeways System—25-year Vision

The Future Bikeways System map is a vision of what the system will ideally look like 25 years from today. Is it possible to complete this ambitious vision by then? Over the next 25 years, all major roadways in the area should have some level of improvement, from resurfacing to full reconstruction. This is the optimal time for incorporating bikeway facilities. Therefore, yes, it is possible to accomplish this vision.

This plan identifies the existing various bikeway types as well as calls for new bikeways on streets that do not currently have one.

Arterial Bikeway System

A key part of the Future Bikeways System, is the critical network connections labeled in this chapter as the “Arterial Bikeways Network”. These routes connect people across the region and without them the network would not fully function or have seamless connectivity.

Minnesota Side of the MIC area

Bottom of the Hill/Waterfront Routes

- MN Hwy 23 – Fond du Lac to Smithville
- Munger Trail – Smithville to Pulaski St

- Cross City Trail – Pulaski St to Lakewalk
- Lakewalk – Cross City Trail to Brighton Beach
- Brighton Beach – Cross City Trail to North Shore Scenic Dr
- North Shore Scenic Drive

Central Arterial Route

- 4th Street – Mesaba Ave east to Old Howard Mill Rd and 3rd St/Grand Ave – Mesaba Ave west to Raleigh St

Top of the Hill, Ridge-Line Route

- Skyline Pkwy – entire length

Over the Hill Routes

- Arrowhead Road – entire length
- Maple Grove Road
- Central Entrance “North-South” Routes:
 - Proctor/Hermantown Munger Trail Connection (final routing to be decided)
 - 40th Ave W - Haines Rd
 - Lincoln Park Drive/25th Ave W – Cross City Trail to Skyline Parkway.
 - Garfield Ave – I-535 to W Superior St
 - Campus Connector Trail – London Rd to Rice Lake Rd
 - Rice Lake Road – Mesaba Ave to Martin Rd

Interstate Routes

- Blatnik Bridge (I-535/US Hwy 53)
- Garfield Ave
- Bong Bridge (US Hwy 2)
- Susquehanna Ave
- Oliver Bridge
- McCuen St (MN Hwy 39)
- Union St (WI Hwy 105)

Wisconsin Side of the MIC area

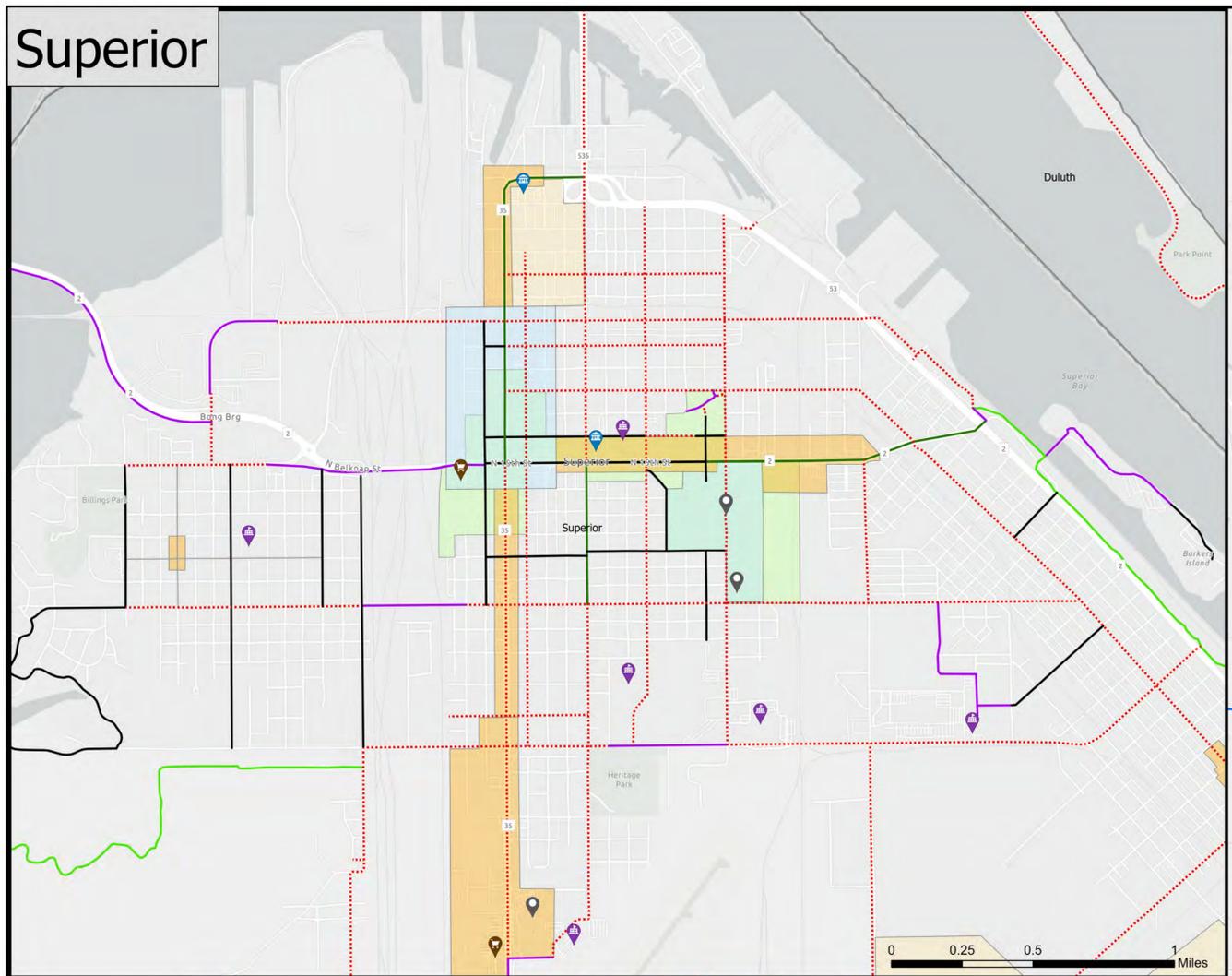
- Belknap Street – Susquehanna Ave to Osaugie Trail
- Hammond Ave – I-535 to Superior Middle School
- Osaugie Trail – Belknap Ave to Superior City Limits

Trip Generation—Activity Hubs

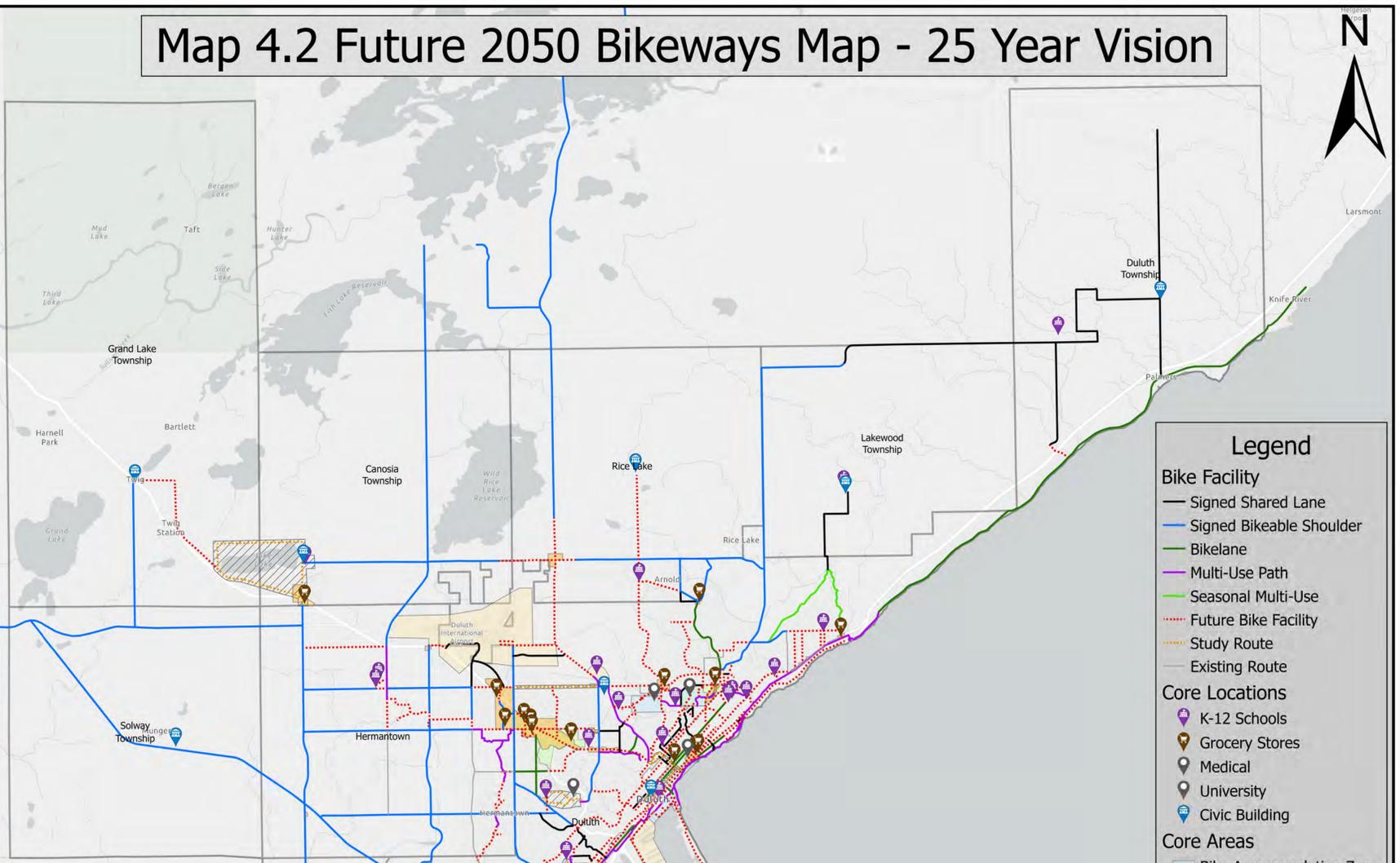
With the focus of this plan on shorter distance trips, all the major commercial and neighborhood hubs and job clusters have been identified in this plan.

The following series of maps depict each hub and the recommended routes in that hub. Most bicycle trips people will take are shorter distances and therefore focusing on and improving the routes within each hub area is a priority.

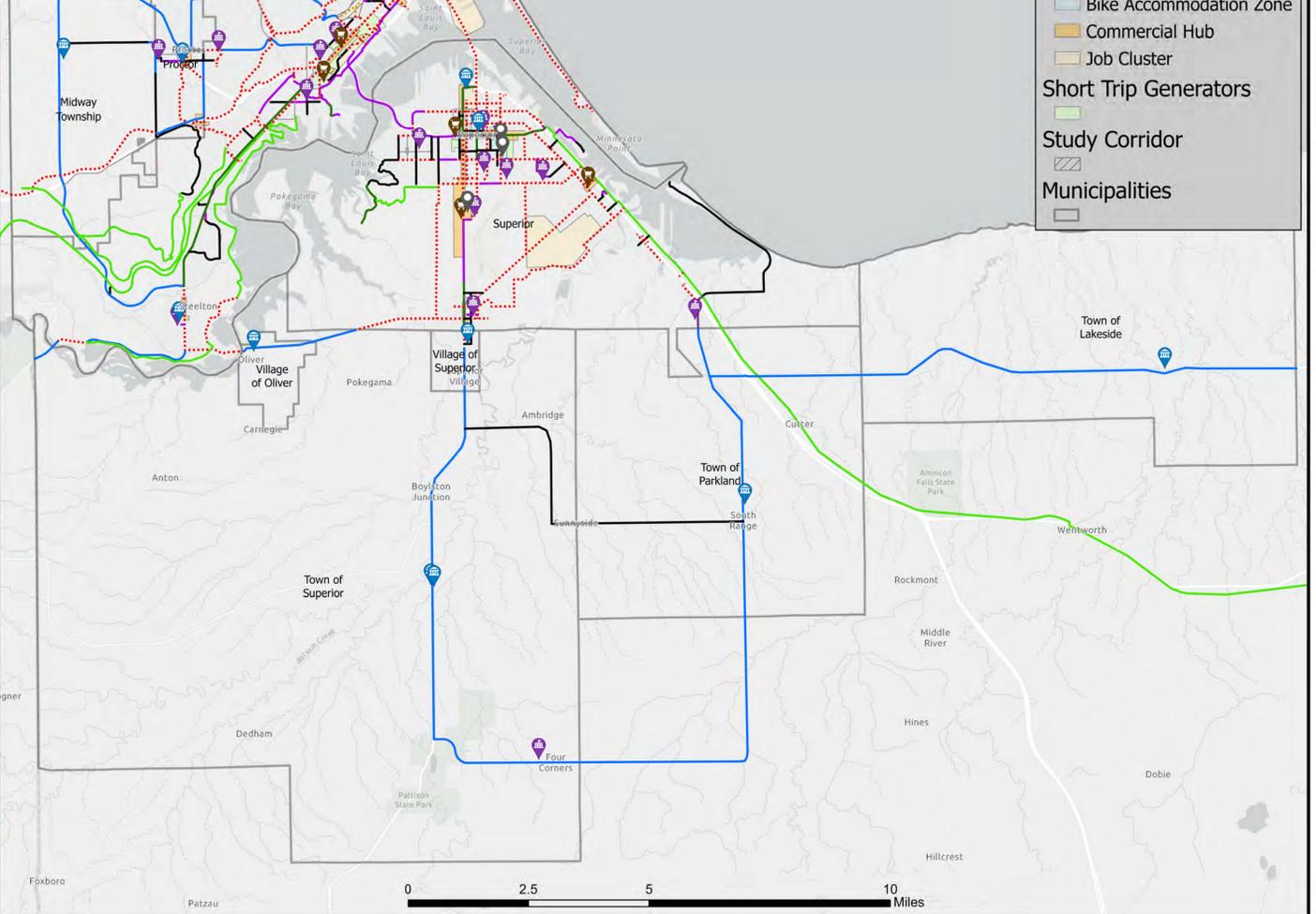
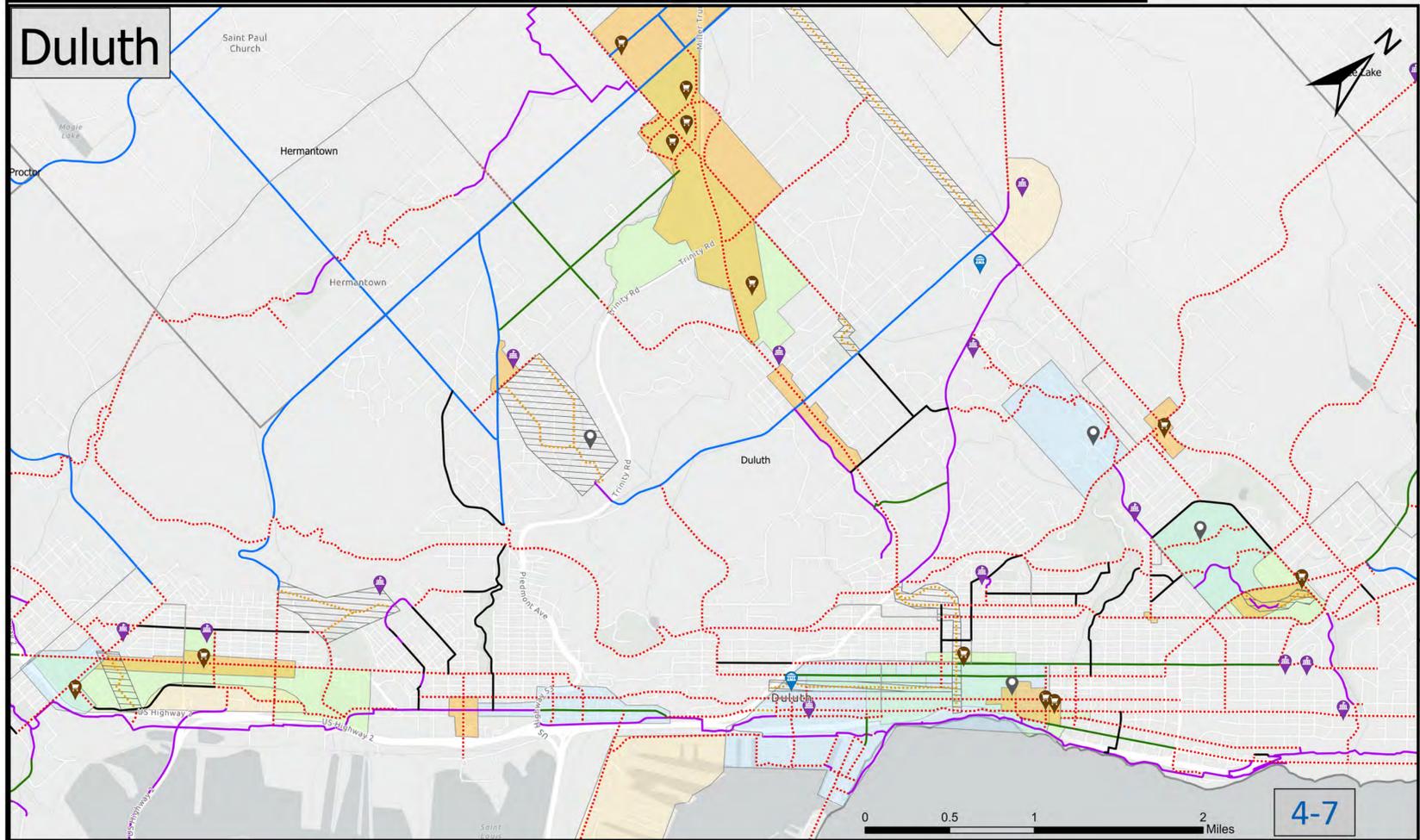
Superior



Map 4.2 Future 2050 Bikeways Map - 25 Year Vision



Duluth



Legend

Bike Facility

- Signed Shared Lane
- Signed Bikeable Shoulder
- Bikelane
- Multi-Use Path
- Seasonal Multi-Use
- Future Bike Facility
- Study Route
- Existing Route

Core Locations

- K-12 Schools
- Grocery Stores
- Medical
- University
- Civic Building

Core Areas

- Bike Accommodation Zone
- Commercial Hub
- Job Cluster

Short Trip Generators

-

Study Corridor

-

Municipalities

-

Bikeway Types



Future Bikeway Facility—this is any bicycle route, on or off-street, that will require some level of reconfiguration of the existing roadway. Determination of the particular facility type will be made at the time of the project and could possibly include pilot or interim design concepts.



Multi-Use Path—a bike route physically separated from motor vehicle traffic that is a minimum of 8-foot in width (may be narrower in constrained areas and/or expected low level of use) which accommodates multiple self-propelled devices, including but not limited to, pedestrians walking, bicycles, scooters, strollers, skateboards, inline skates, etc.



Bike Lane— a space designated on the street through pavement markings, which restricts motor vehicle usage and parking.



Bikeable Shoulder—a minimum of 3-foot-wide shoulder space on the side of a roadway with a low number of existing and/or potential bicyclists. Shoulder width should depend on a number of factors including traffic volumes, speed of traffic and natural topographical challenges.



Signed Shared Lane—a bike route denoted with wayfinding signage and traffic calming features and may or may not include pavement markings.



Seasonal Multi-Use—an off-street paved or gravel path that is open to cyclists but is not plowed of snow.

Definitions

Core Areas—areas where there is a density of destinations where people are regularly traveling to and from and where destinations are in close proximity to each other.

Commercial Hub—area where there is a variety of retail and services in close proximity.

Complete Streets Priority Area—area where the active transportation modes (walking, bicycling, transit, etc.) are present in high numbers, relative to the region as a whole.

Job Cluster—area with high numbers of employment in close proximity.

1-mile Buffer Zone—area where people would consider active transportation modes to travel as part of everyday routine.

Destination—a place where the general public gathers regularly for basic supplies and/or civic functions.

Civic Building—gov't building, library, museum, etc.

Grocery Stores—supermarket, convenience stores, markets, etc.

K-12 Schools—public schools

Key Destinations—colleges, medical centers, etc.

Study—an area where further analysis, including engagement with the general public and examination of alignment alternatives is needed to determine the preferred bike route and type.

Study Route—a route alignment to depict the bike route connection being made, but not necessarily the exact route.

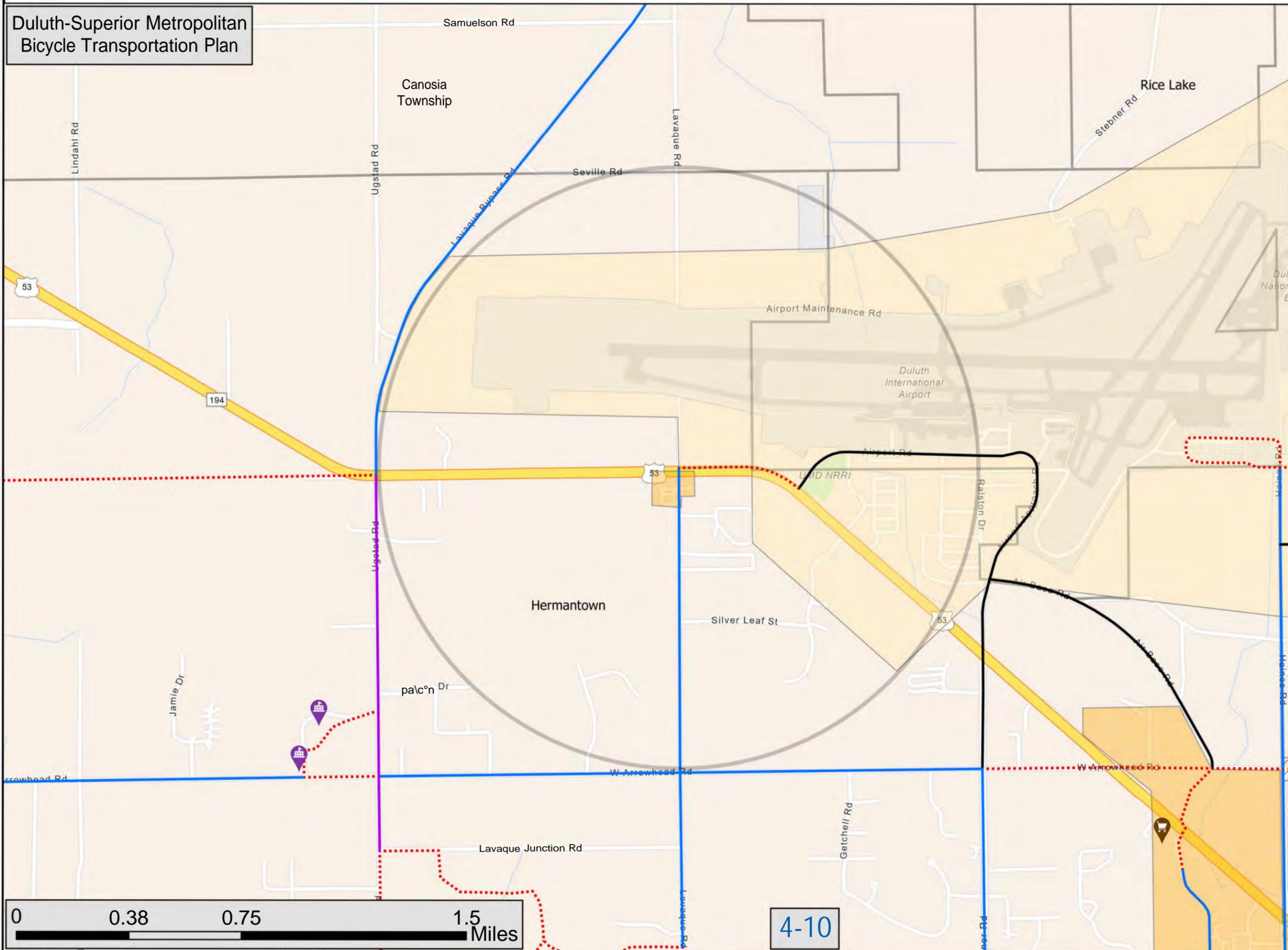
Study Corridor—an area where a bike route should be developed, but the exact alignment, including a vetting of the routing alternatives should be further studied.



Map 4.3 Airport Zone -MN

Duluth-Superior Metropolitan Bicycle Transportation Plan

Chapter 4 - Bicycle Networks



Legend

Bike Facility

- Signed Shared Lane
- Signed Bikeable Shoulder
- Bikelane
- Multi-Use Path
- Seasonal Multi-Use
- Future Bike Facility
- Study Route

Core Locations

- K-12 Schools
- Grocery Stores
- Medical
- University
- Civic Building

Core Areas

- Bike Accommodation Zone
- Commercial Hub
- Job Cluster

Study Corridor

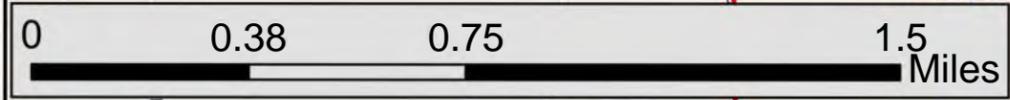
-

Municipalities

-

Buffer Zone

-



4-10

Airport Zone — MN

Top Priorities

1. Connection to commercial hub at Lavaque Rd & Hwy 53.
2. Airport jobs to hub (closest) Hermantown market plan
3. Airport job cluster to residential areas in Hermantown to the south and Duluth Heights to the east.

One Mile Buffer Population: 1,724

Notes:

The population within this airport zone encompasses a Federal Prison. Of the total population, 629 of the 1,724 are inmates and not potential bicyclists.

This hub primarily serves the airport area job cluster.

This commercial hub has a cluster of restaurants, banks, retail and medical offices.

Existing Key Gaps

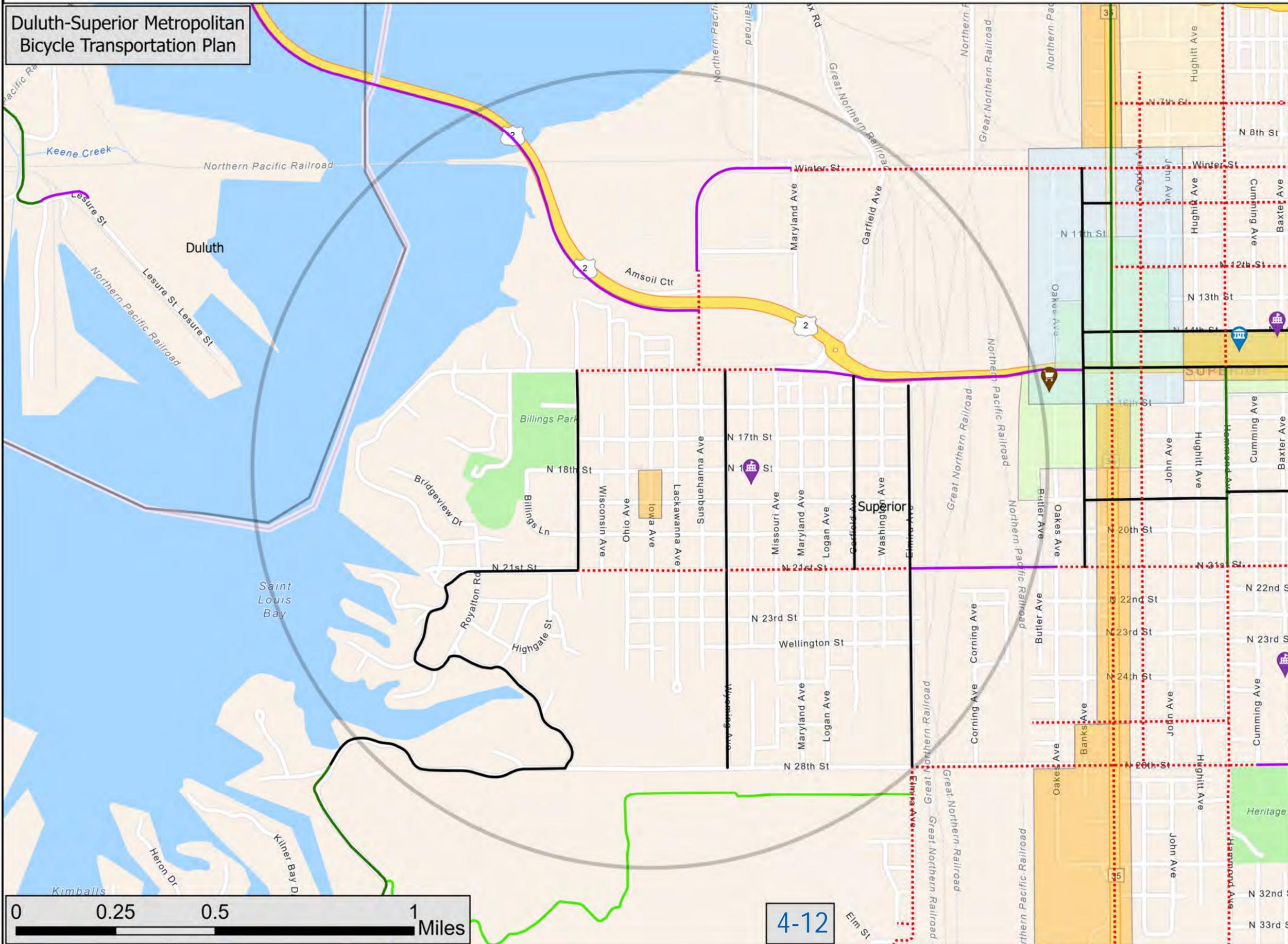
- Hwy 53 – Ugstad Rd to Lavaque Rd
- Hwy 53—Lavaque Rd to Airport Rd
- Arrowhead Rd to Air Base Rd (job cluster)
- Stebner and Haines Rd wayfinding signage directing to job cluster.

Map 4.4 Billings Park - WI



Duluth-Superior Metropolitan Bicycle Transportation Plan

Chapter 4 - Bicycle Networks



Legend

Bike Facility

- Signed Shared Lane
- Signed Bikeable Shoulder
- Bikelane
- Multi-Use Path
- Seasonal Multi-Use
- Future Bike Facility
- Study Route

Core Locations

- K-12 Schools
- Grocery Stores
- Medical
- University
- Civic Building

Core Areas

- Bike Accommodation Zone
- Commercial Hub
- Job Cluster

Short Trip Generators

- Heritage

Study Corridor

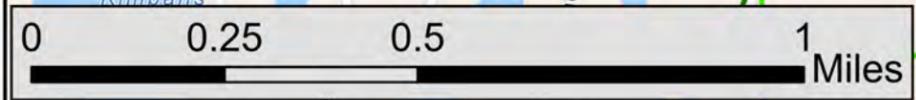
- Heritage

Municipalities

- Duluth
- Superior

Buffer Zone

- Heritage



4-12

Billings Park — WI

Top Priorities

1. Wyoming Ave & 19th St wayfinding and traffic calming on the connections to Cooper Elementary.
2. Belknap St from viaduct to Banks Ave and from Maryland Ave to Susquehanna Ave —widen the multi- use path on the south side.
3. Susquehanna Ave from Belknap to Bong Bridge bike/ ped path to end of existing multi-use path at Amsoil driveway.—extend multi-use path.

One Mile Buffer Population: 4,195

Notes:

This hub primarily serves Cooper Elementary School and the surrounding residential area of Billings Park

This commercial has a cluster of restaurants and retail.

Allows Billings Park residents to get around within their neighborhood.

Existing Key Gaps

- N 21st St Bikeway from Tower Ave to Billings Park
- Belknap St from Susquehanna Ave to viaduct
- Iowa Ave from Belknap St to 21st Street.
- Winter St from Maryland Ave to Tower Ave.

Bicycle Boulevards

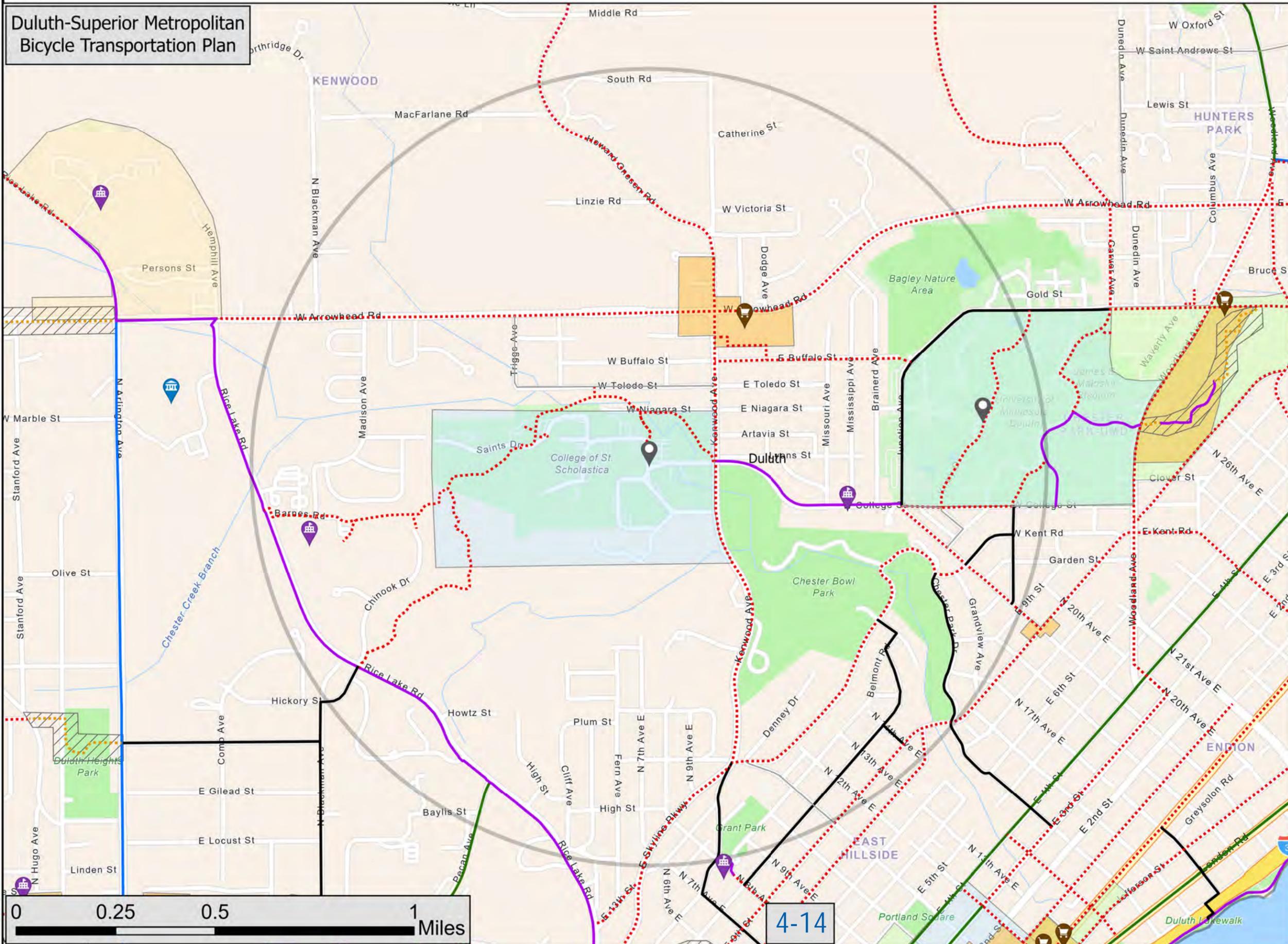
- Wyoming Ave – Belknap St to 28th St
- Garfield Ave – Belknap St to 21st St
- 19th Street – New York Ave to Elmira Ave

Map 4.5 College of St. Scholastica - MN



Duluth-Superior Metropolitan Bicycle Transportation Plan

Chapter 4 - Bicycle Networks



Legend

Bike Facility

- Signed Shared Lane
- Signed Bikeable Shoulder
- Bikelane
- Multi-Use Path
- Seasonal Multi-Use
- Future Bike Facility
- Study Route

Core Locations

- K-12 Schools
- Grocery Stores
- Medical
- University
- Civic Building

Core Areas

- Bike Accommodation Zone
- Commercial Hub
- Job Cluster

Short Trip Generators

-

Study Corridor

-

Municipalities

-

Buffer Zone

-

College of St. Scholastica — MN

Top Priorities

1. Extension of trail to CSS campus.
2. Connection to Duluth Heights/ Boulder Ridge/ Rice Lake Rd
3. Lowell school connection with Kenwood Ave.

One Mile Buffer Population: 10,524

Notes:

This hub primarily serves the College of St. Scholastica/UMD and residents of the Kenwood area.

This commercial has a cluster of retail, banks, restaurants, grocery stores, and pharmacy.

Existing Key Gaps

- Kenwood Ave between College St and Arrowhead Rd.
- Rice Lake Rd to CSS (planned trail).
- Bikeway through CSS campus

Bicycle Boulevards

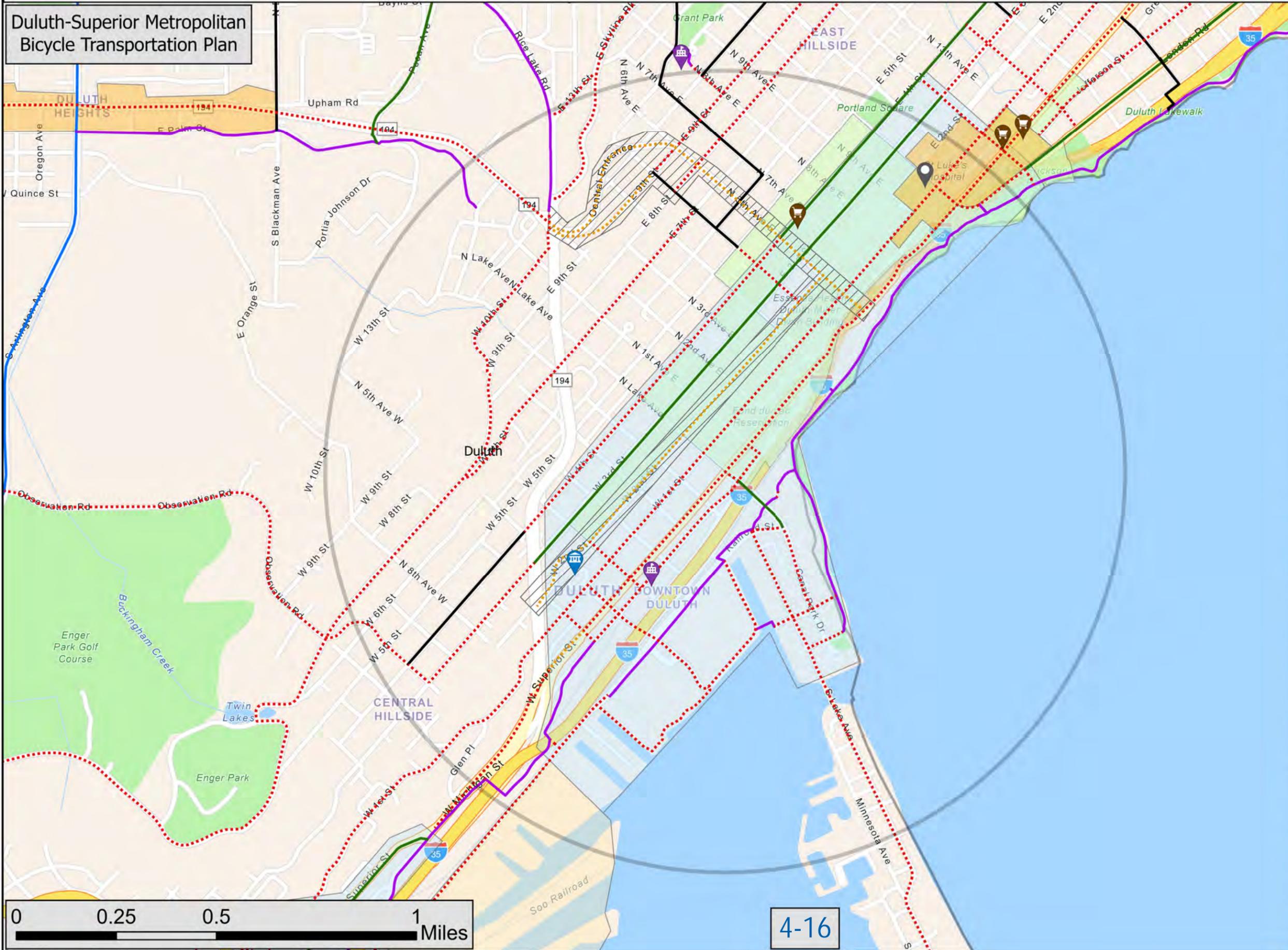
- Buffalo Street – Kenwood Ave to Junction Ave
- Snelling Ave – 19th Ave East to College St
- 10th Street – 8th Ave East to 14th Ave East
- Chester Park Drive – 8th St to Kent Rd 15th Ave East – 4th St to 8th St

Map 4.6 Downtown Duluth - MN



Duluth-Superior Metropolitan Bicycle Transportation Plan

Chapter 4 - Bicycle Networks



Legend

- ### Bike Facility
- Signed Shared Lane
 - Signed Bikeable Shoulder
 - Bikelane
 - Multi-Use Path
 - Seasonal Multi-Use
 - Future Bike Facility
 - Study Route

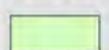
Core Locations

- K-12 Schools
- Grocery Stores
- Medical
- University
- Civic Building

Core Areas

- Bike Accommodation Zone
- Commercial Hub
- Job Cluster

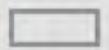
Short Trip Generators



Study Corridor



Municipalities



Buffer Zone



Downtown Duluth — MN

Top Priorities

1. Superior St/Michigan St—both east and west directions from downtown Duluth to Lincoln Park and to hospitals, Hillside and Endion neighborhoods.
2. Lake Ave/5th Ave W—Downtown to Waterfront.
3. Hill Climbing Route – 3rd Ave W (DTC) to 2nd St to 5th Ave East to 4th Street.

One Mile Buffer Population: 9,817

Existing Key Gaps

- Superior St/Michigan St from 6th Ave West (CCT Downtown Spur) to 12th Ave E and London Rd
- Lake Ave—Superior Street to Railroad St.
- Vertical Challenge—Superior St to 4th Street (Downtown to Hillside, Observation Hill and Harbor Highlands.
- Superior St/Michigan St from 6th Ave West through Mesaba Ave and to the Superior Street/ Michigan Street split near the M7H gas station.

Bicycle Boulevards

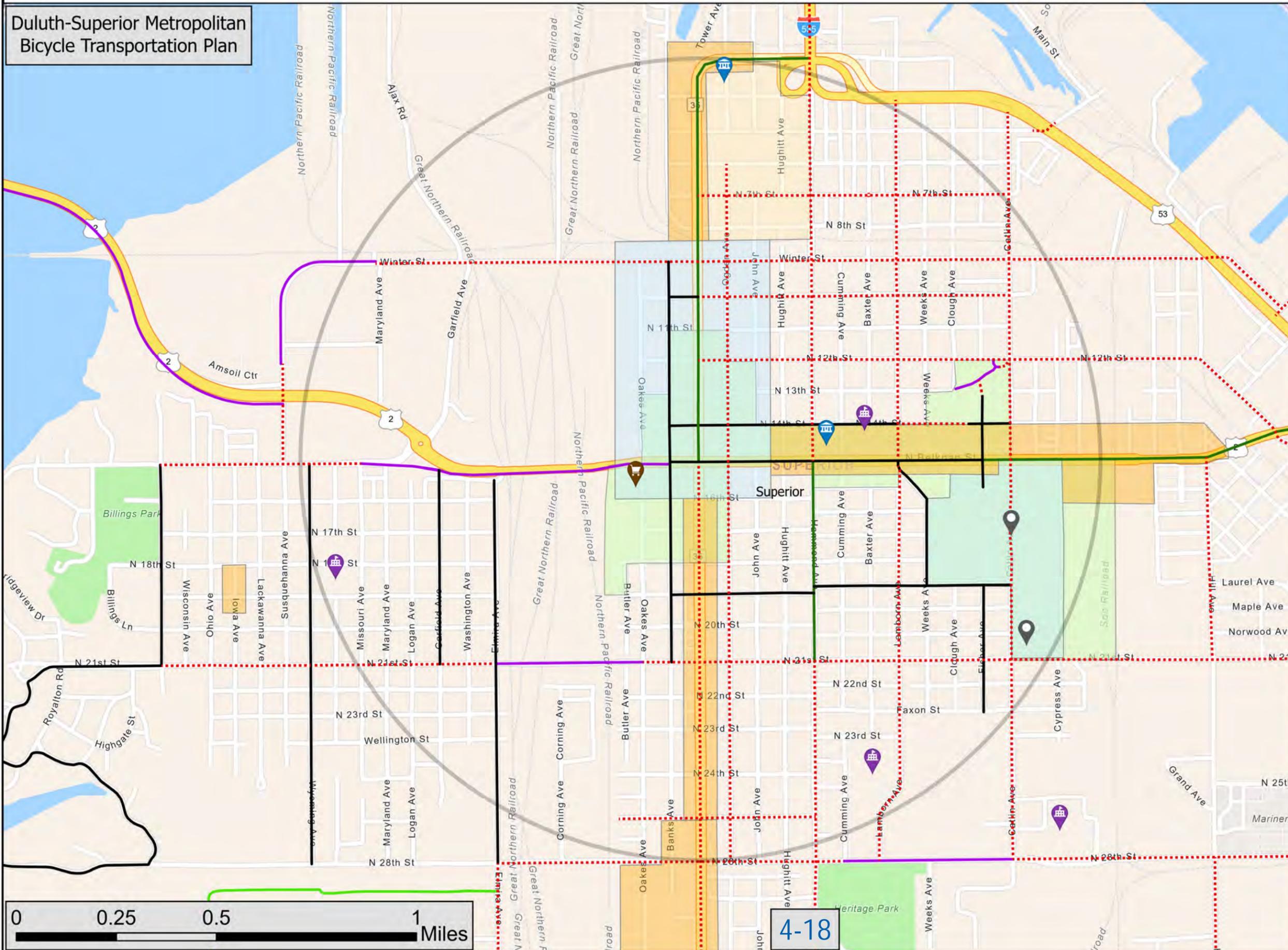
- W/E 1st Street – Mesaba Ave to 21st Ave East
- W 4th Street – Mesaba Ave to 10th Ave West
- W 7th Street – Lake Ave to Skyline Pkwy
- 5th Ave East – 4th St to 9th St
- 6th Street – 5th Ave East to 7th Ave East
- 7th Ave East – 6th St to 11th St

Map 4.7 Downtown Superior - WI



Duluth-Superior Metropolitan Bicycle Transportation Plan

Chapter 4 - Bicycle Networks



Legend

Bike Facility

- Signed Shared Lane
- Signed Bikeable Shoulder
- Bikelane
- Multi-Use Path
- Seasonal Multi-Use
- Future Bike Facility
- Study Route

Core Locations

- K-12 Schools
- Grocery Stores
- Medical
- University
- Civic Building

Core Areas

- Bike Accommodation Zone
- Commercial Hub
- Job Cluster

Short Trip Generators

-

Study Corridor

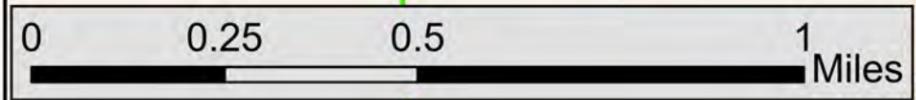
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Municipalities

-

Buffer Zone

-



Downtown Superior — WI

Top Priorities

1. Belknap – East Downtown to UWS
2. Tower Ave – Library to South
3. Hammond Ave—Belknap St to 28th St.

One Mile Buffer Population: 12,260

Notes:

This hub primarily serves North End, Downtown, and Billings Park residents.

This commercial has a cluster of the downtown area, which includes the Belknap corridor and the Tower Ave corridor.

Existing Key Gaps

- Connors Point—between Catlin Ave and N 5th Street/Main Street.
- Belknap St and Tower Ave Intersection
- Between downtown Superior and UWS campus.
- Belknap St—from Banks Ave to Billings Park.
- Tower Ave - from Belknap St to South End Superior.
- Winter St from Maryland Ave to Tower Ave

Bicycle Boulevards

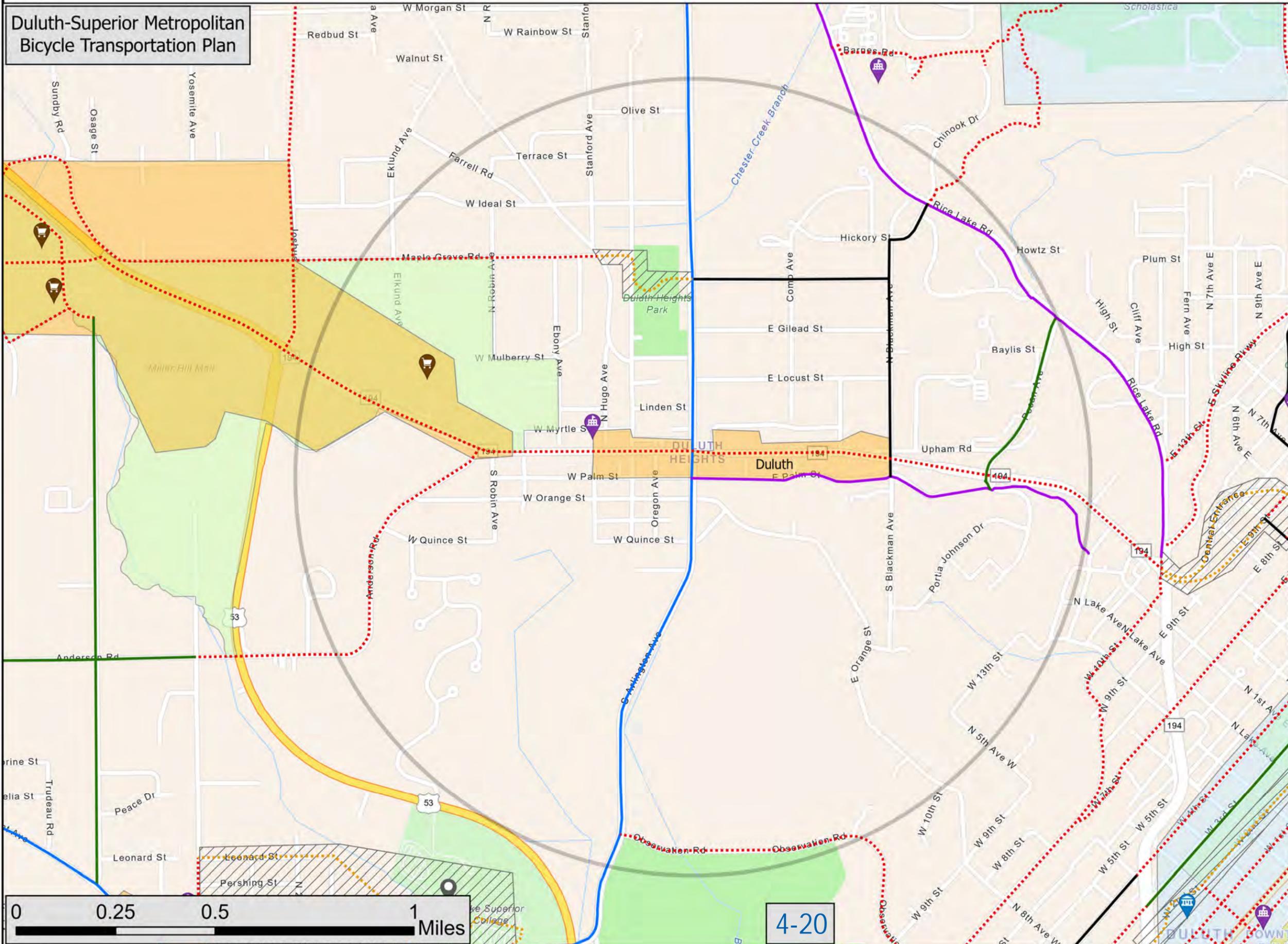
- Banks Ave – Winter St to 21st St
- 19th Street – Banks Ave to Catlin Ave
- Weeks Ave – 16th St to 21st St
- Grand Ave – Belknap St to Weeks Ave
- Fisher Ave – Faxon St to 19th St
- 14th Street - Oakes Ave to Weeks Ave

Map 4.8 Duluth Heights - MN



Duluth-Superior Metropolitan Bicycle Transportation Plan

Chapter 4 - Bicycle Networks



Legend

Bike Facility

- Signed Shared Lane
- Signed Bikeable Shoulder
- Bikelane
- Multi-Use Path
- Seasonal Multi-Use
- Future Bike Facility
- Study Route

Core Locations

- K-12 Schools
- Grocery Stores
- Medical
- University
- Civic Building

Core Areas

- Bike Accommodation Zone
- Commercial Hub
- Job Cluster

Short Trip Generators

- Green shaded area

Study Corridor

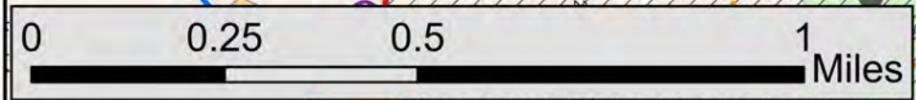
- Hatched area

Municipalities

- White outline

Buffer Zone

- Grey outline



4-20

Duluth Heights — MN

Top Priorities

1. Central Entrance path extension to the Hillside and to the Miller Hill Mall.
2. Duluth Heights neighborhood - Joshua Ave Trail
3. Future trail from Arlington Ave to Swan Lake Rd and Maple Grove Rd.

One Mile Buffer Population: 3,852

Notes:

This hub primarily serves Duluth Heights residents.

This commercial hub has the Miller Hill Mall and other restaurants, retail stores and grocery stores.

Existing Key Gaps

- Central Entrance Bike Path – Current terminus at Arlington Ave to Miller Hill Mall.
- Central Entrance Bike Path from Harbor Highlands to Hillside Neighborhood.
- Willow St to Maple Grove Rd connection between Arlington Rd and Swan Lake Rd.

Bicycle Boulevards

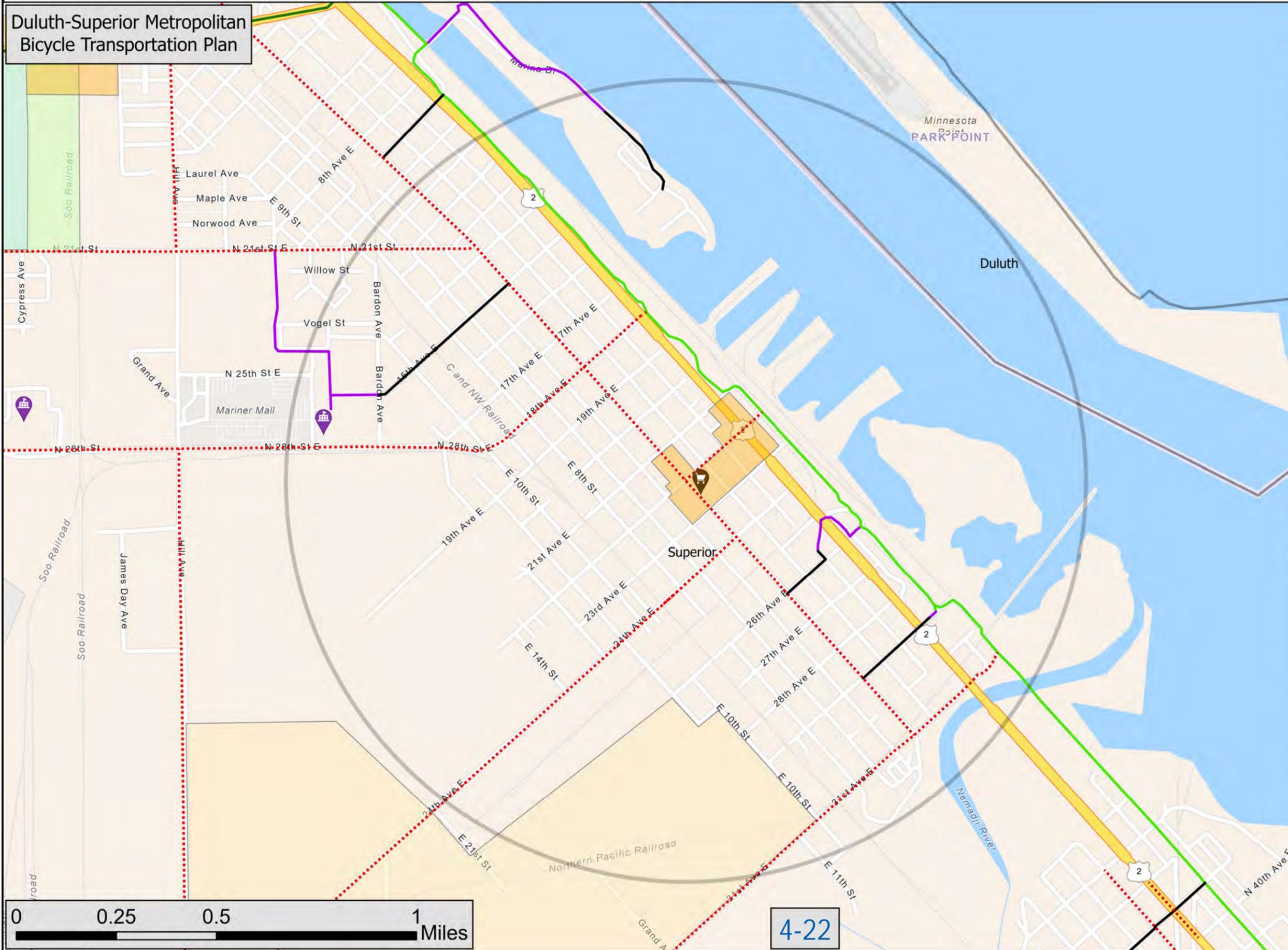
- Blackman Ave – Hickory St to Central Entrance
- Willow Street – Arlington Ave to Blackman Ave

Map 4.9 East End - WI



Duluth-Superior Metropolitan Bicycle Transportation Plan

Chapter 4 - Bicycle Networks



Legend

Bike Facility

- Signed Shared Lane
- Signed Bikeable Shoulder
- Bikelane
- Multi-Use Path
- Seasonal Multi-Use
- Future Bike Facility
- Study Route

Core Locations

- K-12 Schools
- Grocery Stores
- Medical
- University
- Civic Building

Core Areas

- Bike Accommodation Zone
- Commercial Hub
- Job Cluster

Short Trip Generators

-

Study Corridor

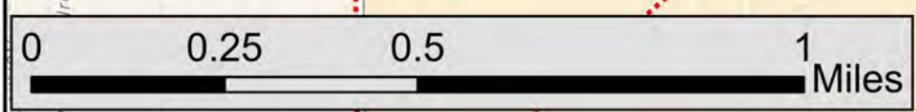
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Municipalities

-

Buffer Zone

-



East End — WI

Top Priorities

1. 5th St Bikeway
2. 28th St Bikeway – school friendly
3. Grocery store connection across Hwy 2/53

One Mile Buffer Population: 3,782

Notes:

This hub primarily serves the East End residents.

This commercial has a cluster of restaurants, hardware store, grocery stores, and banks.

Allows East End residents to get around within their neighborhood.

Existing Key Gaps

- E 5th St– between Belknap St to 26th Ave E.
- 22nd Ave E—East 2nd St to Osaugie Trail
- 18th St & 28th St Corridor to schools.

Bicycle Boulevards

- 9th Ave East – 5th St to 2nd St/US Hwy 53
- 15th Ave East – Bardon Ave to 2nd St/US Hwy 53.
- 26th Ave East – 5th St to 3rd St
- 29th Ave East - 5th St to Osaugie Trail

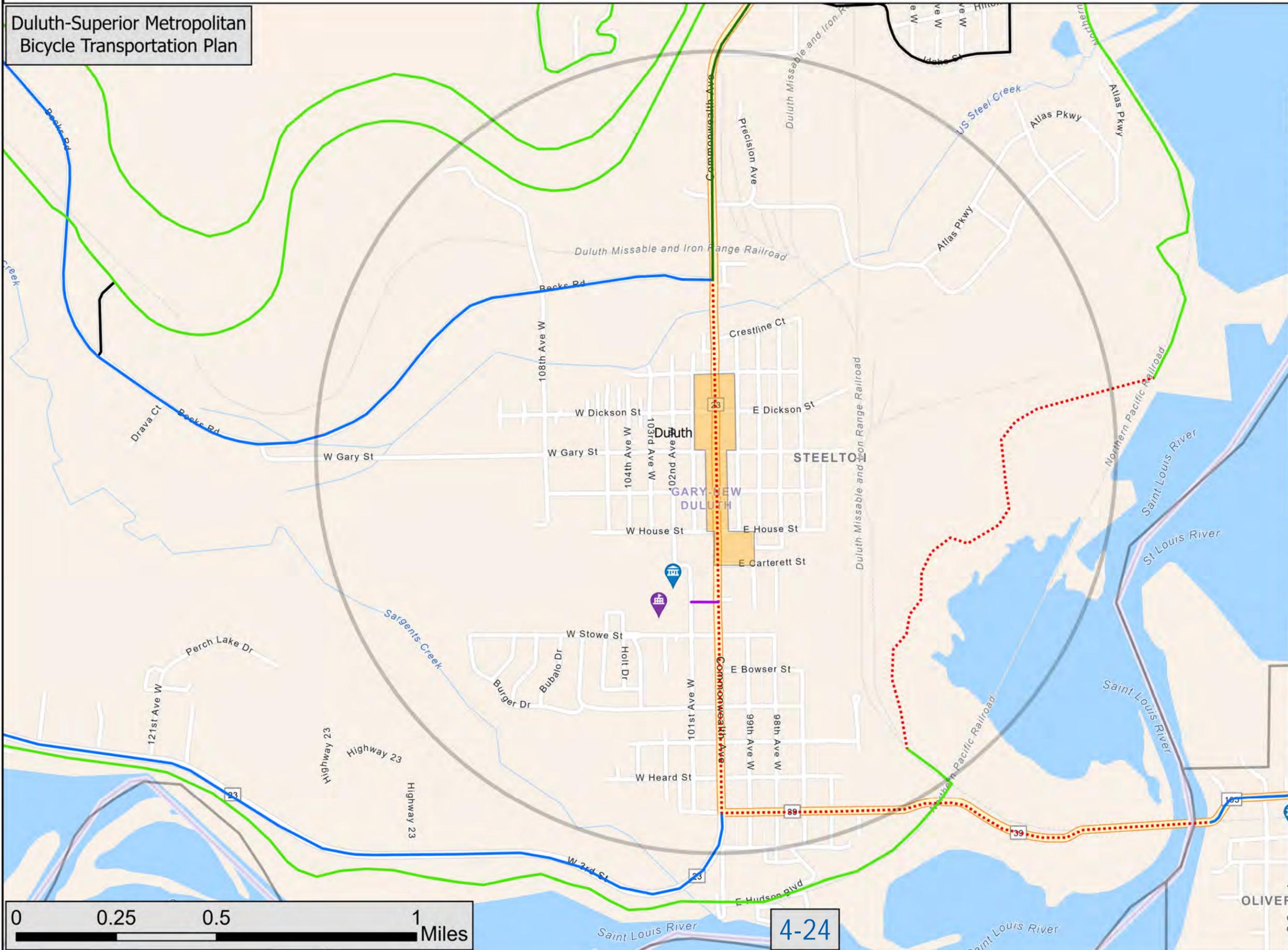


Map 4.10 Gary-New Duluth - MN



Duluth-Superior Metropolitan Bicycle Transportation Plan

Chapter 4 - Bicycle Networks



Legend

Bike Facility

- Signed Shared Lane (black line)
- Signed Bikeable Shoulder (blue line)
- Bikelane (green line)
- Multi-Use Path (purple line)
- Seasonal Multi-Use (light green line)
- Future Bike Facility (red dotted line)
- Study Route (orange dotted line)

Core Locations

- K-12 Schools (purple school icon)
- Grocery Stores (brown grocery icon)
- Medical (black location pin icon)
- University (black location pin icon)
- Civic Building (blue location pin icon)

Core Areas

- Bike Accommodation Zone (light blue shaded area)
- Commercial Hub (orange shaded area)
- Job Cluster (yellow shaded area)

Study Corridor

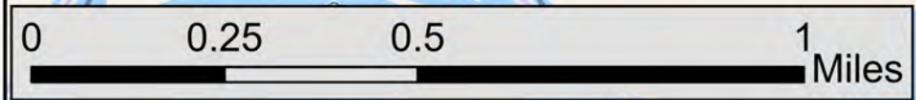
- (Orange hatched area)

Municipalities

- (Grey outline)

Buffer Zone

- (Grey outline)



Gary-New Duluth — MN

Top Priorities

1. Hwy 23 Bikeway
2. Stowe School—bike friendly crossings at Hwy 23

Connection to Morgan Park One Mile Buffer

Population: 2,661 Notes:

This hub primarily serves the Gary – New Duluth residents.

This commercial has a cluster of restaurants, retail, and grocery stores.

Allows Gary – New Duluth residents to get around their neighborhood.

Existing Key Gaps

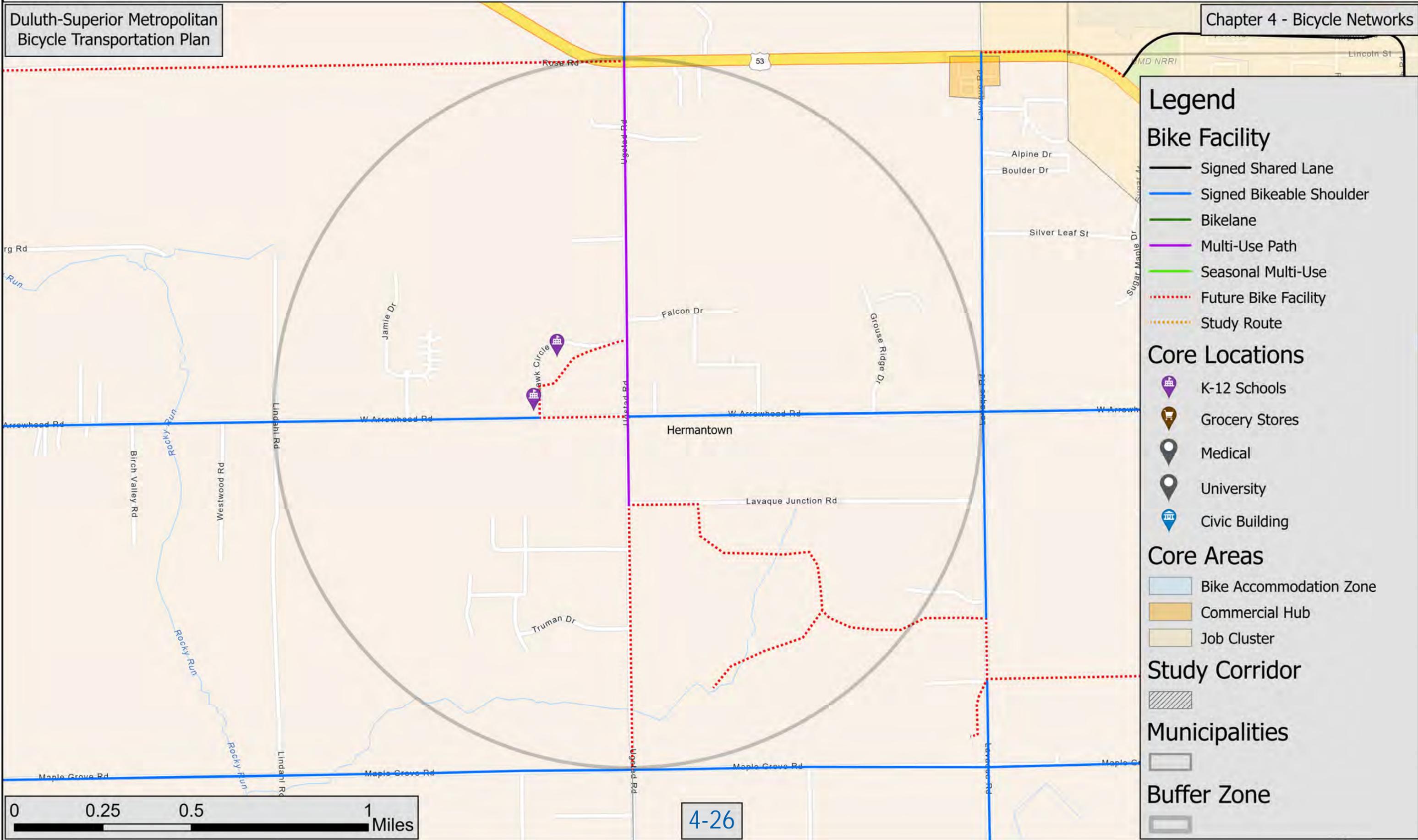
- Connection Between Gary-New Duluth and Morgan Park
- Filmore St, Stowe St, and Commonwealth Ave Intersection
- Hwy 23 to Oliver, Wisconsin, particularly the Oliver Bridge.

Map 4.11 Hermantown Community Center - MN



Duluth-Superior Metropolitan
Bicycle Transportation Plan

Chapter 4 - Bicycle Networks



Hermantown Community Center — MN

Top Priorities

1. Bike path on Hermantown Community School
2. Connections to immediately surrounding neighborhoods
3. Arrowhead and Ugstad intersection
4. Hermantown Trail

Allows : 1,080

Notes:

This hub primarily serves the Hermantown Community

This hub is the central location of the Hermantown School District.

Allows the Hermantown district to have connectivity within the city.

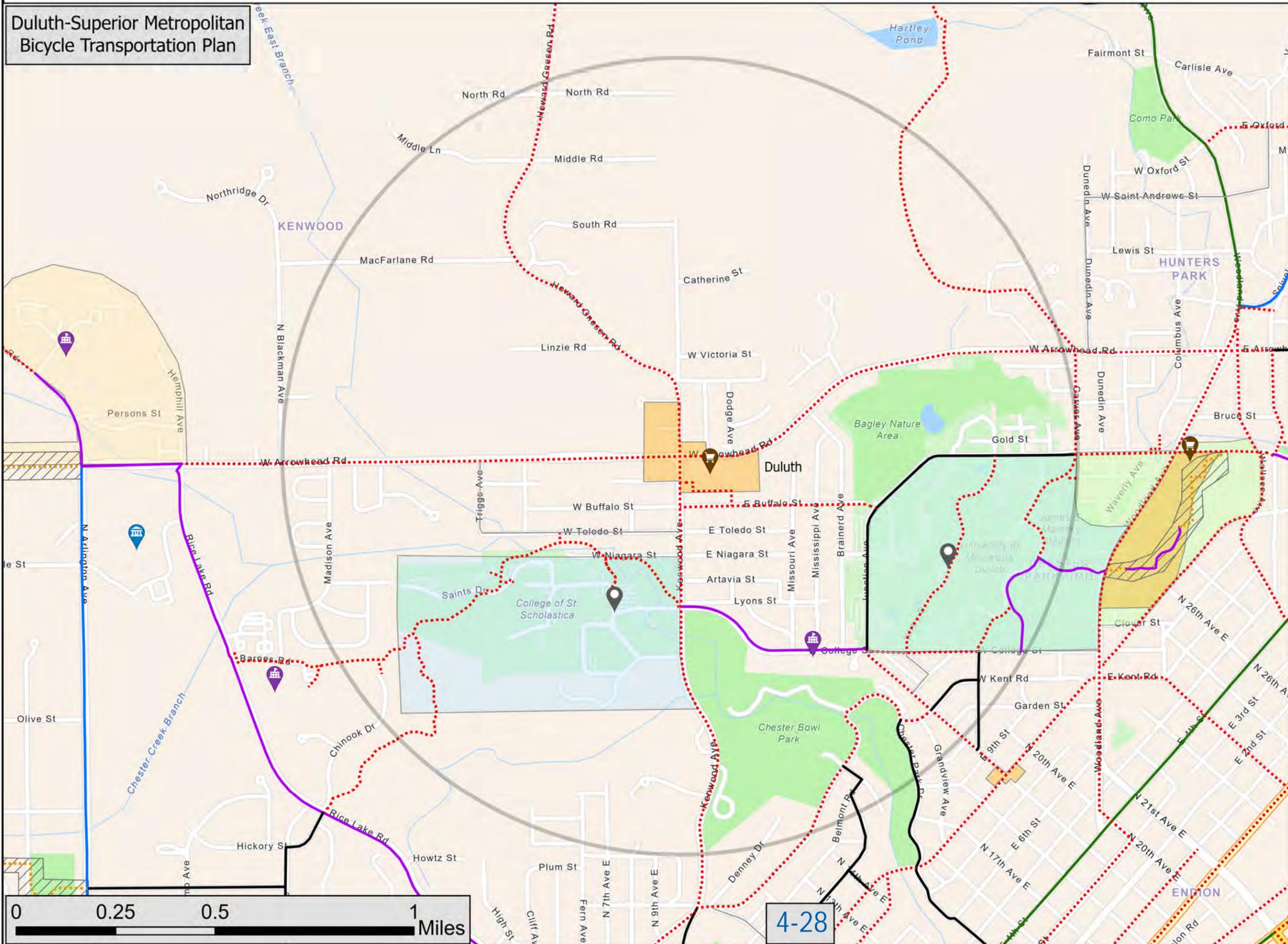
Existing Key Gaps

- Eastern residential areas to the schools.
- Direct connections between new Wellness Center at Arrowhead Rd and Ugstad Rd to the Herman- town Middle/High School.
- Direct Connection from Jackson Estates to the schools.

Map 4.12 Kenwood - MN

Duluth-Superior Metropolitan Bicycle Transportation Plan

Chapter 4 - Bicycle Networks



Legend

Bike Facility

- Signed Shared Lane
- Signed Bikeable Shoulder
- Bikelane
- Multi-Use Path
- Seasonal Multi-Use
- Future Bike Facility
- Study Route

Core Locations

- K-12 Schools
- Grocery Stores
- Medical
- University
- Civic Building

Core Areas

- Bike Accommodation Zone
- Commercial Hub
- Job Cluster

Short Trip Generators

-

Study Corridor

-

Municipalities

-

Buffer Zone

-

Kenwood — MN

Top Priorities

1. Kenwood Ave from College St to Arrowhead Rd.
2. Kenwood and Arrowhead Rd Intersection
3. Kenwood shopping center to UMD

One Mile Buffer Population: 8,980

Notes:

This hub primarily serves the residents of the Kenwood area and students of UMD and St. Scholastica.

This commercial has a cluster of retail, banks, restaurants, grocery stores and pharmacy.

Study Corridor

Allows Kenwood residents to get around within their neighborhood.

Existing Key Gaps

- Kenwood Ave—from College St to Arrowhead Rd.
- Cleveland St- Kenwood Ave to Kenwood Shopping Center
- Kenwood Shopping Center to UMD along Buffalo St.
- Kenwood Ave and Arrowhead Rd intersection.

Bicycle Boulevards

- Buffalo Street – Kenwood Ave to Junction Ave
- Snelling Ave _ 19th Ave East to College St
- Kent Road – Chester Park Dr to Snelling Ave
- Hartley Road – Arrowhead Rd to Woodhaven Ln



Map 4.13 Lakeside - MN

Duluth-Superior Metropolitan Bicycle Transportation Plan

Chapter 4 - Bicycle Networks



Legend

Bike Facility

- Signed Shared Lane
- Signed Bikeable Shoulder
- Bikelane
- Multi-Use Path
- Seasonal Multi-Use
- Future Bike Facility
- Study Route

Core Locations

- K-12 Schools
- Grocery Stores
- Medical
- University
- Civic Building

Core Areas

- Bike Accommodation Zone
- Commercial Hub
- Job Cluster

Study Corridor

- [Hatched pattern]

Municipalities

- [Thin grey line]

Buffer Zone

- [Thick grey line]

Lakeside — MN

Existing Conditions/ Top Issues

40th Ave E and Superior St Intersection

Glenwood – upper to Jean Duluth Rd / Snively Rd

Lakewalk

Stop signs are confusing at trail and railroad crossings

Trail pavement markings for crossings are lacking/ minimal

Missing curb ramps to cross streets

Traffic signals along Lakewalk are confusing and not

designed for trail user

One Mile Buffer Population: 6,210

Notes:

This hub primarily serves the Lakeside residents.

This commercial has a cluster of restaurants, retail, grocery stores, banks, hardware stores and gyms.

Lakewalk has competing traffic control.

Clarify where traffic should stop

Existing Key Gaps

- East High School - Greyhound Dr to Lakewalk Connection
- 47th and Superior St Intersection
- 44th Ave – Bike path crossing the tracks to Superior St, Lakewalk and Cambridge St

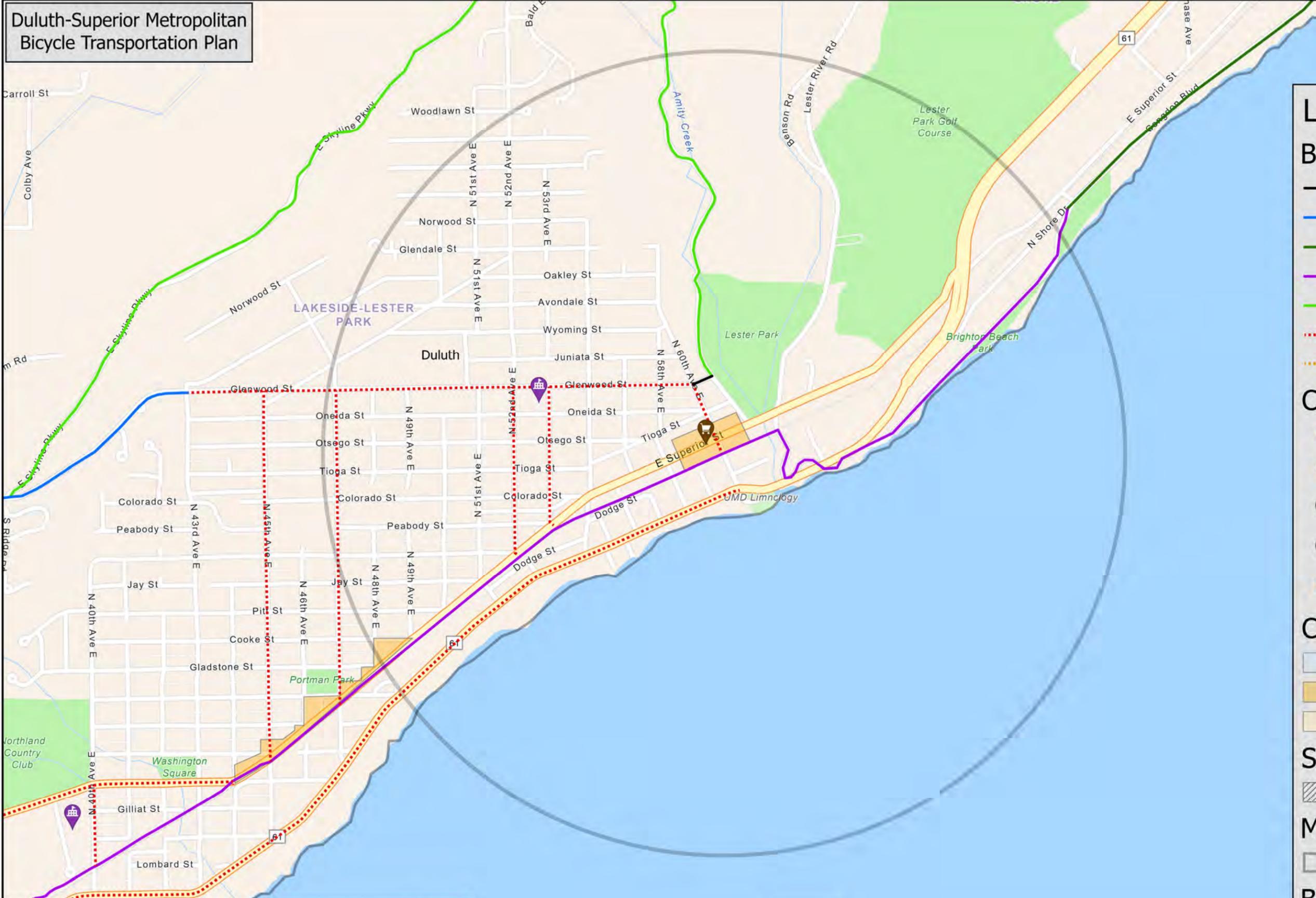


Map 4.14 Lester Park - MN



Duluth-Superior Metropolitan Bicycle Transportation Plan

Chapter 4 - Bicycle Networks



Legend

Bike Facility

- Signed Shared Lane
- Signed Bikeable Shoulder
- Bikelane
- Multi-Use Path
- Seasonal Multi-Use
- Future Bike Facility
- Study Route

Core Locations

- K-12 Schools
- Grocery Stores
- Medical
- University
- Civic Building

Core Areas

- Bike Accommodation Zone
- Commercial Hub
- Job Cluster

Study Corridor

-

Municipalities

-

Buffer Zone

-

Lester Park — MN

Top Priorities

1. Lakewalk connection – Super One – curb ramp to avenue
2. Lower Glenwood to Lester Park elementary
3. 52nd Ave to Lester Park elementary
4. 61st Ave E is an issue

One Mile Buffer Population: 4,209

Notes:

This hub primarily serves the Lester Park residents.

This commercial has a cluster of restaurants, retail, grocery stores, banks, hardware stores and gyms.

Existing Key Gaps

- Missing Lakewalk curb ramps—48th Ave E, 49th Ave E, 50th Ave E, 52nd Ave E
- Direct connection to Super One main entrance
- Lack of bike parking
- Trail crossing at 59th Ave E

Lincoln Park — MN

Top Priorities

1. 3rd St Bikeway
2. Lincoln Park Craft District
3. Downtown/ Mesaba Ave connection
4. Tight narrow corner on the Superior St side of the bike/ped bridge
5. Bridge needs more description
6. Lacking crosswalk markings across driveways
7. 27th Ave W at Cross City Trail Crossing

One Mile Buffer Population: 6,237

Notes:

This hub primarily serves the Lincoln Park residents and connection to a growing hub.

This commercial has a cluster of restaurants, retail, grocery stores and banks.

Existing Key Gaps

- Missing curb ramps – W Michigan St, 17th 1/2 Ave, 20th Ave W, 21st Ave W,
- No Connection N 30th Ave W

Bicycle Boulevards

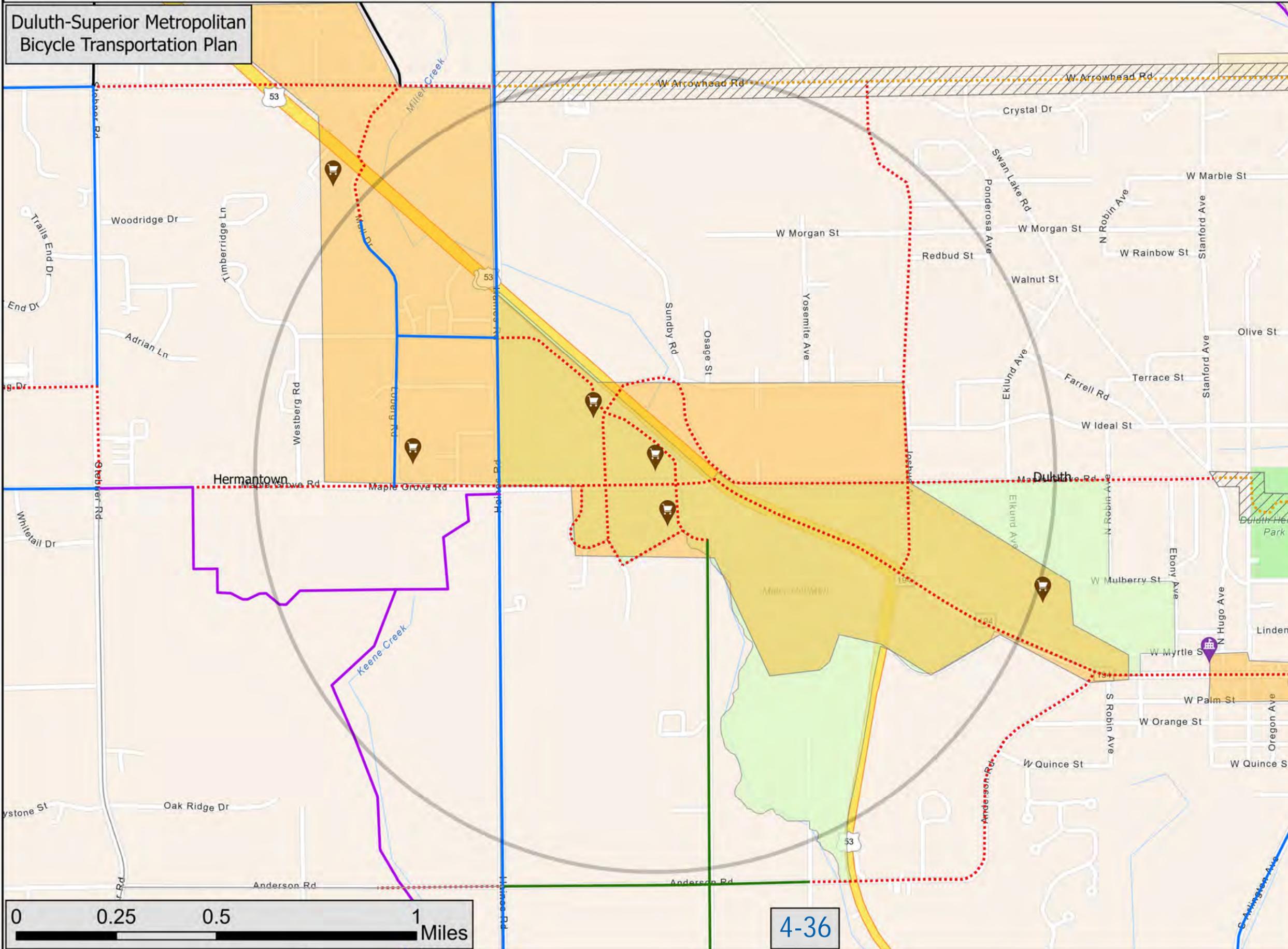
- Devonshire Street – 3rd St to Atlantic Ave
- Wellington Street – Grand Forks Ave to LP Middle School
- 25th Ave West – Cross City Trail to 3rd St
- W 10th Street – Lincoln Park Dr to 27th Ave W

Map 4.16 Miller Hill Commercial Area - MN



Duluth-Superior Metropolitan Bicycle Transportation Plan

Chapter 4 - Bicycle Networks



Legend

Bike Facility

- Signed Shared Lane
- Signed Bikeable Shoulder
- Bikelane
- Multi-Use Path
- Seasonal Multi-Use
- Future Bike Facility
- Study Route

Core Locations

- K-12 Schools
- Grocery Stores
- Medical
- University
- Civic Building

Core Areas

- Bike Accommodation Zone
- Commercial Hub
- Job Cluster

Short Trip Generators

-

Study Corridor

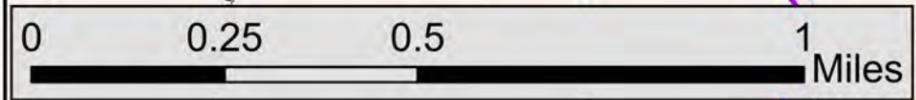
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Municipalities

-

Buffer Zone

-



4-36

Miller Hill Commercial Area — MN

Top Priorities

1. Central Entrance
2. Hwy 53/ Miller Trunk Hwy crossing
3. Maple Grove

One Mile Buffer Population: 2,011

Notes:

This hub primarily serves Duluth Heights residents, urban dense, and workers of the Miller Hill Mall.

This commercial hub has the Miller Hill Mall and other restaurants, retail stores, and grocery stores.

Existing Key Gaps

- Central Entrance from Basswood to Trinity Rd
- Maple Grove Rd/ 53 Intersection
- Joshua Ave



Map 4.17 Morgan Park - MN



Duluth-Superior Metropolitan
Bicycle Transportation Plan

Chapter 4 - Bicycle Networks



Legend

Bike Facility

- Signed Shared Lane
- Signed Bikeable Shoulder
- Bikelane
- Multi-Use Path
- Seasonal Multi-Use
- ⋯ Future Bike Facility
- ⋯ Study Route

Core Locations

- 🏫 K-12 Schools
- 🛒 Grocery Stores
- 📍 Medical
- 🎓 University
- 🏛️ Civic Building

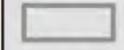
Core Areas

- 🟡 Bike Accommodation Zone
- 🟠 Commercial Hub
- 🟤 Job Cluster

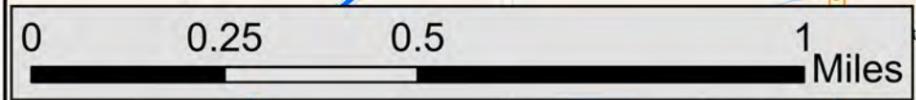
Study Corridor



Municipalities



Buffer Zone



4-38

Morgan Park — MN

Top Priorities

1. Hwy 23 to the North
2. Hwy 23 to the south – business district and school
3. Main route through Morgan Park

One Mile Buffer Population: 2,281

Notes:

This hub primarily serves the Morgan Park residents. Provides the commercial cluster of Morgan Park.

Allows Morgan Park residents to get around within their neighborhood.

Existing Key Gaps

- Morgan Park to Gary-New Duluth
- Munger Trail Bridge over 93rd has no connection
- Pleasant view to 88th Ave W

Bicycle Boulevards

- Idaho Street – MN Hwy 23 to 88th Ave W
- 88th Ave West – Idaho St to MN Hwy 23

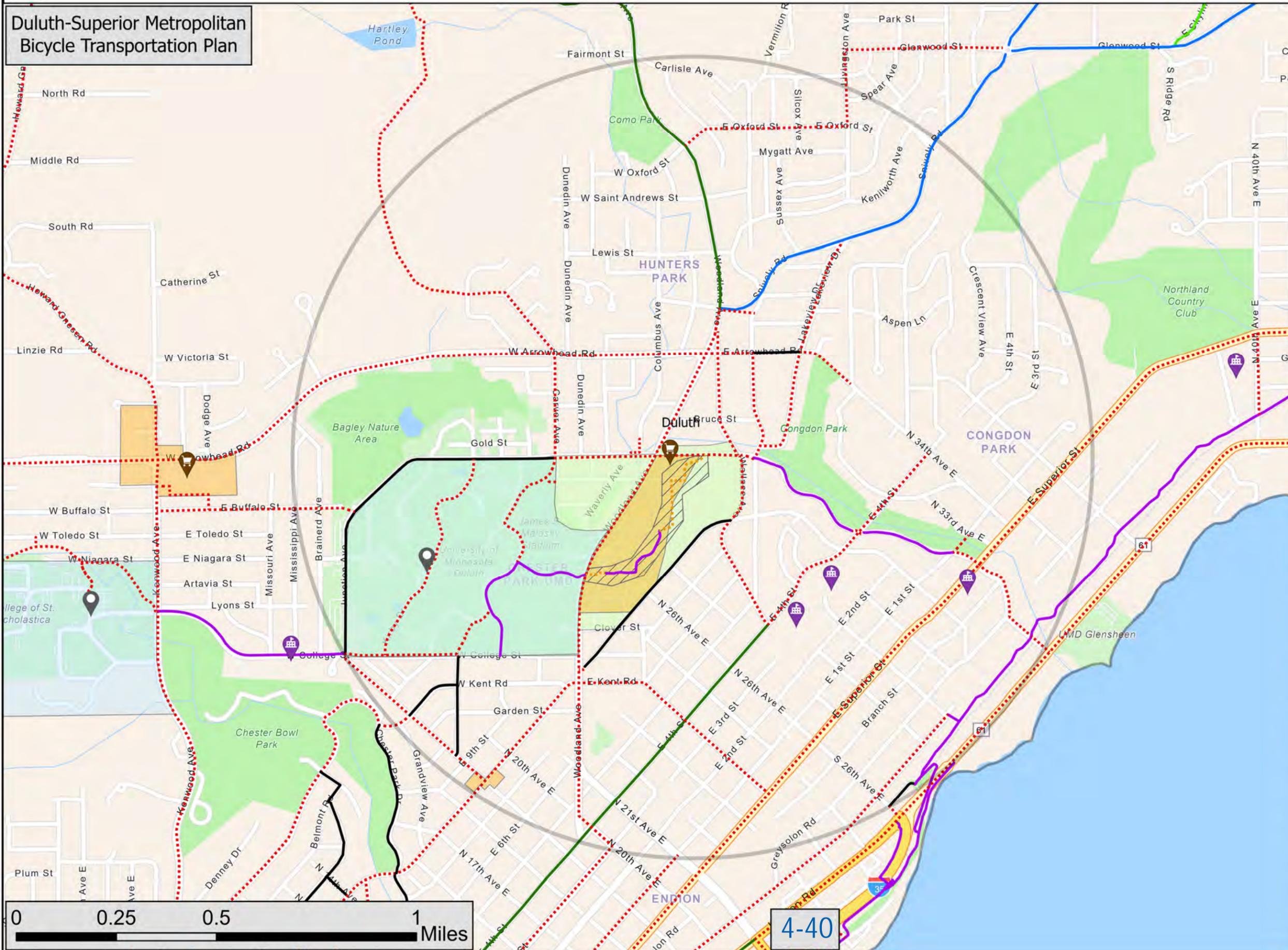


Map 4.18 Mount Royal - MN



Duluth-Superior Metropolitan Bicycle Transportation Plan

Chapter 4 - Bicycle Networks



Legend

Bike Facility

- Signed Shared Lane
- Signed Bikeable Shoulder
- Bikelane
- Multi-Use Path
- Seasonal Multi-Use
- Future Bike Facility
- Study Route

Core Locations

- K-12 Schools
- Grocery Stores
- Medical
- University
- Civic Building

Core Areas

- Bike Accommodation Zone
- Commercial Hub
- Job Cluster

Short Trip Generators

-

Study Corridor

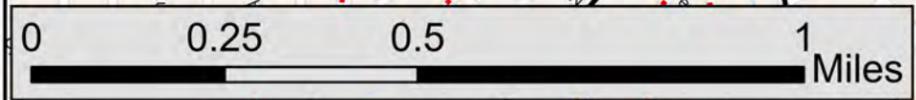
-

Municipalities

-

Buffer Zone

-



4-40

Mount Royal — MN

Top Priorities

1. St Marie St
2. Woodland Ave
3. Bluestone connection to Mount Royal
4. 4th St bike lane extension

One Mile Buffer Population: 12,091

Notes:

This hub primarily serves UMD students, Chester Park residents and three elementary schools.

This commercial hub has a cluster of goods and services that the Woodland corridor offers.

Existing Key Gaps

- Elizabeth St to Mount Royal Cr
- Arrowhead Rd to Snively Rd
- Ridgewood Ct to Arrowhead Rd

Bicycle Boulevards

- Snelling Ave – 19th Ave E to College St
- Kent Road – Chester Park Dr to Snelling Ave
- Buffalo Street – Kenwood Ave to Junction Ave
- Hartley Road – Arrowhead Rd to Woodhaven Ln
- 8th Street – Woodland Ave to Wallace Ave
- Lakeview Drive – Vermilion Rd to Snively Rd

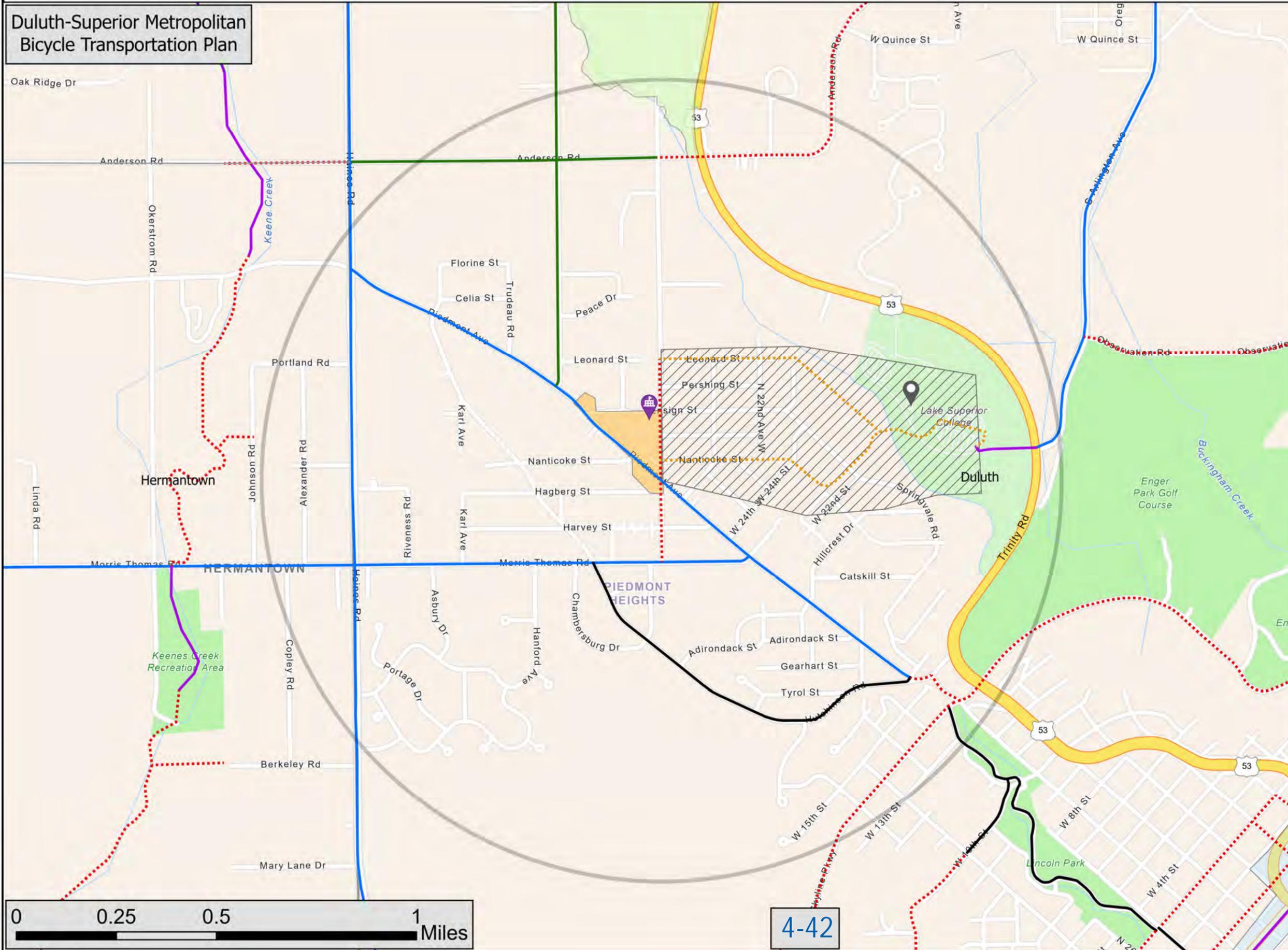


Map 4.19 Piedmont - MN



Duluth-Superior Metropolitan Bicycle Transportation Plan

Chapter 4 - Bicycle Networks



Legend

Bike Facility

- Signed Shared Lane
- Signed Bikeable Shoulder
- Bikelane
- Multi-Use Path
- Seasonal Multi-Use
- Future Bike Facility
- Study Route

Core Locations

- K-12 Schools
- Grocery Stores
- Medical
- University
- Civic Building

Core Areas

- Bike Accommodation Zone
- Commercial Hub
- Job Cluster

Short Trip Generators

- Keenes Creek Recreation Area

Study Corridor

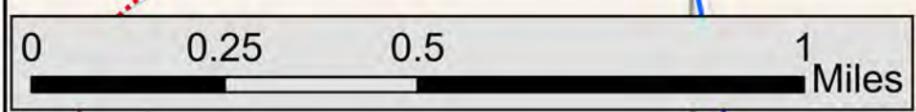
- Shaded area

Municipalities

- Hermantown
- Piedmont Heights
- Duluth

Buffer Zone

- Shaded area



4-42

Piedmont — MN

Top Priorities

1. Chambersburg Ave
2. Lake Superior College (LSC) connection
3. Piedmont Ave

One Mile Buffer Population: 4,644

Notes:

This hub primarily serves the Piedmont residents and Lake Superior College (LSC). There is currently only informal walking paths through a ravine and across Miller Creek which provide direct connection between the Piedmont Neighborhood and LSC.

This commercial hub has a cluster of restaurants, retail and medical offices.

Allowing Piedmont residents to get around within their neighborhood and provide a connection to a major destination (LSC) located adjacent to the neighborhood.

Existing Key Gaps

- Lake Superior College (LSC) to Leonard St
- Lake Superior College (LSC) to Piedmont Park
- Pineview Ave – 22nd to 24th

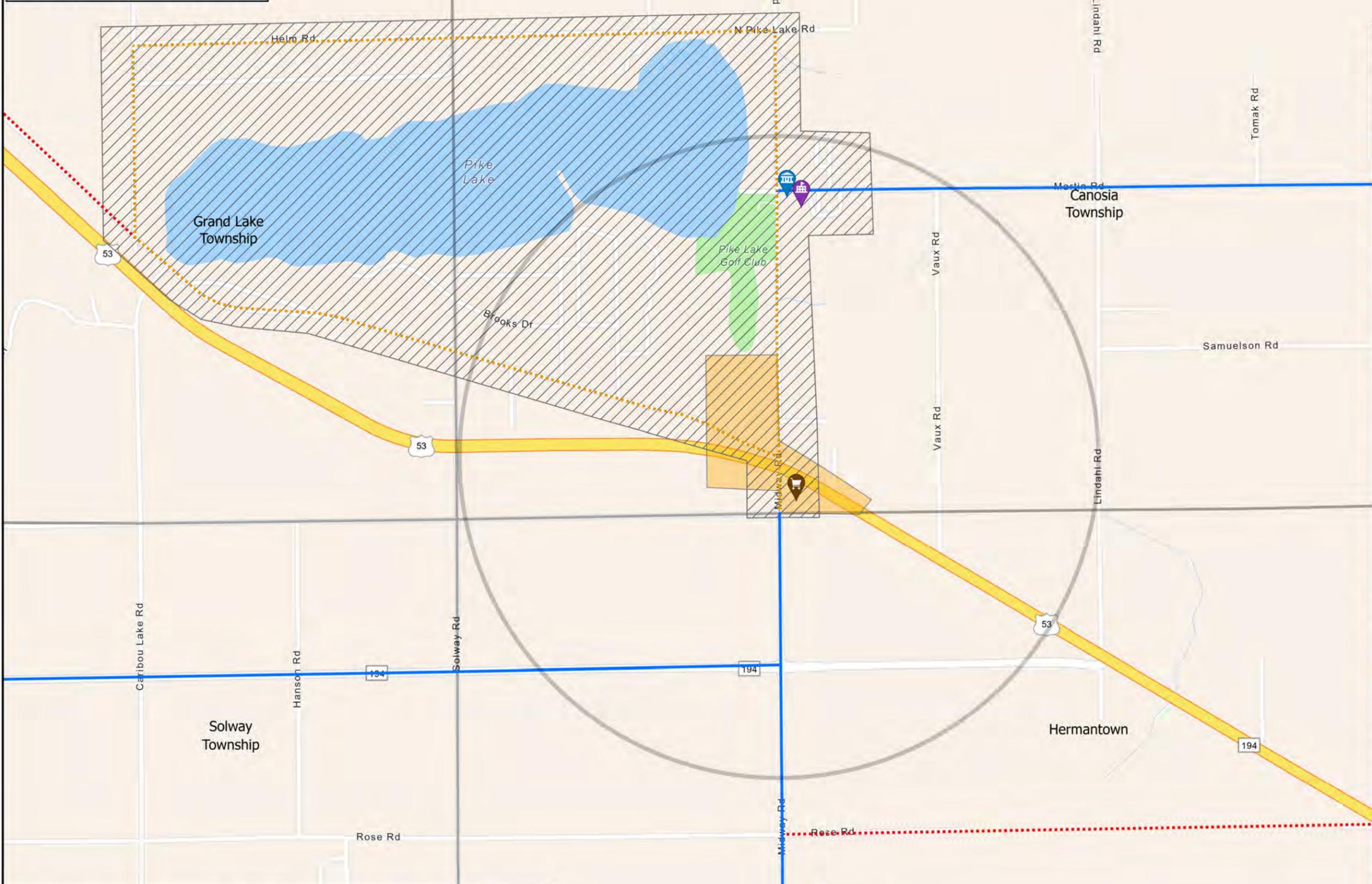


Map 4.20 Pike Lake - MN



Duluth-Superior Metropolitan
Bicycle Transportation Plan

Chapter 4 - Bicycle Networks



Legend

Bike Facility

- Signed Shared Lane
- Signed Bikeable Shoulder
- Bikelane
- Multi-Use Path
- Seasonal Multi-Use
- Future Bike Facility
- Study Route

Core Locations

- K-12 Schools
- Grocery Stores
- Medical
- University
- Civic Building

Core Areas

- Bike Accommodation Zone
- Commercial Hub
- Job Cluster

Study Corridor

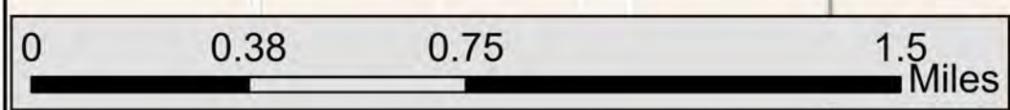
- [Hatched Box]

Municipalities

- [Thin Grey Box]

Buffer Zone

- [Thick Grey Box]



4-44

Pike Lake — MN

Top Priorities

1. Hwy 53 intersection at Midway Rd
2. Midway Rd to Pike Lake Schools
3. Old Miller Trunk Hwy
4. Midway and Martin Rd intersection

One Mile Buffer Population: 891

Notes:

This hub primarily serves the Pike Lake residents.

This commercial hub has a cluster of restaurants, banks, retail grocery stores, and medical offices.

Allows Pike Lake residents to get around within their neighborhood.

Existing Key Gaps

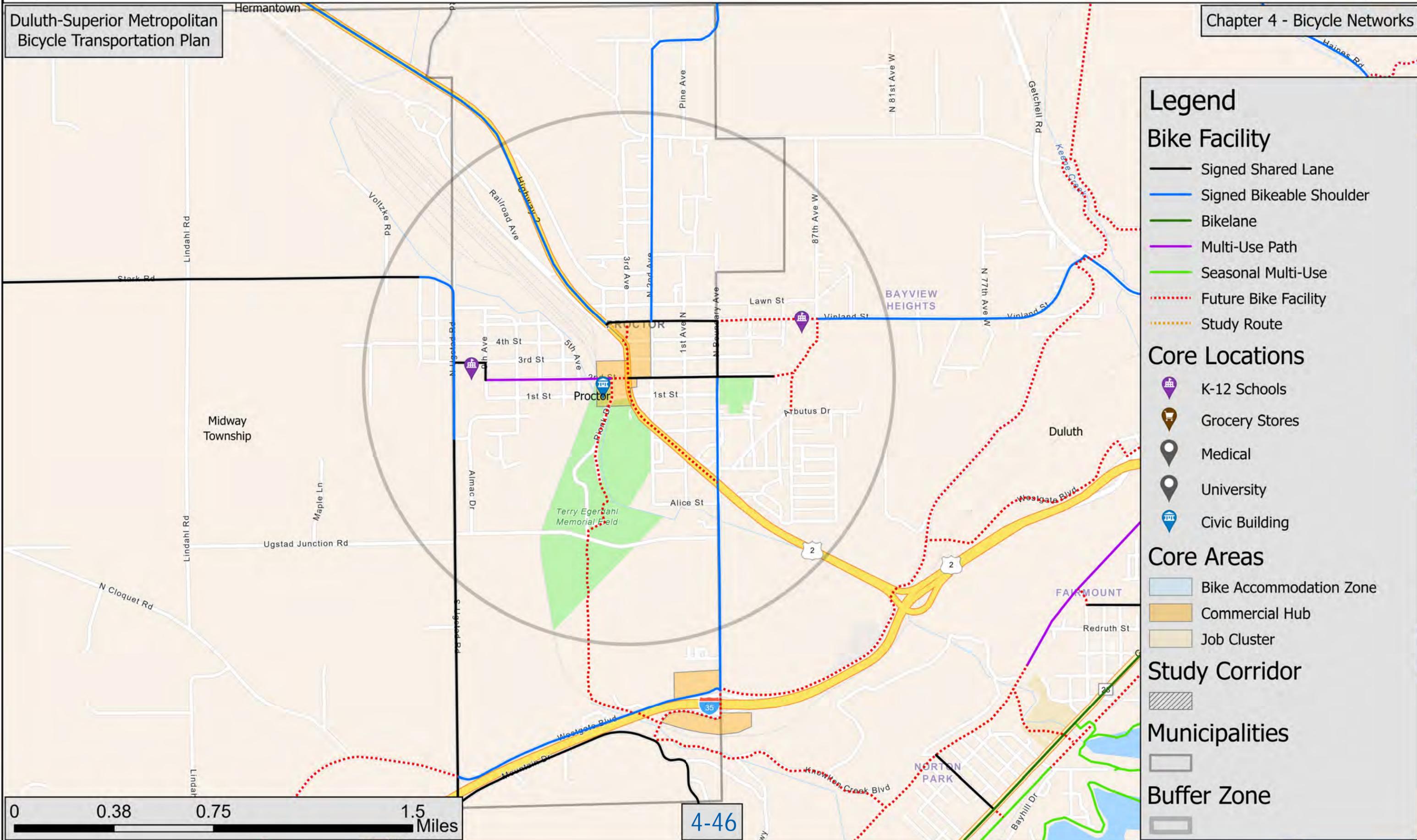
- Getting across Hwy 53 at Midway Rd
- Midway Rd to Pike Lake Elementary Main Entrance
- Midway Rd – Seville Rd to Birchway Rd



Map 4.21 Proctor - MN

Duluth-Superior Metropolitan Bicycle Transportation Plan

Chapter 4 - Bicycle Networks



Legend

Bike Facility

- Signed Shared Lane (Black line)
- Signed Bikeable Shoulder (Blue line)
- Bikelane (Green line)
- Multi-Use Path (Purple line)
- Seasonal Multi-Use (Light Green line)
- Future Bike Facility (Red dotted line)
- Study Route (Yellow dotted line)

Core Locations

- K-12 Schools (Purple school icon)
- Grocery Stores (Brown grocery icon)
- Medical (Grey location pin icon)
- University (Blue location pin icon)
- Civic Building (Blue building icon)

Core Areas

- Bike Accommodation Zone (Light blue shaded area)
- Commercial Hub (Orange shaded area)
- Job Cluster (Light orange shaded area)

Study Corridor

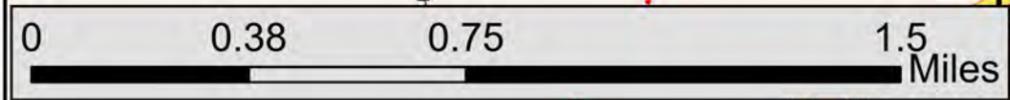
- (Hatched pattern)

Municipalities

- (Grey outline)

Buffer Zone

- (Grey outline)



4-46

Proctor — MN

Top Priorities

1. 2nd St to high school and middle school
2. Connection to Bay View elementary
3. Hwy 2 – downtown Proctor

One Mile Buffer Population: 4,079

Notes:

This hub primarily serves the city of Proctor residents.

This commercial hub has a cluster of restaurants, banks, retail and hardware stores.

Allows Proctor residents to get around within their neighborhood.

Existing Key Gaps

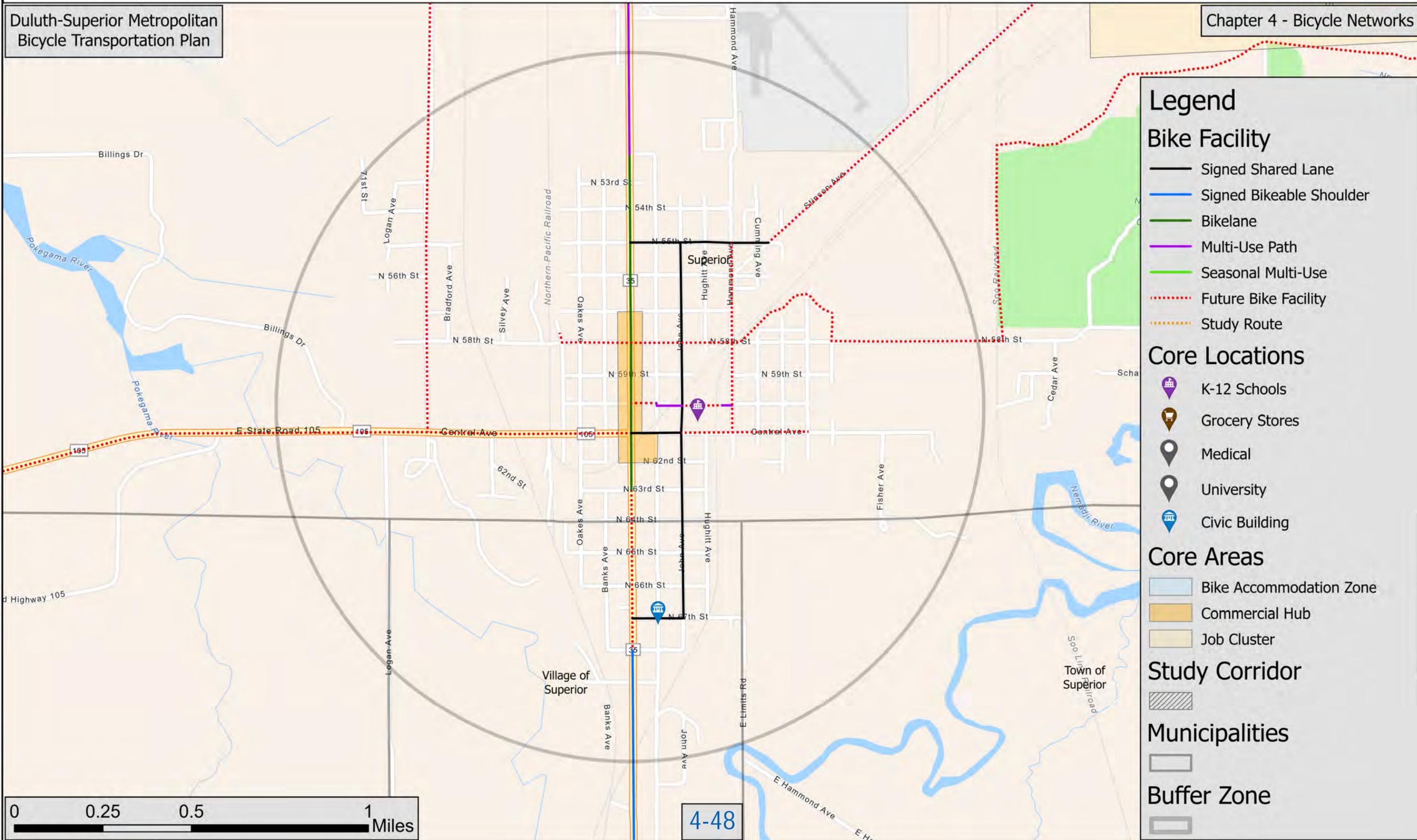
- Foxtail Ave and Arbutus Dr to Bay View Elem
- Orchard to Bay View Elem
- U.S. Hwy 2/Boundary Ave to 2nd St
- Proctor Connection to Munger Trail
- Pionk Dr at Kirkus St to Skyline Pkwy
- Along Knowlton Creek Blvd – Skyline Pkwy to 80th Ave W



Map 4.22 South Superior - WI

Duluth-Superior Metropolitan Bicycle Transportation Plan

Chapter 4 - Bicycle Networks



Legend

Bike Facility

- Signed Shared Lane
- Signed Bikeable Shoulder
- Bikelane
- Multi-Use Path
- Seasonal Multi-Use
- Future Bike Facility
- Study Route

Core Locations

- K-12 Schools
- Grocery Stores
- Medical
- University
- Civic Building

Core Areas

- Bike Accommodation Zone
- Commercial Hub
- Job Cluster

Study Corridor

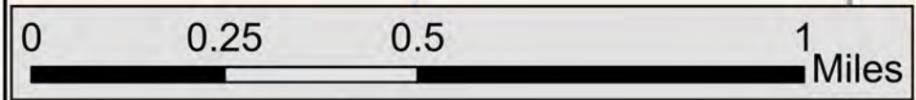
-

Municipalities

-

Buffer Zone

-



4-48

South Superior — WI

Top Priorities

1. Tower Ave crossing, particularly at 60th St
2. Tower Ave – South end commercial district
3. Connection to the north on Tower Ave

One Mile Buffer Population: 2,447

Notes:

This hub primarily serves the South End Superior residents and as a connection to Downtown Superior.

This commercial hub has a cluster of restaurants, retail, and hair salons.

Allows South End residents to get around within their neighborhood.

Existing Key Gaps

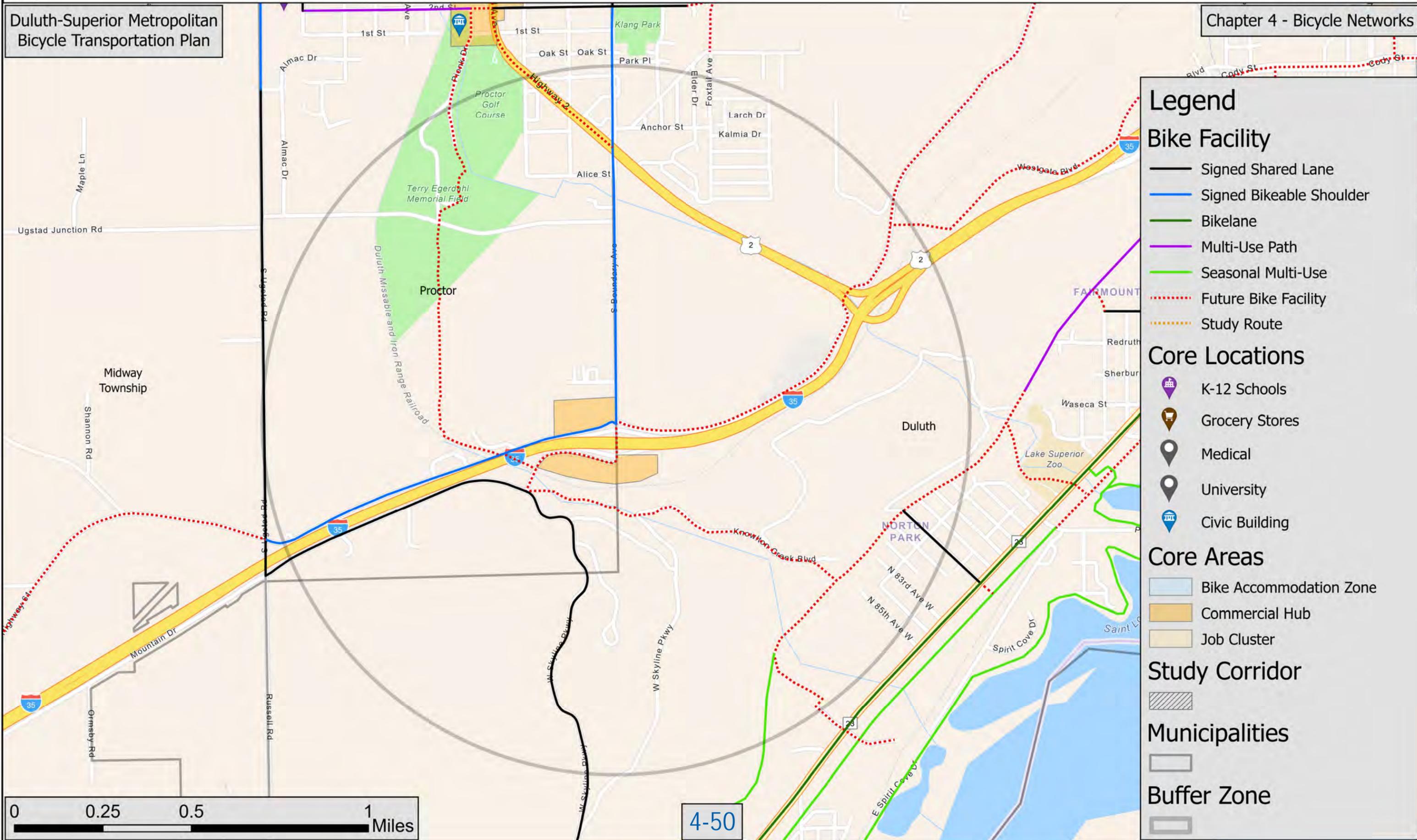
- Tower Ave from South End to downtown Superior.
- Tower Ave within the South End business district.
- South End Superior to East End Superior along Stinson Ave.

Map 4.23 Spirit Mountain Commercial Area



Duluth-Superior Metropolitan Bicycle Transportation Plan

Chapter 4 - Bicycle Networks



Legend

Bike Facility

- Signed Shared Lane
- Signed Bikeable Shoulder
- Bikelane
- Multi-Use Path
- Seasonal Multi-Use
- Future Bike Facility
- Study Route

Core Locations

- K-12 Schools
- Grocery Stores
- Medical
- University
- Civic Building

Core Areas

- Bike Accommodation Zone
- Commercial Hub
- Job Cluster

Study Corridor

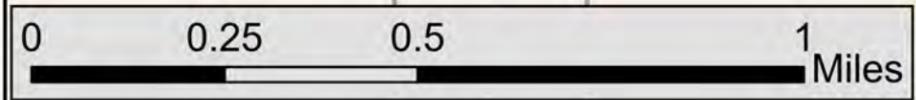
- [Hatched Box]

Municipalities

- [Thin Grey Box]

Buffer Zone

- [Thick Grey Box]



4-50

Spirit Mountain Commercial Area — MN

Top Priorities

1. Boundary Ave/ I-35 intersection
2. Boundary Ave
3. Proctor Trail connection to Munger Trail

One Mile Buffer Population: 1,755

Notes:

This hub primarily serves the Proctor and Bayview residents.

This commercial has a cluster of restaurants, lodging and recreational activities.

Existing Key Gaps

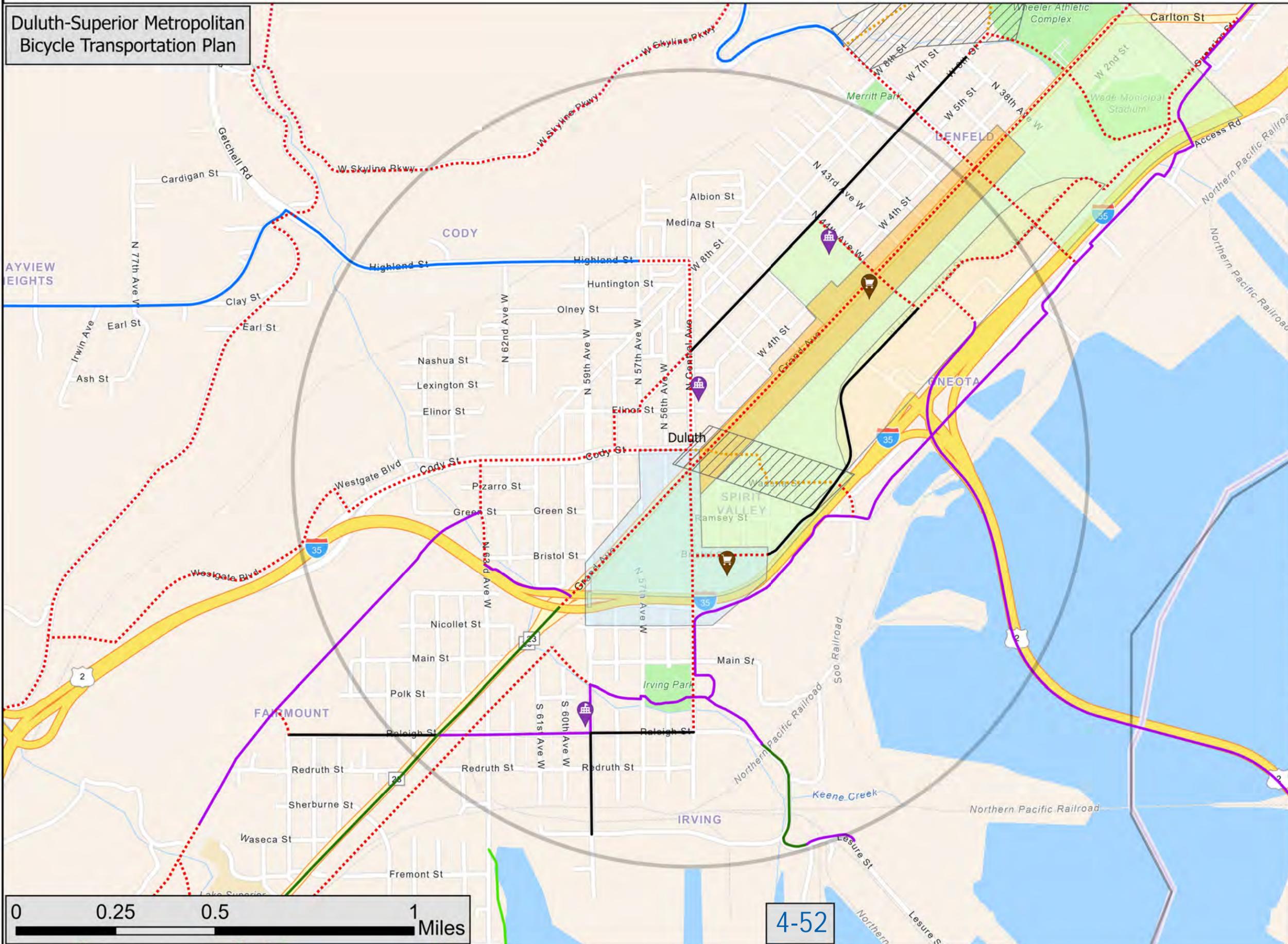
- Boundary Ave I-35 overpass
- Proctor Connector Trail between downtown Proctor through the Spirit Mountain commercial area
- Proctor to West Duluth and the Cross City Trail and Munger Trail

Map 4.24 Spirit Valley/West Duluth - MN



Duluth-Superior Metropolitan Bicycle Transportation Plan

Chapter 4 - Bicycle Networks



Legend

Bike Facility

- Signed Shared Lane
- Signed Bikeable Shoulder
- Bikelane
- Multi-Use Path
- Seasonal Multi-Use
- Future Bike Facility
- Study Route

Core Locations

- K-12 Schools
- Grocery Stores
- Medical
- University
- Civic Building

Core Areas

- Bike Accommodation Zone
- Commercial Hub
- Job Cluster

Short Trip Generators

-

Study Corridor

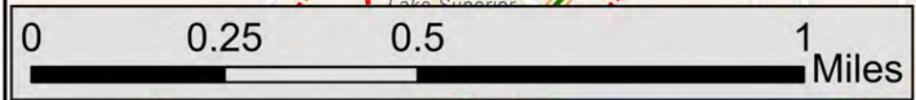
-

Municipalities

-

Buffer Zone

-



4-52

Spirit Valley/West Duluth — MN

Top Priorities

1. Cross Trail Connection to the Munger Trail.
2. Grand Ave
3. Bong Bridge to Grand Ave to Cross City Trail

One Mile Buffer Population: 7,276

Notes:

This hub primarily serves West Duluth residents, multiple elementary schools and a growing commercial hub.

This commercial has a cluster of restaurants, retail, grocery stores, gyms, and banks.

Existing Key Gaps

- Cross City Trail—from Carlton Ave to Munger Trail.
- Grand Ave (Hwy 23) from Raleigh Street to 59th Ave W (City Center West).
- Fairmount Neighborhood to Central Ave..
- Denfeld area to Lincoln Park Middle School.
- Bong Bridge to Grand Avenue.

Bicycle Boulevards

- W 6th Street – 38th Ave W to 57th Ave W

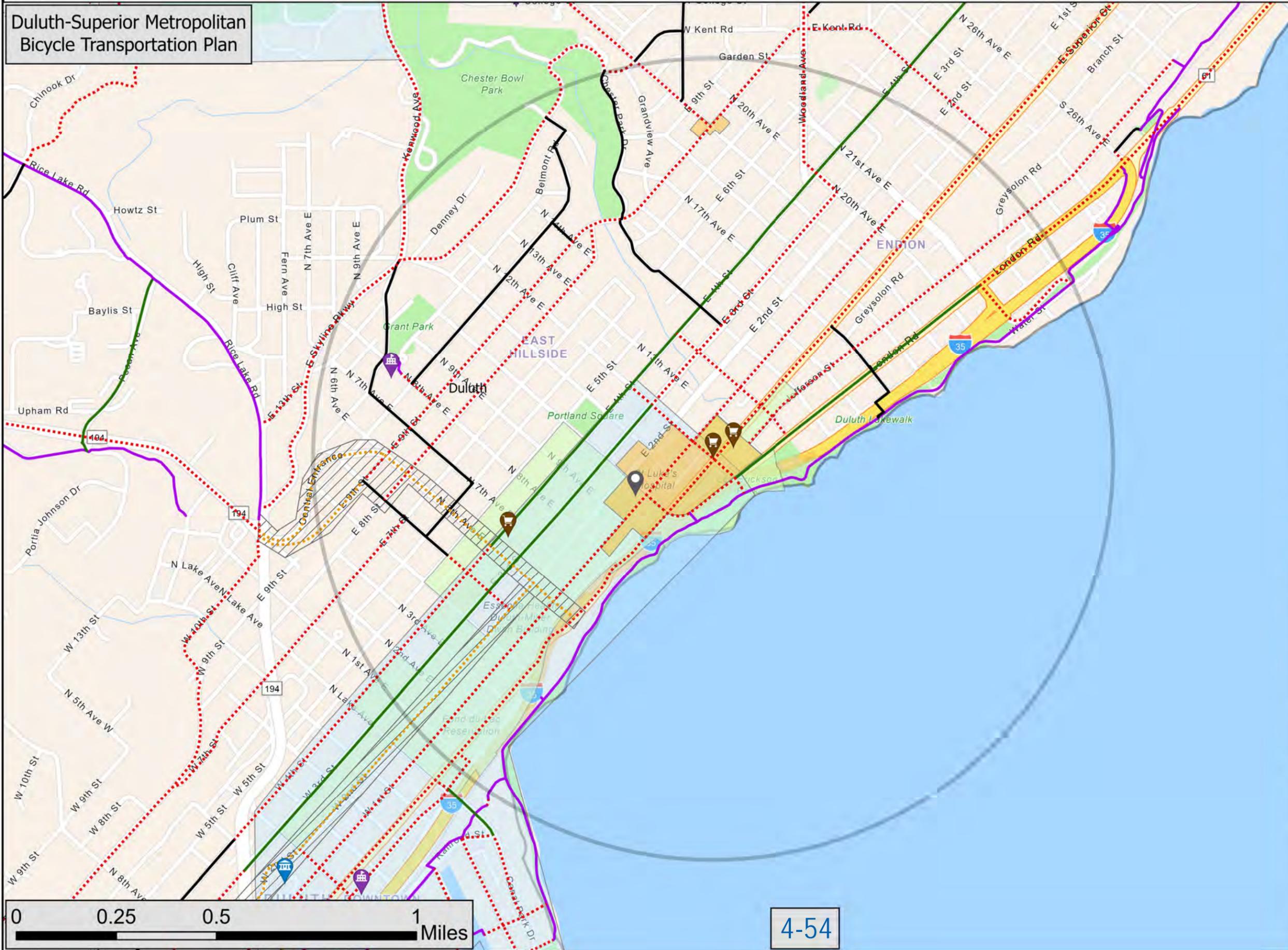


Map 4.25 East Hillside - MN



Duluth-Superior Metropolitan
Bicycle Transportation Plan

Chapter 4 - Bicycle Networks



Legend

Bike Facility

- Signed Shared Lane
- Signed Bikeable Shoulder
- Bikelane
- Multi-Use Path
- Seasonal Multi-Use
- ⋯ Future Bike Facility
- ⋯ Study Route

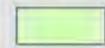
Core Locations

- 🏫 K-12 Schools
- 🛒 Grocery Stores
- 🏥 Medical
- 🎓 University
- 🏛️ Civic Building

Core Areas

- 🟡 Bike Accommodation Zone
- 🟠 Commercial Hub
- 🟤 Job Cluster

Short Trip Generators



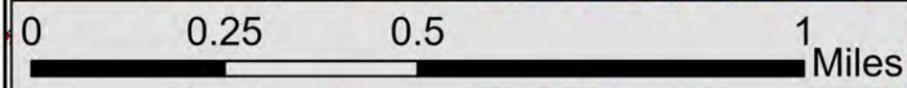
Study Corridor



Municipalities



Buffer Zone



East Hillside — MN

Top Priorities

1. Superior Street
2. 12th Ave East
3. London Road

One Mile Buffer Population: 15,541

Notes:

This hub primarily serves the East Hillside residents and as a connection to Downtown Duluth.

This commercial has a cluster of restaurants, retail, grocery stores, medical offices and banks.

Existing Key Gaps

- 8th/9th Street Corridor from 6th Ave E to 19th Ave East.
- Central Entrance corridor from 6th Ave E and 9th Street to the Harbor Highlands.
- Superior Street from downtown to the Hillside
- Downtown to Hillside connection.

Bicycle Boulevards

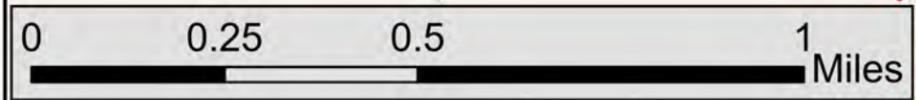
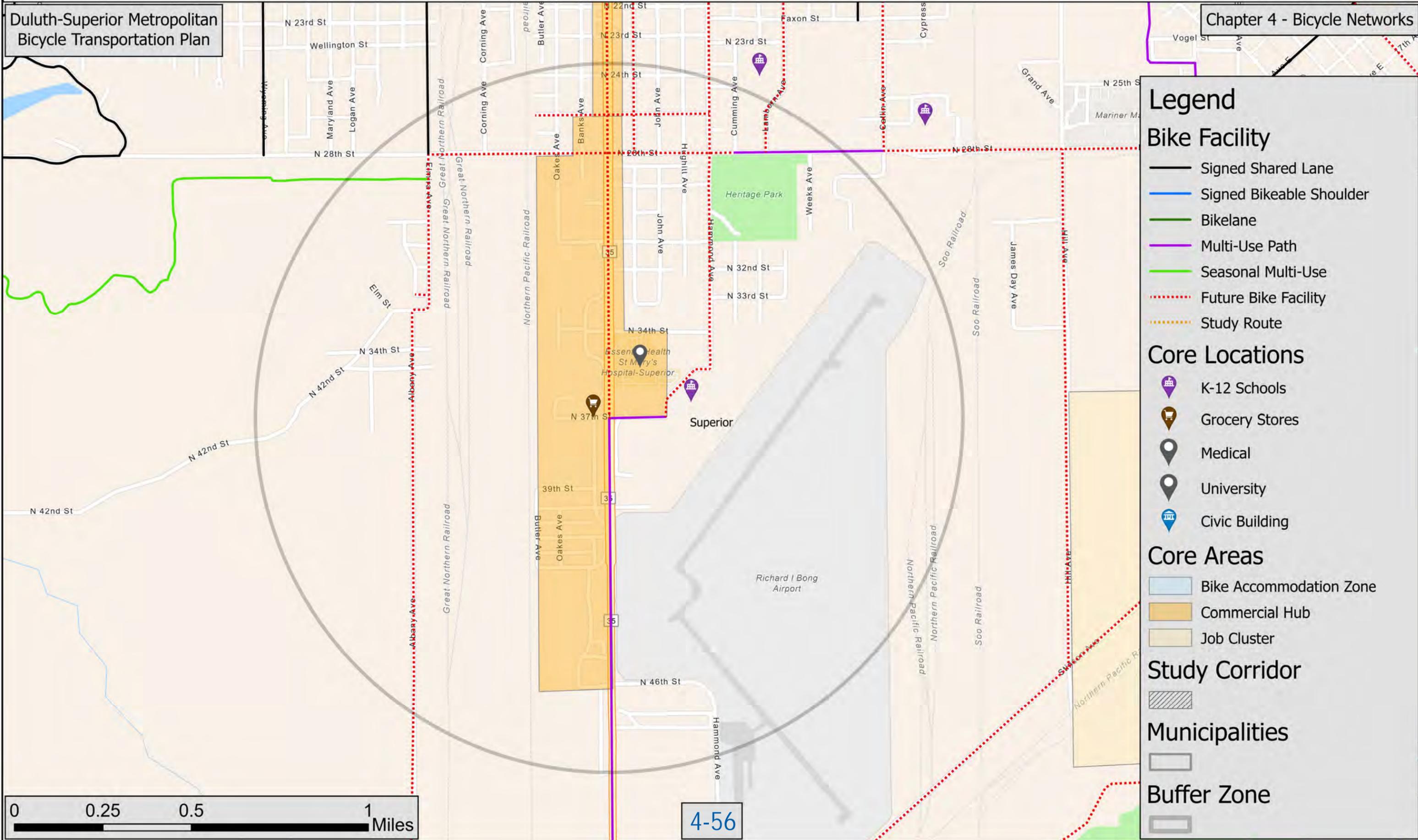
- W/E 1st Street – Mesaba Ave to 21st Ave East
- 5th Ave East – 4th St to 9th St
- 7th Ave East -6th St to 11th St
- 6th Street – 5th Ave E to 7th Ave E
- 8th Street – 6th Ave E to 13th Ave E
- 10th Street – 7th Ave E to 14th Ave E
- 15th Ave East – 4th St to 8th St
- Chester Park Drive – 8th St to Kent Rd
- Jefferson Street – 13th Ave E to 29th Ave E
- 17th Ave East – South St to Superior St

Map 4.26 Tower Ave Commercial Area - WI



Duluth-Superior Metropolitan Bicycle Transportation Plan

Chapter 4 - Bicycle Networks



4-56

Tower Avenue Commercial Area — WI

Top Priorities

1. Tower Ave
2. 28th Street
3. Hammond Ave

One Mile Buffer Population: 2,591

Notes:

This hub primarily serves the Downtown and South End residents and serves as the main commercial hub of Superior.

This commercial hub has a cluster of restaurants, retail and grocery stores, medical offices, and banks.

Existing Key Gaps

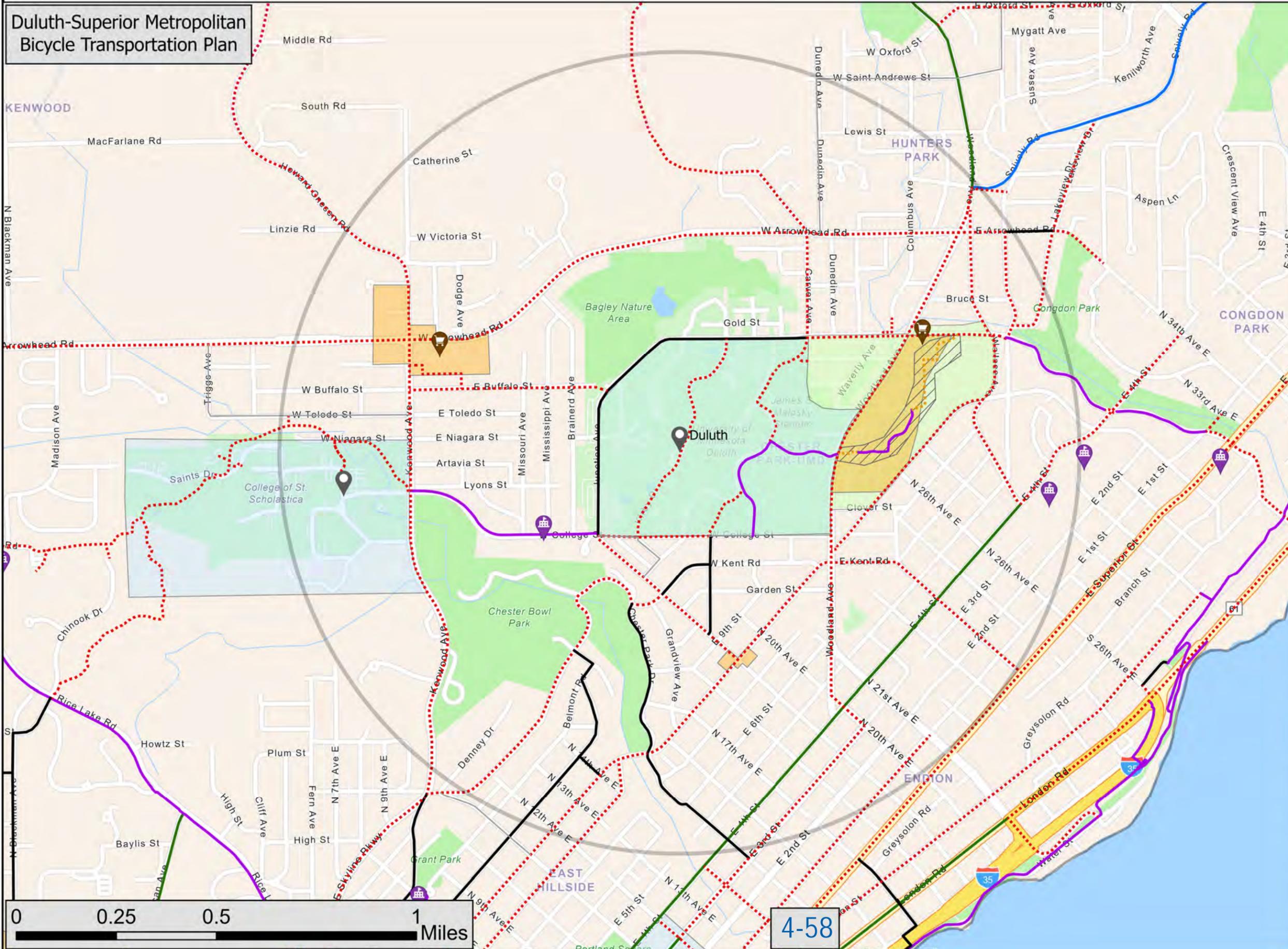
- Tower Ave
- 28th Street
- Hammond Ave

Map 4.27 University of Minnesota - Duluth



Duluth-Superior Metropolitan Bicycle Transportation Plan

Chapter 4 - Bicycle Networks



Legend

Bike Facility

- Signed Shared Lane
- Signed Bikeable Shoulder
- Bikelane
- Multi-Use Path
- Seasonal Multi-Use
- Future Bike Facility
- Study Route

Core Locations

- K-12 Schools
- Grocery Stores
- Medical
- University
- Civic Building

Core Areas

- Bike Accommodation Zone
- Commercial Hub
- Job Cluster

Short Trip Generators

-

Study Corridor

-

Municipalities

-

Buffer Zone

-

4-58

University of Minnesota - Duluth (UMD)

Top Priorities

1. St. Marie Street—from Vermillion Rd (Congdon Park) to Carver Ave (UMD campus).
2. Carver Ave from Arrowhead Rd to St. Marie St (UMD campus).
3. Snelling Ave, 19th Ave E, 8th Street Connection

One Mile Buffer Population: 7,276

Notes:

This hub primarily serves UMD students and Chester Park residents.

This commercial has a cluster of goods and services on Woodland Ave and Kenwood Ave.

Existing Key Gaps

- St. Marie Street from Carver Ave to Vermillion Rd (Congdon Park)
- Carver Ave from Arrowhead Rd to St. Marie St
- Buffalo St from UMD to Kenwood Neighborhood.
- 8th Street from Chester Creek to UMD
- 19th Ave E from 8th Street to Snelling Ave

Bicycle Boulevards

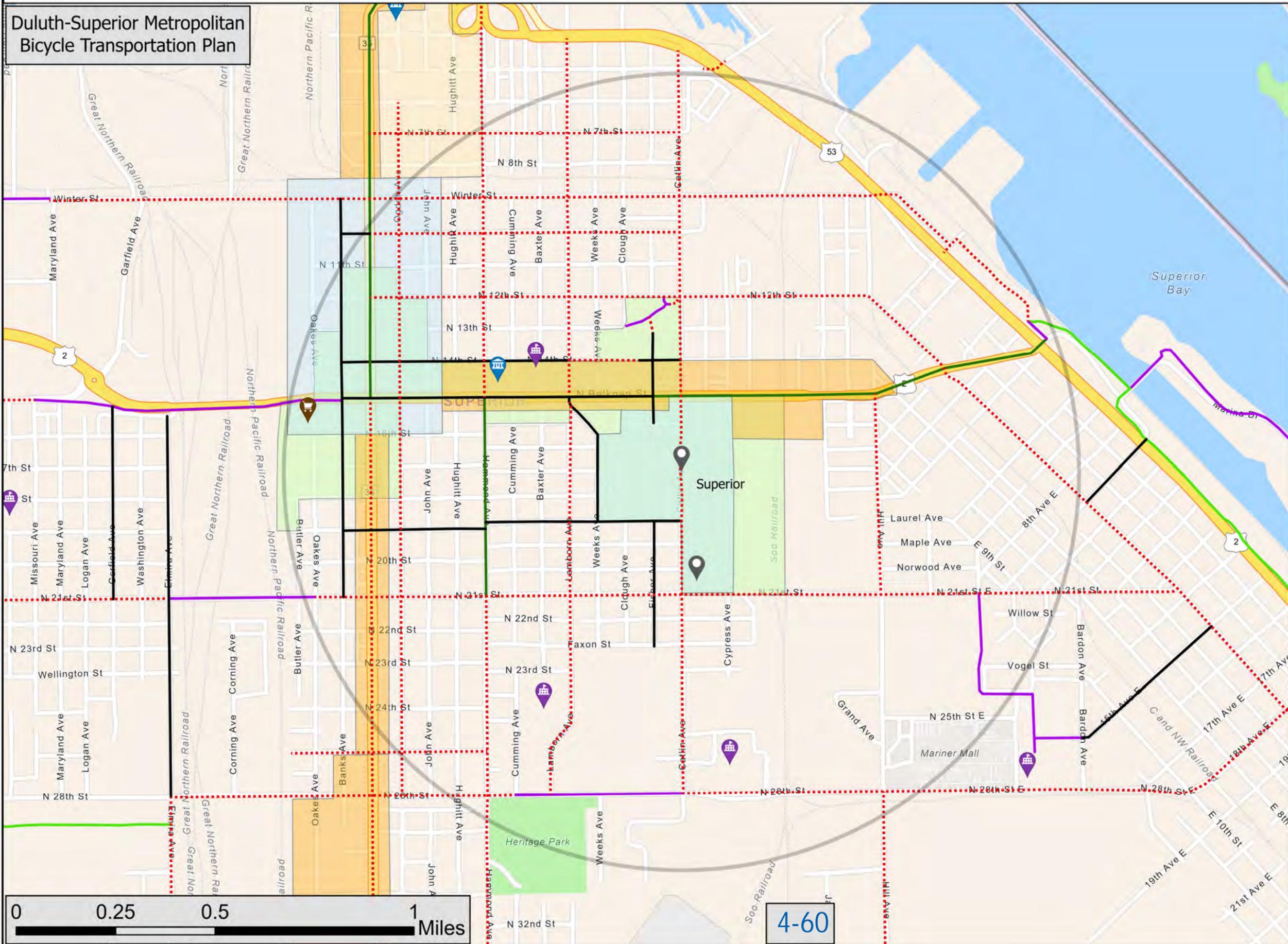
- Kirby Drive – College St to St. Marie St
- Buffalo Street – Kenwood Ave to Junction Ave
- Snelling Ave – 19th Ave E to College St
- Kent Road – Chester Park Dr to Snelling Ave
- Hartley Road – Arrowhead Rd to Woodhaven Ln
- Lakeview Drive – Vermilion Rd to Snively Rd
- Arrowhead Road - Wallace Ave to Lakeview Dr

Map 4.28 University of Wisconsin - Superior



Duluth-Superior Metropolitan Bicycle Transportation Plan

Chapter 4 - Bicycle Networks



Legend

Bike Facility

- Signed Shared Lane
- Signed Bikeable Shoulder
- Bikelane
- Multi-Use Path
- Seasonal Multi-Use
- Future Bike Facility
- Study Route

Core Locations

- K-12 Schools
- Grocery Stores
- Medical
- University
- Civic Building

Core Areas

- Bike Accommodation Zone
- Commercial Hub
- Job Cluster

Short Trip Generators

- Light green shaded area

Study Corridor

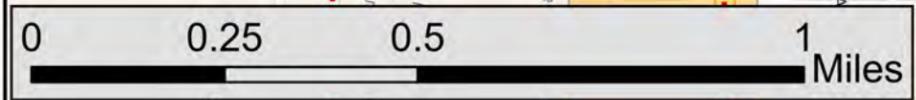
- Hatched area

Municipalities

- Thin grey outline

Buffer Zone

- Thick grey outline



4-60

University of Wisconsin - Superior (UWS)

Top Priorities

1. Catlin Ave
2. 21st Street
3. Belknap Ave

One Mile Buffer Population: 12,716

Notes:

This hub primarily serves students of UWS and residents to the major commercial hubs of the area.

This commercial area has the Belknap Corridor and the Tower Ave corridor.

Existing Key Gaps

- Catlin Ave from North End Superior 5th Street to 28th Street
- Belknap St from East End Superior 5th Street to Downtown Superior.
- 21st Street from Billings Park to East End
- Missing traffic calming and wayfinding on Fisher Ave and 19th Street.

Bicycle Boulevards

- Grand Avenue – Belknap St to Weeks Ave
- Weeks Avenue – Grand Ave to 21st St
- 19th Street – Butler Ave to Catlin Ave
- Fisher Ave – Faxon St to 19th St

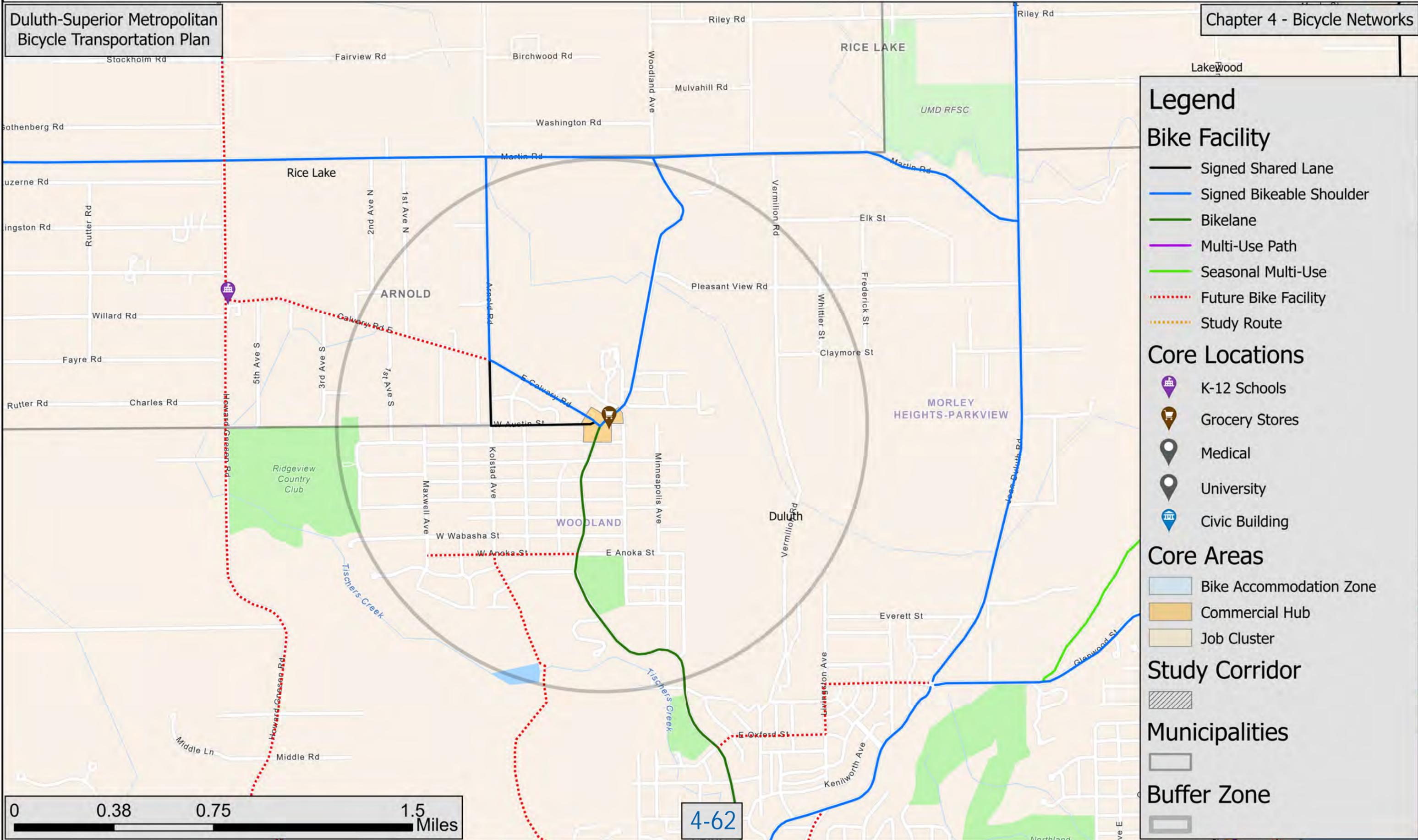


Map 4.29 Woodland - MN



Duluth-Superior Metropolitan Bicycle Transportation Plan

Chapter 4 - Bicycle Networks



Legend

- ### Bike Facility
- Signed Shared Lane
 - Signed Bikeable Shoulder
 - Bikelane
 - Multi-Use Path
 - Seasonal Multi-Use
 - Future Bike Facility
 - Study Route

Core Locations

- K-12 Schools
- Grocery Stores
- Medical
- University
- Civic Building

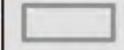
Core Areas

- Bike Accommodation Zone
- Commercial Hub
- Job Cluster

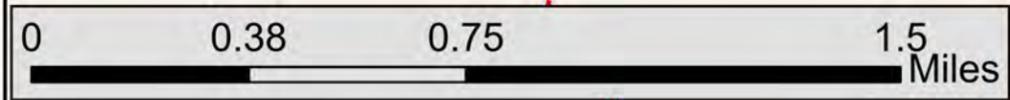
Study Corridor



Municipalities



Buffer Zone



4-62

Woodland — MN

Top Priorities

1. Woodland Ave—connecting the neighborhood to the hub.
2. Calvary Rd—providing an all ages, all ability bikeway facility between the Woodland Neighborhood to Homecroft Elementary School.
3. Connecting Woodland Ave south to Hartley Park and the UMD area.

One Mile Buffer Population: 4,141

Notes:

This hub primarily serves the Woodland residents.

This commercial hub has a cluster of restaurants, retail and grocery stores, and banks.

Allows Woodland residents to get around within their neighborhood.

Key Gaps

- Woodland Ave between Calvary Rd to St. Marie St.
- Calvary Rd from Howard Gnesen Rd to Woodland Ave needs an all ages and abilities Safe Routes to School bikeway facility from Homecroft Elementary on Howard Gnesen Road to Woodland Avenue.
- Develop a shared use path extension of Hartley Trail from Anoka Street through Hartley Park, along Hartley Rd to Carver Ave and Arrowhead Rd.

Bicycle Boulevards

- Anoka Street – Maxwell Ave to Woodland Ave
- Kolstad Road – Anoka St to Northfield St



Map 4.30 Blatnik Bridge - MN/WI



Chapter 4 - Bicycle Networks

Duluth-Superior Metropolitan Bicycle Transportation Plan



Legend

Bike Facility

- Signed Shared Lane
- Signed Bikeable Shoulder
- Bikelane
- Multi-Use Path
- Seasonal Multi-Use
- ⋯ Future Bike Facility
- ⋯ Study Route

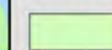
Core Locations

- 🏫 K-12 Schools
- 🛒 Grocery Stores
- 📍 Medical
- 🎓 University
- 🏛️ Civic Building

Core Areas

- 🟩 Bike Accommodation Zone
- 🟨 Commercial Hub
- 🟪 Job Cluster

Short Trip Generators



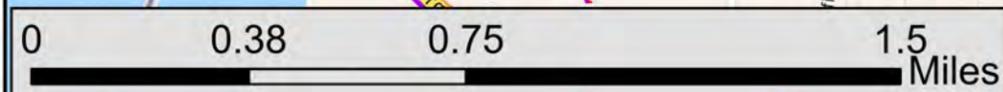
Study Corridor



Municipalities



Buffer Zone



4-64

CHAPTER 5: IMPLEMENTATION

This plan, with community input, is a long-term vision for bikeways within the Duluth-Superior Metropolitan Area. The ideas in this plan can be implemented in a number of ways. Funding is often the most significant barrier to building and maintaining bike facilities, meaning implementation depends on strong vision from this guiding document and ongoing support from community members and volunteer organizations. The implementation also involves working closely with the community, property owners, and others. Some bikeways will need to involve many partners in the implementation.

These implementation steps also contain recommendations to the MIC that support multi-modal transportation choices for all ages and abilities. The BPAC should research and recommend policies for the MIC region, to address issues that are not just infrastructure issues. These could include policies related to bicycle detours during construction, maintenance year-round, collecting baseline data about traffic stress, and complete streets.

Additional considerations for bikeway implementation involve determining alignments, the surface type needed,

construction and engineering needs, environmental impacts, liabilities, legal constraints, potential conflicts with other user groups, property ownership, maintenance, 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.

Common Barriers to Bicycling

Safety

Comfort

Hills

Inconvenient

No bike available

Implementation will only be possible with citizen buy-in and will take a coordinated effort between roadway jurisdictions, private property owners, community groups, citizens and impacted stakeholders. This should include involving the public early and often to build trust and reduce conflict in the process.

Addressing Issues

Common Barriers and Solutions

1. Safety - do not feel safe bicycling

- a. Separated bike facilities from motor vehicle traffic should be priority projects. This makes those on bikes safer from vehicles and also safer from motorist harassment.
- b. Take more steps to reduce motorist-bicyclist cultural confrontation such as implementing better road signage. Avoid “share the road” language and instead opt for “bikes may use full lane.”
- c. Motorist aggression towards individuals on bicycles must be addressed accordingly, and the right of those bicycling to use the streets must be respected by motorists and law enforcement.
- d. Evaluate the needs for lighting, emergency call boxes, and other crime prevention through environmental design techniques.

2. Year-Round Reliability - due to weather and street condition

- a. Regular pavement maintenance of the streets with bicycle facilities.
- b. Reliable snow removal and street sweeping to maintain accessibility year-round.

3. Hills – terrain too steep, too many hills

- a. Direct bicyclists (through mapping, pavement markings, and signage) to uphill routes that are not too steep, provide bike climbing lanes, and have off-street paths zig-zag up the hill.
- b. Improve bike-to-transit connections (first- and last-mile connections).
- c. Support e-bikes, through incentive programs to financially purchase them, install e-bike charging infrastructure in public spaces, and educational campaigns.
- d. Allow for on-board transit bicycle options and improve existing bike racks on DTA buses to better accommodate e-bikes and fat tire bikes
- e. Install staircase bicycle ramps.

4. Inconvenient – distance and can’t carry other items

- a. Create direct routes for bicycle facilities.
- b. Invest in wayfinding signage and printed bike network maps to support route finding, especially for newer riders.
- c. Highlight community resources that work to address the need for immediate, zero cost, hands on mechanical education that is accessible to all ages,

incomes, and abilities, such as the Bike Cave at the Loaves & Fishes Community and the We Bike Series by Zeitgeist.

- d. Show what is possible – educate the public about commuter gear at events, demonstrate the latest gear for helping people carry items by bike. This is especially important for e-bike education and outreach, since many interested users have not had the chance to try these.

5. Do not have a bike

- a. Expand all-season bike share, particularly in areas of low income, low car ownership, and at key destinations. E-bikes are a critical part of bike share in the area.
- b. Continue bike maintenance workshops and support, especially free pop-up bike shops.
- c. Connect equipment and resources to the people who do not have a bike by creating a program to utilize the numerous bicycles that are picked up by transit and the police.
- d. Promote bike swaps and resale events.

Key Bikeway Implementation Guidance

FHWA – [*Incorporating On-Road Bicycle Networks into Resurfacing Projects*](#)

FHWA – [*Small Town and Rural Multimodal Networks*](#)

MNDOT- [*Bicycle Facility Design Manual - Bicycling - MnDOT*](#)

NACTO – [*Urban Bikeway Design Guide*](#)

NACTO – [*Design for All Ages & Abilities –Contextual Guidance for High-Comfort Bicycle Facilities*](#)

General Recommendations

Collect baseline data, including level of stress within the bicycle network.

- Identify measures that we need for baseline data. This could include identifying and building capacity for data collection for baseline data.
- Create a list of SMART goals to consider additional specific actions for data collection and analysis to begin in the next 5 years.
- An example of data that is needed is data for tracking the harassment of cyclists/multimodal users.

Provide direct connections to major trip generators (schools, shopping, jobs, etc.).

Include improvements to bikeway infrastructure in local development standards. Increase local access to schools, businesses and services by creating direct, separated connections between bikeway facilities and major entrance points into the destinations, and by including bikeways through parking lots.

Incorporate bikeway design best practices (separated bike lanes, creative place-making, public art opportunities, and green infrastructure) into street, transit and trail projects.

Identify corridors that are potential connections or bike

network routes – any unused corridors that are potential connections or bike network routes. Assure that the jurisdictions have a process in place to consider and prioritize these when planning and constructing so we do not lose opportunities in the future.

Identify and secure funding to complete the recommended Bike Boulevards.

Design for up and down the hill bicycling

- Provide wayfinding through mapping, signage and pavement markings on routes that have easier hill climbs.
- Add bike rails to public stairways, where streets or ramps do not exist and provide key connections between bikeways.
- Consider gondola or funicular infrastructure.

Install all bicycle facilities perpendicular to drainage grates and railroad crossings – Identify all locations where this is not the case and propose a timeline for addressing these areas.

Install high quality bicycle parking – Consider the users when deciding on parking by:

- Prioritizing bike parking facilities that locate racks near front doors, with natural surveillance and visibility. Do not place bike racks behind buildings in hidden corners (encourages theft, and feels unsafe).
- Prioritizing projects that include canopy, shelter, and adequate lighting for bike parking at schools and other spaces where large numbers of people leave bikes for longer periods of time.
- Providing bike parking at all government buildings used by the general public.
- Identifying hot spot areas where bicycles are frequently stolen or vandalized and devise solutions to address this issue, including but not limited to:
 - Installing bike racks that are more vandal resistant.
 - Relocating bike racks to more visible areas with better natural surveillance.
 - Providing options for secure bike parking options, including lockers, secure entry area.

- Using signage and the online Bike Parking Map in development by Zeitgeist to help find bike rack locations.
- Utilizing movable/temporary bike racks for major events.

Provide bikeway transportation facility alternatives to trail corridors that are primarily used for recreation, while simultaneously encouraging trail bicyclists to use these corridors for transportation.

Provide detours for bike routes and infrastructure when construction disrupts safe passage. Provide clear signage. Detours shall provide the same level of safety as the route being disrupted. This is further explained in the MnDOT guiding document “Accommodating People on Bicycles Through Work Zones”.

Try demonstration and pilot projects. Give people a taste of what the changes might be like. Temporary road diets and pop-up protected bike lanes let people test the concept before any large expenditures are made. Pilot projects need to be well thought-out, but they can be adjusted. Make adjustments based on actual data, not forecasts and fears of change.

Continue to research, develop, and expand bike share options in the Duluth-Superior area.

Develop a functional classification system for bikeways.

Consider undertaking a study on traffic signal systems along the existing and proposed bikeway network to understand each signal's level of bicycle detection.

Ensure that existing apps and resources (Transit App, Google Maps, DTA App) have up-to-date information for users to find routes to everyday destinations.

Performance Measurement

This plan, while long range in vision, is meant to provide a method in which to track progress today as well as provide flexibility to learn through trial and error. The MIC and local jurisdictions and agencies are responsible for undertaking this performance measurement and identifying and tracking necessary baseline data.

A number of key indicators should be annually tracked including:

Level of Traffic Stress: Perform analysis on the bikeway system (while the City of Superior has done this, the City of

Duluth has not). This grading system will provide jurisdictions an objective score on bikeway improvements.

Total bicycle network mileage: Analysis including road bike facilities **and** the mileage of all ages and abilities routes in the network. This includes tracking the condition of the bicycle network, such as through ARDC's data for some trails.

Level of Use: Conduct an annual bike count in September (following the National Bike and Ped Documentation Project protocols) focusing on before and after changes with new and/or improved bikeway infrastructure. Additionally, use other key data sources like the permanent counters from Eco-Counter and other big data sources like Strava and Streetlight Data.

Student Level of Use: Count the number of bicycles parked at all schools each month, and percent of students who have a high quality, all ages and abilities bikeway to school, based on census data.

Crash Rates: Serious and fatalities – *see also:* the MIC's Safety Action Plan.

Sidewalk Riding: Percent of people who bicycle on sidewalks.

Gender and Children Gap: Track the number, gender, and age of people who are bicycling.

Employment Centers: Partner with larger employment centers to gather data about trends in employee bike commuting to and from work.

Future Plan Updates

As is the case with all planning documents, this Plan will require future updates to remain useful and relevant. The current state of bikeway planning nationwide is rapidly evolving and U.S. cities are embarking on an age of experimentation with new bicycle facilities being deployed increasingly every year.

Cities are beginning to design and build new types of bikeways that were relatively unknown as little as five years ago. Trends for bike facilities point toward mixed-use adoption and shared-use with emerging micromobility devices. These devices are likely to necessitate greater mention in future updates.

It is likely that over the coming years, new priorities or strategies will emerge, and new initiatives and programs will be desired.

Therefore, it is recommended that:

- Minor revisions and bikeway routing updates take place annually; and
- A major review and update of this Plan takes place every 5 years, led by BPAC in consultation with the local jurisdictions.

CHAPTER 6: PROGRESS MADE and FUTURE PROJECTS

On-the-Ground Progress

In the 5 years since the approval of the 2019 Bikeways Plan, the network increased by 10 miles, from 30 miles to 40 miles of bikeway infrastructure. This progress is broken down by jurisdiction, facility type, individual projects, and network gaps, as follows:

Progress Made – by Jurisdiction

The 10.58 miles of added facilities, broken down by jurisdiction, is 0.8 (MnDOT), 1.45 (St Louis County), 4.48 (Duluth), 3.0 (Hermantown), 0.35 (Proctor), and 0.5 (Superior).

Progress Made – by Facility Type	Added 2019-24	Existing 2019	Total
Conventional bike lanes	3.65	5	8.65
Two-way protected bike	0.82	0	0.82
Buffered bike lanes	1.5	0	1.5
Shared use path	5.11	25	30.11
	11.08 miles	30 miles	41.08 miles

Progress Made -- by Individual Projects (2020-2024)

Year Open	Facility (Segment)	Bikeway Type	Miles	
2020	W. Superior St (Michigan St to 22nd Ave W)	2PBL (temporary)	0.82	Duluth
2020	Lake Ave (Superior St to Railroad St)	CBL	0.8	MnDOT
2020	Arrowhead Rd & Rice Lake Rd (extension to Technology Dr)	SUP	0.5	SLC
2021	Decker Rd (Piedmont Ave to Mall Dr)	CBL	1.4	Duluth
2021	Hermantown Trail (Boulder Trail)	SUP	3	Hermantown
2023	2nd Street (5th Ave to 9th Ave)	SUP	0.35	Proctor
2024	Woodland Ave (Snively Rd to Anoka St)	CBL	1.45	SLC
2024	Cross City Trail (Central Ave to Raleigh St)	SUP	0.38	Duluth
2024	Hammond Ave (Belknap to N 21st St)	SUP	0.5	Superior
2024	3rd Street (Mesaba Ave to 12th Ave E)	<u>One way</u> BBL	1.5	Duluth
2024	Raleigh Street (Grand Ave to 59th Ave W)	SUP	0.38	Duluth
			11.08	

2PBL = Two-way protected bike lane, CBL = Conventional bike lane, SUP = Shared use path, BBL = Buffered bike lane

Progress Made – Network Gaps Addressed

The 2019 Bikeways Plan called out 11 existing major gaps in the Bikeway system. This table shows the progress made in the last 5 years to address these gaps:

Progress Made – Network Gaps Addressed		
1a	London Rd (21st Ave E to 26th Ave E)	Programmed conventional bike lanes for 2025
1b	Superior St (6th Ave W to 14th Ave E)	No work
2	Lake Ave (Superior St to Lift Bridge)	Completed Superior St to Railroad St, road work in Canal Park in 2027 (undecided on bike facility)
3	St. Marie St (Vermillion Rd to Carver Ave)	Programmed shared use path for 2026
4	Downtown Superior to UWS (Tower Ave to Catlin Ave)	No work
5	Grand Ave (63rd Ave W to Central Ave)	No work
6	Central Entrance (Basswood Ave to Decker Rd)	Planning <u>completed</u> , design alternatives underway
7	2nd Street (Proctor) (Hwy 2 to 9th Ave)	Completed shared use path 5th Ave to 9th Ave, no additional planning
8	Arrowhead Rd (Kenwood Ave to Haines Rd)	No work
9	Woodland Ave (21st Ave E to Anoka St)	Completed conventional bike lanes from Snively Rd to Anoka St, no additional planning for remainder.
10	<u>Ugstad Rd</u> (Falcon Dr to Roosevelt Dr)	No work

Current and Future Projects in the Works (Duluth)

2025: London Road - addition of bike lanes from 21st Ave E to 26th Ave East: 2400 ft

2025: Cross City Trail - extension from Raleigh St to Redruth St: 0.2 miles

2026: Cross City Trail - extension from Redruth St to 67th Ave W: 0.32 miles

2026: 40th Ave West - addition of a shared use path from Cross City Trail to W 8th Street: 0.76 miles

2026: Campus Connector Trail - extension along St. Marie Street from Vermillion to Carver Ave: 0.56 miles

2027: Campus Connector Trail- extension along Congdon Park Drive from 1st Street to Lakewalk: 0.30 miles

2027: London Road 40th Ave E to 60th Ave East: 2 miles

2028: West Superior Street - conversion of the temporary protected bike lanes to permanent protected lanes: 1.6 miles

2029: 4th Street - Mesaba Ave to 6th Ave East - new bikeway facility: 0.92 miles

2030: Blatnik Bridge - new bikeway facility: 1.75 miles

2031: Central Entrance from Mesaba Avenue to Trinity Road - new bikeway facility: 2.3 miles

Additional local projects are anticipated along 40th Avenue West (St Louis County) and London Road, Blatnik Bridge, and Central Entrance (MnDOT).

Possible Future Projects – Recent Plans & Studies

Cycling Needs Assessment (2024)

Undertaken by Zeitgeist, the Cycling Needs Assessment is a community survey which contains useful data about reasons for cycling and, in particular, barriers to cycling in the Twin Ports area. It is clear that there is considerable latent demand for cycling infrastructure. Use of this survey data can be correlated with the Bike Plan’s priority metrics and goals to further unlock that latent demand for cycling, enabling more people meaningful opportunities for mode shifts.

2nd Street Active Transportation Plan (2024 application)

A MnDOT Active Transportation planning grant was awarded in 2024 and will get underway in 2025, for the City of Duluth to analyze and recommend active transportation improvements to the 2nd Street corridor between Mesaba Avenue and 6th Avenue East.

Arrowhead Road Active Transportation Plan (2024 application)

A MnDOT Active Transportation planning grant was awarded in 2024 and will get underway in 2025, for St. Louis County to analyze and recommend active transportation improvements to Arrowhead Road between Haines Road on the west, and eastern (“lower”) Rice Lake Road to the east.

Howard Gnesen Road Active Transportation Vision Plan and Photo Renderings (2022-2025)

In 2023 St. Louis County worked with a consulting team, via a MnDOT Active Transportation planning grant, to prepare the Howard Gnesen Road Active Transportation Vision Plan as the first step towards improving the feasibility and safety of using active transportation modes between Arrowhead Road and Martin Road.

In 2024-2025 the County undertook another round of public engagement, specifically looking for input on photo-renderings showing a shared use path alongside the road as one option for improvement.

Blatnik Bridge (2023-)

Blatnik Bridge is a key transportation corridor in the MIC area that links the cities of Duluth and Superior via I-535

and US Highway 53 across the St Louis River. It provides connection for locals, as well as regional and national commerce and tourism. Following a thorough assessment of the condition of the Blatnik Bridge, it has been determined the bridge will be completely reconstructed on the same alignment (with a newly configured approach/exit in Superior), and will include a pedestrian and bike facility.

Significant federal and state funding has been earmarked for this project, and a federal Finding of No Significant Impact has been determined. Reconstruction is anticipated to begin in 2026, and the bridge will be closed for approximately 4 years. Preliminary planning and design, as well as numerous stakeholder group discussions are ongoing.

Central Entrance (2021-)

Central Entrance between Mesaba Avenue and US Highway 53/Joshua Avenue is an important corridor connecting the heart of the City of Duluth to the Miller Hill Mall retail area and beyond. In 2021, the MIC’s Central Entrance Vision Plan was developed with community input and established a multimodal vision for the corridor that features significant improvements for all users, including

new multimodal facilities for pedestrians, bicyclists, and transit operations.

Before undertaking the reconstruction of the approximately 2.5-mile segment of this roadway, MnDOT is studying various design alternatives and engagement with businesses, government agencies and the public is underway. Ultimately the corridor should meet the City of Duluth’s Central Entrance Small Area Plan’s vision for a transformed urban mixed use walkable corridor.

I-35 Corridor Plan (2022-2023)

The purpose of the Duluth Area I-35 Corridor Plan was to develop a corridor vision and implementation plan for the segment of I-35 from County Road 61 in Midway Township to 26th Avenue East in Duluth. It identifies and prioritizes maintenance needs, investment strategies, and improvements for vehicles, freight, pedestrians, bicyclists, and transit users on and/or across I-35.

Improvements are defined at a concept level and once funded, individual projects will be further developed with public input during the design phases. Community and Agency partners will need to continue to collaborate to further study, design, fund, and implement the Plan recommendations over a multi-year period.

Future Projects

This section lists upcoming projects from the MIC’s long-range [Metropolitan Transportation Plan](#) that will lead to bicycle transportation infrastructure improvements, barring insurmountable constraints such as inability to acquire necessary right-of-way.

These upcoming transportation projects are organized by jurisdiction (state, county, city) and timeframe – short-term (2025-2028), mid-term (2029-2033), and long-term (2034-2049).

It is possible that some projects for the next 25 years are not included; however, the listed bicycle transportation projects are priorities for the MIC project area. These project lists are intended to make public the upcoming bicycle transportation projects that are on each jurisdiction’s capital improvement plan (short term) or at least on their radar (long term).

In addition to lists of transportation projects with identified timeframes, a “For Study” project list is also included, to show future planning priorities.

When known, the basic **project description** is listed, including:

- “New Shared Use Path”
- “Extend Shared Use Path”
- “New Bike Lane”
- “Extend Bike Lane”
- “New Bikeway Facility”
- “Extend Bikeway Facility”
- “Bike Lane” and
- “Bike Boulevard”

See Chapter 3 for descriptions of bike facility options.

The **project type** is also listed and includes:

- “Bike Or Ped Improvement”
- “New Construction”
- “Reconstruction” and
- “Safety.”

When known, the estimated project cost is listed to help calculate costs.

Short-term Projects (2024-2028)

Proj. No.	Project Description	Type	Total Cost
SP 8816-3427	I-35 Pedestrian Bridge BR# 69885 <i>Replace pedestrian bridge over I-35/Mesaba Avenue interchange in Duluth</i>	Bridge Replacement	\$12,900,000
MN-01-06	MN/61 London Road 26th Ave E to just north of 60th Ave E	Pavement Preservation, Traffic Control/Safety	\$20,000,000
SP 6925-145	Resurface Hwy 61 from 26th Ave E to just north of 60th Ave E, Install Trail		
MN-01-28	Blatnik Bridge BR# 9030	Bridge Replacement	\$1,815,000
SP 6981-26	<i>Replace Blatnik Bridge I-535 between Duluth and Superior over St Louis River</i>		
MN-01-09	US 2 MN 194 to Midway Road/CSAH 13	Pavement Preservation	\$9,300,000
SP 6908-68	Resurface Hwy 2 from Hwy 194 to Midway Rd (CSAH 13)		
MN-01-09	US 2 Midway Road/CSAH 13 to Boundary Ave/CSAH 14 in	Pavement Preservation	\$7,600,000
SP 6908-72	<i>Resurface Hwy 2 from Midway Rd (CSAH 13) to Boundary Ave (CSAH 14)</i>		
Total:			\$51,615,000

Mid-term Projects (2029-2033)

Proj. No.	Project Description	Type	Total Cost
6910-109	MN 23 BR# 5757 <i>Reconstruct pavement and replace bridge over Mission Creek</i>	Bridge Replacement and Pavement	\$7,000,000
MN-01-05	MN 194/Central Entrance	Reconstruction	\$30,000,000
SP 6933-99	Reconstruct Hwy 194 from Hwy 53/Trinity Rd to north of Mesaba Ave		
MN-01-31	MN 23/Commonwealth Ave	Pavement Preservation	\$3,300,000
SP 6910-113	<i>Resurface Hwy 23 from McCuen St to Becks Rd/CR 3</i>		
MN-01-47	40th Ave W bridge over I-35 BR# 69826 <i>Replace 40th Ave W bridge over I-35 in Duluth</i>	Bridge Replacement	\$5,100,000
Total:			\$45,400,000

Long-term Projects (2034-2049)

Proj. No.	Project Description	Type	Total Cost
MN-01-38	Boundary Ave interchange <i>Replace I-35 Interchange at Boundary Ave/CSAH 14</i>	Reconstruction	\$15,600,000
Total:			\$15,600,000

Short-term Projects (2024-2028)

Proj. No.	Project Description	Type	Total Cost
	Proctor - 2nd St <i>Boundary Ave to 5th Ave W - Bumpouts and Crosswalk Improvements</i>	Pavement Rehabilitation	\$\$
	Martin Rd <i>Stavenger Road to Stebner - Shared Use Path</i>	Bike or Ped Improvement	\$\$
MN-02-71	Rice Lake Road <i>Technology Drive to 2/3 mile N of Martin Rd</i>	Reconstruction	\$\$\$\$\$
	Stark Rd <i>Potential to Widen Paved Shoulders</i>	Pavement Rehab	\$\$
MN-02-46	CSAH 32 Arrowhead Rd <i>New Sidewalk from Menard Dr. to CSAH 91</i>	Bike Ped Improvement	\$\$\$
Total:			\$0

Mid-term Projects (2029-2033)

Proj. No.	Project Description	Type	Total Cost
	Howard Gnesen Road/Kenwood Ave <i>Arrowhead to Martin Rd - Multimodal Road Reconstruction</i>	Reconstruction	\$\$\$\$\$
	Midway Rd <i>Hwy 194 to N. Pike Lake Rd</i>	Pavement Rehab	\$\$\$
	Martin Rd <i>Midway Rd to Vaux Rd</i>	Bike or Ped Improvement	\$\$\$
*	Airport Rd <i>Haines Rd to Rice Lake Rd after Airport, 40th to Woodland Ave</i>	Resurfacing	\$\$
*	40th Ave W <i>Grand Ave to Hwy 35</i>	Reconstruction	\$\$
*	Woodland Ave <i>East Calvary to Martin Rd</i>	Bike or Ped Improvement	\$\$\$
MN-02-81	Arrowhead Rd. <i>Haines Rd to Rice Lake Rd</i>	Pavement Rehab	\$\$\$\$
MN-02-82	CSAH 48 Lavaque Rd. <i>Sidewalk along CSAH 48 from Johnson Rd. to CSAH 56</i>	Pavement Rehab	\$\$
Total:			\$0

Long-term Projects (2034-2049)			
Proj. No.	Project Description	Type	Total Cost
	Lester River Rd <i>Superior St to Strand Rd - Bike/Ped Improvements</i>	Reconstruction	\$\$\$\$\$
	Arnold Rd <i>Calvary Rd to Martin Rd - Bike/Ped Improvements</i>	Bike Ped Improvement	\$\$\$
	Calvary Rd <i>Arnold Rd to Howard Gnesen Rd - Bike/Ped Improvements</i>	Bike Ped Improvement	\$\$\$
Total:			\$0

* City of Duluth owned road today. City of Duluth and County are working on a road jurisdiction change for these segments. Would be SLC owned if agreement is made.

Short-term Projects (2024-2028)

Proj. No.	Project Description	Type	Total Cost
MN-03-03	Cross City Trail <i>Raleigh St to Redruth St - Extend shared use path</i>	New construction	\$500,000
MN-03-03	Cross City Trail <i>Redruth St to 67th Ave W - Extend shared use path</i>	New construction	\$500,000
MN-03-04	Campus Connector Trail <i>Vermillion Rd to Carver Ave - Extend shared use path</i>	New construction	\$500,000
MN-03-05	Campus Connector Trail <i>Lakewalk to 1st St - Extend shared use path</i>	New construction	\$500,000
MN-03-06	Campus Connector Trail <i>Carver Ave to College St - Extend shared use path</i>	New construction	\$500,000
*	40th Ave W <i>Grand Ave to I-35 - New shared use path</i>	New construction	\$500,000
	London Rd <i>21st Ave E to 26th Ave E - New bike lane</i>	New construction	\$150,000
Total:			\$3,150,000

Mid-term Projects (2029-2033)

Proj. No.	Project Description	Type	Total Cost
	Kenwood Ave <i>Skyline Pkwy to Arrowhead Rd - New bikeway facility</i>	New construction	\$500,000
	Grand Ave <i>59th Ave W to Carlton St - New bikeway facility</i>	New construction	\$1,000,000
	4th Street <i>Mesaba Ave to 6th Ave E - New bikeway facility</i>	New construction	\$500,000
MN-03-03	Cross City Trail <i>67th Ave W to Fremont St - Extend shared use path</i>	New construction	\$500,000
MN-03-03	Cross City Trail <i>Fremont St to Kingsbury Creek Trailhead - Extend shared use path</i>	New construction	\$500,000
	Central Ave <i>Grand Ave to Raleigh St - New bikeway facility</i>	New construction	\$500,000
MN-03-27	Campus Connector Trail <i>Kenwood Ave to Rice Lake Rd - Extend shared use path</i>	New construction	\$1,000,000
	Cody St <i>Central Ave to 68th Ave W - New bikeway facility</i>	New construction	\$500,000

W 1st St/W Superior St <i>40th Ave W to 46th Ave W - New bikeway facility</i>	New construction	\$100,000
2nd St <i>Mesaba Ave to 6th Ave E - New bikeway facility</i>	New construction	\$500,000

Total: \$5,600,000

Long-term Projects (2034-2049)

Proj. No.	Project Description	Type	Total Cost
MN-03-62	Wade Stadium Trail <i>34th Ave W to Grand Ave - New shared use path</i>	New construction	\$500,000
MN-03-63	Lincoln Park Middle School Trail <i>Grand Ave to Lincoln Park Middle School Dr - New shared use</i>	New construction	\$1,000,000
MN-03-76	Cross City Trail - Spirit Mountain Spur <i>Cross City Trail to DWP Trail - New shared use path</i>	New construction	\$500,000
MN-03-77	Cross City Trail - Zoo Spur <i>Cross City Trail to DWP Trail - New shared use path</i>	New construction	\$500,000
	Hermantown-Proctor - Munger Trail Spur <i>68th Ave W to Boundary Ave - New shared use path</i>	New construction	\$1,500,000
	W Superior St <i>Lower Michigan St to 7th Ave E - New shared use path (upper/odd side of street)</i>	New construction	\$500,000
	Superior St <i>7th Ave W to 4th Ave E - New bikeway facility</i>	New construction	\$1,000,000
	E Superior St <i>4th Ave E to 21st Ave E - New bikeway facility</i>	New construction	\$1,000,000
	E Superior St <i>21st Ave to 44th Ave E - New bikeway facility</i>	New construction	\$1,000,000
	Garfield Ave <i>Superior St to Blatnik Bridge - New bikeway facility</i>	New construction	\$500,000
	Skyline Pkwy <i>Lincoln Park Dr to 19th Ave W - New bikeway facility</i>	New construction	\$2,500,000
	27th Ave W <i>Courtland St to 3rd St - New bikeway facility</i>	New construction	\$500,000
	12th Ave E <i>London Rd to 4th St - New bikeway facility</i>	New construction	\$500,000
	Canal Park Dr <i>Railroad St to Aerial Lift Bridge - New bikeway facility</i>	New construction	\$500,000
	Lake Ave <i>Railroad St to Aerial Lift Bridge - New bikeway facility</i>	New construction	\$500,000

E 8th St <i>14th Ave E to Woodland Ave - New bikeway facility</i>	New construction	\$500,000
Woodland Ave <i>4th St to St. Marie St - New bikeway facility</i>	New construction	\$1,000,000
E 4th St <i>Wallace Ave to 34th Ave E - New bikeway facility</i>	New construction	\$500,000
45th Ave E <i>Lakewalk to Glenwood St - New bikeway facility</i>	New construction	\$500,000
52nd Ave E <i>Lakewalk to Glenwood St - New bikeway facility</i>	New construction	\$500,000
Arrowhead Rd <i>Rice Lake Rd to Wallace Ave - New bikeway facility</i>	New construction	\$1,500,000
Maple Grove Rd <i>Miller Trunk Hwy (Hwy 53) to Basswood Ave - New bikeway facility</i>	New construction	\$1,000,000
Chambersburg Ave <i>Morris Thomas Rd to Anderson Rd - New bikeway facility</i>	New construction	\$500,000
Joshua Ave <i>Arrowhead Rd to Hwy 53/Miller Trunk Hwy - New shared use path</i>	New construction	\$1,000,000
W 3rd St <i>Carlton St to 21st St - New bikeway facility</i>	New construction	\$500,000
Total:		\$20,000,000

* 40th Ave W may change ownership from City of Duluth to St. Louis County

Short-term Projects (2024-2028)

Proj. No.	Project Description	Type	Total Cost
MN-04-01	Munger Trail Connector <i>Numerous segments from Hermantown school campus to and along St Louis River Rd</i>	Bike or Ped Improvement	\$\$\$\$
	Hermantown Commuter Trail segment 3 and 4 <i>Extend Trail from South edge of city to Hermantown Road</i>	Trail	\$2,750,000
	Hermantown Commuter Trail segment 2 <i>Lightnigh Drive - Extend Trail from Maple Gorve to Getchell Road</i>	Trail	\$750,000
	Hermantown Commuter Trail segment 1 <i>Extend Trail from Getchell Road to Ugstad Road</i>	Trail	\$2,382,000
Total:			\$5,882,000

Mid-term Projects (2029-2033)

Proj. No.	Project Description	Type	Total Cost
Total:			\$0

Long-term Projects (2034-2049)

Proj. No.	Project Description	Type	Total Cost
Total:			\$0

Short-term Projects (2024-2028)

Proj. No.	Project Description	Type	Total Cost
1	N7th St	Bike Boulevard	\$12,000
6	Broadway St	Bike Boulevard	\$13,000
7a	N 12th St	Bike Boulevard	\$13,000
8d	E 5th St	Bike Boulevard	\$11,000
9	Belknap St	Bike Lane	\$13,000
10	N 19th St	Bike Boulevard	\$13,000
11a	N 21st St	Bike Boulevard	\$13,000
11b	N 21st St	Bike Lane	\$19,000
11c	N 21st St	Bike Lane	\$5,000
12	N 26th St	Bike Boulevard	\$5,000
13	15th Ave E	Bike Boulevard	\$7,000
16	22nd Ave E	Bike Lane	\$5,000
19	N 55th St	Bike Boulevard	\$7,000
20c	24th Ave E	Bike Lane	\$3,000
21	26th Ave	Bike Boulevard	\$3,000
22	E 3rd Ave	Bike Boulevard	\$1,000
24c	Central Ave	Bike Boulevard	\$6,000
25	39th Ave E	Bike Boulevard	\$3,000
26	50th Ave	Bike Boulevard	\$3,000
27	New York Ave	Bike Boulevard	\$8,000
29	Wyoming Ave	Bike Boulevard	\$16,000
30a	Elmira Ave	Bike Boulevard	\$16,000
34	Ogden Ave	Bike Boulevard	\$27,000
38	Hammond Ave	Bike Boulevard	\$9,000
39c	Grand Ave	Bike Lane	\$10,000
39d	Lamborn Ave	Bike Boulevard	\$17,000
41a	Catlin Ave	Bike Boulevard	\$3,000
41b	Catlin Ave	Bike Boulevard	\$11,000
41c	Catlin Ave	Bike Boulevard	\$6,000
43	9th Ave E	Bike Boulevard	\$4,000
44	E 3rd St	Bike Boulevard	\$7,000
46	Diagonal St	Bike Boulevard	\$2,000
47	E 3rd St	Bike Boulevard	\$9,000
48	Wisconsin Point Trail	Trail	\$
52	N 5th St Connector	Trail	\$36,000
Total:			\$336,000

Mid-term Projects (2029-2033)

Proj. No.	Project Description	Type	Total Cost
2	N 7th St Connector	Trail	\$32,000
5	Osaugie Trail Extension	Trail	\$279,000
8b	E 5th St	Bike Lane	\$16,000
8c	E 5th St	Bike Lane	\$24,000
11e	N 21st St E	Bike Lane	\$17,000
14a	N 28th St	Separated Bike Lane/Sidepath	\$458,000
14c	N 28th St	Separated Bike Lane/Sidepath	\$1,199,000
15	18th Ave E	Separated Bike Lane/Sidepath	\$573,000
18	N 37th St	Bike Lane	\$4,000
24b	Central Ave	Bike Lane - Buffered	\$7,000
28	Susquehanna Ave	Trail	\$134,000
37b	Hammond Ave	Bike Lane - Buffered	\$15,000
37c	Hammond Ave	Separated Bike Lane/Sidepath	\$456,000
37d	Hammond Ave	Separated Bike Lane/Sidepath	\$283,000
39a	Grand Ave	Bike Lane	\$4,000
39b	Grand Ave	Bike Lane	\$19,000
40	Wade Bowl Park Connector	Trail	\$48,000
41d	Catlin Ave	Bike Lane - Buffered	\$21,000
42b	Hill Ave	Bike Lane	\$29,000
Total:			\$3,618,000

Long-term Projects (2034-2049)

Proj. No.	Project Description	Type	Total Cost
3a	Winter St	Separated Bike Lane/Sidepath	\$1,503,000
3b	Winter St	Separated Bike Lane/Sidepath	\$335,000
4	E 1st St	Separated Bike Lane/Sidepath	\$233,000
7b	N 12th St	Separated Bike Lane/Sidepath	\$428,000
8a	E 5th St	Separated Bike Lane/Sidepath	\$236,000
11d	N 21st St	Bike Lane	\$524,000
14b	N 28th St	Separated Bike Lane/Sidepath	\$364,000
17	22nd St Extension	Trail	\$59,000
20a	Stinson Ave	Paved Shoulder	\$444,000
20b	24th Ave E	Bike Lane	\$3,000
23	Crosstown Trail	Trail	\$4,586,000
24a	Central Ave	Paved Shoulder	\$55,000
30b	Elmira Ave	Separated Bike Lane/Sidepath	\$74,000
30c	Elmira Ave	Paved Shoulder	\$28,000

31	N 33rd St	Paved Shoulder	\$3,000
32	Albany Ave	Paved Shoulder	\$179,000
33a	Tower Ave	Separated Bike Lane/Sidepath	\$23,000
33b	Tower Ave	Separated Bike Lane/Sidepath	\$23,000
33c	Tower Ave	Separated Bike Lane/Sidepath	\$671,000
35	Blatnik Bridge	Study	TBD
36a	Hammond Ave	Study	TBD
36b	Hammond Ave	Separated Bike Lane/Sidepath	\$1,043,000
42a	Hill Ave	Bike Lane	\$207,000
42c	Hill Ave	Paved Shoulder	\$231,000
44	3rd St Connector	Trail	\$55,000
45	E 2nd St Sidepath	Trail	\$76,000
49	Moccasin Mike Rd	Separated Bike Lane/Sidepath	\$101,000
50	S 57th Ave	Separated Bike Lane/Sidepath	\$41,000
51	County Road E	Separated Bike Lane/Sidepath	\$499,000
Total:			\$12,024,000

Projects Identified as "For Study" or Recommended "On-Street" Improvements

Proj. No.	Project Description	Type	Jurisdiction
	E 9th St <i>6th Ave E to 14th Ave E - Bike lane on 9th St and/or bike boulevard on 8th St</i>	New construction	City of Duluth
	6th Ave E <i>2nd St to 9th St - New bikeway facility or along parallel corridor</i>	New construction	City of Duluth
	Central Entrance <i>9th St to Mesaba Ave - New shared use path - location undetermined</i>	New construction	City of Duluth
	Snelling Ave <i>19th Ave E to College St - Bike boulevard</i>	New construction	City of Duluth
	W 6th St <i>Central Ave to 40th Ave W - Bike boulevard</i>	New construction	City of Duluth
	Lake Superior College Spur <i>Piedmont Ave to Lake Superior College - New bikeway facility</i>	New construction	City of Duluth
	Campus Connector Trail <i>Rice Lake Rd to Swan Lake Rd - New shared use path</i>	New construction	City of Duluth

CHAPTER 7: BICYCLE NETWORK PRIORITIZATION

Overview

The 2025 MIC bike plan update included creating a “level of importance” map to assist with bicycle project prioritization as local jurisdictions work toward building out the bicycle network. This level of importance map does not address individual projects but is rather overlaid over the whole bicycle network. As explained below, the level of importance mapping approach assigns roads and trails a score based on criteria including proximity to schools and other key destinations, likelihood of serving households who do not own a vehicle, and level of stress sharing the road with vehicles based on traffic speed and volume.

In addition, a key insight from this plan preparation was the recognition that too many of our primary “bike highways”, such as Duluth’s Cross City Trail, remain incomplete. These gaps result in safety concerns and constrain the overall network efficiency. Placing a regional priority on identifying, completing, and maintaining major bike route continuity is also key to completing the network.

Although MIC jurisdictions have completed several “stand alone” projects that create new bicycle infrastructure, usually as shared use paths, many bicycle transportation projects are implemented as part of road reconstruction or re-paving projects. The “level of importance” map and goal of completing the bikeway arterial system will be useful for comparing and prioritizing stand-alone bicycle facility construction projects.

Although bicycle projects built as part of road projects might not follow these priorities, these projects are locally important and should still be undertaken to help complete the bike network. Non-arterial bike routes are still crucial to the bicycle network and should be appropriately designed and prioritized.

This prioritization approach will not determine every single upcoming project, humans will review and finalize the upcoming projects using their common-sense human filter, attuned to specific local needs, grant opportunities and available funding, new developments, and road projects.

Mapping Approach

Level of Importance

A “level of importance” was calculated and mapped on all roads classified as arterials and collectors. Additionally, hostility criteria and locations likely to serve as trip generators for bicyclists were used. Hostility criteria encompass metrics indicating unsafe bicycle conditions, demonstrating the need for safe, designated bikeways. These include metrics related to traffic volumes and traffic speeds. As shown in Figure 7-1 the trip generator criteria include those related to activity nodes, civic centers, schools, transit, and priority populations.

The highest possible number of points based on the prioritization approach is 91. The range of scores for each prioritization level is:

Low	1-29
Medium	30-42
High	43-55
Critical	>55

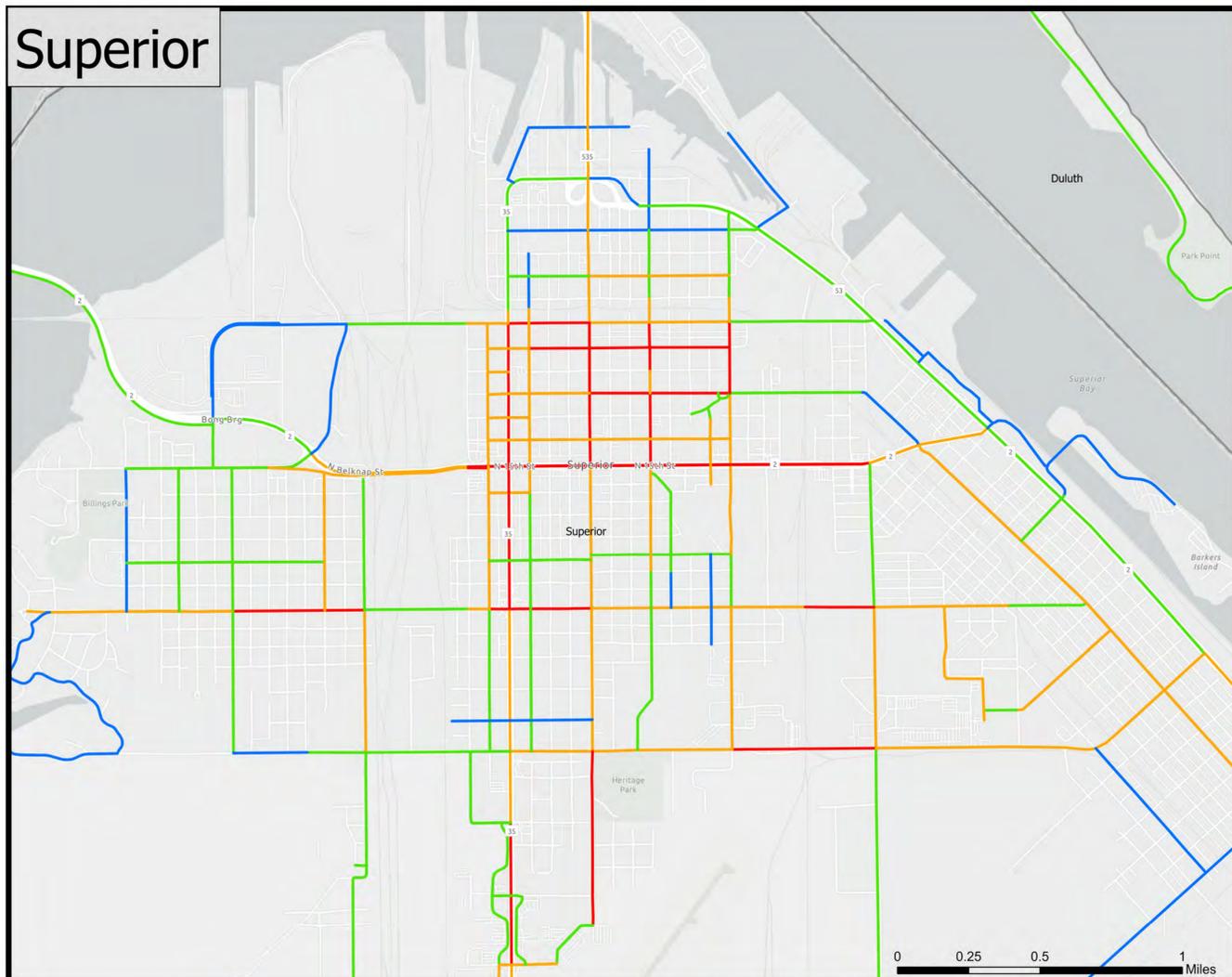
The primary “level of importance” metric categories are listed below and detailed in the table that follows:

- Traffic Volumes (daily count)
- Traffic Speeds
- Safe Route to School
- Transit Route (frequency)
- Activity Node (Civic Center)
- Priority Populations
- Short Trip Generators

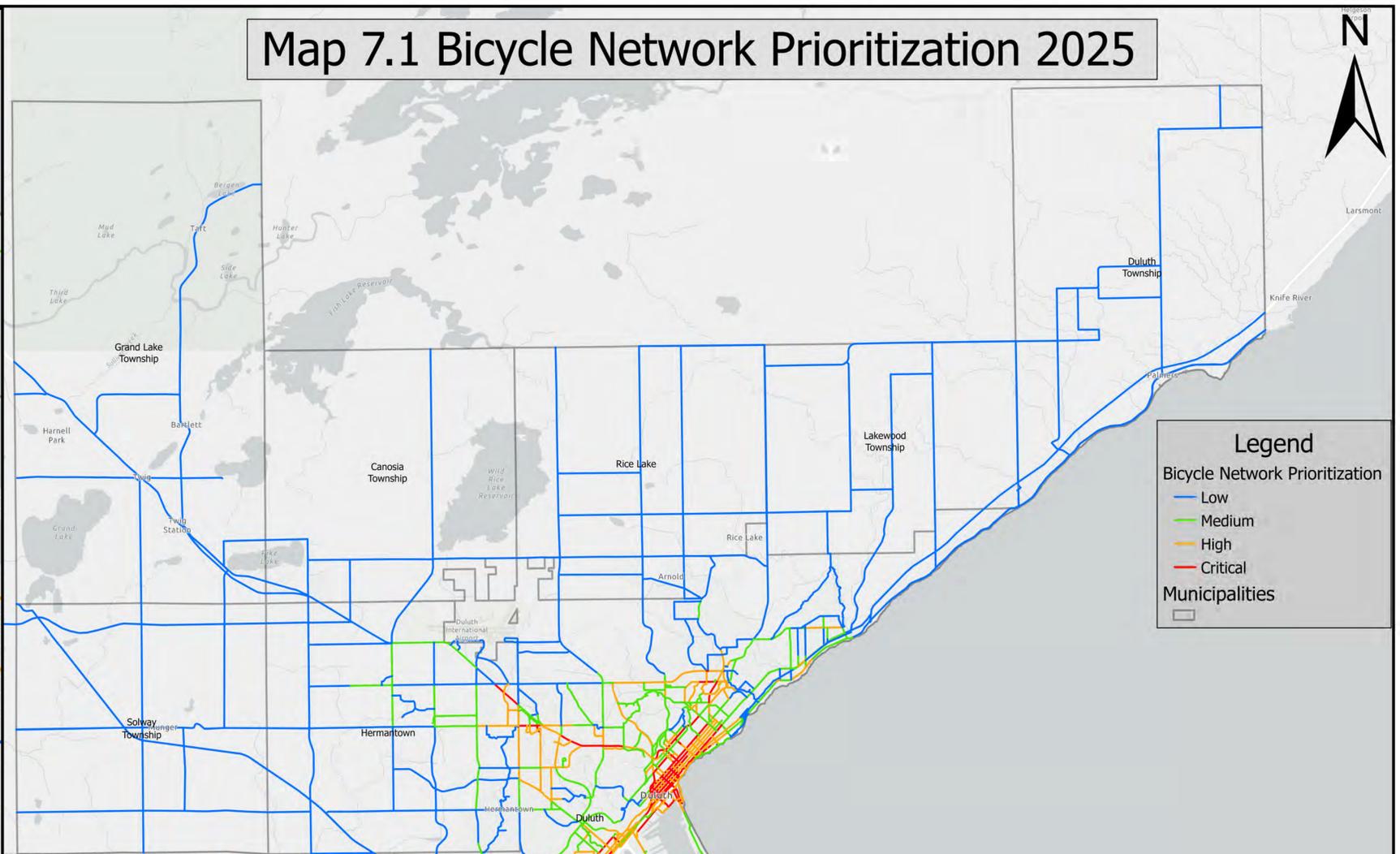
Note that the level of importance map does not account for existing bicycle infrastructure. For example, portions of Tower Avenue in Superior and West Superior Street in Duluth are red, indicating they are in the highest scoring 25% of roads evaluated, even though these roads do have existing bicycle facilities.

Also, the map often indicates most existing trails, such as Duluth’s Lakewalk and Hermantown’s Boulder Trial, as low importance, because they score zero for traffic stress (hostility). They are also often not directly adjacent to trip generators and/or may not be near residential areas with low rates of vehicle ownership. As noted above, such trails are still high priority, creating key parts of the bike “arterial” system.

Superior



Map 7.1 Bicycle Network Prioritization 2025



Duluth

