City of Edina

Pedestrian and Bicycle Master Plan

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This document, developed by the Edina community, is a tool to guide the efforts of the City's residents, elected officials and staff as they work together to continue developing a safer, more comfortable and more inviting comprehensive pedestrian and bicycle network.

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Appendix A: Infrastructure Toolkit

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Executive Summary

A more walkable, more bikeable Edina

This plan is a document to guide Edina's continuing evolution toward becoming a more walkable, bikeable community that offers its residents a full range of healthy, active and sustainable transportation options for moving in and around their city, and for connecting to its numerous recreational, commercial and entertainment opportunities.

Goals

Goals for the plan are twofold:

» To increase the number of Edina residents, workers and visitors who walk or bike for transportation, health, fitness, and recreation in the city, and,

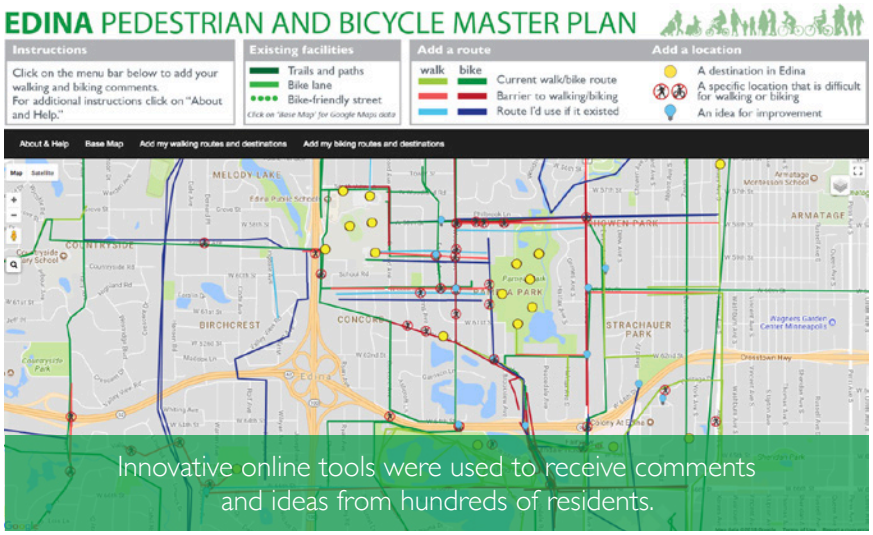
» To support city, resident and elected officials' work and efforts to offer the highest quality of life and best experience of their city to Edina residents, businesses, workers and visitors.

Community guidance

The plan was developed with the active participation of the Edina community, and guidance and consultation with city staff. A vigorous engagement process - using both in-person and innovative online approaches - brought the voice and ideas of well over a thousand Edina residents into the shaping of the plan's vision and recommendations.

The guidance was clear: residents recognize, enjoy and appreciate the many walk / bike assets the city has developed over the last ten years - but there are also many opportunities for improving current conditions and innovating, once again, to develop and offer residents the best, most productive approaches for growing walking and biking in the city.

Engaging with Edina High students to receive their ideas for the plan.



Innovative online tools were used to receive comments and ideas from hundreds of residents.

An All Ages and Abilities Network

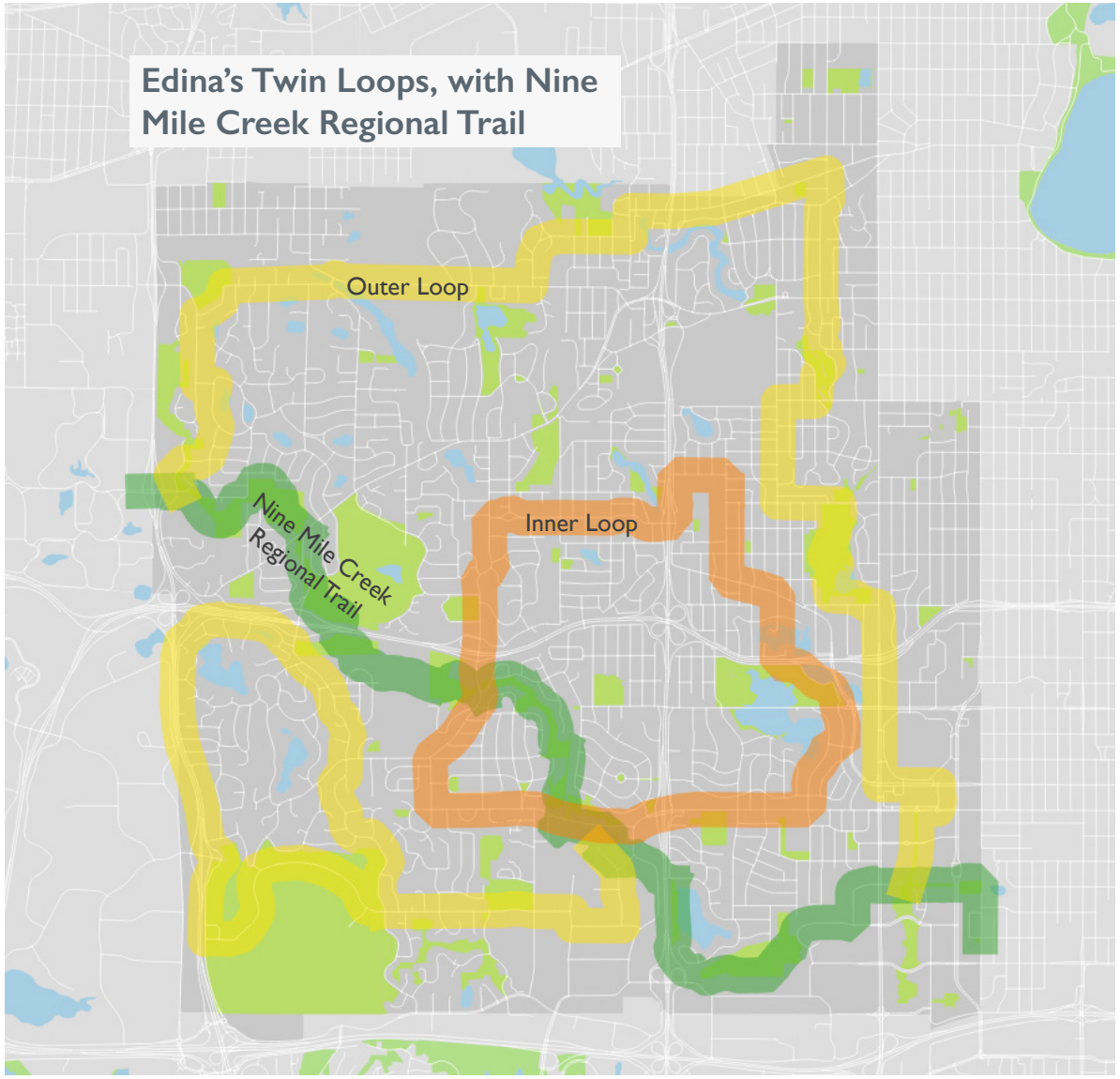
Guidance from Edina residents was very clear: connecting to schools, parks and neighborhoods with safe and comfortable facilities is a key priority.

This plan proposes an All Ages and Abilities walk / bike system that is built around a new "Twin Loops" framework connecting key assets in the city through a high-comfort, high-amenity network of walking and biking routes and supporting facilities.

The Inner and Outer Loops, working together with the new Nine Mile Creek Regional Trail, provide high quality connections tying all four city quadrants and serving Edina schools, community destinations and parks, regional destinations, and adjoining communities.

A comprehensive approach

The plan recognizes the importance of a comprehensive approach for achieving success: a full suite of recommendations - from on-the-ground routes and facilities to a robust set of education, encouragement and other programming initiatives are part of the plan's "6Es" approach.



Bikeshare, educational campaigns, and recommendations for supporting development of new "mobility hubs" in the city are included.

Taking care of what we've got

But the plan is not only about making new investments - it's also about recognizing and taking care of the many walk / bike assets Edina has developed over the last few years. Recommendations for maintaining infrastructure, and offering a year-round walking and biking network are also a key part of the plan.

Implementation - where we make it real

Recommendations are great - but none of it counts if we don't build it. The plan includes robust guidance for implementation approaches - from a "test it first" and quick / tactical approach to developing facilities and infrastructure to recommendations for implementing programs.

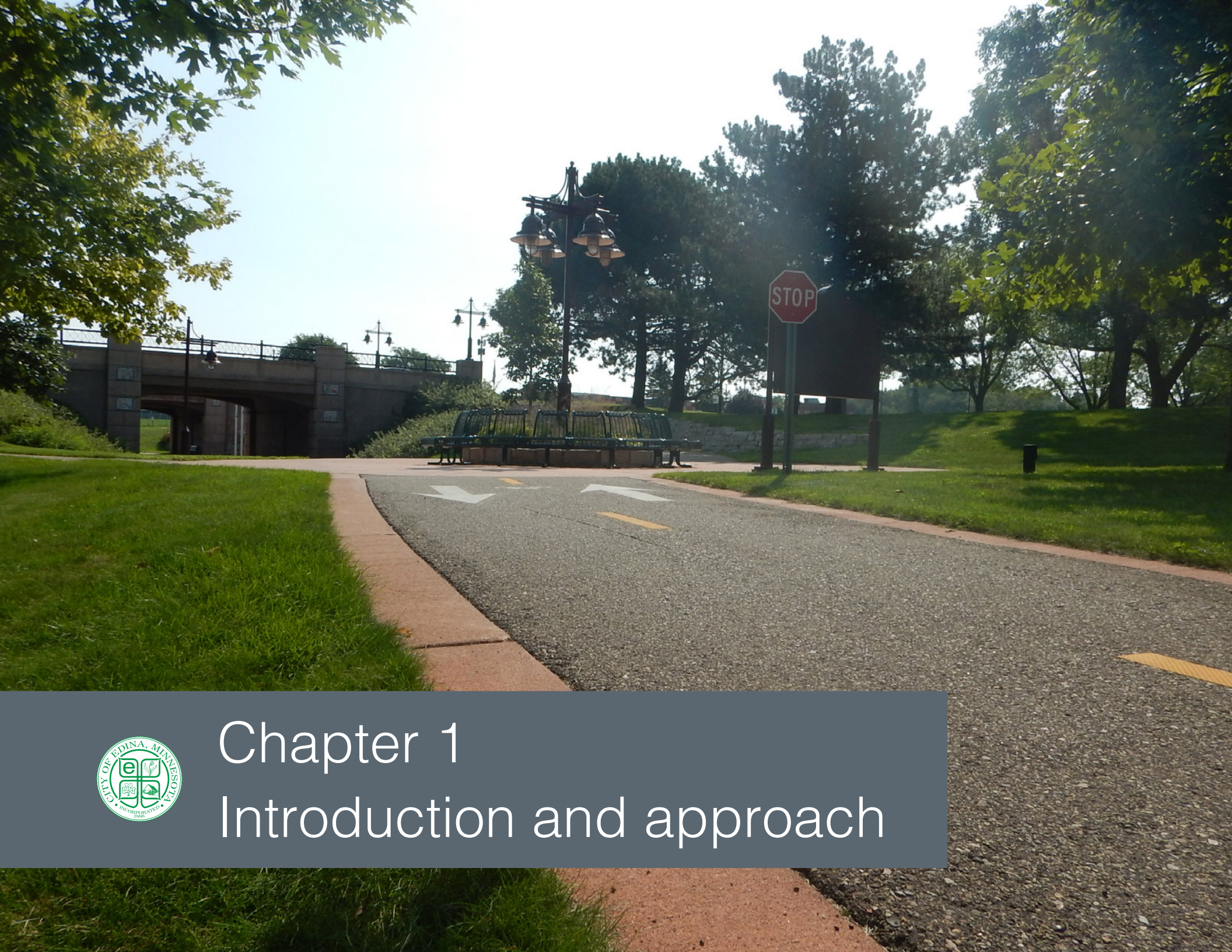
Most important of all, it includes a preliminary evaluation on how to implement the Edina Twin Loops - by looking at opportunities, constraints, and potential phasing for developing the individual segments that will make up this premier, signature walking and biking framework for the city's transportation network. Several potential funding sources are also identified.

Next steps

Once the plan completes the city's review and approvals process, it will become part of its Comprehensive Plan, offering guidance for the city's next investments until the year 2030.

On the Edina Twin Loops: one potential configuration.

A robust network that invites walking and biking year-round.



Chapter 1
Introduction and approach

This chapter provides an introduction to the plan - its goals, vision and principles, and provides an overview of why planning for people walking and biking is important.

1.1 Introduction
1.2 Vision
1.3 Why plan for walking and biking?
1.4 Goals
1.5 Guiding principles

1.1 Introduction

Walking and biking are basic and sustainable forms of transportation that provide healthy, affordable, and enjoyable options for reaching our daily destinations.

Walkable, bikeable places provide safe, comfortable and inviting walking and biking routes and offer freedom of travel for people of all ages, abilities and incomes, including the young and elderly.

About this plan

This plan is a guiding document that offers recommendations - including routes, facilities and programs - to improve walking and biking in Edina so these options become safer, more convenient and more inviting and enjoyable options for people who live, work, and play in the city.

The plan uses two key approaches for framing its recommendations:

» An **Active Living** approach that seeks to make walking and biking comfortable and normal everyday activities for connecting to work, school, parks, transit and other community destinations

» A **6Es** approach that uses a combination of on-the-ground improvements with supportive programs (maps, community events, safety campaigns and others) to make improvements in the city and grow walking and biking

The plan builds on the many investments and improvements that have been completed over the last ten years, and looks ten years into the future for its recommendations.

How the plan was developed

The project team worked closely with Edina residents, staff and policymakers to learn firsthand about their issues and ideas for improvement, and to develop a vision for walking and biking in the city.

Latest and best practices in network, facility and program design were used to analyze and address the issues noted by residents and to respond to other safety, connectivity and comfort issues discovered by the project team. An implementation plan was developed to identify priorities for funding and building improvements.

1.2 Vision

The plan's Vision is a statement describing the future of Edina after the plan's recommendations are implemented. It was developed from the comments and ideas gathered through the Plan's community engagement process, and refined through work with Edina staff and the Edina Transportation Commission.

Edina is an innovative, people-friendly community where people of all ages and abilities walk and bike for transportation, recreation and fitness, and where walking and biking are safe, comfortable, inviting and convenient everyday activities during the entire year.

Edina uses a cost-effective and integrated 6Es approach (engineering, education, encouragement, enforcement, evaluation and equity) to equitably grow walking and biking throughout the community, and to sustainably develop and maintain its existing and future infrastructure and programs.

Edina is a national model for the integration and development of Active Transportation into the fabric of a developed and forward-thinking first-ring suburban community.

1.3 Why plan for walking and biking?

Safety

Comprehensive pedestrian and bicycle transportation systems help improve safety by providing interconnected networks with fewer gaps, more separation from motor vehicle traffic, and calmer streets.

Livability

Increasing transportation options helps achieve broader community goals including access to jobs, neighborhood schools, and services.

Access to destinations / mobility

Walking and bicycling increase access and overall mobility, allowing people of all ages and abilities to reach more destinations throughout Edina.

Health

Active transportation options, like walking and biking, provide an opportunity for residents to build physical activity into their daily lives. In general, communities with higher rates of walking and bicycling have lower rates of obesity, and higher percentages of residents meeting weekly recommended physical activity levels.

Household and community prosperity

Walking and biking are affordable transportation options that reduce the cost of transportation for all. People who walk or bike for at least some of their trips are able to save on many costs associated with vehicle ownership, freeing up budget for other necessities and luxuries.

Cleaner air and environmental stewardship

When more people walk, bike, or take transit to meet their transportation needs instead of driving, all residents benefit from cleaner air and reductions in harmful pollutants caused by vehicle exhaust. Additionally, reductions in driving help decrease Greenhouse Gas (GHG) emissions which supports Edina's shared value of being good environmental stewards.

Recreation

Walking and biking are among the top desired recreational activities in regional surveys, especially among older residents. During public engagement, Edina residents ranked walking and biking for fitness and recreation higher than for other purposes.

Parking and congestion alleviation

Over 25% of trips in the U.S. are shorter than one mile. That's a 20-minute walk, or a 5-minute bike ride, an approachable distance for most people. Fewer people driving means less congestion on existing roadways, less demand for parking, less time and money spent waiting in traffic, and safer conditions for people who choose to walk or bike.

Regional economic competitiveness

Communities with trails and safe walking and biking infrastructure attract tourism and boost their economies. Businesses that can be easily reached by foot or bike are perceived as being more convenient, and benefit from better access for their customers. Replacing driving trips with walking and biking keeps more money in the local economy by not exporting it to purchase fuel. If each household in Edina bought just one fewer gallon of gas each month by walking and biking more, they would save a combined $620,000 a year to use in the local economy.

What Edina residents want

Over one thousand Edina residents shared their ideas and priorities for improving walking and bicycling in the city. Their guidance was incorporated into the plan's recommendations. This is what they said:

- Walking and riding a bike are fun and valued activities in the city.
- There are gaps in the current network that make walking or biking difficult.
- Walking and biking close to motor vehicle traffic is stressful and makes daily use of these options less attractive.
- It's uncomfortable and difficult to get across intersections in larger roads in the city.
- Maintaining walking and biking facilities throughout the year (including winter) is important.
- Getting around the city and finding routes to destinations can sometimes be confusing or difficult.

1.4 Goals

What are the goals for the plan?

The goal for the plan is very simple: to increase the number of Edina residents, workers and visitors who walk or bike for transportation, health, fitness, and recreation in the city.

How will we achieve this goal?

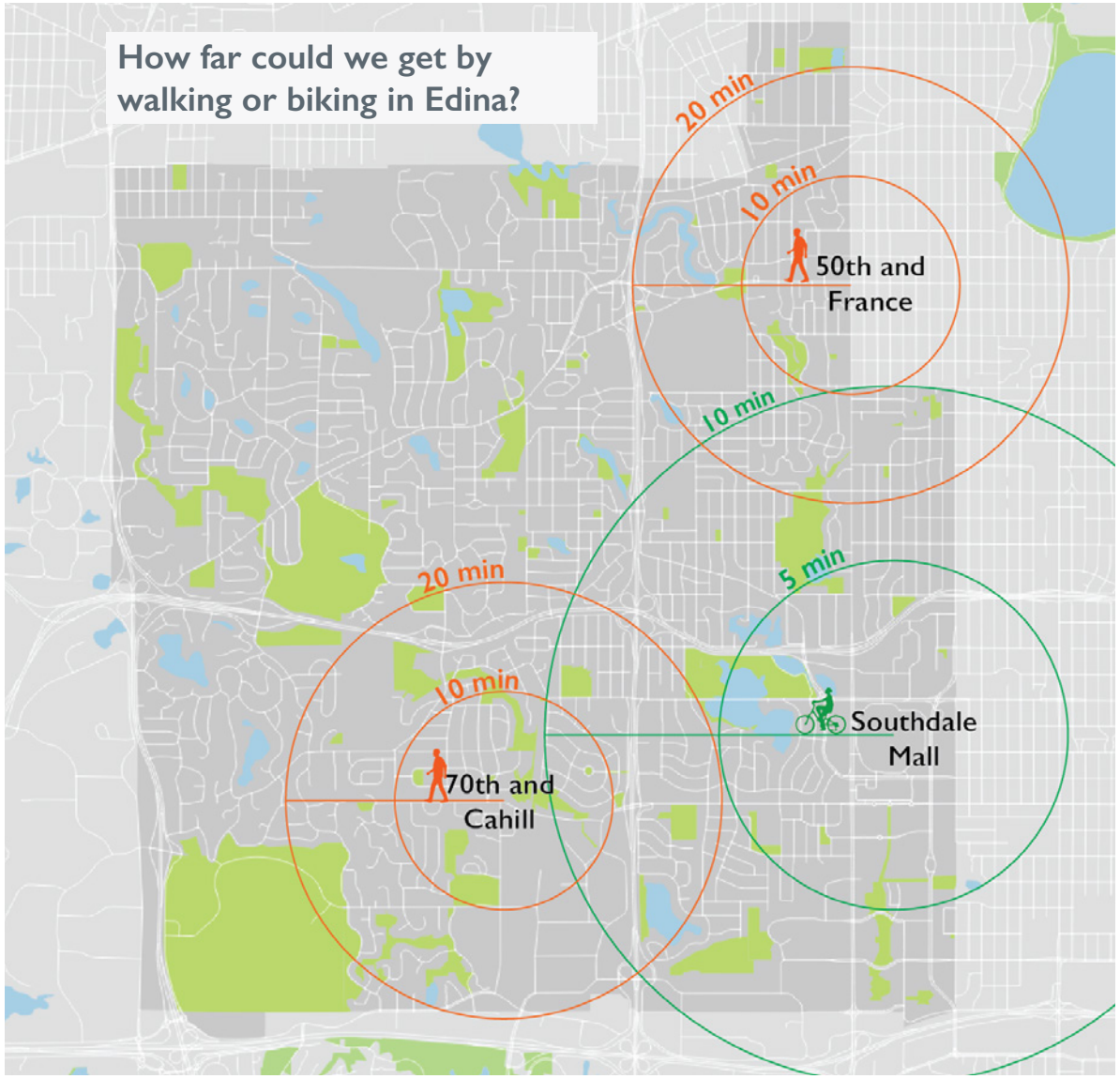
We'll achieve this goal by doing these two things:

» Providing a continuous network of safe, comfortable and inviting facilities, and,

» Implementing a full range of effective and proactive programs that support increased walking and biking in the city - including programs in community education, encouragement, enforcement, and evaluation.

Did you know?

Many destinations in Edina could be easily reached by walking or biking at a comfortable pace if we improve routes and connections in the city.



Did you know?

50% of all trips in the U.S. are three miles or shorter

over 25% of all trips are shorter than one mile

2/3 of all those short trips are taken in private motorized vehicles.

The most harmful pollutants are emitted within minutes of starting a car. Short trips pollute more per mile and have a bigger negative impact on environmental and physical health than longer trips.

Active living approach

Health starts in the communities where we live, work, and play. The way communities are planned and designed plays a significant role in the physical, emotional, and financial well-being of community members. Active living policies and initiatives help make physical activity (like walking or biking) a useful, easy, fun and normal part of everyday life for a community's residents. Active living is important for a community because it can:

- Improve physical and mental health;
- Make walking and biking safer;
- Bring people together to build safer, stronger communities;
- Reduce traffic congestion, improve air quality, maximize green space, and reduce transportation costs for families; and
- Decrease the risk and severity of chronic disease and medical costs.

1.5 Guiding principles

These are the principles that will help Edina achieve its goals and vision:

Improve safety, perception of safety, and user comfort

Proactively address conditions at intersections, facilities or trail locations where issues of safety or user perception of safety exist. Increase comfort of existing facilities to address user perceptions or preferences and grow walking and biking trips in the city.

Develop facilities and address gaps

Provide facilities and connections where needed and develop walking and biking networks that offer continuous, high-quality, comfortable connections.

Use an "All Ages and Abilities" approach to provide safe routes for all

To grow walking and biking in the city, implement improvements and facilities that are designed for the safe and comfortable use by the majority of Edina residents, including children, seniors, and adults - including those who are not currently walking or biking in the city today.

Networks provide the framework for improvement

Continuous, consistent and comfortable route networks for walking and biking provide the armature for investment and for developing facilities in the city.

Connectivity for everyday uses and needs

High quality walking and biking networks that connect to useful everyday destinations like schools, work, transit, neighborhoods, parks and other community destinations make it easy and convenient for more people in Edina to choose these modes for a greater portion of their transportation and mobility needs.

Connect to regional and local assets and destinations

Safe and convenient walking and biking facilities connect to destinations in Edina and neighboring communities. Connections to the growing network of regional walk and bike trails expand the number of potential destinations available to Edina residents and provide increased access to our region's assets.

Evaluation is the foundation for continuous improvement

Ongoing and continuous quantitative and qualitative evaluation of investments guides Edina to cost-effective, productive walking and biking investments that result in increased walking and biking in the city. Overall success for the plan is measured by growth in the number of people who walk or bike in the city.

A "tactical urbanism" approach supports experimentation and innovation

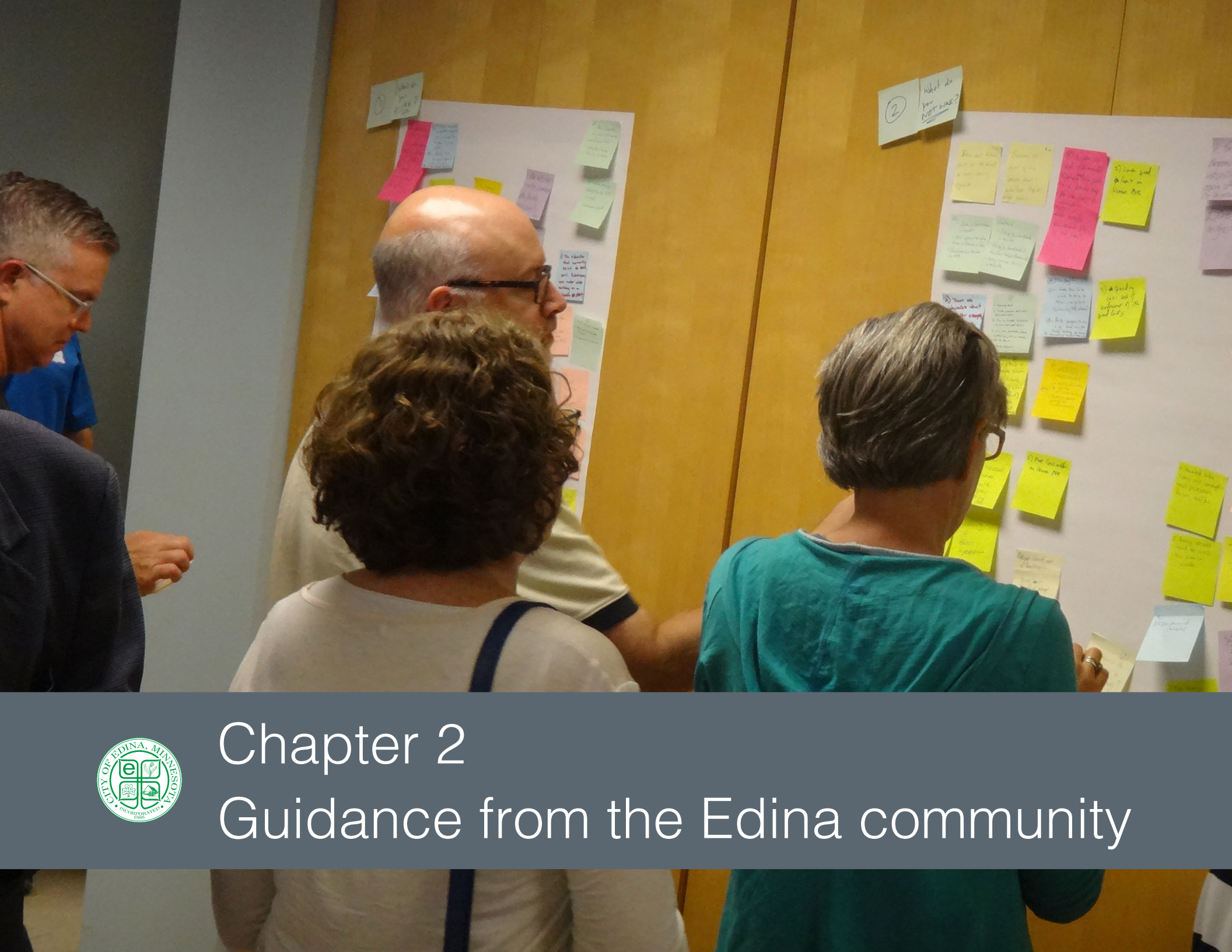
Pilot projects and other temporary approaches for experimenting and evaluating potential solutions help identify cost-effective, useful investments in the city's walking and biking networks.

A year-round approach

Year-round safe and inviting walking and biking requires a year-round approach for maintenance, communications and programming.

A sustainable, resilient network

Infrastructure and programming investments consider their environmental, social and economic sustainability, and build supporting frameworks for their continuation into the future. Facilities and connections that offer multiple routes for accessing destinations, high quality materials and design, proactive maintenance, and responsive resident engagement help develop and maintain a resilient system serving the needs of Edina residents well into the future.



Chapter 2
Guidance from the Edina community

A robust community engagement process was a key component of the approach for this plan, serving as the foundation for the plan's vision and recommendations. This chapter provides a high-level summary of activities and findings - for additional details, please consult Appendix B, which includes results from all of the plan's community engagement activities.

2.1 What we did
2.2 What we heard and learned

2.1 What we did

Connecting with Edina residents was a key priority for the plan. We conducted extensive in-person and online engagement to receive comments and guidance from Edina residents detailing their current experiences and their aspirations for the future of walking and biking in the city.

The plan's vision and recommendations reflect this guidance, as well as the comments and guidance from Edina staff and other stakeholders. **A detailed summary of public engagement efforts can be found in Appendix B.**

Gathering comments from Edina residents at Bredesen Park.

Where did we go?

We held several in-person events to share project information and gather resident comments. Events included:

- Kick-Off Open House (July 2017)
- Centennial Lakes Farmer's Market (Pop-Up Workshop)
- Jerry's Foods (Pop-Up Workshop)
- Bredesen Park (Pop-Up Workshop)
- Edina High School (Listening Session)
- Final Open House (December 2017)

In-person engagement

Activities for in-person engagement varied slightly between events, but in general included the following:

- Plan overview
- "I Love / I Wish" activity (what's working and what needs work)
- Identifying barriers and prioritizing solutions
- Mapping destinations, routes, barriers, and ideas
- Opportunities for general comments and questions.

Students providing their comments at a session at Edina High School.

ENGAGEMENT BY THE NUMBERS

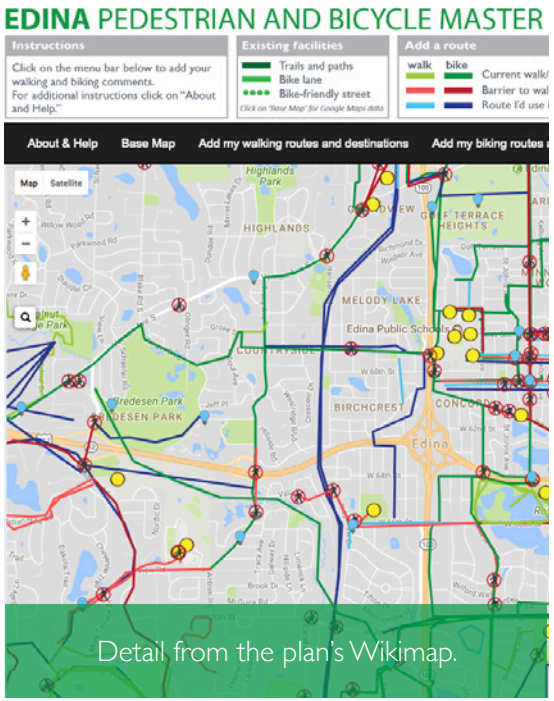
6 In-person events offered people the opportunity to share experiences and ideas for improving walking and biking in the city

OVER 300 Participants logged into the interactive online map and identified routes they use or would like to use

OVER 700 Map comments, including destinations, routes, barriers, and ideas shared in person and online

680 Project surveys completed online

At the Edina Farmer's Market Pop Up.



Detail from the plan's Wikimap.

The plan's website was a resource for sharing plan information.

Online engagement

The plan also included a robust online engagement effort, including:

- A project website (EdinaMN.gov/Pedestrian BicycleMasterPlan) to disseminate project updates and information
- An interactive online mapping tool (Wikimap) where residents could upload location-specific issues, comments or ideas, as well as routes and improvements
- An online survey to receive resident comments and information related to their priorities and the issues they experience while walking or biking Edina

Online materials were designed to closely match in-person activities. The online tools were launched in May 2017, and results were analyzed and used to shape the plan's vision and recommendations.

The City also used its social media channels (including Facebook and Twitter) to promote the plan's online tools, and announce public events.

At a meeting of the plan's Project Management Team (PMT).

Engagement with City Staff and Boards

Throughout the plan's development, the project team worked closely with City Staff and Boards, including:

- The Project Management Team (PMT), made up of staff from Edina departments, including Public Works, Planning, Police, Communications, Sustainability and boards including the Human Rights Commission
- The Edina Transportation Commission (ETC), who was regularly updated on plan progress and provided their comments and guidance on plan development

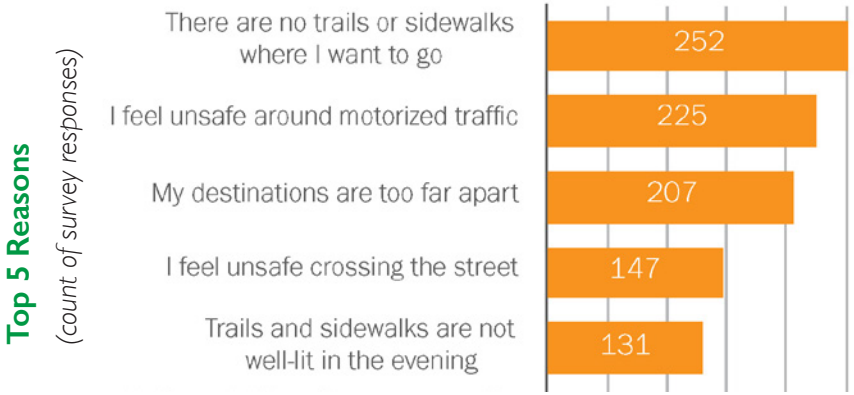
Walking in Edina

What types of destinations should be prioritized in Edina when deciding where to improve *walking* conditions?

Item	Overall Rank	Rank Distribution
Schools	1	
Parks	2	
Residential neighborhoods	3	
Shopping, dining, and entertainment areas	4	
Transit stops and stations	5	
Libraries and community centers	6	
Places of work	7	

Lowest Rank — Highest Rank

What keeps people from *walking* in Edina more often?



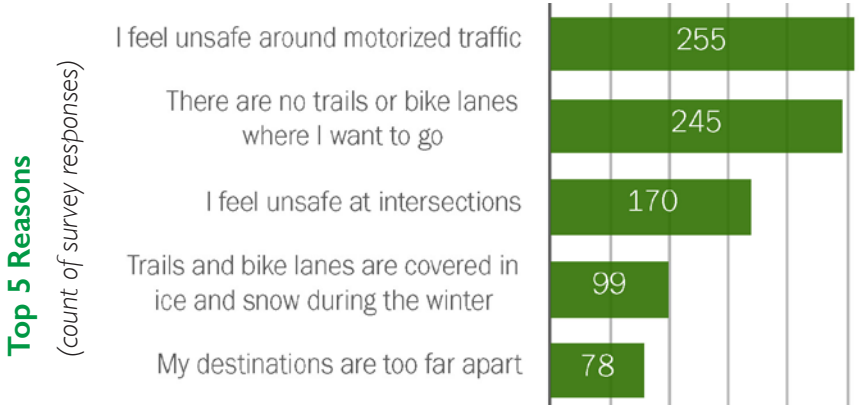
Biking in Edina

What types of destinations should be prioritized in Edina when deciding where to improve *biking* conditions?

Item	Overall Rank	Rank Distribution
Schools	1	
Parks	2	
Residential neighborhoods	3	
Shopping, dining, and entertainment areas	4	
Libraries and community centers	5	
Transit stops and stations	6	
Places of work	7	

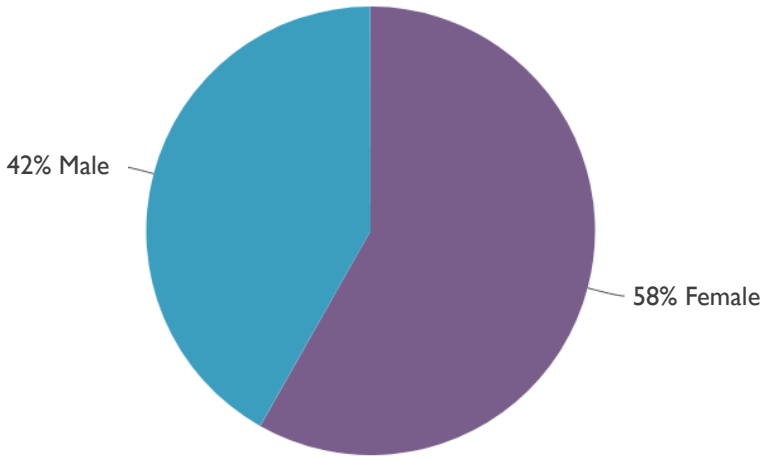
Lowest Rank — Highest Rank

What keeps people from *biking* in Edina more often?

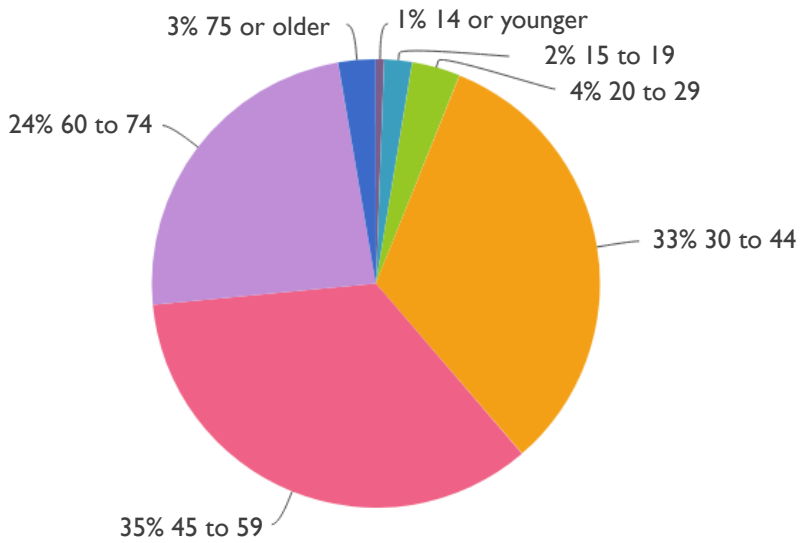


Who participated in engagement?

Participants by gender



Participants by age

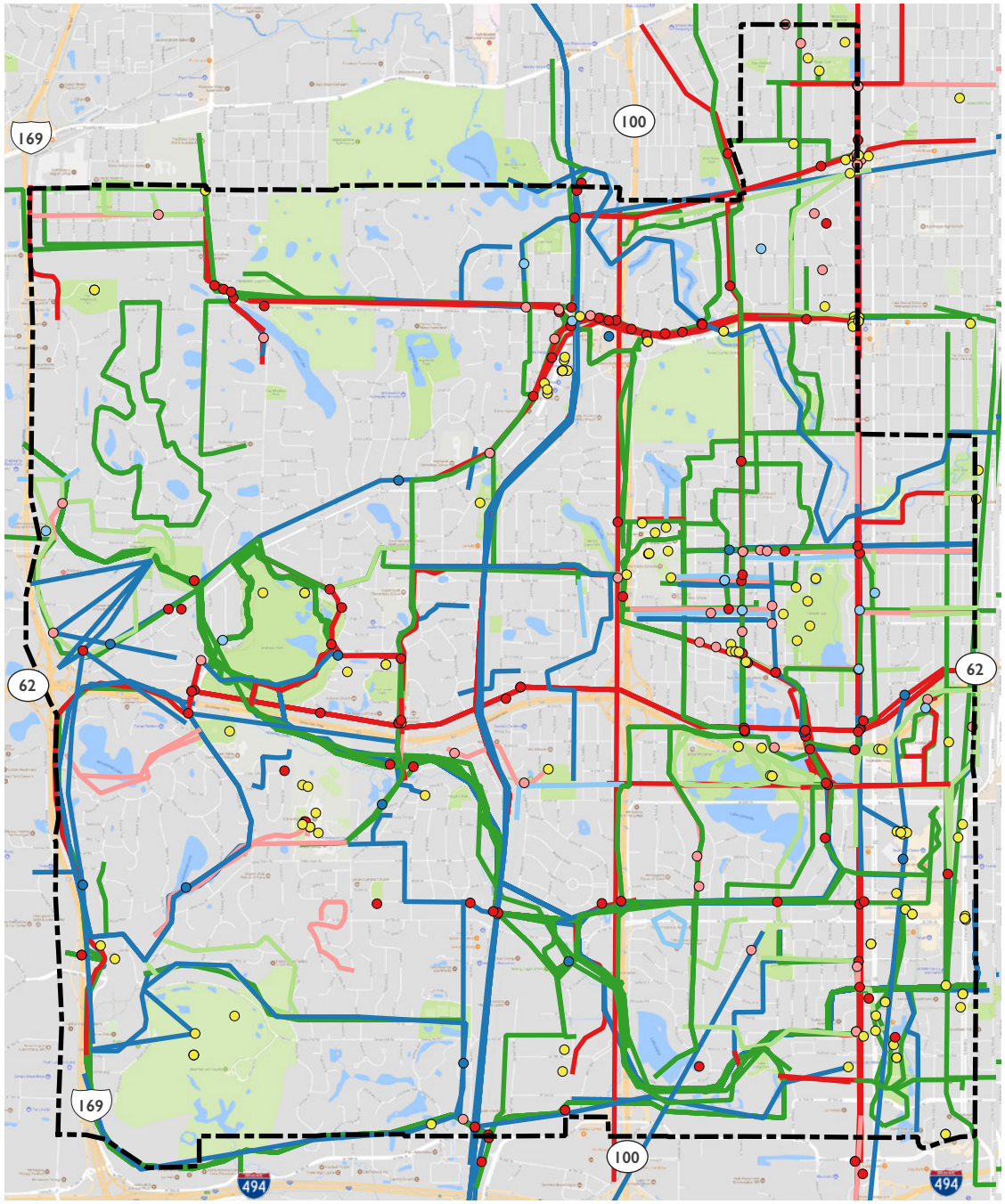


What did we learn?

Several key themes emerged through engagement, including:

- Residents recognize, appreciate and use the significant network for walking and biking that is in place today, while they also recognize opportunities for improving the system
- Many residents are regularly walking in Edina today
  - The majority of participants in the plan's engagement (52%) are walking four or more times per week
  - About 80% of respondents walk for pleasure or exercise at least 2-3 times per week
  - About 55% of respondents walk at least once a week to visit friends and relatives
- Biking is a popular activity in Edina today
  - The majority of participants in the plan's engagement (55%) ride a bike at least 2-3 times per week
  - Almost 30% of respondents ride a bike at least once per week to go shopping
  - About 20% of respondents ride a bike at least once a week to go to work
- Opportunities for improving and walking and biking in the city include:
  - Making it easier for people to cross busy streets
  - Increasing separation from motor-vehicle traffic
  - Addressing gaps in the network
  - Improving wayfinding
  - Installing more bike racks

Map of all comments from public engagement (in-person and online)



Routes and locations shown

- Current walking route
- Current biking route
- Barrier to walking
- Barrier to biking
- Route pedestrian would take if improved
- Route cyclist would take if improved
- A destination in Edina
- A location that is difficult for walking/ biking
- An idea for improvement

Data source: Edina Pedestrian and Bicycle Master Plan Engagement 2017

Chapter 3
Existing conditions and analysis

Much has been accomplished by Edina over the last ten years. To look forward toward the next ten years, it's important to understand those assets and to note where there are opportunities for addressing current issues. This chapter reviews existing conditions, assets and issues and provides background to understand the recommendations in the plan.

3.1 Celebrating Edina's accomplishments
3.2 Edina in context
3.3 Existing pedestrian and bicycle system
3.4 Current plans and policies

3.1 Celebrating Edina's accomplishments

In 2007 Edina began its efforts toward becoming a more walkable and bikeable community through the development of its first Bicycle Transportation Plan. Since then, Edina has made numerous investments in planning, policy and implementation to improve conditions for people walking and biking in the city. Some of these accomplishments include:

» In 2012 the Pedestrian and Cyclist Safety (PACS) Fund was approved (and implemented in 2013), providing a dedicated source of funding (approximately $1.2 million a year) for the construction and maintenance of non-motorized infrastructure.

» In 2013 the Living Streets Policy was approved by City Council, articulating citywide goals to increase safety, public and environmental health, transportation choice, economic benefits and community identity through infrastructure and facilities projects.

» In 2014 the City Council approved the Active (Safe) Routes to School Comprehensive Plan, which provided recommendations to improve opportunities for students and their families to walk and bike to school.

» Also in 2014, the City updated its sidewalk plan to include several more miles of proposed sidewalk facilities in the City, and amended this into its Comprehensive Plan.

» The City of Edina was awarded a bronze-level Bicycle Friendly Community designation in 2014 by the League of American Cyclists.

» Since 2013 Edina has constructed over ten miles of sidewalks, and since 2008 the City has added almost 40 lane miles of bicycle facilities.

This Pedestrian and Bicycle Master Plan provides a road map to continue this progress into the future, leveraging Edina's momentum and joining the national movement for more connected, livable, and healthy and resilient communities.

A demonstrated commitment to implementation

Under York Avenue, in 2007.

And today.

New since 2007 (a small sample):

Nine Mile Creek Regional Trail.

Recognition as a Bronze-Level Bicycle Friendly Community by the League of American Bicyclists.

New sidewalks, trails, and innovative treatments to improve walkability and pedestrian safety.

About forty miles of new bicycle routes and facilities.

3.2 Edina in context

Edina is a fully-developed, first-ring suburban community of just over 50,000 residents located along the southwest portion of Minneapolis, Minnesota in Hennepin County. Minnesota State Highways 62 and 100 divide the sixteen square mile City into four sections or "quadrants."

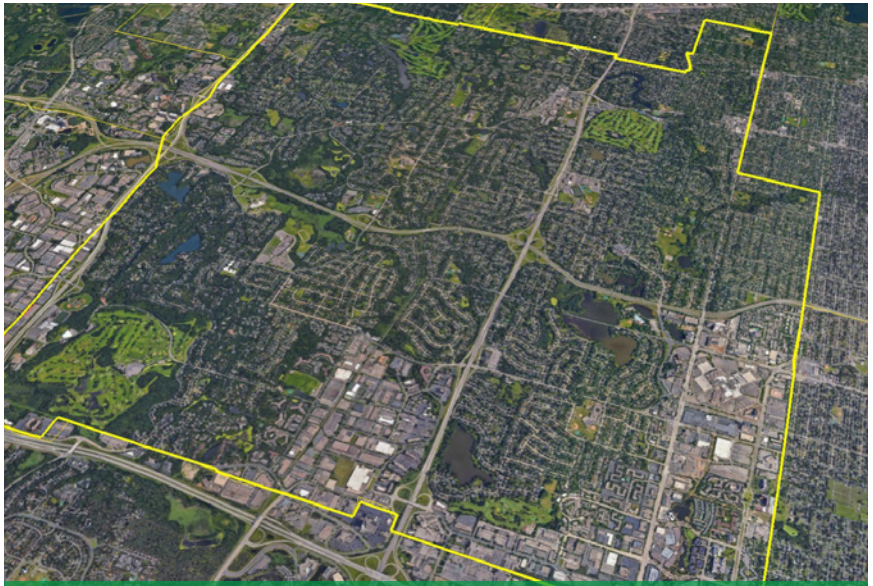
From its incorporation in 1888 as a milling area on the banks of Minnehaha Creek, Edina has evolved to be a model among municipalities in the Twin Cities metropolitan area. The city offers high-quality single- and multifamily housing along with successful commercial and retail centers in the Southdale Center area and at the 50th and France district, among others. One of Edina's key attributes in its success has been its forward-thinking approach to ensure it continues to offer the highest quality of life for its residents, businesses, workers, and visitors.

Urban form

As is typical for other suburban communities that grew in the years after the Second World War, Edina's urban form often includes widely separated land uses and disconnected street networks throughout much of the community - making walkability difficult, and requiring that people travel by car for most of their daily needs.

Over the past several years, Edina city policy and form have begun to change to better meet the health, environmental and economic needs and aspirations of its residents.

There is a wide variety of walkability conditions through the city, with areas that developed earlier, like the neighborhoods in northeast Edina, having a much more connected street network and pedestrian infrastructure than areas that developed later, like southwest Edina.



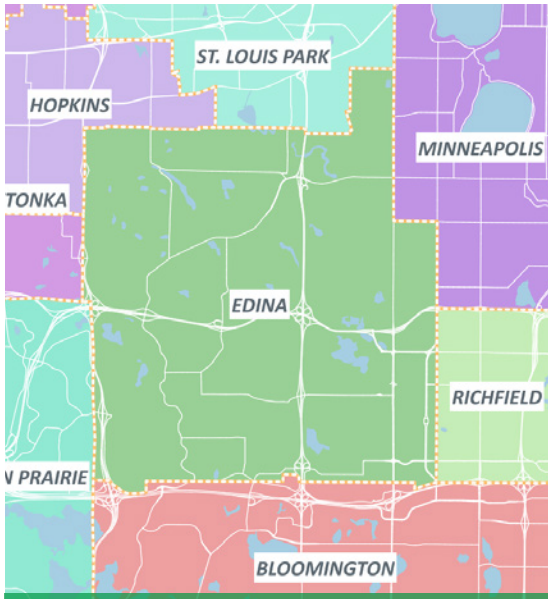
View of Edina, showing general patterns of land use and circulation.

Save for exceptions in the older parts of the city (as well as in new development currently being considered), land uses are generally separated from each other, with a roadway network that follows a typical suburban pattern of minor arterials (generally Hennepin County roads spaced about every mile) providing automobile-oriented connections to commercial areas, employment centers, and other major destinations. Neighborhood streets provide limited connectivity within the larger grid – often ending in cul-de-sacs or a dead-end, and conveying motor-vehicle traffic out onto higher-speed, higher-volume arterials.

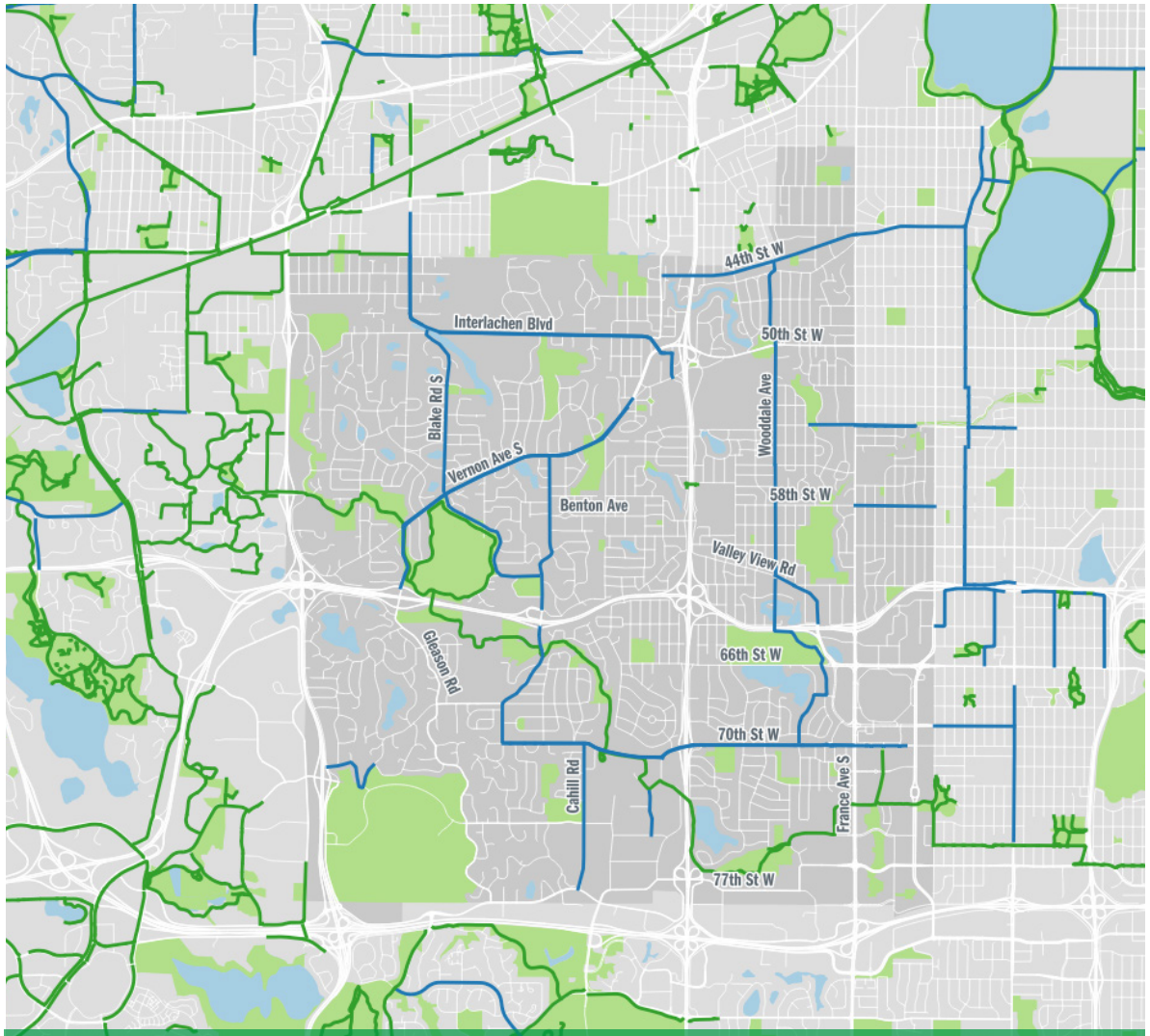
Regional context

Edina is a fully-developed first-ring suburban community located in southern Hennepin County. It is bordered by St. Louis Park and Hopkins on the north, Minneapolis and Richfield on the east, Bloomington on the south, and Minnetonka and Eden Prairie on the west.

Many of Edina's pedestrian and bicycle assets connect to surrounding communities.



Edina and surrounding communities.



Existing walk / bike trails (shown in green) and on-street bikeways (shown in blue) networks in Edina and surrounding communities.

Regional and local corridors

Roadways

Major roadway corridors include Highway 62, running through the city from east to west and Highway 100 running through the city from north to south. Highway 169 creates the western border of the city while Interstate 494 creates the southern border. Highway 100 and Highway 62 divide the city into four quadrants. County Road 17 (France Avenue) is also a main route in the eastern portion of the city.

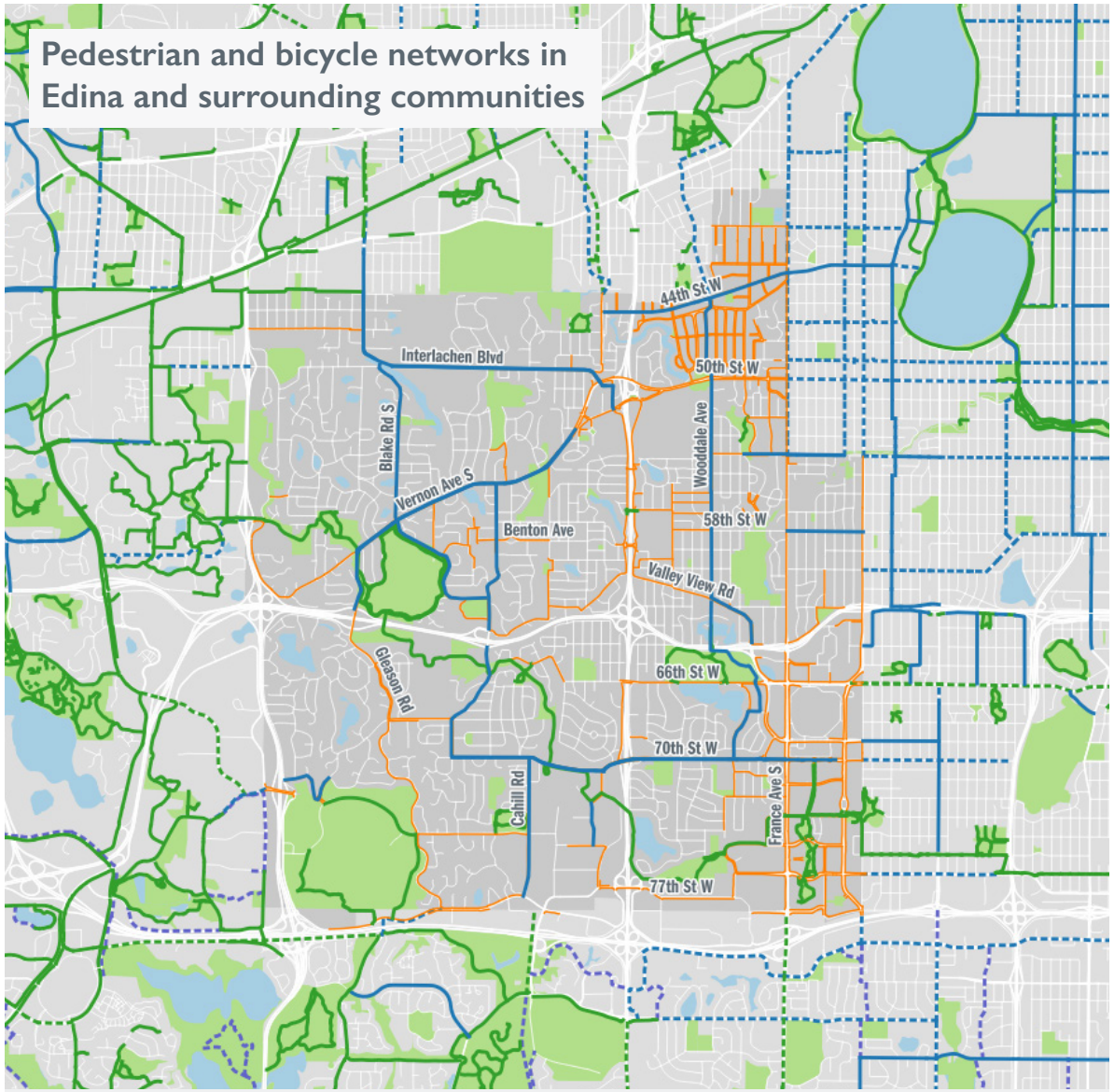
Regional walk / bike trails

Nine Mile Creek Regional Trail runs through the southwestern portion of Edina.

Local walk / bike routes

A connected network of sidewalks is provided in the northeast quadrant of the city, though connectivity is more limited in the remaining quadrants. Approximately forty miles of on-street bicycle routes are provided, including along Blake Road, Interlachen Boulevard, Vernon Ave, 44th Street, and 70th Street.

Many of the city's parks include recreational trails, with ongoing efforts to increase connectivity to other destinations.

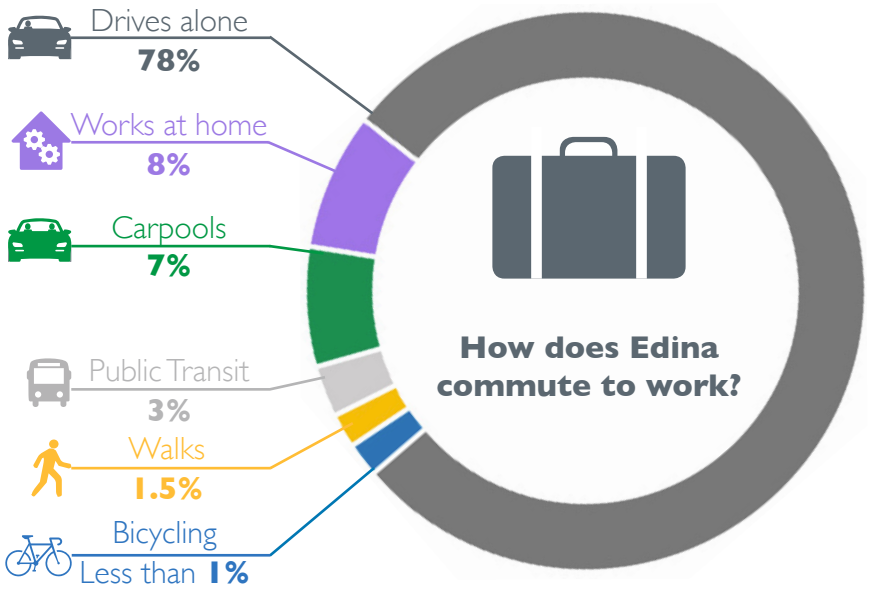


Edina
- Existing sidewalks
- Existing off-street walk / bike trails
- Existing on-street bicycle lanes

Neighboring communities
- Existing off-street walk / bike trails
- Planned off-street walk / bike trails
- Existing on-street bicycle lanes
- Planned on-street bicycle lanes

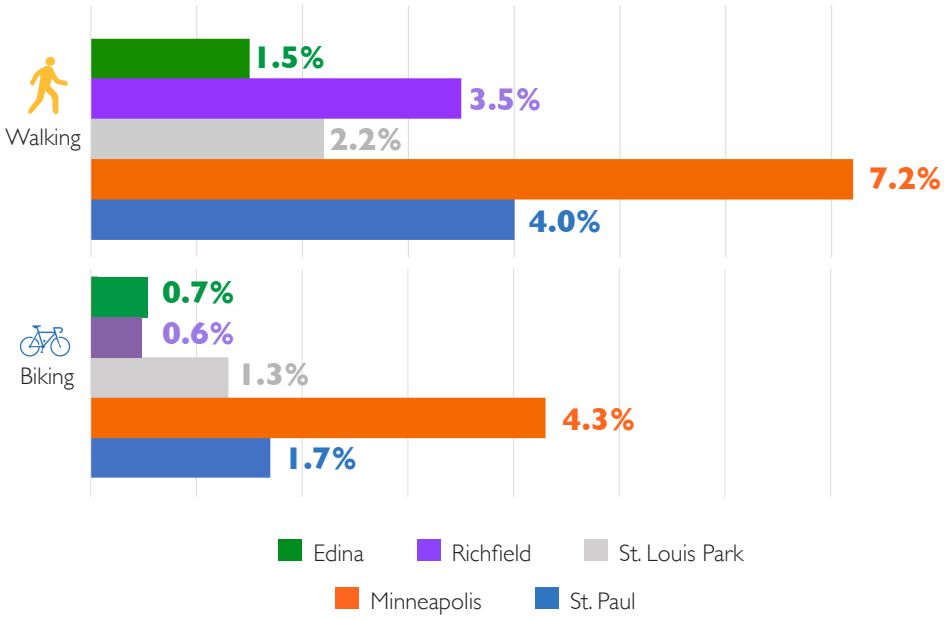
Transportation at a glance

Here are a few transportation-related facts (from the US Census) to understand current travel patterns in the city.

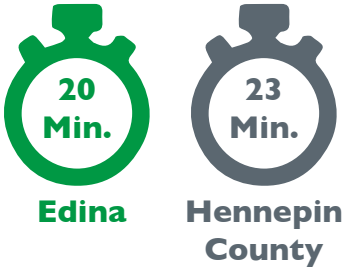


Edina residents use transit to commute to work at about half the rate as the general Hennepin County population. The number of employees who work from home was higher than the county average by 3 percentage points.

How do Edina's current rates of walking and biking to work compare with nearby cities?

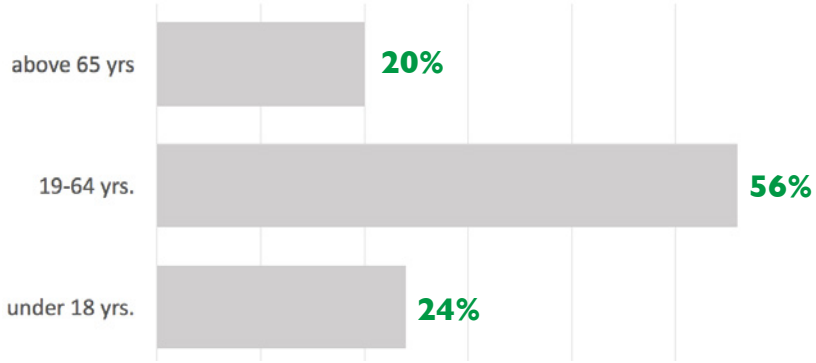


Commuting Time...



What's the average household size in Edina?

Age distribution in Edina



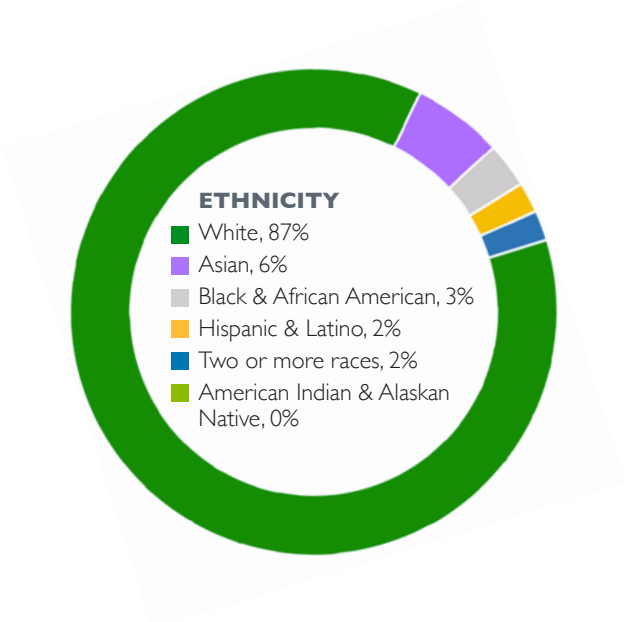
Edina's population is generally both older and younger than Hennepin County as a whole. About one fourth of residents are under 18, with another fourth above 65 years of age. Offering safe and comfortable transportation options for them will become even more important!

Other demographic information

Population growth, income and ethnicity

The population of Edina is increasing at the same rate as Hennepin County as a whole at 4% over the last 5 years. The population of Edina is expected to increase by another 10% by 2040.

Although the median household income of Edina is higher than the county average, about five percent of Edina residents live in poverty. Making sure that low-income and transit-dependent households (those without access to a motor-vehicle) have walk, bike and transit options to reach their daily destinations will help ensure more equitable transportation outcomes in the city.

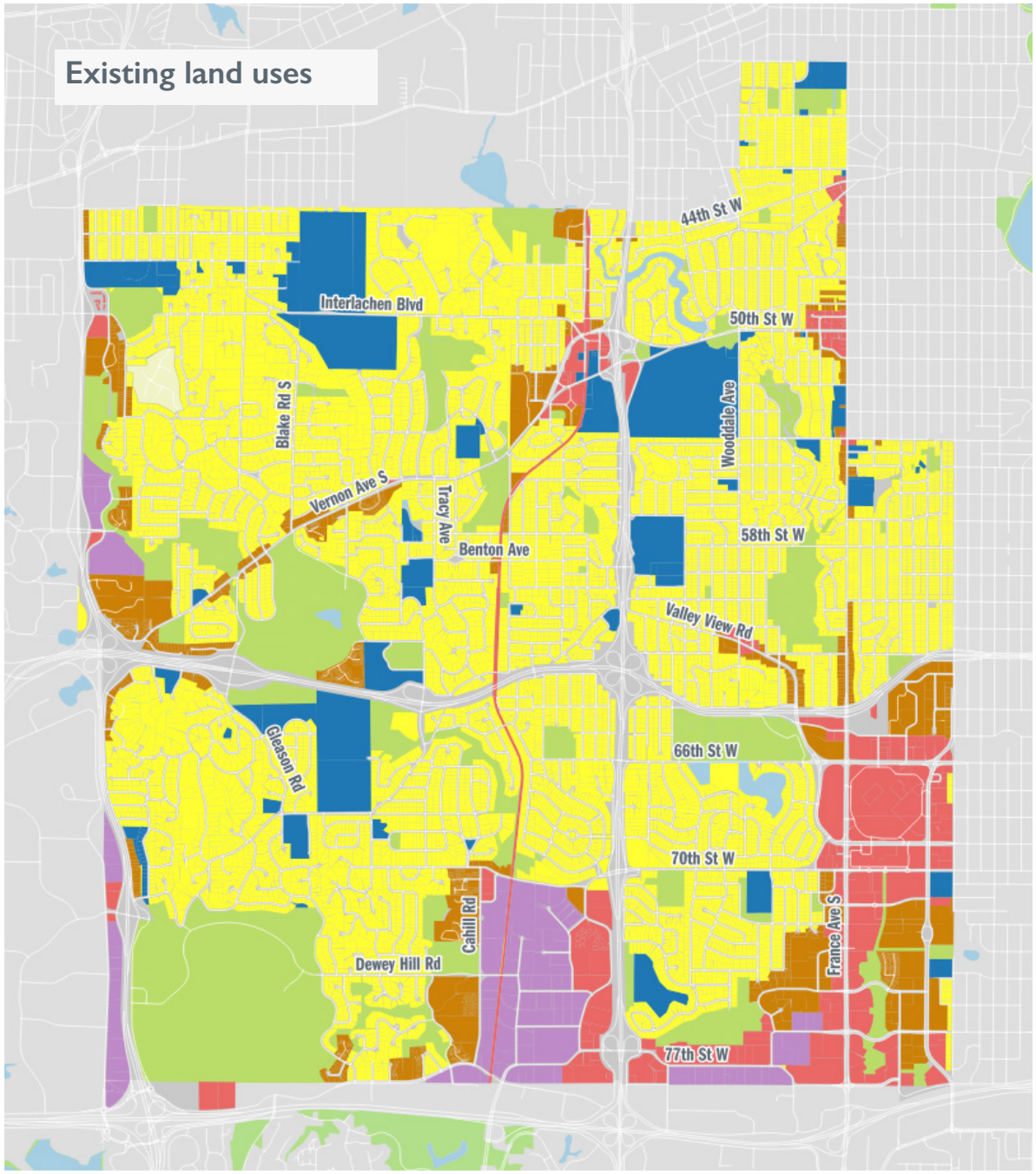


Existing land uses

The majority of land use in Edina is single-family residential. Pockets of retail and commercial use are found along county roads and highways. Parks and recreation areas are available throughout the city.

Existing Land Uses

- Industrial
- Public/Semi-Public
- Multi-Family Residential
- Parks and Recreation
- Retail/Commercial
- Single-Family Residential
- Vacant



Street network

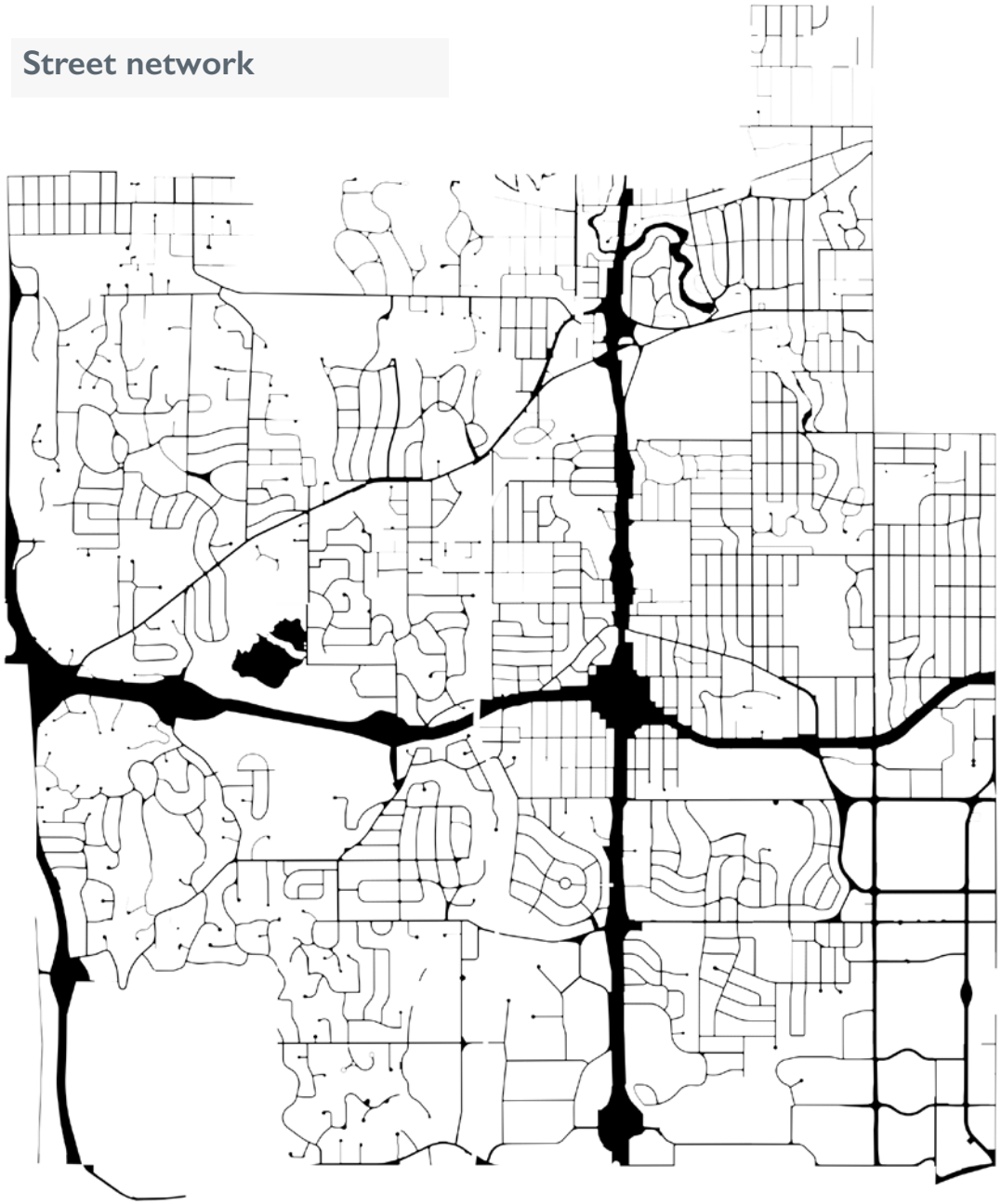
Edina is a fully-developed first-tier suburban community. Initially settled as part of Richfield Township, the city was incorporated in 1888. Housing development started in the early 1900s in what is now the Morningside neighborhood within the city' northeast quadrant.

Save for exceptions in the older parts of the city (as well as in new development currently being considered), land uses are generally separated from each other, with a roadway network that follows a typical suburban pattern of minor arterials providing automobile-oriented connections to commercial areas, employment centers, and other major destinations.

Neighborhood streets in several sections of the city provide limited connectivity within the larger grid, often ending in cul-de-sacs or a dead-end.

Highways 100 and 62 create east-west and north-south barriers for pedestrian and bicycle circulation within the city.

Street network



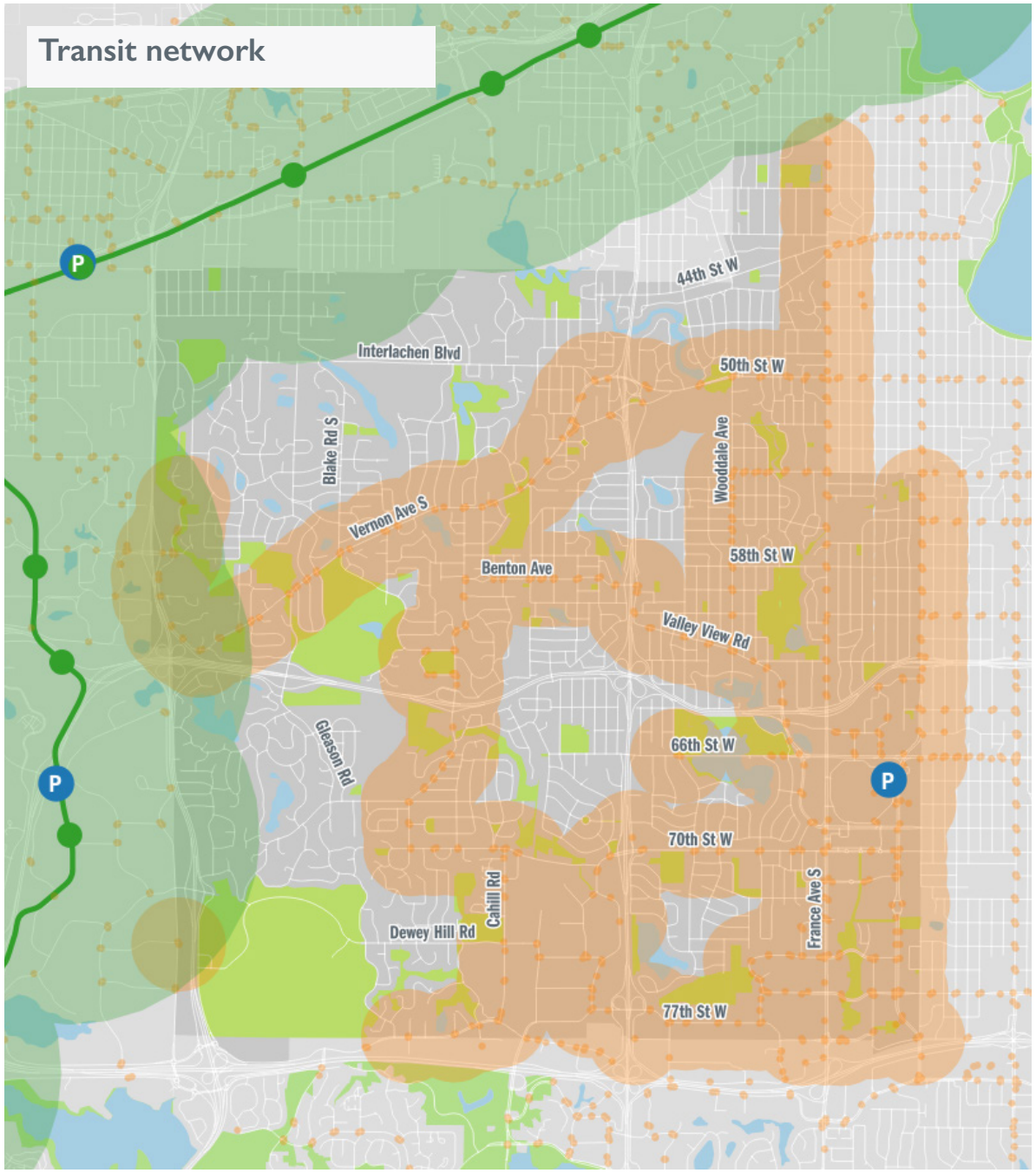
Transit network

Edina is served by Metro Transit bus service with suburban local and limited stop commuter routes. The city is also just south and east of several stations for the planned SWLRT Green Line Extension, a light rail transit service that will extend from downtown Minneapolis to St. Louis Park, Hopkins, Minnetonka and Eden Prairie.

Five stations for SWLRT are located within one mile of the city's boundary.

Existing Transit and Planned Blue Line Extension (SWLRT)

- Existing Metro Transit bus stop
- Existing Metro Transit Park & Ride
- SWLRT Planned Station Location
- SWLRT Planned Green Line Extension alignment
- .25 mile bus transit station buffer (5-minute walk)
- 1.0 mile SWLRT station buffer (7-minute bicycle ride)



Schools and student enrollment

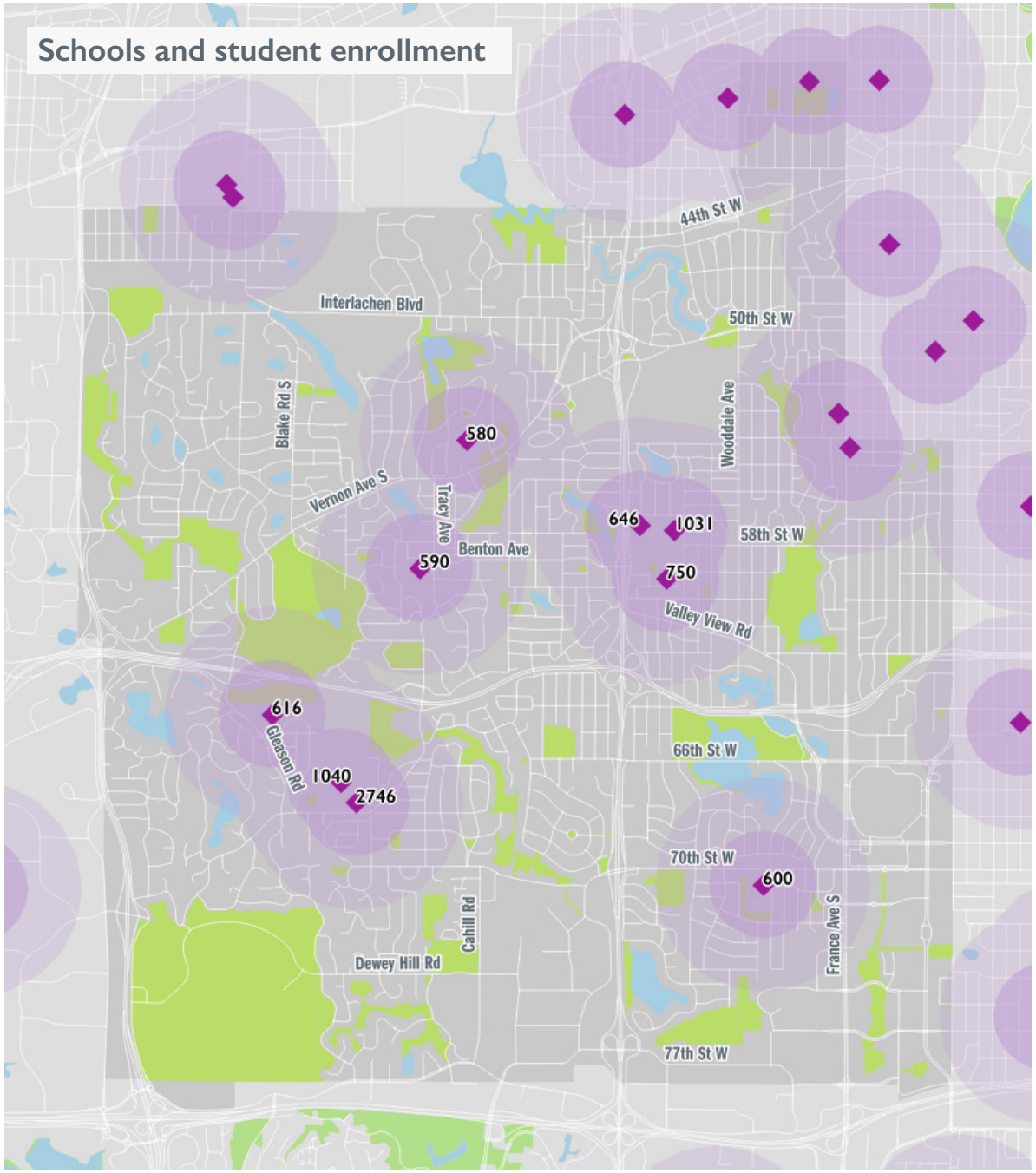
Considerations for Safe Routes to School

Twelve schools, including public and private elementary and middle schools, and one high school are located within Edina city limits.

A Safe Routes to School (SRTS) plan was completed in 2014. Recommendations from that plan, called the Edina Active Routes to School (ARTS) Plan, are included within this plan's pedestrian and bicycle recommendations.

Schools and student enrollment

- School location (public elementary, middle, and high schools; higher education)
- 0.25-mile and 0.5-mile school walk radii (5–10 minute walk)



Parks and trails

The City of Edina offers numerous parks and trails that provide recreational, fitness, and transportation opportunities to people walking and biking in the city. In addition to neighborhood parks, the city offers several parks with community-wide and regional significance, including trails.

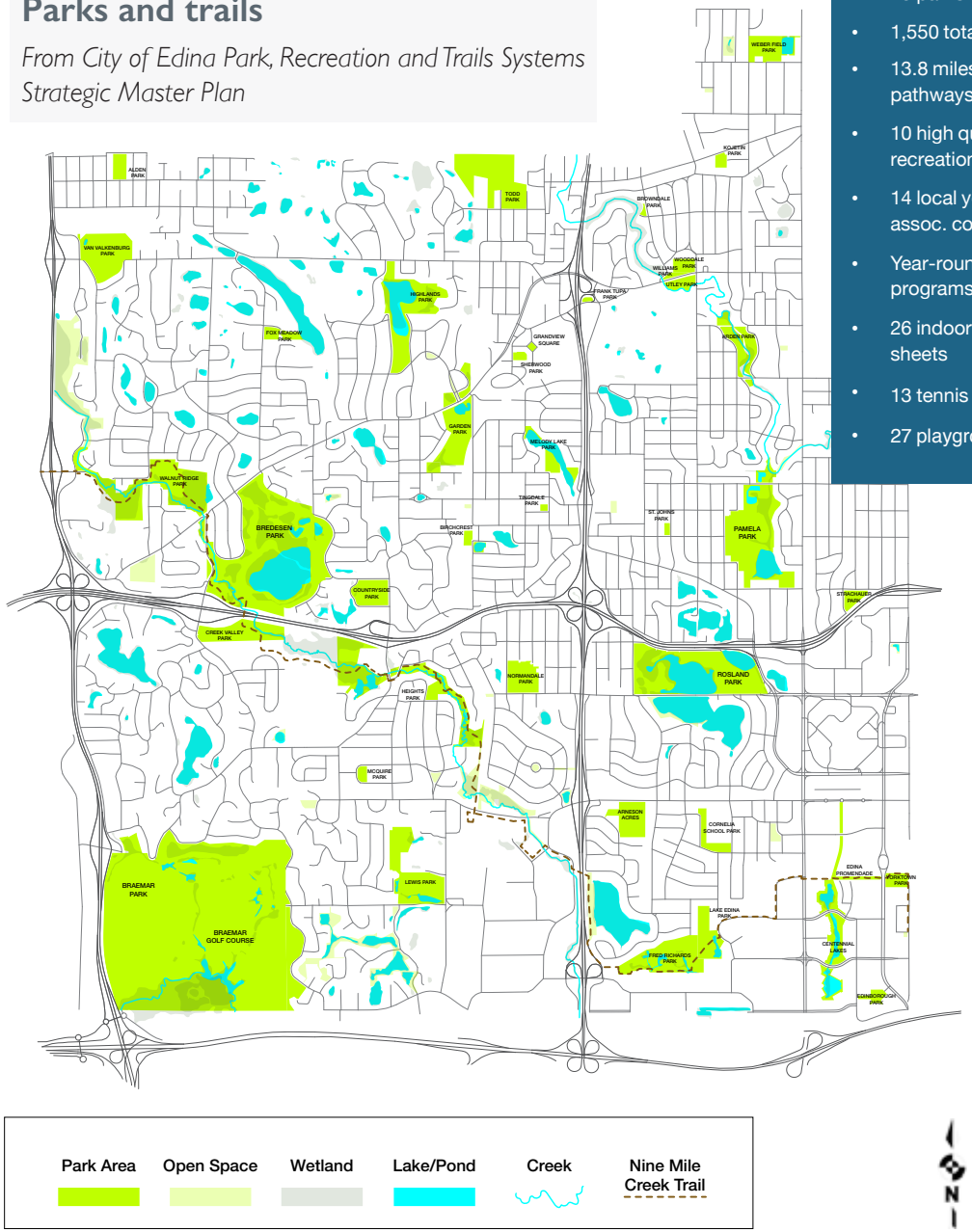
The Recreation and Parks Department has recently developed a comprehensive Park, Recreation and Trails Systems Strategic Master Plan, which identifies existing parks and trails as a major asset to the city, and includes recommendations to improve access to parks by developing a more connected trail system.

Parks and trails

From City of Edina Park, Recreation and Trails Systems Strategic Master Plan

Key Aspects:

- 43 parks
- 1,550 total acres
- 13.8 miles of scenic pathways
- 10 high quality recreation facilities
- 14 local youth sports assoc. collaborations
- Year-round disability programs
- 26 indoor & outdoor ice sheets
- 13 tennis courts
- 27 playgrounds



Redevelopment districts

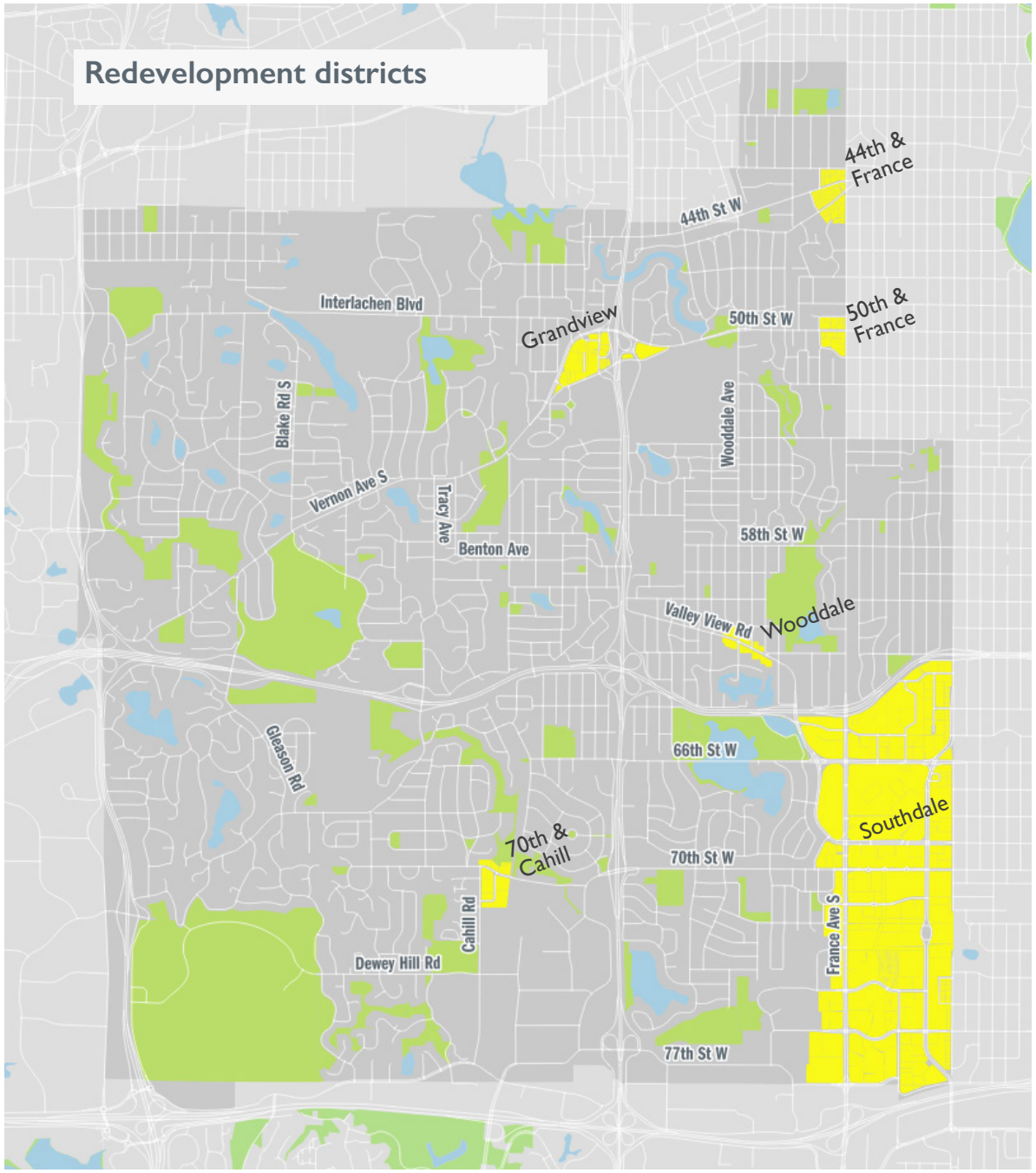
Planning for "Nodes and Modes"

As part of Edina's 2018 Comprehensive Plan Update, several potential redevelopment areas within the city are undergoing planning efforts to explore the possibility of developing neighborhood nodes that could host high-density residential development and a mix of commercial uses.

Access to these nodes is envisioned to feature high-quality pedestrian and bicycle facilities.

Redevelopment districts

Parcel in redevelopment district



3.3 Existing pedestrian and bicycle system

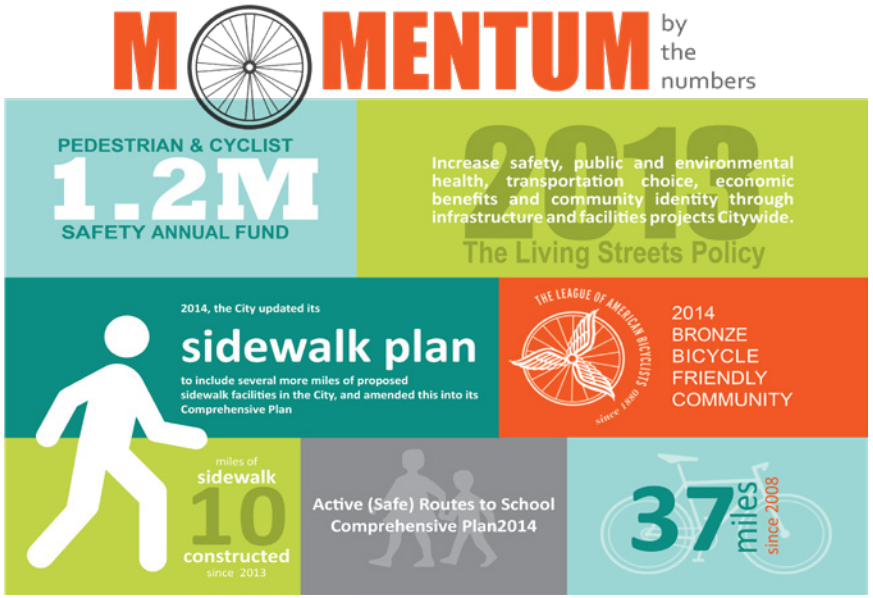
Edina's existing and growing pedestrian and bicycle system is well-used by residents and an asset to the city. There are opportunities to leverage those existing assets, address existing issues, and continue to grow walking and biking in the city.

Assets and opportunities

- Existing and extensive inventory of sidewalks, trails and bicycle routes
- Supportive policy and funding framework, including the Pedestrian and Cyclist Safety Fund (PACS)
- City commitment to an All Ages and Abilities framework, including work on the Living Streets policy and Active (Safe) Routes to School (SRTS / ARTS) initiative
- Five SWLRT stations in close proximity

Issues and challenges

- Uncomfortable crossings at major intersections
- Infrequent and inconvenient crossings
- Distance to important destinations
- Limited connectivity / route options
- Gaps in the existing network



Edina's investments in high-quality infrastructure are helping to grow walking and biking in the city.

Existing pedestrian network

Edina's walking network includes two types of facilities

» Sidewalks

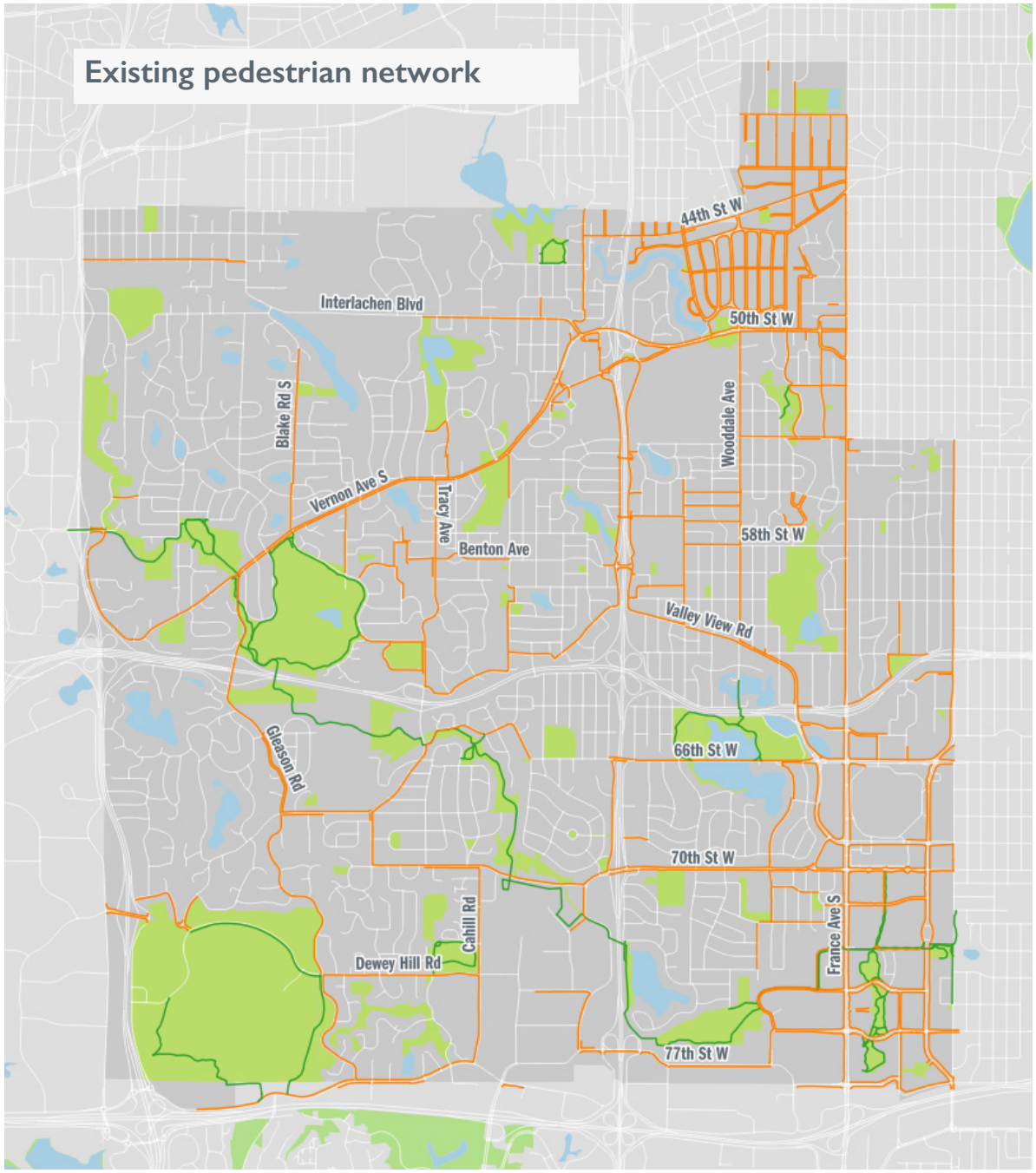
» Shared-use paths and park trails

Approximately half of the city's existing pedestrian crossings require upgrading to meet ADA / accessibility guidelines.

Existing pedestrian network

Existing sidewalks

Existing shared-use paths and park trails



Existing bicycle network

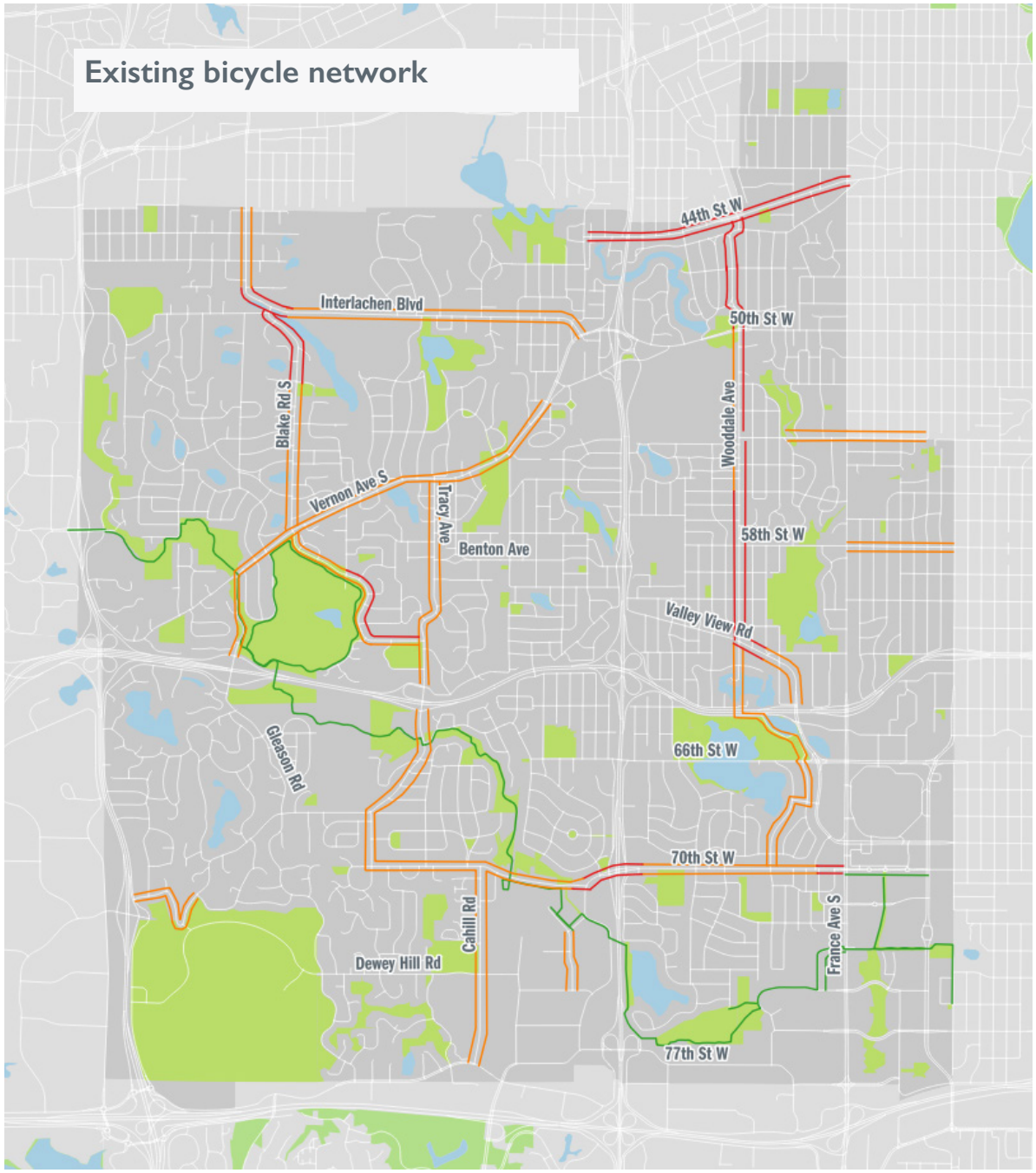
Edina's current bicycle network includes the following types of facilities

- Advisory bike lanes
- Bike boulevards
- Bike lanes
- Shared lanes for bikes / motor vehicles
- Signed bicycle routes
- Shared-use paths and park trails

Some facilities require a higher tolerance for traffic stress than what is comfortable for the majority of the adult population. The map on this page shows existing facilities grouped by comfort level, with facilities shown in green being comfortable to the widest range of users.

Existing bicycle network

- Existing shared-use paths and park trails (most comfortable)
- Bike lanes, advisory bike lanes, bike boulevards
- Shared lanes for bikes / motor vehicles, signed bicycle routes (least comfortable)



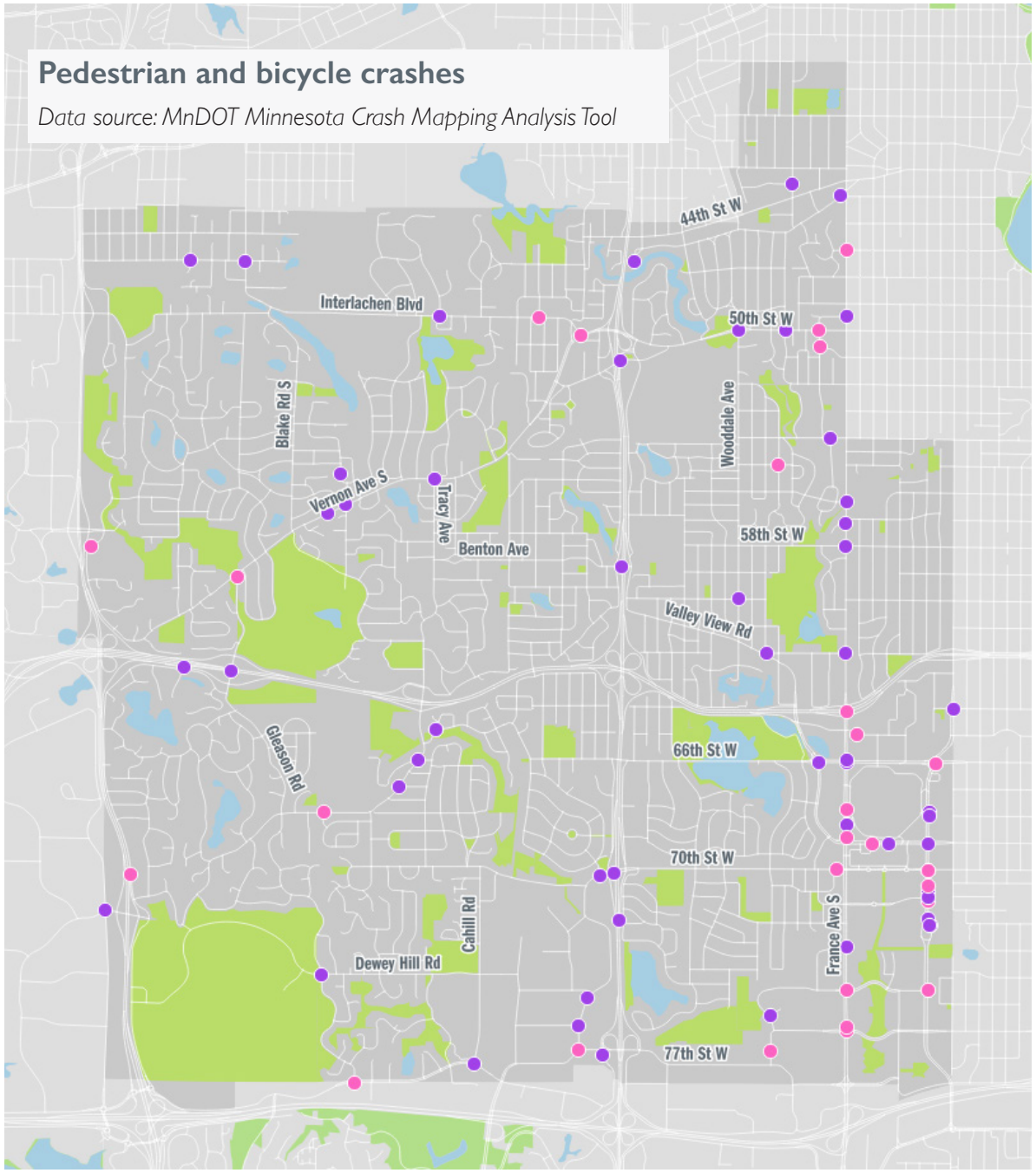
Pedestrian and bicycle crashes in Edina

There were 91 crashes involving pedestrians or bicycles in the period from 2006 to 2015, the most recent timeframe for which complete statistics are available. Those crashes were non-fatal. A fatal crash involving a pedestrian occurred in 2016 at Minnesota Drive and France Avenue.

Of the four quadrants of Edina, the southeast quadrant experienced the most pedestrian and bicycle related crashes with 38 crashes or 42% of the total crashes. Nearly half of all crashes occurred on County Roads (48%).

Pedestrian and bicycle crashes, 2006 to 2015

- Crash involving a pedestrian
- Crash involving a bicycle rider



3.4 Current plans and policies

Current Edina plans and policies informing this plan's recommendations and approach include:

City of Edina Comprehensive Plan (2018)

Edina's Comprehensive Plan is being updated concurrently with this plan. The Comprehensive Plan is a long-term plan that addresses community-wide issues and desires. Environmental sustainability and active transportation are prominent topics covered in the Comprehensive Plan. Pedestrian and bicycle travel are recognized as essential components of the "nodes and modes" approach it proposes for redeveloping new higher density districts at selected locations in the city. Sidewalks and trails along streets are intended to enhance pedestrian and bicyclist safety by providing separation from motor-vehicle traffic within the public right-of-way.

Edina Park, Recreation and Trails Strategic Plan (2015)

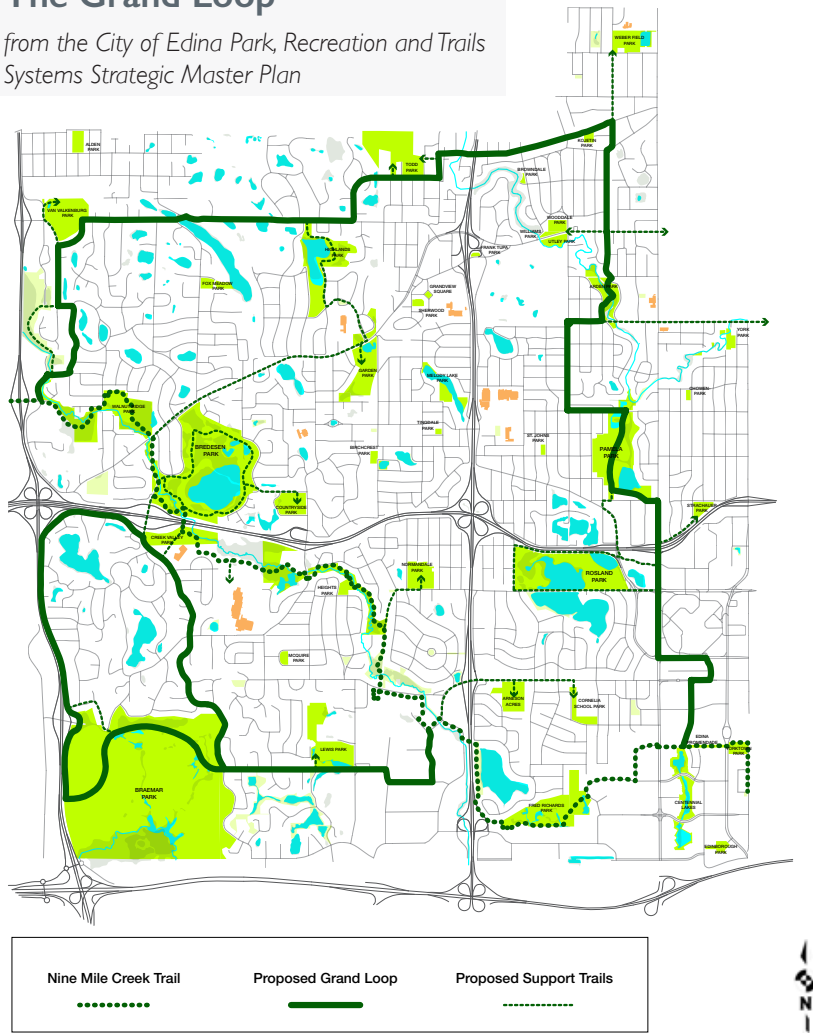
The Edina Park, Recreation and Trails Strategic Plan identifies opportunities for future park system improvements. Trails are identified a primary focus for improvement and continued investment. The Edina Grand Loop, a high quality, separated walk / bike trail that connects with existing walk / bike / trail assets and provides circulation across all four city quadrants, is one of that plan's key recommendations, and is picked up by this plan.

Pedestrian Facilities Comprehensive Plan Amendment (2014)

This amendment identifies the city's approved sidewalk network, to be considered for current and future roadway reconstruction projects. Technical analysis and proactive community engagement were the basis for a list of improvements in all four quadrants of the city. The

The Grand Loop

from the City of Edina Park, Recreation and Trails Systems Strategic Master Plan



sidewalk network identified in the amendment is brought into the recommendations of this plan.

Living Streets Plan (2015)

The plan's recommendations for improving safety for all users of the city's transportation network and for improving sustainability of related systems are a key influence on this plan.

Edina Active (Safe) Routes to School Comprehensive Plan (2014)

Edina's Safe Routes to School Plan (called "Active Routes to School (ARTS)") identifies opportunities and priorities to increase walking and biking in the city. The plan's walking and biking facility recommendations are brought into the recommendations of this plan.

Other city planning policies and initiatives informing this plan include:

» Vision Edina 2015

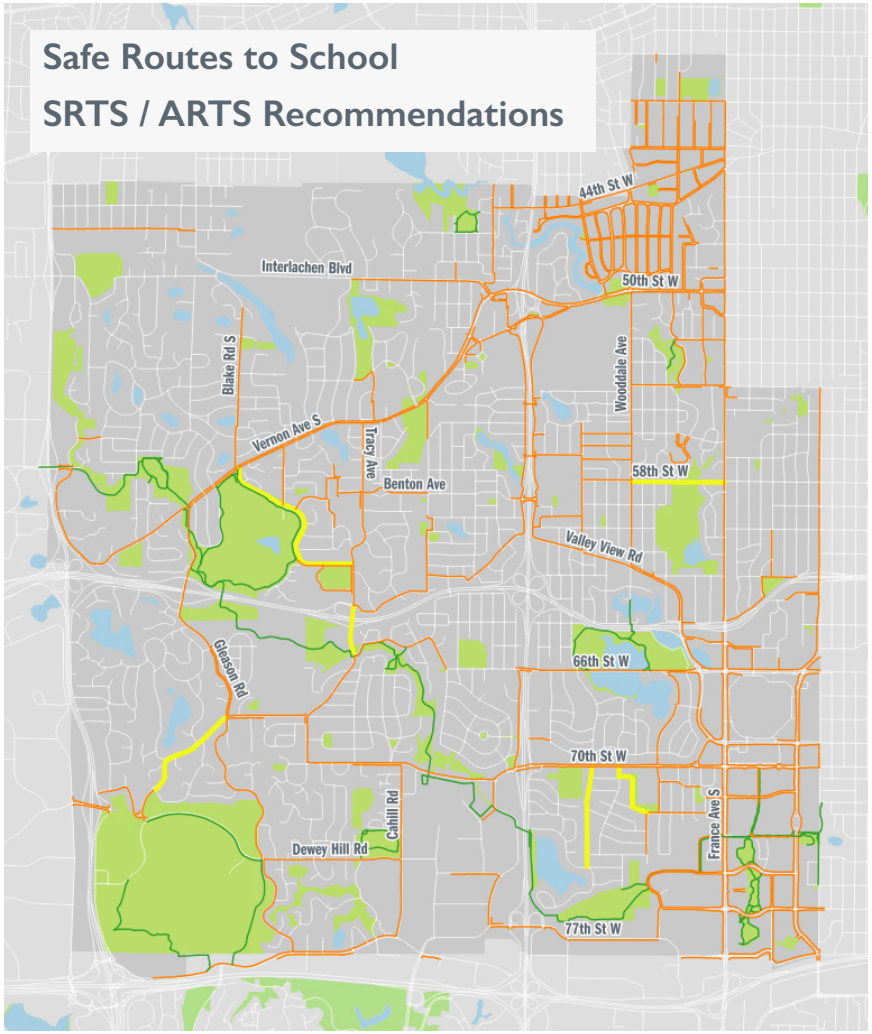
» City of Edina Active Transportation Bike/Pedestrian and Bicycle Parking Action Plan (2013, 2014)

» Bicycle Friendly Community Feedback Key Steps to Silver (2014)

» City of Edina Comprehensive Bicycle Transportation Plan (2007)

» Grandview District Transportation Study (2016)

» Southdale Area Transportation Study (2016)



Existing sidewalks | SRTS / ARTS sidewalks | Existing Walk / Bike Trails

Other plans and policies referenced by this plan

Hennepin County

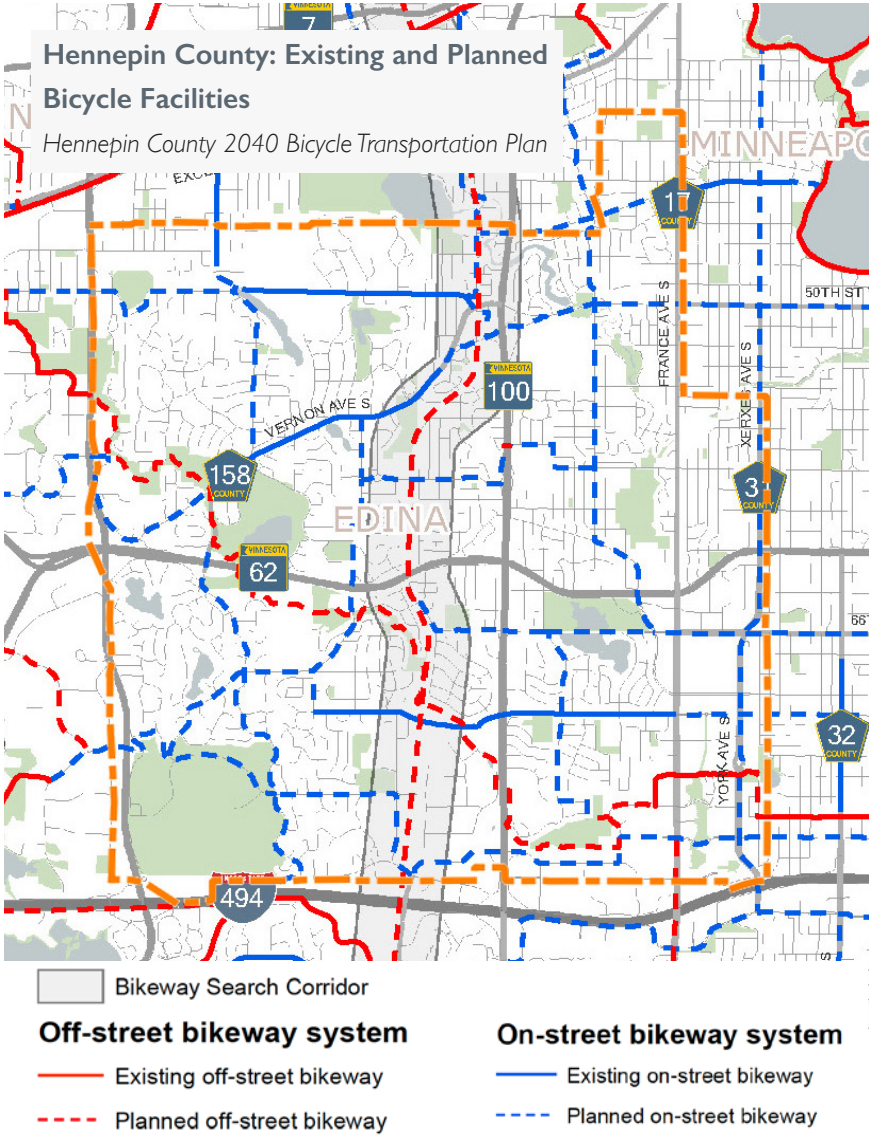
- Hennepin County Pedestrian Plan (2013)
- Hennepin County 2040 Bicycle Transportation Plan (2015)
- Hennepin County Complete Streets Policy (2009)
- Hennepin County "Cool County" Initiative
- Hennepin County Active Living Policies and Partnership
- Hennepin County Transportation Systems Plan
- Hennepin County Public Works Strategic Plan

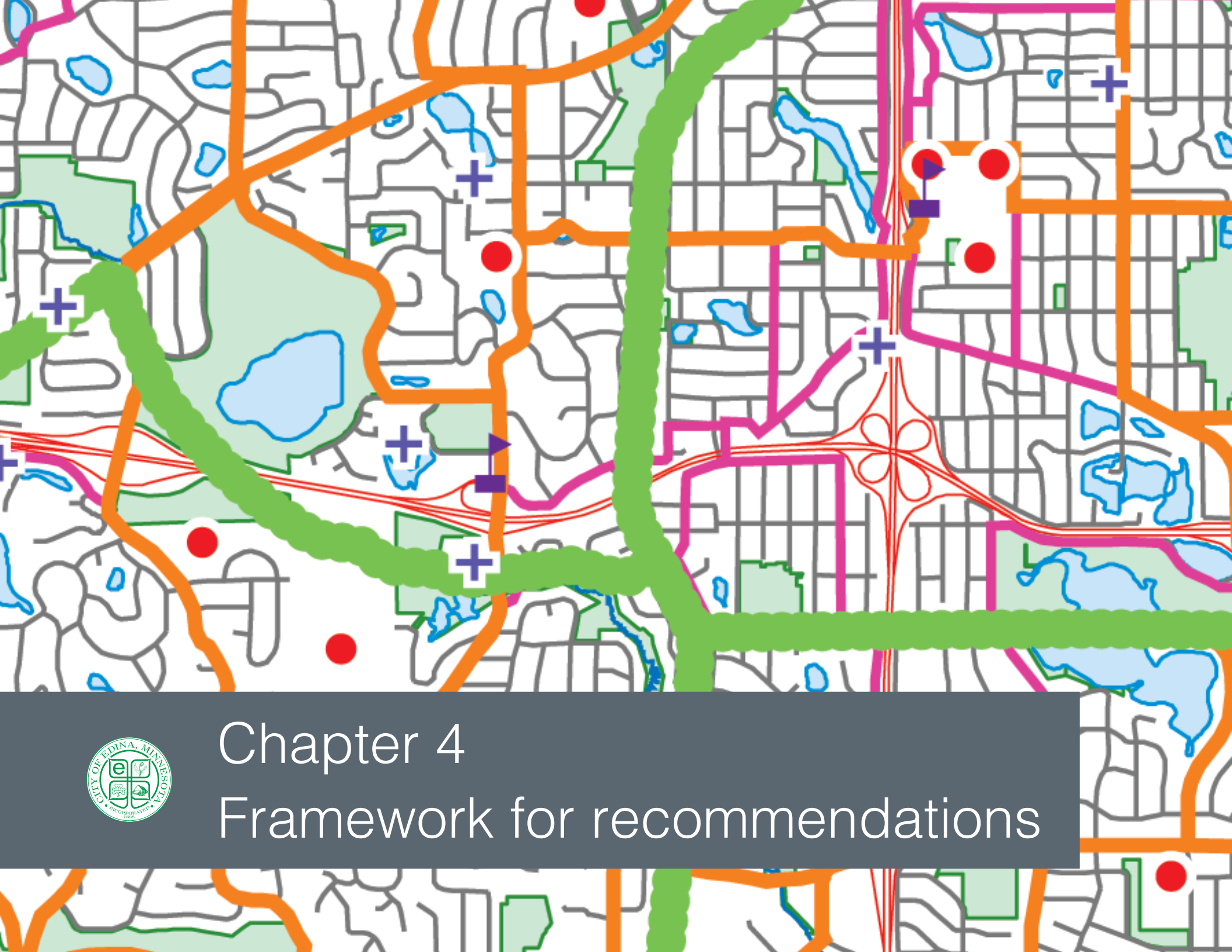
Three Rivers Park District

- Nine Mile Creek Regional Trail Master Plan
- Three Rivers Park District Vision Plan

Metropolitan Council

- Metropolitan Council Transportation Policy Plan (TPP)
- Twin Cities Regional Bicycle System Study





Chapter 4
Framework for recommendations

This chapter describes the approach that guides the plan's "All Ages and Abilities" recommendations - from the types of users it envisions to the approach for ensuring its recommendations are part of a comprehensive set of initiatives that grow walking and biking in the city.

4.1 User types
4.2 Building a plan for a variety of users
4.3 The 6 E's of pedestrian and bicycle planning

4.1 User types

This plan addresses the needs of pedestrian and bicycle riders in Edina. Although both modes have much in common with each other (as active, non-motorized modes with a high degree of interconnectedness and exposure to the surrounding environment, including motor-vehicle traffic), there are significant and important differences in the characteristics of each mode and the needs of their users.

Pedestrians

Pedestrians include people of all ages and abilities - including people with physical or cognitive disabilities, and those who depend on mobility devices like wheelchairs or walkers - who are walking, rolling, pausing, sitting and resting within Edina's streets and other public spaces.

Designing for pedestrians means making streets accessible to all, and providing safe and comfortable spaces with continuous, unobstructed and attractive sidewalks, safe and comfortable intersections and travel across roadways, and a supportive environment that provides comfortable separation from motor-vehicle traffic as well as visual variety, engaging building frontages, connection to natural elements, and design for human scale and needs.

Accommodating people with disabilities

Pedestrians may have cognitive disabilities (like limited vision) or physical disabilities that require use of wheelchairs or walkers for their travel. Adhering to the guidance of the American with Disabilities Act (ADA) and the Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way (PROWAG) will help ensure Edina's pedestrian facilities address the needs of the widest range of users.

Pedestrians include people using wheelchairs, walkers and strollers, and people with sight and other cognitive impairments.

Spatial characteristics for pedestrians using wheelchairs

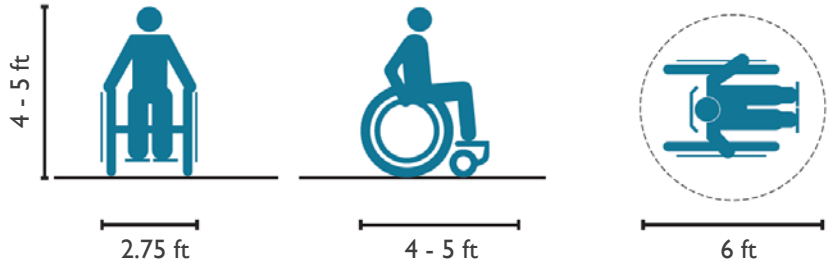


Image: NACTO Global Street Design Guide

Bicycle riders

Bicycle riders include adults, children and seniors using conventional, tandem and tag-along bicycles, cargo and utility bicycles and tricycles - whether conventionally-powered, or as is becoming more commonplace, assisted by electric power (e-bikes).

Designing for bicycle riders means providing facilities that are safe, comfortable, direct, clearly marked and understandable, and part of a cohesive, connected network to encourage use by Edina residents of all ages and abilities. Facilities that provide comfortable separation from motor-vehicle traffic as well as safe and comfortable travel through busy intersections, and supportive elements like wayfinding, connections to transit, and parking and other end of trip facilities will support growth of bicycle travel in Edina.

Bicycle riders include seniors, children and adults using a variety of types of bicycles or tricycles.

Spatial characteristics for conventional bicycles

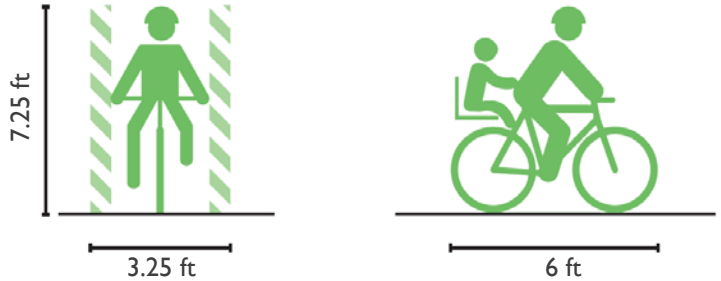


Image: NACTO Global Street Design Guide

Spatial characteristics for cargo bicycles

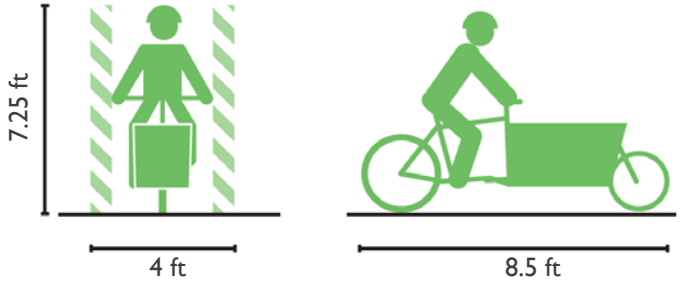


Image: NACTO Global Street Design Guide

4.2 All Ages and Abilities: Building a plan for a variety of users

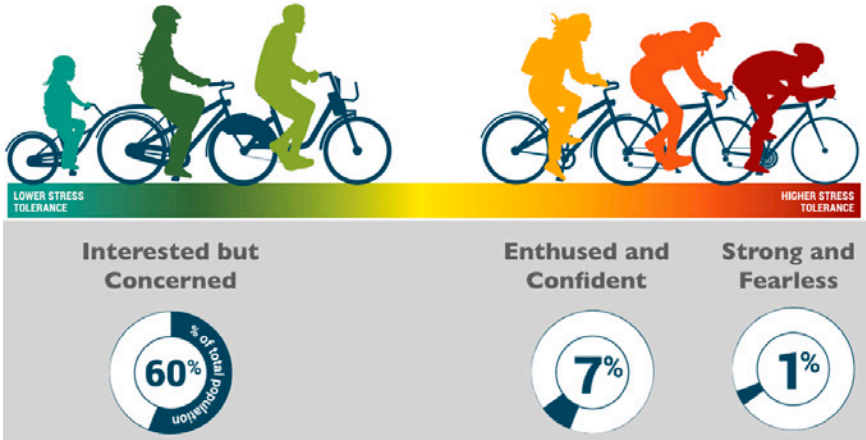
The Edina pedestrian and bicycle network will provide safe, comfortable, and inviting routes and places for walking and biking.

Growing walking and biking in the city will hinge on not only improving the network for those currently walking and biking, but also on attracting new users (those who would like to walk or bike today, but feel uncomfortable or unsafe using the current system).

Attitudes toward walking and bicycling

One useful system for understanding the varying needs and comfort levels of existing and potential bicycle riders (and which can help understand solutions to issues also affecting pedestrians) is the "Four Types of Bicycle Riders" framework first developed by the City of Portland and since then validated in cities across the United States.

In general, it establishes that a city's population includes three main groups of potential bicycle riders:



Interested but concerned (about 60% of adults)

This is the largest group of potential bicycle riders in a community, but also the least likely to regularly ride a bicycle because the type of facilities generally provided in most US cities today exceed their tolerance for traffic stress.

"I like the idea of biking, but I don't bike much (or at all) now. If I do bike, I often stick to the trails. Comfort is my highest priority."

Facilities that will invite members of this population into biking provide greater separation from motor-vehicle traffic and simplified crossing maneuvers for safely getting across intersections.

Enthusiastic and confident (about 7 to 9% of adults)

People in this group can share the road with motor vehicle traffic, but prefer to ride on bike lanes or other designated bikeways. Members of this population account for the increase in bicycle riding in communities that have invested in bicycle lanes.

"I will bike for transportation or recreation. I feel best riding on bike lanes, but will take the lane if necessary."

The minimum facility that will invite them into biking regularly is designated bicycle lanes.

Strong and fearless (about 1% of adults)

People in this population are regularly riding, even when no facilities or minimal facilities are provided. Their experience and expectation for their riding environment is different from that of the majority of other current or potential riders.

"I feel comfortable riding with cars and taking the lane on any street."

Separation from people walking or slower bicycle riders may be as important to these riders as separation from people driving.

Not able or interested (30% of adults)

This group includes people who have no current interest in bicycling, or who are physically unable to bike. Some members of this group could transition into the "interested but concerned" group if general conditions or their personal circumstances changed.

Pedestrians also respond to conditions of user comfort in their surroundings - long crossings or sidewalks adjacent to traffic are often named as barriers - even if crosswalks or pedestrian signals are provided. Image: in Eden Prairie, along Flying Cloud Drive.

4.3 The 6 E's of pedestrian and bicycle planning

The most effective approach for growing walking and biking in a community is to work comprehensively to combine on-the-ground improvements with a wide range of supportive social, educational and enforcement campaigns (also known as non-infrastructure or "programs" measures).

There is a framework for pedestrian and bicycle planning that does exactly this, and it's the framework that this plan uses to organize all its recommendations.

This framework is known as the 6 E's. All the recommendations in the Edina Pedestrian and Bicycle Master Plan are organized by the each of the six topic areas (or E's) below:

Engineering
Engineering recommendations focus on "on-the-ground" improvements - including the planning, design, construction, and maintenance of infrastructure or facilities - like roads, sidewalks, bikeways, intersection treatments, signage, and end-of-trip facilities.

Education
Education programs share information about how to access and use existing facilities and amenities, about the rules of the road, and about benefits associated with walking and biking investments. Education initiatives include network maps, pedestrian and bicycle safety trainings, and educational campaigns, among others.

Encouragement
Encouragement programs inspire more people to try walking or biking through fun and inviting activities including friendly competitions, incentive programs, inclusive group rides, and community-wide events like Open Streets.

Enforcement
Enforcement programs often include participation from local law enforcement with a focus on enforcing traffic safety laws like speed limits, parking regulations, and safe roadway behavior from all users.

Evaluation
Evaluation programs measure the success of investments at achieving desired outcomes. Evaluation takes place before and after programming and infrastructure improvements to establish a baseline and measure progress overtime. Examples of performance measures that may be evaluated include public perception, behavioral changes and modal shifts, and network safety.

Equity
Equity focuses on distributing facility and programming improvements fairly throughout a community to ensure that residents of all neighborhoods and population groups have equal access to high quality facilities and programs. Equity includes intentional efforts for engaging specific diverse populations, and implementation of infrastructure and programs throughout a community to overcome economic, geographic, social, and physical barriers to walking and biking.

Chapter 5
Engineering

Engineering recommendations focus on "on-the-ground" improvements - including the planning, design, construction, and maintenance of infrastructure or facilities - like roads, sidewalks, bikeways, intersection treatments, signage, and end-of-trip facilities.

5.1 Approach and overview
5.2 Framework for the city's walk / bike network
5.3 Pedestrian network recommendations
5.4 Bicycle network recommendations
5.5 Transit integration, bikeshare, and mobility hubs
5.6 Wayfinding
5.7 Facility maintenance
5.8 Bicycle parking
5.9 Policy recommendations

5.1 Approach and overview

An incremental approach

Edina has many assets for walking and biking in place today. The goal of recommendations in this chapter is to address gaps in the network, increase user comfort for existing and future facilities, and provide a supportive framework for maintaining current assets and for future planning and policy actions that will increase walking and biking in the city.

One key component of the plan's approach for future improvement is to identify smaller, incremental steps that can be quickly implemented and tested and prepare the foundation for future, permanent improvements.

Recommendations are based on network analysis, site visits, best practices, and engagement with the Project Management Team and the general public.

Please note: Additional investigation and design for each specific project must be completed by a licensed engineer prior to implementation.

Goals for ***ENGINEERING*** recommendations

Improve routes, facilities, policies and practices to:

- Fill gaps in the existing network
- Address the concerns of Edina residents who currently walk or bike in the city
- Attract new users by developing a safe, comfortable, and inviting network
- Provide connections to important destinations including schools, neighborhood parks, commercial areas, employment, transit, and regional corridors
- Efficiently and cost-effectively maintain the city's facility investments
- Support new models for sustainable, efficient and healthy mobility, and provide supportive policy and planning recommendations

5.2 Framework for the city's walk / bike network

An All Ages and Abilities Network

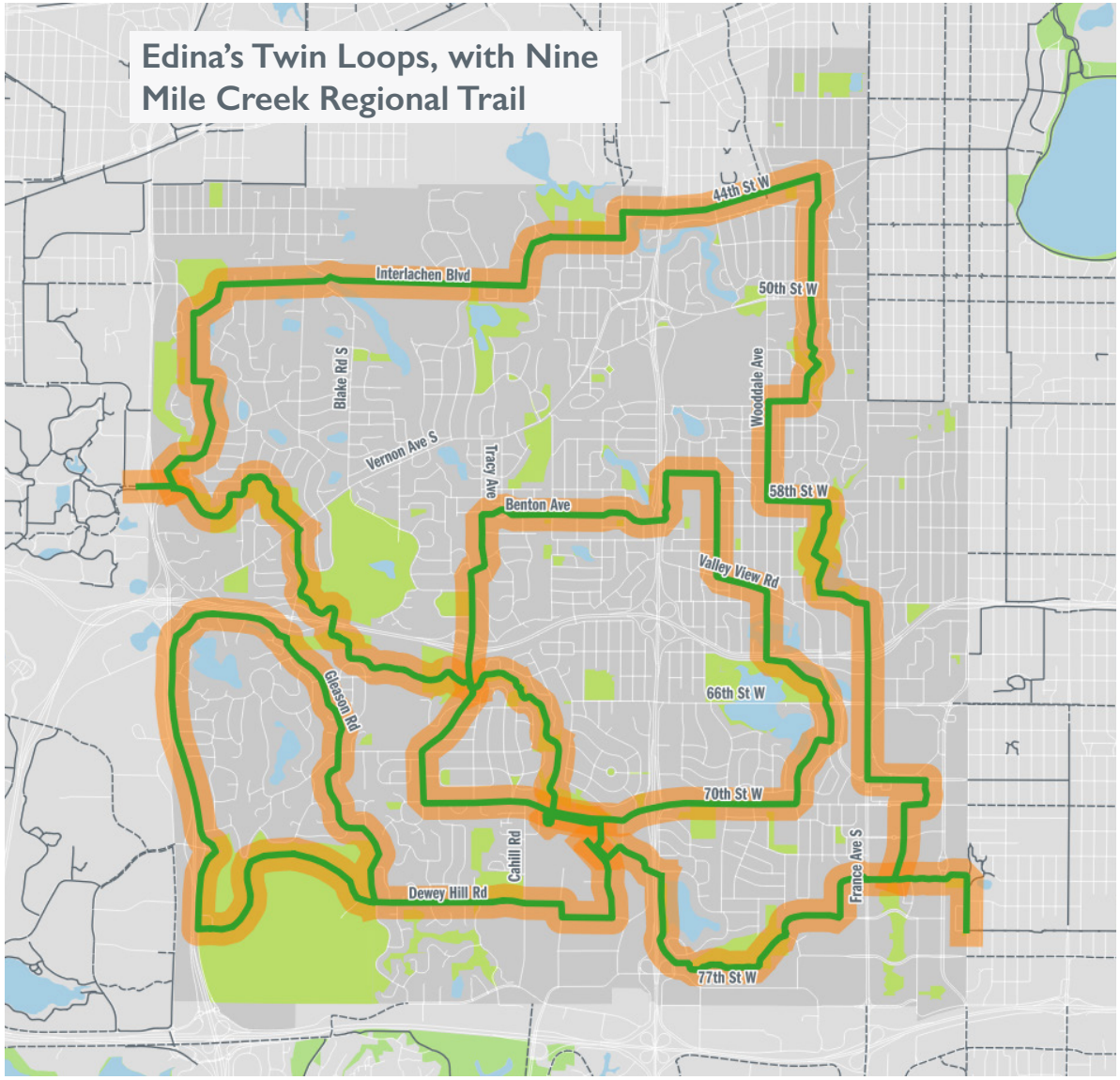
Guidance from Edina residents was very clear: connecting to schools, parks and neighborhoods with safe and comfortable facilities is a key priority.

This plan follows that guidance to propose a "Twin Loops" framework connecting key assets in the city through a high-comfort, high-amenity walk / bike system.

The Inner Loop provides a high quality connection tying all four city quadrants and within close proximity of Edina schools and community destinations.

The Outer Loop, first identified in the 2015 Edina Strategic Park Plan, provides high-quality connections to Edina parks, regional destinations, and adjoining communities.

Together with the new Nine Mile Creek Regional Trail, these Twin Loops form the "backbone" of Edina's walk / bike network and organize a secondary network of pedestrian and bicycle routes connecting to neighborhoods throughout the city.



What could it look like?

Indianapolis Cultural Trail.

Edina Promenade.

University of Minnesota Transitway.

Indianapolis Cultural Trail.

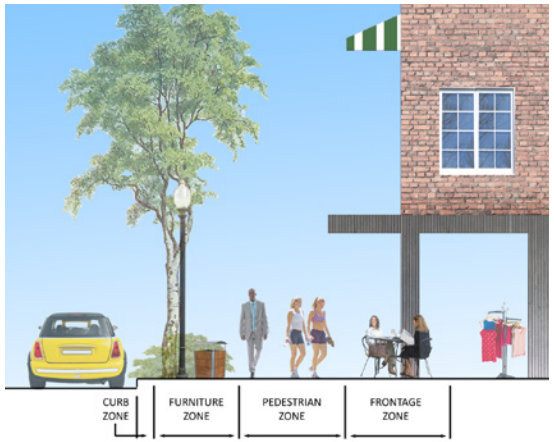
A brief introduction to pedestrian and bicycle facilities

Numerous types of facilities and treatments exist for addressing the needs of people walking and biking in our cities. Four facility types are discussed here as they make up the majority of facilities recommended in this plan. **Please note that a "Toolbox of Pedestrian and Bicycle Treatments and Best Practices" detailing all facilities with potential application in Edina is included in this Plan's Appendix.**

Sidewalks

Applicability: Pedestrian network

Sidewalks are paved concrete or asphalt paths designed for pedestrian use. A well-connected sidewalk network is the foundation of pedestrian accessibility, with the quality of connections between sidewalks (across roadways) determining the overall usefulness of the walkways provided. High quality sidewalks provide level and unbroken surfaces, ADA-compliant curb ramps, and comfortable separation from motor vehicle traffic. Trees and plantings, and additional facilities like benches, waste receptacles, and public art provide additional user comfort and interest.



Sidewalk in a mixed-use district.

Shared-use paths

Applicability: Pedestrian and bicycle networks

A shared-use path (SUP, often also known as trail) provides a shared space for people walking and biking that is separate from motor vehicle traffic. Shared-use paths work better when they include fewer intersections with motorized traffic.

Shared-use paths are often provided along busier roadways when on-street bicycle facilities are not feasible, and at locations along streams and railroads, and through parks. SUPs provide increased separation from motor vehicle traffic, and are also used at parks and natural assets to provide more scenic routes. Striping of shared-use paths helps to clarify passing lanes, and identify separate lanes for people walking or biking in high use areas.

The Edina Promenade is a shared-use path.

Neighborhood Slow Streets

Applicability: Bicycle network

Neighborhood Slow Streets (also sometimes known as Neighborhood Greenways or Bike Boulevards) are residential streets that are lightly modified to calm motor-vehicle traffic and prioritize bicycle travel. They can include some or several types of traffic-calming elements: bump-outs, traffic circles, speed tables, or others.

Neighborhood Slow Streets make walking and biking easier and safer by reducing motor-vehicle speeds and by improving safety for users of all modes. Route signage, pavement markings, and stop sign orientation can help highlight the street as a bikeway.

Traffic circle at a neighborhood intersection helps calm through traffic and make conditions better for people walking and biking.

Bicycle lanes

Applicability: Bicycle network

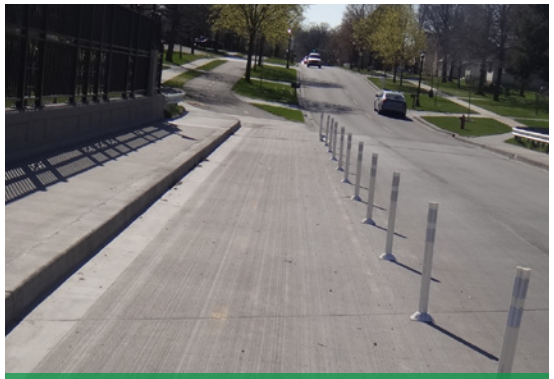
Bicycle lanes designate a portion of the roadway for preferential use by bicycle riders. Lanes are defined by striping, pavement markings and signage. Bike lanes separate bicyclist and motorist travel flows and increase bicycle rider and driver comfort.

Three types of bicycle lane facilities are recommended for consideration in Edina:

» Separated or protected bicycle lanes

» Buffered bicycle lanes

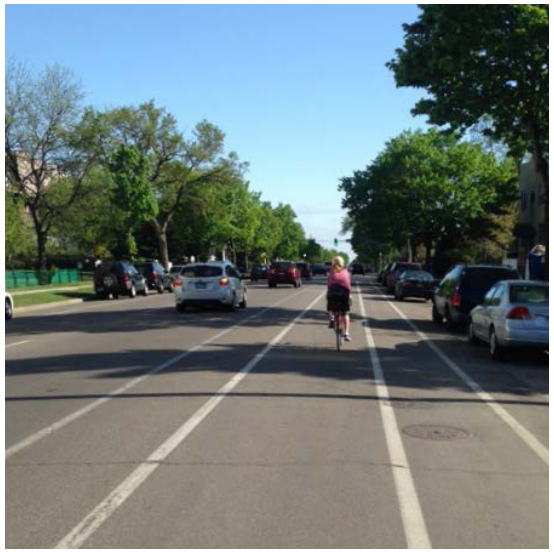
» Conventional bicycle lanes



Separated / protected bicycle lanes can be quickly and inexpensively deployed using plastic bollards and paint.
Image: Saint Paul Grand Round.

Separated / protected bicycle lane
Separated / protected bike lanes are on-street facilities that offer a designated space for bicycles and that are separated from motor-vehicle travel lanes by a buffer distance and by vertical elements like bollards, planters, or concrete walls.

This type of facility offers the highest level of traffic separation and user comfort, and invites greater use of bicycling by a wider range of the population. This is the type of facility that is generally recommended for Edina's on-street bicycle network.



Buffered bicycle lane
Buffered bike lanes are on-street facilities that offer a designated space for bicycles and that are separated from motor-vehicle travel lanes by a buffer distance.

When provided next to on-street parking, they sometimes also include a buffer space between the bicycle lane and parked cars.

This is the minimum type of facility that is required in order to create conditions that attract members of the "interested but concerned" population into biking.

Conventional bicycle lane
Conventional bicycle lanes are on-street facilities that offer a designated space for bicycles and that are adjacent to motor-vehicle travel lanes.

5.3 Pedestrian network recommendations

Recommendations for Edina's pedestrian network respond to these two priorities:

- Address safety and user-comfort issues at priority intersections identified through analysis, community engagement and consultation with Edina staff
- Identify a pedestrian network that incorporates and responds to the facilities included in the following adopted city planning policies and documents
  - 2014 Sidewalk Facilities Map and Pedestrian Facilities Comprehensive Plan Amendment,
  - 2015 Living Streets Plan
  - 2013 Active (Safe) Routes to School (SRTS / ARTS) Comprehensive Plan
  - Analysis, community engagement and consultation with Edina staff

The goal is to support the continued development of a well-connected, dense, and equitably distributed network of sidewalks and shared-use paths providing safe and comfortable crossings and connections to everyday destinations.

Inventory of existing and proposed facilities

Facility Type	Miles		
	Existing	New	Total
Sidewalk	85.0	49.0	122.0*
Shared-use path	18.8	9.0	27.8
Total pedestrian network	**96.3**	**57.6**	**149.8***

** Totals are not arithmetic addition as they include the conversion or upgrading of some existing facilities into other types that offer greater user comfort.*

Connecting to Edina's All Ages and Abilities Network

Edina's Twin Loops (Chapter 5.2) provide the organizing structure for identifying priorities for implementation of sidewalk facilities.

Sidewalks and trails connecting neighborhoods and destinations to the Twin Loops are identified as Primary connections, while other pedestrian links are identified as Secondary.

Priority intersection improvements

Several intersections were identified as locations where safety and user-comfort issues exist.

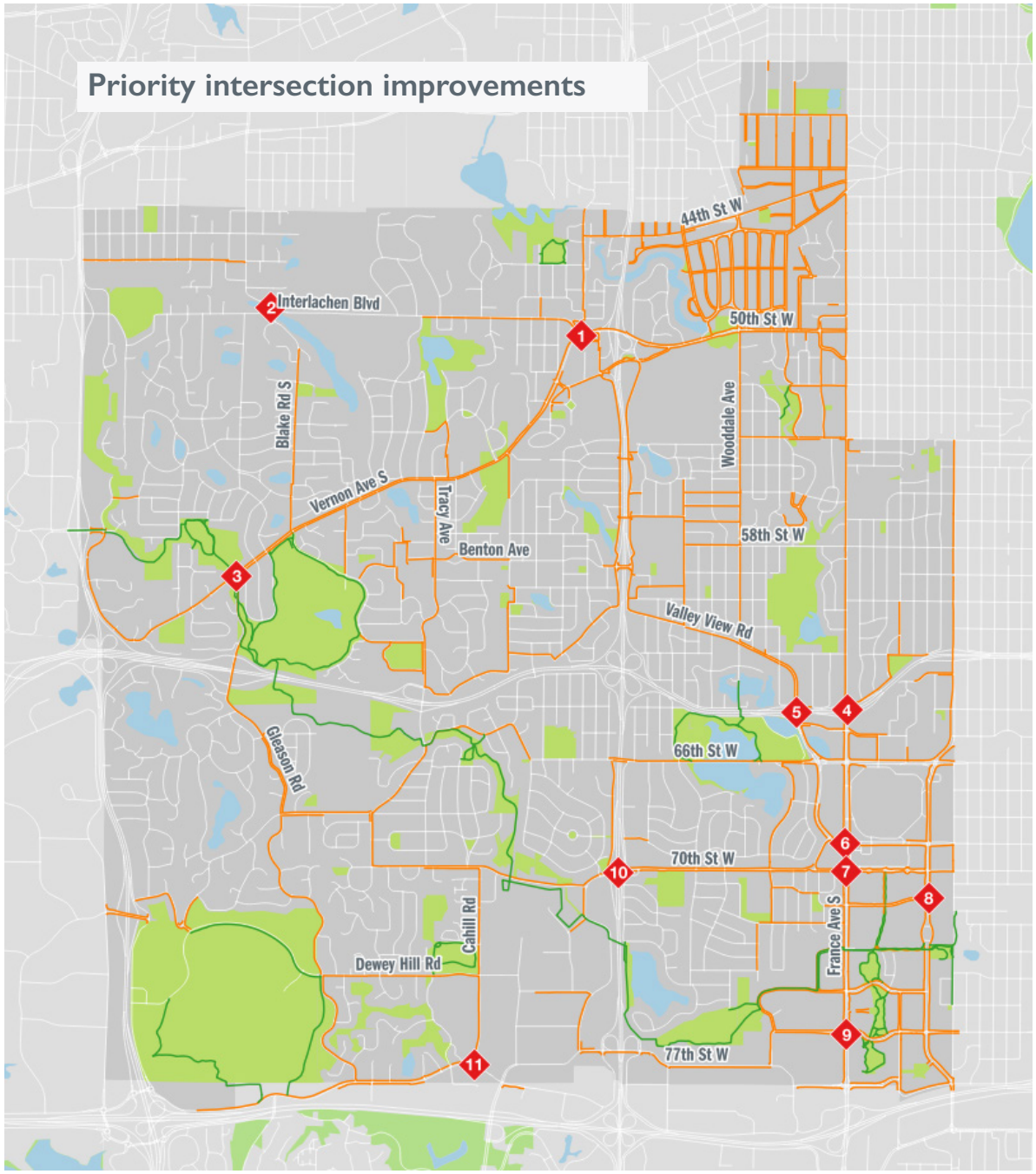
The intersections noted here are recommended for additional investigation and improvement.

Recommended Facilities

- Priority intersection
  See table on the following page for ID-specific recommendations

Existing facilities

- Existing sidewalks
- Existing park trail



ID	Intersection	Recommended Improvements
1	Interlachen and Vernon	Implement best practices and recommendations outlined in the Infrastructure Toolkit (Appendix A) for intersections and crossings. Several of the treatments below are already present at some of the intersections listed, but not at others. Consider: • Reduce turning radii where practical • Install high visibility crosswalks and forward stop bars • Install refuge medians that extend beyond crosswalks and into intersections • Provide countdown timers and extend crossing time as needed • Implement leading pedestrian intervals (LPIs) for people walking and biking • Reduce the width or number of motor vehicles travel and turn lanes as possible • Install ADA compliant curb ramps and signals • Modify channelized right turn lanes to prioritize safety and comfort of people walking or biking • For intersections also along designated bicycle routes: install bicycle signal detection (loop or camera detection) or bicycle push buttons
2	Blake and Interlachen	
3	Gleason and Vernon	
4	France and Highway Hwy 62	
5	Valley View and Hwy 62	
6	France and 69th	
7	France and 70th	
8	Hazelton and York	
9	France and 76th	
10	70th and Hwy 100	
11	78th and Cahill	
12	Valley View and Hwy 169	

Proposed pedestrian network

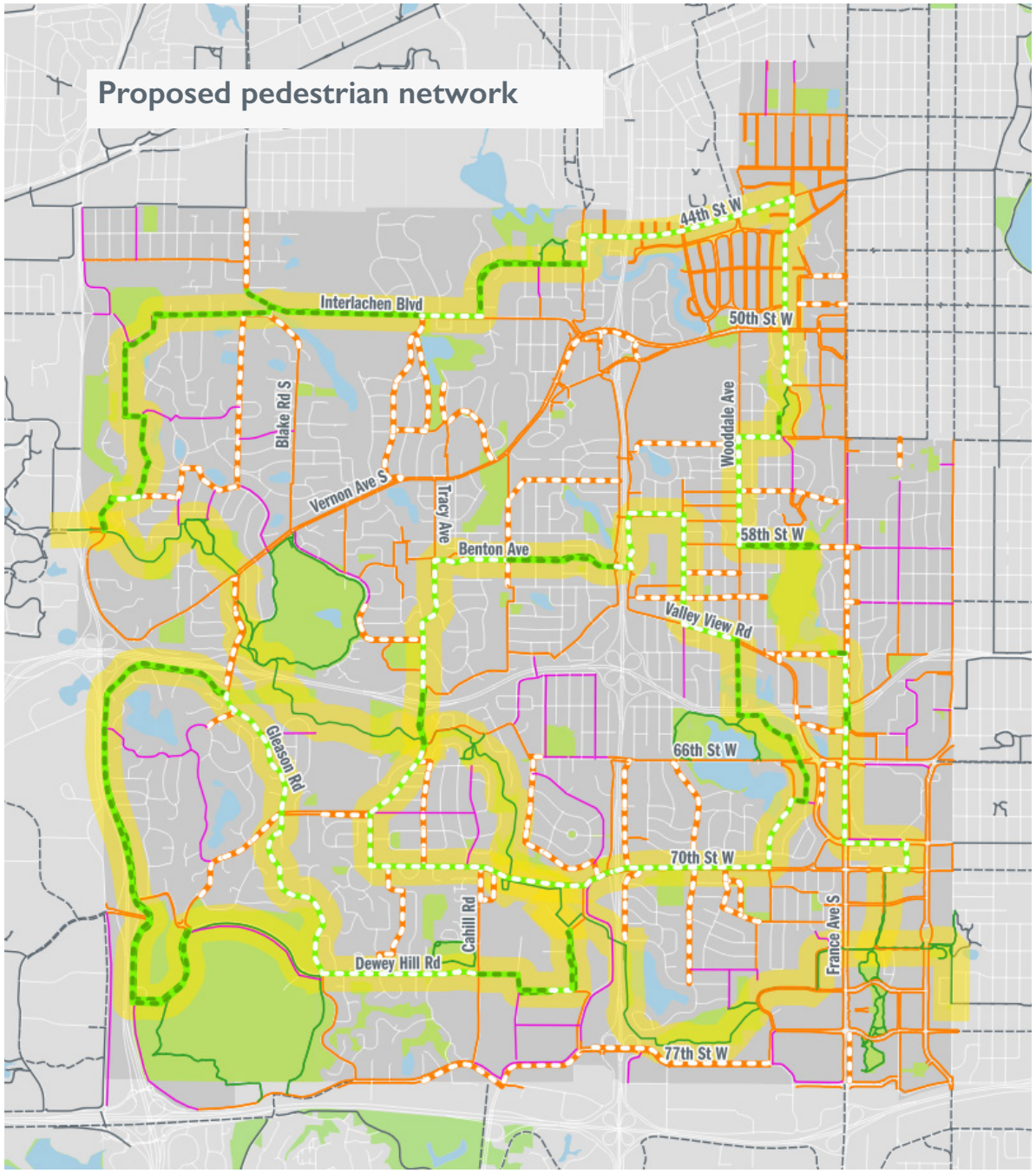
Sidewalks and trails connecting neighborhoods and destinations to Edina's Twin Loops are identified as Primary connections, while other pedestrian links are identified as Secondary.

Recommendations

- Edina Twin Loops - All Ages and Abilities Network
- New Primary sidewalk
- New shared-use path
- Upgrade existing sidewalk to shared-use path
- New Secondary sidewalk

Existing facilities

- Existing sidewalks
- Existing shared-use path/trail
- Existing network in neighboring community
- Planned network in neighboring community



Additional recommendations for walkability

Facility Type	
Street crossings / intersections	• Reduce unsafe crossing behavior by providing safe, marked opportunities for people walking to cross the street at least every half-mile along minor arterials, and every quarter-mile in neighborhoods, commercial or retail districts, schools, parks, and along transit routes. • Install ADA-compliant curb ramps at all marked and unmarked crosswalks. • Establish guidelines for use of raised crosswalks and median refuge areas for crossing areas. • Install curb extensions (bump-outs) where possible, including commercial districts, neighborhoods and where on-street parking is permitted. • Design intersections with minimum allowable turning radii to slow traffic speeds, to allow perpendicular curb ramps to be positioned parallel to crosswalks and perpendicular to curb, and to shorten overall crossing distance. • Design channelized turn lanes and median refuges with attention to walking and biking movements. • Avoid multiple turning lanes when possible. • Implement advanced stop bars to deter motorists from encroaching into crosswalks when stopped, and to decrease possibility of "hidden threat" crashes.

Facility Type	
Sidewalk furnishings	• Consider street trees, vegetative buffers, and street furnishings to control stormwater and provide shade. • Accommodate necessary utility infrastructure. • Provide for facilities that enhance the pedestrian environment including pedestrian-scaled lighting, public art, wayfinding, vegetation, and others. • Accommodate commercial activities that invite walking and add activity and interest to the area.
Pedestrian crossing signals	• Continue updating pedestrian crossing signals to countdowns until all units have been converted. • Include user-activated technologies for traffic control including Rapid Rectangular Flashing Beacons (RRFB), Pedestrian Hybrid Beacon (PHB or HAWK), and others. • Consider implementation of Leading Pedestrian Intervals. • Ensure that clearance intervals are properly timed.
Driveways	• Limit the width, number, and location of driveways through consolidation and other means.
Requirements for sidewalks in new and existing developments	Consider modifying the City Sidewalk Policy to: • Allow greater flexibility in implementation • Include goal of providing sidewalks on at least one side of local streets including new development and retrofits on existing streets, including dead-ends that provide cut-throughs or park/trail connections.

5.4 Bicycle network recommendations

The recommended Edina bicycle network builds on existing investments to provide a dense and equitably distributed network of All Ages and Abilities on- and off-street bicycle facilities that includes:

» Implementation of the Edina Twin Loops and expansion of the city's shared-use path network

» Upgrading of existing on-street routes and facilities to high user-comfort facilities

» Improved connections to schools, parks, commercial areas, higher-density housing, and transit corridors to facilitate bicycle travel within neighborhoods and throughout the city.

Inventory of existing and proposed facilities

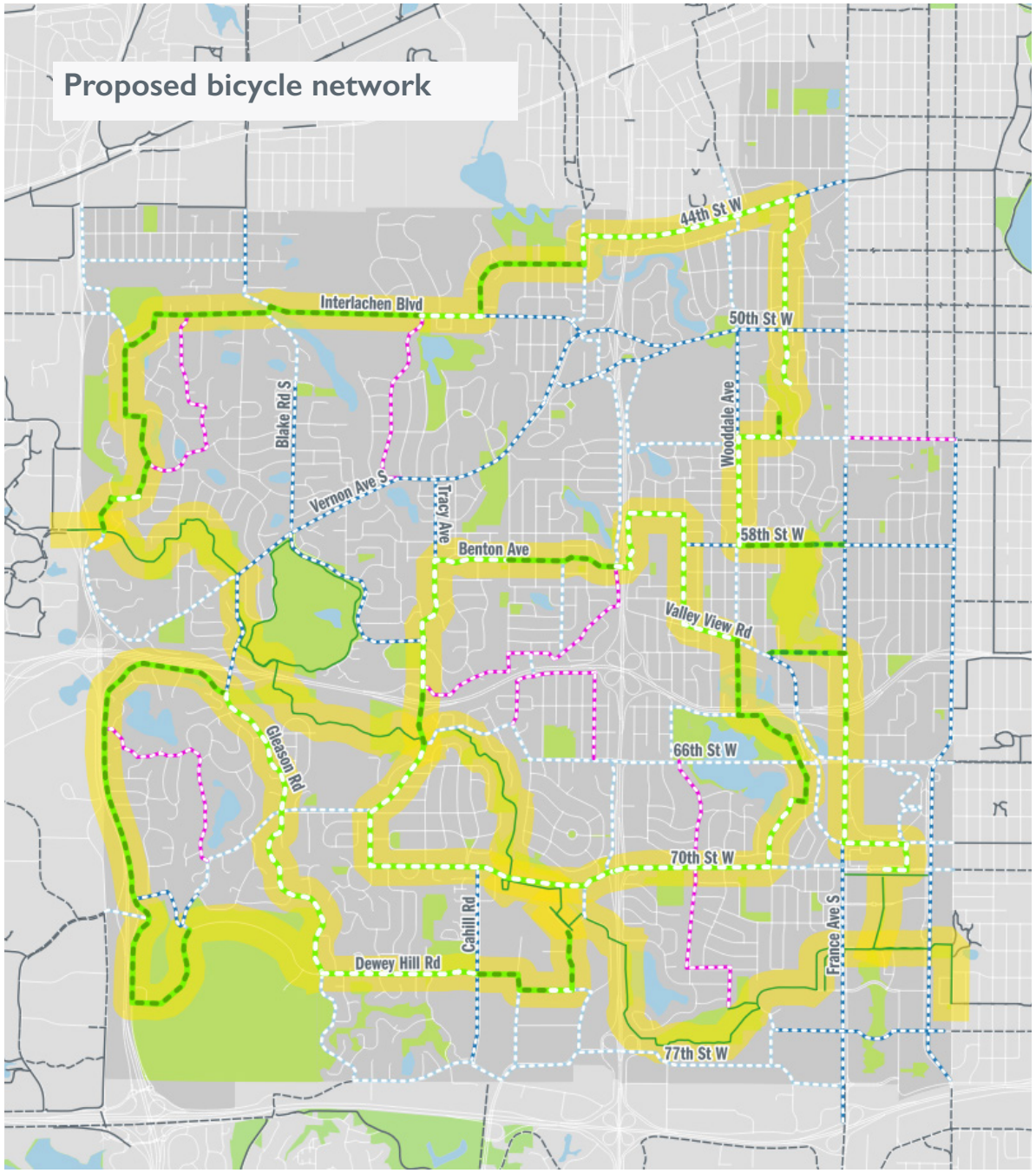
Facility Type	Miles		
	Existing	New	Total
Advisory Bicycle Lane	0.6	0	0*
Signed Bicycle Route	7.7	0	0*
Green Shared Bicycle Lane	0.4	0	0*
Neighborhood Slow Street / Bike Boulevard	3.4	7.1	7.8*
Bicycle lane	19.1	39.9	40.2*
Buffered bicycle lane (medium-term: separated bicycle lane)	0	16.5	16.5
Separated / protected bicycle lane (long-term: shared-use path)	18.8	9	27.8
Total Bicycle Network	**49.9**	**69.9**	**92.3***

** Totals are not arithmetic addition as they include the conversion or upgrading of some existing facilities into other types that offer greater user comfort.*

Proposed bicycle network

Recommendations

- Edina Twin Loops - All Ages and Abilities Network
- New separated / protected bicycle lane (long-term: shared-use path)
- New separated / protected lane or upgrade existing sidewalk to shared-use path (long-term)
- Neighborhood Slow Street / Bike boulevard
- Buffered bike lane
- Conventional bike lane
- Existing shared-use path/trail
- Existing network in neighboring community
- Planned network in neighboring community



Additional recommendations for bikeability

Facility Type	Recommendation
Bicycle treatment at intersections and trail crossings	• Mark bicycle lanes across right-turn lanes and through intersections by marking them with green paint where appropriate • Install chevrons and dashed lines across intersections where appropriate. • Install signage at conflict points where appropriate. • Establish guidelines for installing medians or raised crosswalks at trail crossings and intersections. • Install bicycle signal detection including loop detectors or camera detection along bikeways when signals are installed or updated. • More information about intersection treatments is included in Appendix A.
Lighting of trails and on-road facilities	• Establish policies for providing lighting along on- and off-road facilities, and in tunnels and other areas along trails as needed.
Facility maintenance	• Develop facility maintenance guidelines for ongoing and seasonal maintenance including street cleaning, vegetation maintenance, snow and ice removal, and re-striping. • Develop a snow and ice removal policy for on- and off-street bicycle facilities, and publicize "Winter Network" identifying priority routes for snow and ice removal along pedestrian and bicycle facilities. • Additional information regarding facility maintenance is provided in this chapter.

Facility Type	Recommendation
Bicycle network design	• Draw on latest best practices for full selection of bikeway facilities. Sources include: 2012 AASHTO Guide for the Development of Bicycle Facilities, NACTO Urban Bikeway Design Guide, FHWA Separated Bike Lane Planning and Design Guide, MnDOT Bikeway Facility Design Manual, and others.
Bicycle parking	• Continue managing and communicating the ongoing "Request-a-Rack" program. • Adopt bicycle parking requirements for new development, and install bicycle parking at existing destinations including commercial and employment centers, recreational areas, schools, and other community destinations where people may arrive by bike. • Work with Metro Transit to provide secure, short- and long-term parking at major transit hubs including Park & Ride lots. • Consider working with adjoining jurisdictions hosting nearby Southwest LRT stations (five stations are within a mile of Edina) to provide secure, short- and long-term parking at SWLRT stations and Park & Ride lots. • Adopt and follow Hennepin County's bicycle parking guidelines: http://www.hennepin.us/~/media/hennepinus/residents/transportation/bike/bikeplan/Appendix%20F%20%20Bicycle%20Parking%20GuidelinesFINAL.pdf • More information about bicycle parking is provided in Appendix A.
Rest stops	• Establish guidelines for installation of rest stop facilities including benches, water refill stations, short-term parking, bicycle maintenance stations, trash and recycling, and restrooms.

5.5 The new mobility: Transit integration, bikeshare, and mobility hubs

Image courtesy of Shared-Use Mobility Center.

The New Mobility (also known as "shared-use mobility") is an approach to transportation that decreases the need for private automobile ownership by providing access to convenient and comfortable transportation options that are shared among users - including public transit, bikeshare, carshare, carpools, taxis and app-based ride-hailing services, shuttles and more.

Successful approaches integrate several systems: convenient mass transit, ridesharing services and shared bike fleets, integrated mobile apps, compact and efficient land use, and supportive walk / bike networks that, taken together, offer new options for people to get around.

Edina's potential for the New Mobility

Edina has great potential for capitalizing on these trends and offering a new way for residents and visitors to connect to destinations in and around the city.

Edina's transportation goals include reducing trips by car, reducing congestion, and reducing the need for parking while improving community health, commerce, and the environment.

New Mobility approaches can help reduce trips by car to the point where fewer cars are needed overall - for example, helping a three-car household become a two-car household, or helping a two-car household become a one-car household.

Tightly focusing shared-use mobility hubs and services with excellent walk / bike access to serve destination-rich neighborhood nodes (places that provide a mix of businesses like a grocery store, gym, coffee shop, restaurant, hair salon, etc.) can help kick-start the New Mobility in Edina while also supporting the development of denser housing and mixed-use buildings in specific districts of the city (what the 2018 Comprehensive Plan refers to as a "Nodes and Modes" approach).

This approach can help increase the efficient use of land in these districts while increasing convenient access to a range of transportation options for people living in those districts and in nearby traditional single-family neighborhoods.

Bikesharing

Bikesharing is a resounding success in our region. Nice Ride, the Twin Cities' bikeshare system, has been in operation since 2010 with a fleet of 3,500 bikes providing service in Minneapolis and Saint Paul.

But the potential for bikeshare as a useful New Mobility tool is not limited to the central cities - Edina recently implemented a pilot project with LimeBike to test and deploy a fleet of dockless bikes throughout the city.

High activity areas such as 50th and France, Grandview, the Southdale area, and major recreational and trail locations (Braemer Park, Bredesen Park, and Nine Mile Creek Regional Trail) will be ideal for initial deployment of the system. There are two key considerations to keep in mind as the city moves forward toward implementation of bikeshare in Edina:

» To maximize convenience for Edina residents and increase opportunity for success of the city's system, it will be key to make sure that bikeshare memberships for Edina's system are compatible with the larger regional system, and,

» The city's All Ages and Abilities network should be in place at deployment locations *before* the system is deployed there as bikeshare works best when it allows for comfortable and casual use by members of the general adult population (the "interested but concerned" population) - this is why trail and park locations might be especially useful locations to start deployment.

BY THE NUMBERS

Dockless Bike-Sharing Program

Lime brought its dockless bikes to Edina in July. Lime is similar to other bicycle-sharing programs operating in Minneapolis and St. Paul, but with one major difference – no docking stations. They can be parked anywhere, as long as it's a legal parking location for a bike.

To use the bikes, riders download the Lime app. All bikes and scooters are GPS and 3G-enabled, making it simple for riders to find, unlock and pick up a nearby bike using the iOS or Android smartphone app. When the ride is finished, riders simply follow instructions in the app to end the ride and responsibly park between the pedestrian-designated sidewalk and the street curb or at a bike rack.

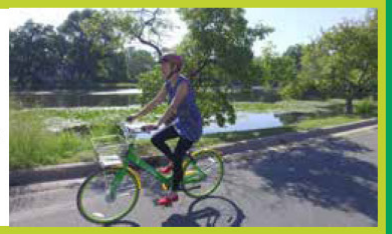
Lime reported the following statistics for use in Edina from July through mid-September:

1,015 rides | **617** riders | **1,564** miles

0.8 Median distance/trip

34,086 Minutes ridden

21 minute median trip



– Compiled by Jennifer Bennerotte and Heidi Lillie

Transit integration

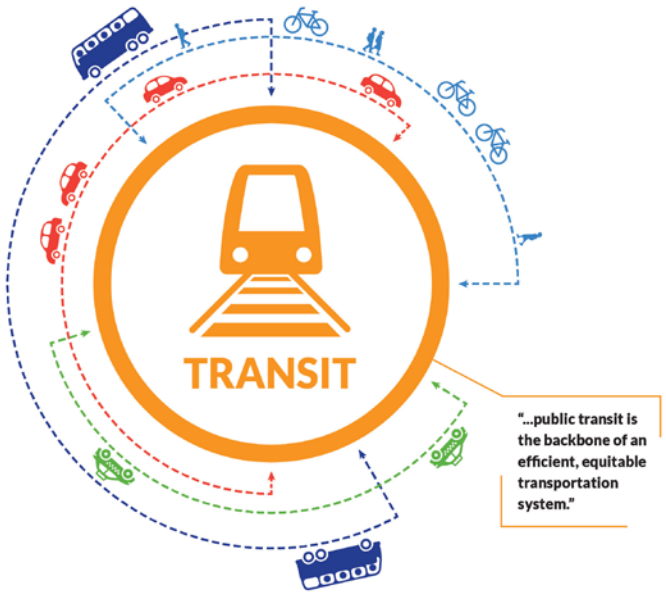


Image courtesy of Shared-Use Mobility Center.

Transit is a key component of the New Mobility. Fortunately, Edina's proactive pedestrian and bicycle planning approach offers great opportunity for improving access to transit, as nearly every transit trip will include a walking trip at the beginning, end, or both - while improving bicycle access to transit stops and stations will greatly increase the number of people within transit catchment areas.

Integrating walking and biking with transit

Improving pedestrian and bicycle connections to transit can play an important role in making these modes part of daily life for more Edina residents. Easy and convenient linkages to transit will help increase the total number of trips made by walking or biking by increasing the number of destinations available, and by allowing pedestrians and bicycle riders to reach more distant destinations.

Pedestrian and bicycle connections

Providing a continuous and comfortable network of sidewalks and shared-use paths connecting residential and employment concentrations to transit stops is an effective way of supporting pedestrian access to transit. In general, consider providing marked pedestrian crosswalks along intersection legs closest to transit stops. If a transit stop is not near an intersections, consider implementing a mid-block crossing.

At transit stops

Transit stops should include a paved landing area for riders to wait outside of the pedestrian/bicycle travel-way, and to improve ease of loading and unloading. Stops serving high numbers of riders should include covered waiting areas. Heated bus shelters should be considered at locations with high ridership.

Availability of seating increases comfort for riders while waiting for transit. Seating is strongly recommended at stops serving elderly riders, persons with physical or cognitive impairments, or families and children. Transit stops near grocery stores and shopping centers should be prioritized for shelter and seating to accommodate riders

traveling with goods. Transit stops and approaching walkways and crossings should be well-lit to improve rider comfort and safety, and to improve visibility of riders to transit drivers.

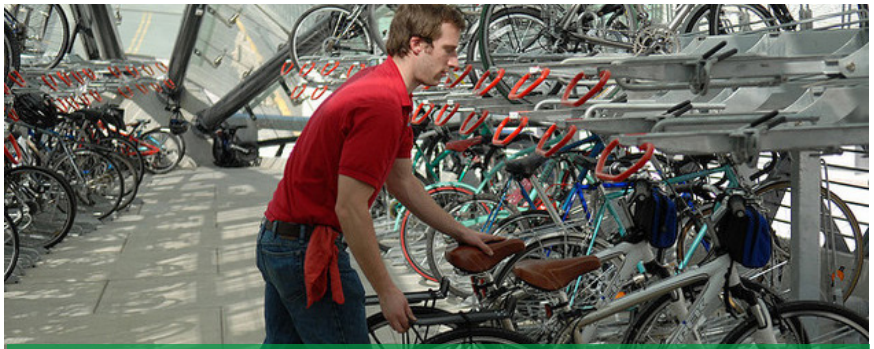
Bike parking at transit stops and stations

Providing secure long-term bicycle parking at transit hubs / principal stations helps reassure bike commuters that their bikes will still be there when they return from work, and will encourage bike commuting to transit. Short-term bicycle parking (which takes up less space) should be provided at transit stops serving high numbers of riders. A mix of short-term and long-term bicycle parking should be provided at transit hubs / principal stations.

Bike stations at Transit Hubs

"Bike stations" provide bicycle riders with robust facilities for storage and maintenance of bicycles and are generally located at transit hubs or other major destinations. Bicyclists who ride their bikes to transit can leave their bikes to be stored and serviced as needed while they continue their commute via transit. Bike stations often include amenities such as long-term bike parking and shower and locker facilities.

A similar but smaller-scale version of the "bike station" described above is the "fix-it station." Fix-it stations are generally installed at transit centers, and typically include a vending machine for bike parts and a set of bike tools attached to a permanent repair stand.



This bike hub in Washington D.C. provides bike parking, bike maintenance, changing facilities, retail services, and bicycle rentals. Image courtesy of home.bikestation.com

This "fix-it" station provides basic bicycle repair tools and parts with a vending machine, air pump and permanent repair stand.

Putting it all together: a Mobility Hub

A Mobility Hub brings together all the elements of the shared-use mobility model: convenient access to multiple modes of transportation, walkability, and density of uses and destinations. Edina is well suited for this model of development.
Image courtesy of San Diego Association of Governments (SANDAG).

Southdale Transit Center

The Southdale Transit Center, located near York Avenue and West 66th Street, is one of our region's busiest, and an incipient mobility hub. Currently it provides covered waiting shelters with on-demand heat, seventy Park & Ride spaces, electric-vehicle charging stations, and real-time departure information.

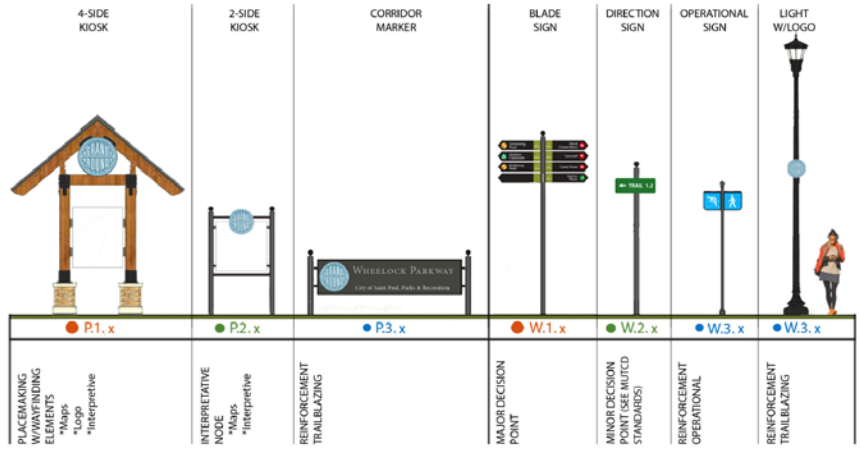
The Greater Southdale District Plan identifies the development of a Mobility Hub as a prominent policy recommendation for the district's transportation future. Ensuring that this hub is robustly connected to Edina's All Ages and Abilities pedestrian and bicycle networks will facilitate its growing role in Edina's New Mobility landscape.

Mobility hub elements deployed in a location similar to Southdale Transit Center's current configuration.
Image courtesy of Sophia von Berg.

5.6 Wayfinding

A comprehensive and user-friendly wayfinding system is an essential component of successful pedestrian and bicycle networks.

Wayfinding elements, including signs, markings, maps and informational kiosks make a network approachable, understandable and usable, and encourage existing and potential pedestrians, bicyclists and transit riders to use existing walking and biking facilities. Due to the nature of Edina's existing street system (with dispersed facilities and destinations, curvilinear roads, and cul-de-sacs), effective wayfinding will be key component for success.



Wayfinding elements developed as part of recent planning for the Saint Paul Grand Round.

Wayfinding and recommended Edina routes

A wayfinding system is a comprehensive network of signing and pavement markings providing useful information including direction, time and distance to a destination along preferred pedestrian and bicycle routes.

Edina has many existing and planned assets that could be linked as transportation and recreation routes and loops. The city's Twin Loops are an ideal framework for connecting destinations across the city (and to nearby communities).

The following routes should be considered for signing and branding:

- The "Twin Loops" as an integrated system
- The Inner Loop as a circulation system providing access and connection to the city's schools
- The Outer Loop as a circulation system connecting to major parks and to neighboring communities

In addition, Three Rivers Park District's Nine Mile Creek Regional Trail (already branded and with significant wayfinding assets by TRPD) should be incorporated in the city's wayfinding strategies as an important link to the larger regional trail system, and as a key connection between both loops.

Types of destinations

Destinations to include and highlight in the city's system include:

- Other trails or bikeways (to aid connection throughout the system)
- Commercial areas
- Schools
- Civic/community destinations
- Transit centers
- Local or regional parks and trails

Other wayfinding recommendations

- Print and distribute network maps: Network and route maps communicate the city's walking and biking network to both current and potential users. Include safety tips, information about different facility types, and bicycle traffic laws.
- Continue making map and GIS data publicly available: Publishing pedestrian and bicycle related data including planned projects, construction information, pedestrian and bicycle detours, and safety information helps keep the public informed, and allows for development of third party applications that incorporate up-to-date information about the city's walking and biking network.

Additional guidance for wayfinding can be found in Appendix A.

Effective wayfinding includes destination, direction and distance information (in both time and miles). Image courtesy of bikemichiana.org.

Wayfinding and placemaking elements can be combined at locations where trails come together to orient users to additional destinations and connections.

5.7 Facility maintenance

Maintenance of pedestrian and bicycle facilities includes two key, related activities:

» Upkeep and repair of the physical condition of the facilities so they continue in service in their intended condition (e.g., repainting crosswalks to maintain visibility, or patching trail surfaces), and,

» Ensuring that environmental, climatic, and other factors don't hinder access to the facilities or to their intended functioning (e.g., removing snow from priority pedestrian corridors).

Proactive and effective maintenance of pedestrian and bicycle facilities is a key practice for successful pedestrian and bicycle systems, and a major contributor to the development of safe, comfortable and inviting non-motorized networks that grow walking and biking.

Why it's important

Adequately maintaining walking and biking facilities:

» Protects the investments made by the city and its partners and helps ensure that they continue to serve the needs of residents and visitors well into the future

» Reduces hazards, improves user visibility and safety, and invites greater use of facilities

» Improves reliable, year-round connectivity for users of non-motorized modes

Edina crews repairing pavement markings near Edina High School.

User needs

People walking, especially people who use mobility devices like walkers and wheelchairs, depend on level, slip-resistant surfaces for their travel. Walking surfaces that are free from unexpected bumps, holes or cracks, ice, or other slippery materials are paramount for people's safety and comfort.

Surfaces that are adequate for people driving can be hazardous for people walking or biking: gravel can deflect a bicycle wheel; a crack in the pavement or an incorrectly-oriented drainage grate can trap a bicycle wheel or trip walkers; wet leaves, ice, and gravel in walkways and bikeways can result in a fall, limit access for people using mobility devices, create unfriendly conditions, and reduce system use.

People walking and biking also depend on motorists' ability to anticipate and respond to their presence when crossing streets -

visible and working signs, pavement markings and sign and signals help improve their safety.

General considerations

Maintenance budget

Preventive maintenance reduces hazards and future repair costs. Maintenance costs and responsibility for maintenance should be assigned when projects are planned and budgets developed. As with roadways, typical annual maintenance costs for walk / bike facilities range from 3 to 5 percent of infrastructure replacement costs - for example, a $100,000 facility should include a $5,000 annual maintenance budget. Life-cycle cost analysis is recommended to determine the net value of using longer-lasting, higher-quality materials during construction if they reduce yearly maintenance expenditures.

Management plans

A management plan is a tool to identify maintenance needs and responsible parties. A management plan that includes the maintenance component for a proposed facility should be in place before construction. Additionally, a management plan should include a means for users of the system to report maintenance and related issues and to promptly address them.

A facility's management plan answers basic operational and staffing questions such as frequency of maintenance tasks and which parties or departments are responsible for addressing issues.

Edina's proactive maintenance approach

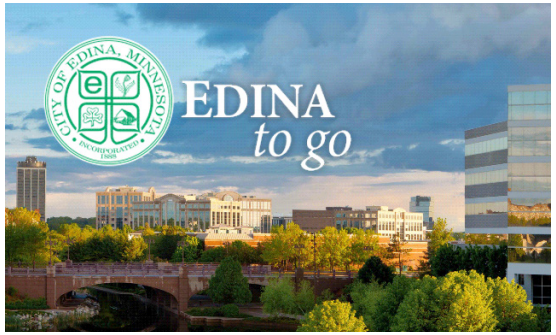
The City of Edina has developed several innovative approaches for prioritizing maintenance of pedestrian and bicycle facilities.

Current practices include:

- Dedicated resources (from the Pedestrian and Cyclist Safety (PACS) Fund) toward maintenance of non-motorized facilities
  - New funding has allowed migration to more durable thermoplastic materials for pavement markings (previously, had to repaint about one thousand crosswalks every year, with some locations requiring two or more applications)
- Prioritization for a selection of pedestrian and bicycle routes for winter maintenance
  - Non-motorized facilities are addressed at the same time as motorized routes (rather than after)
  - Currently, a total of five snow plow routes (for 55 miles total) are dedicated to sidewalks only
- Considerations for the future include:
  - How to maintain staffing and equipment capacity to meet level of service and resident expectations
  - How to develop capacity to address new residential developments or new sidewalks added to the city's inventory
  - How to continue to sustainably fund proactive maintenance of the city's non-motorized network

Management plans for pedestrian and bicycle facilities have significant overlap with management plans for a city's other transportation assets. Some of the issues typically addressed include:

- Filling potholes
- Removing downed or dangerous trees
- Responding to vandalism and trespassing
- Removing litter
- Replacing stolen or damaged signs
- Watering and weeding landscaping
- Protocols for communication
- Coverage of expenses

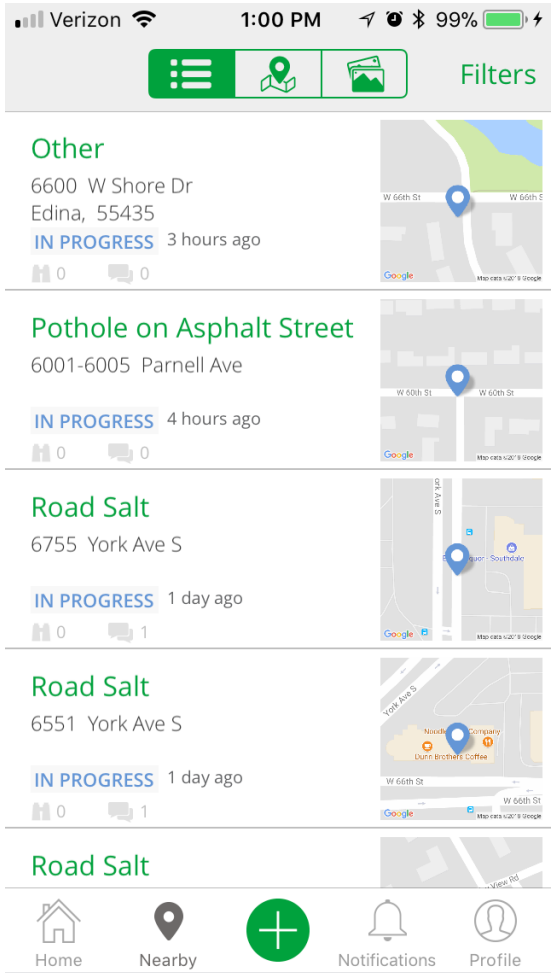


User-initiated maintenance requests

Users of Edina's pedestrian and bicycle network will often be the first to notice hazards, maintenance issues, and opportunities to improve the system.

A formal mechanism for receiving requests for maintenance can help focus and prioritize investments, avert deterioration of the city's infrastructure investments, provide effective management, and reinforce resident-ownership of Edina's non-motorized network assets.

The City of Edina currently uses the "Edina To Go" application for user-initiated maintenance requests. Continuing to use this tool, and developing a supportive public marketing campaign will help increase public awareness and use of the tool.



Maintenance request screen print of "Edina To Go"

Routine maintenance

Street sweeping

Loose gravel, sand, leaves, and other debris on the surface of bicycle lanes, paved shoulders, and paved sections of shared use paths should be removed at minimum twice per year - once in the spring and once in the fall. It should be noted that as part of its proactive maintenance efforts, this is Edina's current practice.

Sweeping is an important activity for usability of on-road bicycle infrastructure (bike lanes, separated bike lanes, and others) as debris will tend to accumulate on bicycle lanes as automobile traffic will sweep these materials from the automobile portions of the roadway. This is especially true for bicycle lanes that are located directly adjacent to a curb, where debris collects already.

Markings

Signs and pavement markings are important features of walkways, bikeways and roadways, and help ensure continued safe and convenient use of these facilities. It is essential that walkway and bikeway signs, striping, and legends be kept in a readable condition.

Some recommendations to address these infrastructure elements include:

- Regular inspection of walkway and bikeway signs and legends, including an inventory of signs to account for missing or damaged signs;
- Prompt replacement of defective or obsolete signs;
- Regular inspection of striping, and prompt reapplication as needed. Bike lanes may require annual re-striping if located on higher-volume streets; and
- Consider durable cold plastic for skip-striping bike lanes across right turn lanes.

Vegetation

Vegetation encroaching into and under a sidewalk, shared-use path, or trail crossing can create a nuisance and a hazard for people walking (especially for those with sight or mobility impairments) and biking. To provide long-term control of vegetation, its management should be considered during design and construction of facilities.

Vegetation management helps to maintain smooth pavement surface, as well as clear zones, sightlines, and sight corners to promote pedestrian and bicyclist safety. City maintenance staff are generally responsible for vegetation management and should inspect the trail system monthly during the growing season. Regular seasonal maintenance activities should include mowing of turf areas within the trail right of way, annual trimming of vegetation, weed control, raingarden maintenance and sweeping and blowing of vegetation and turf debris from the trail surface and root cutting as needed.

Vegetation management issues identified by users (e.g. tree roots causing heaving of sidewalk surfaces, encroachment and maintenance issues) will likely be reported through the user-initiated maintenance request program.

Winter maintenance

Snow and ice removal

Snow removal is a critical component of pedestrian and bicycle safety. The presence of snow or ice on sidewalks, curb ramps, or bikeways will deter pedestrian and cyclist use of those facilities to a much higher extent than cold temperature alone.

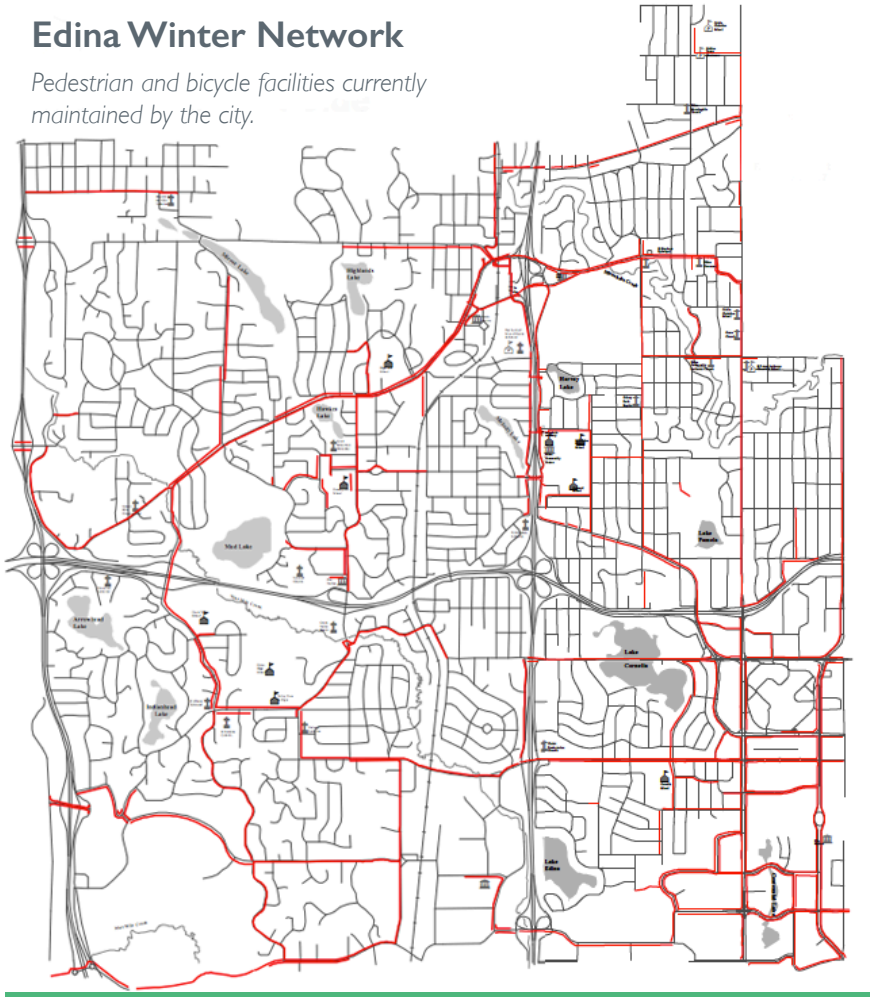
Seniors and persons with mobility issues will avoid walking in locations where ice or snow accumulation creates slippery conditions that may cause a fall. Curb ramps that are blocked by ice or snow effectively sever access to pedestrian facilities for wheelchair users and seniors. Additionally, inadequately maintained facilities may force people walking or biking to take a route that is unsafe or inconvenient - e.g., forcing pedestrians and bicyclists into the roadway or motor-vehicle lanes.

When the surface of a road is covered by snow, the pavement markings that guide and warn people walking, biking, or driving may be difficult to see. Clearing snow from the entire roadway surface will help keep pavement markings identifiable, and will provide space so people walking and biking can comfortably travel as far to the right as possible.

Walking and bicycling generally decrease during the cold winter months as slippery infrastructure and unpleasant weather conditions create barriers for pedestrians and bicyclists. However, continuing infrastructure maintenance can facilitate the convenience of walking and biking as well as provide new opportunities to encourage more people to be outside more often.

Edina Winter Network

Pedestrian and bicycle facilities currently maintained by the city.



Pedestrian and bicycle routes currently maintained by the City of Edina. Five snow plow routes, totaling 55 miles, are used to clear sidewalks and trails following snow events.

5.8 Bicycle parking

Inverted U (shown) and Post-and-Loop are the recommended types of bicycle parking frames.

Visible, secure bicycle parking is essential for making bicycling a viable option for transportation purposes. If it is not provided, many users will next time choose a different mode for arriving or may choose another destination altogether, even if the provided bicycle routes are perfectly safe and convenient. Others will improvise by locking bikes to anything that seems secure - which can result in damage to trees and fixtures, and create hazards to people walking.

Two types of bicycle parking are generally provided: short-term and long-term. They differ in their placement, security and purpose.

Short-term bicycle parking

Short-term parking accommodates visitors, customers, employees, and others who arrive at a destination with the intention of leaving within a few hours. Standard inverted-U racks, securely anchored and placed near primary entries are recommended. Ensuring ample short-term parking is available at Edina's neighborhood parks, schools, transit stations, employment centers, and commercial areas is recommended.

Long-term bicycle parking

Long-term parking accommodates employees, students, residents, commuters, and multi-modal travelers. Long-term parking should be secure, weather-protected, and provided in a visible and/or convenient location. Long-term parking may be provided using inverted-U racks in a secured or supervised area, or by bicycle lockers, bike stations, or bike rooms. Long-term parking should be provided at large employment locations and major transit hubs, and can be easily implemented by designating a "bike room" within buildings and destinations.

Long-term parking provided at a designated room of an office building in Minneapolis. A repair stand and a vending machine with supplies is also provided.

Placement and function

Parking areas should be visible and prominent, located near a building's main entry, and located clearly and conveniently along a bicycle riders' natural path to access a site.

Guidelines for type and number of facilities

Type of use	Short-term parking	Long-term parking
Commercial	Office: 1 space for each 5,000 ft2; minimum 2 spaces	1 space for each 10,000 ft2; minimum 2 spaces
	Retail: 1 space for each 2,000 ft2; minimum 2 spaces	
Multifamily residential	0.1 space for each bedroom; minimum 2 spaces	0.5 spaces for each bedroom
Institutional / public uses (libraries, hospitals, parks, religious uses, etc)	1 per 2,000 ft2; minimum 6 spaces	1 per 10,000 ft2 or 1 space per 20 employees; minimum 2 spaces
Manufacturing, industrial	None required; consider minimum 2 spaces at public building entrance	1 space for each 10,000 ft2; minimum 2 spaces
Transit facilities	Space for 1.5% of daily a.m. boardings; as space allows at walk-up facilities	Space for 4% of daily a.m. boardings; as space allows at walk-up facilities

From Hennepin County 2040 Bike Plan Bicycle Parking Guidelines for urban areas, dense suburbs, or within 1/4 mile of transit facilities - please consult Appendix for other related tables

Recommendations

- Key locations include schools, parks, and neighborhood commercial nodes
- Destinations near bicycle trails should include bicycle parking
- Parking should be implemented with or before segments of the Twin Loops are implemented to encourage growth in use

Expanding bicycle parking options in Edina

Adding bicycle parking is a quick and inexpensive way to grow and support bicycling throughout the city.

Actions that will increase the number of bicycle parking racks include:

- Publicize Edina's existing "Request-a-Rack" program to add bicycle parking at local businesses (the city pays 50% of installation costs)
- Adopt bicycle parking guidelines for straightforward installation
- Establish a policy for including bicycle parking as part of new development and installing it at existing destinations

Resources

- Hennepin County Bicycle Parking Guidelines
- Dero Pocket Guide to Bike Parking
- *Please see Appendix A of this plan*

5.9 Policy recommendations

Edina's Living Streets Plan and Policies promote safe and convenient access for pedestrians, bicycle riders, transit users and motorists while enhancing community identity, supporting economic vitality, improving environmental sustainability, and providing meaningful opportunities for active living and better health.

Considering and implementing other related policies will further strengthen the city's framework for facilitating walking and biking.

Adopt a Transit-Oriented Development Ordinance

Commercial, employment, and transit areas are and will continue to be important destinations for daily trips in Edina. Ongoing "new mobility" transformations have high potential in the city. Developing a Transit-Oriented Development (TOD) ordinance focused on key current and future neighborhood commercial nodes, transit and new mobility hubs would help guide their development towards forms of development and land use that maximize the role that walking and biking play in their long-term development.

Edina's TOD guidelines would provide standards for developing attractive, compact, walkable, mixed-use centers near key locations and creating live/work/play areas that provide easy access to local and regional walk, bike and transit networks. An ordinance could regulate building orientation and design, provision of pedestrian and bicycle facilities and parking, and establish measures to accommodate motor vehicles and parking in a way that minimally impedes pedestrian and bicycle mobility. This includes traffic calming measures, high-comfort walking and biking facilities, attractive landscaping, and other strategies that facilitate growth in walking and biking in the city.

Transit-oriented development places higher densities of residential and commercial activities near transit hubs. Image: BAR Architects

Adopt an "Active Living Design" checklist

Navigating large parking lots on foot or bike can be uncomfortable. Providing clear access from the street to the building entrance, not only from motor vehicle parking lots, but also from the routes pedestrians and bicyclists use to access a site, can make the destination more inviting.

Cities can include requirements for these considerations (including bicycle parking and other ancillary facilities) in building and zoning codes, particularly for development at key employment and retail destinations, and transit stations.

Another potentially productive approach to help guide developers during the site development and review process - especially in regard to orientation of sites and parking lots to walking and transit access - is to develop and adopt a checklist that helps proposers and city staff review how well a potential development addresses the basic requirements for walkability and bikeability. This checklist can then serve as a tool for negotiating improvements from the developer and evaluating alternative designs.

Consider adoption of a form-based zoning code

Form-based codes regulate the way in which building placement, scale and articulation shape and address a city's spaces and public realm - which are key considerations for improving a city's orientation to walking and biking. Exploring how form-based codes may support long-term transformations of key commercial corridors as well as locations for new development may have long-lasting positive impacts for the growth of walking and biking in Edina.

ACTIVE LIVING DESIGN for OPPORTUNITY SITE DEVELOPMENT
CHECK-LIST

BUILDING DESIGN

Buildings should be oriented and designed at an appropriate scale to frame and enclose the adjacent streets or right-of-ways, provide opportunities for pedestrians to enter and access buildings; with ideal access to pedestrian level infrastructure and elements.

☐	1. Proposed Buildings are being built near the front street (ROW) line wherever possible, with entrances situated or located along this front edge.	5
☐	2. Proposed Buildings are sited in ways to make the entries or intended uses clear to and convenient for pedestrians.	5
☐	3. Proposed Buildings are connected to public streets via sidewalks that are part of the development.	5
☐	4. Pedestrian level building windows front the street and entrances are well-lit for user security.	5
☐	5. Proposed parking lots are encouraged to be underground, in parking structures or located behind buildings if possible; and designed to be facilitate shared parking between uses.	5
☐	6. Proposed building locations and site connectivity decisions were made using CPTED (Crime Prevention Through Environmental Design) principles, including connection to well-lit sidewalks that are buffered by street trees or other amenities.	5
	Sub-Total Points (A):	

PEDESTRIAN CONNECTIONS

☐	1. Parking facilities are designed to accommodate pedestrian and bicycle access to the buildings.	5
☐	2. Building site has sidewalks and crosswalks to connect parking to allow for safe pedestrian movement through the parking lot.	5
☐	3. Pedestrian connectivity is incorporated to link buildings within the site.	5
☐	4. Pedestrian connections should be made to the existing public sidewalk system.	5
☐	5. Benches or seating should be provided for residents, visitors, and/or pedestrians.	5
☐	6. Striping and signage of crosswalks will be made at all intersections.	5
☐	7. Outdoor seating areas and outdoor sales areas should be planned or incorporated where appropriate. Such areas shall utilize a unified theme and approach to the defining elements (structural elements, railings, shading, paving, lighting, landscaping) for the creation of these exterior spaces.	5
	Sub-Total Points (B):	

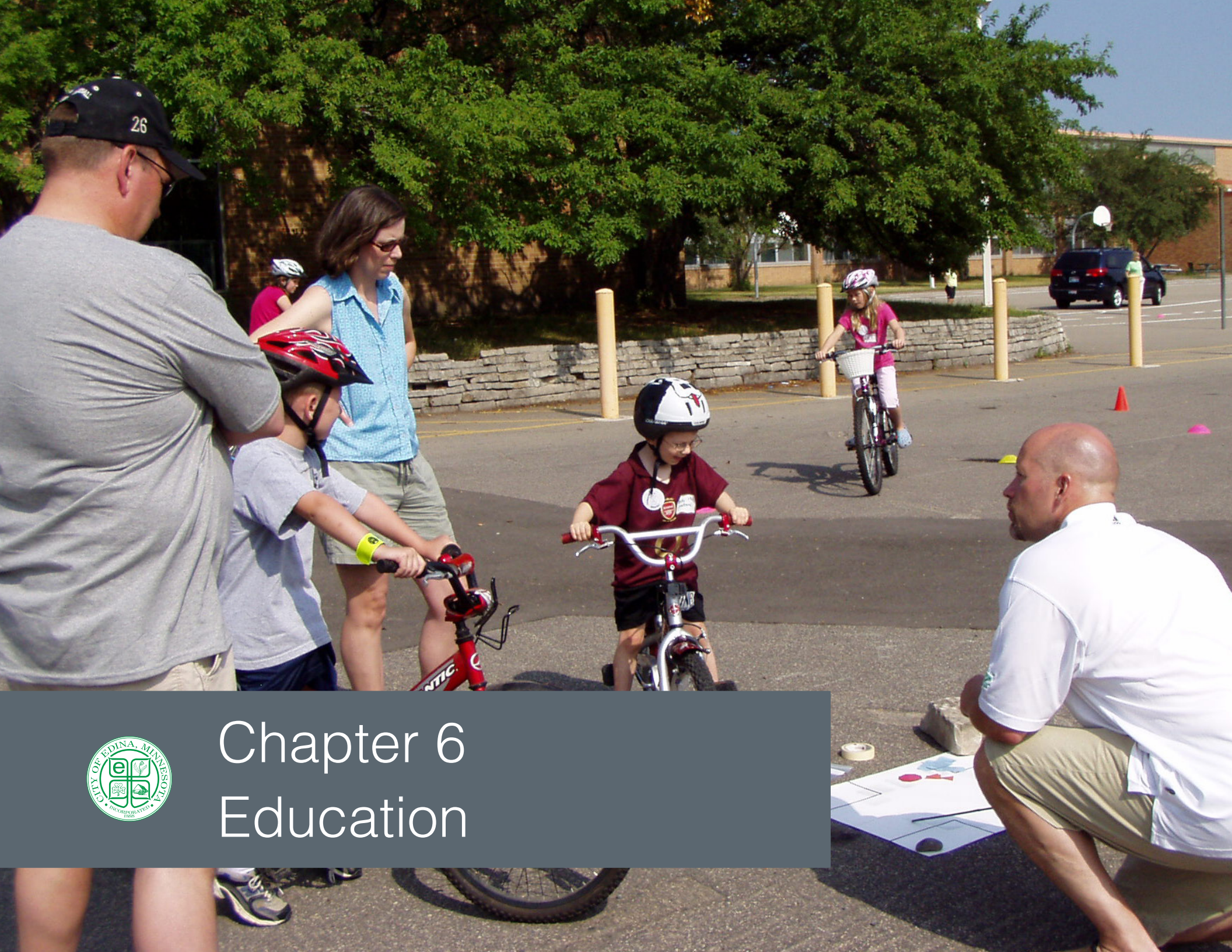
BICYCLE CONNECTIONS

City will consider and support an adjustment to the required parking standards or required number of vehicle spaces if a development demonstrates or provides on-site bicycle parking.

☐	1. Bike parking is being provided in close proximity to primary building entrances or in prominent areas that serve multiple businesses.	5
☐	2. Bike racks are being installed that supports the wheel and frame of the bike.	5
☐	3. Indoor bicycle racks, controlled-access bicycle storage room, bicycle lockers, and bicycle corrals are secure parking options.	5
☐	4. Trail connections are planned and connected to any existing overpass system.	5
	Sub-Total Points (C):	

TOTAL POINTS: A _____ + B _____ + C _____ =	

Sample document courtesy of Hennepin County Active Living.

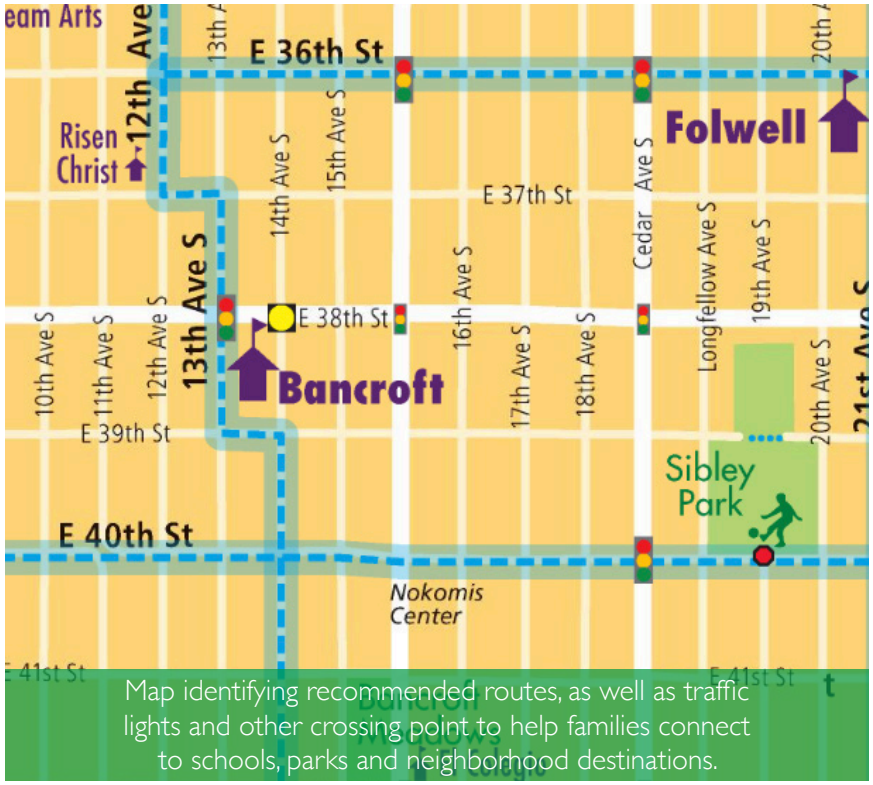


Chapter 6
Education

Education programs share information about how to access and use existing facilities and amenities, about the rules of the road, and about benefits associated with walking and biking investments. Education initiatives include network maps, pedestrian and bicycle safety trainings, and educational campaigns, among others.

6.1 Communicating the city's facilities and network
6.2 Communicating how to use the system
6.3 Educating users about safely sharing space
6.4 Safe Routes to School (SRTS / ARTS) in Edina

6.1 Communicating the city's facilities and network



Map identifying recommended routes, as well as traffic lights and other crossing point to help families connect to schools, parks and neighborhood destinations.

Communicating Edina's walking and biking network (especially its growing All Ages and Abilities network) will help increase the number of people who regularly use it as part of their travel routines.

People who will immediately benefit from greater awareness of facilities providing connectivity across the city include:

» Residents who would like to walk or bike to connect to work, transit, shopping, or community destinations

» Recreational users (people who walk or bike for exercise)

» Parents and students connecting to schools

Some effective tools and approaches for communicating the city's network include:

Network maps

Printing and distributing walking and biking network maps is a high-benefit, low-cost way to promote walking and biking by helping people identify best routes to local destinations, including schools, parks, businesses and events. Network maps can also include information covering rules of the road, bicycle safety and maintenance, and connecting with mass transit. Integrating web-based trip planner services with walk / bike routing options (like Google Maps or Open Route Service into the city's website or events pages can help people plan their trip on foot or bike.

Media Campaign

Consider recurring media campaigns that highlight latest additions to the city's network of walk / bike routes, and that communicate the additions' advantages as well as the benefits of the already-existing network. Other campaigns can highlight the city's active routes to school network, upcoming community walk / bike encouragement events (like Open Streets or National Bike to Work Day). Consider also partnering with nearby cities to highlight regional advances as well as relevant safety and awareness messages (like the Edina Street Smarts campaign).

6.2 Communicating how to use the system

Sometimes what keeps people from walking or biking more often (or from safely driving near people who are) is lack of information about *how* to use the existing facilities or network and interact with users of other modes. Media campaigns, peer learning, and demonstrations at community events can be useful strategies to share information with residents. Three audiences to keep in mind, along with some sample issues to communicate for each, are:

Pedestrians

Use of some safety improvements, like HAWK signals or RRFBs, might not be immediately clear to someone who has not encountered one before. Knowing how to activate the signal, and what to expect (in terms of yielding behavior from motorists) can help people walking feel more comfortable about a route they use. Learning how to communicate intention to cross to drivers while confirming their yielding before starting can also help reduce anxiety at intersections.

Bicycle riders

Learning how to communicate intention to turn to drivers can help bike riders feel more comfortable about riding to local destinations. When using trails, learning how to courteously share space with pedestrians, rollerbladers and families can improve safety and comfort for everyone. Learning how to use bike racks in buses can help bicycle riders combine their travel with transit.

Drivers

Some drivers may be unfamiliar and unsure of what to do near with new treatments like HAWK signals or on-street facilities like separated bicycle lanes, and may not know about minimum safe passing distance when overtaking bicycle riders. Making sure that drivers are one of the focus audiences when rolling out new walk / bike will reduce confusion and improve safety for all.

Learning how to use walk and bike facilities in the winter is also a useful approach for making these options less intimidating and increasing their overall use.

Useful knowledge includes how to dress for comfort, how to stay visible (given that daylight reduces dramatically at the height of winter), and what to expect in terms of handling and maneuverability given that ice / slippery conditions may be present on facilities.

Image: Students learning winter bicycling skills as part of their school activities in Minneapolis.

6.3 Educating users about safely sharing space

People driving, walking, and biking all contribute to making all modes of travel safer: one of the leading causes of crashes is the unexpected behavior of at least one of the parties involved. Safety programs directed to all roadway users are an effective and cost-efficient way of reducing the risk of crashes and injuries while encouraging people to walk or bike more often.

Targeted safety campaigns encouraging use of bike lights and helmet should be balanced with comprehensive safety education that addresses the rules and responsibilities of the road for all sidewalk, trail, and roadway users as well as their individual rights for safe and convenient travel.

Approaches to safety education

The appropriate approach will vary depending on the type of mode, age of user and other characteristics. Safety education approaches are outlined for each of the following user groups:

- Children learning the rules of the road;
- Teens and adults walking and biking; and
- Motorists interacting with people walking and biking.

For children

Sharing information on safe walking and bicycling at an early age teaches important safety skills and reinforces the message that walking and bicycling are enjoyable, useful means of transportation.

Children are most receptive to new ideas when action-oriented teaching and repetition are combined with rewards and incentives. Rewards and incentives may include certificates of completion or bicycle/pedestrian licenses, free or reduced-cost bicycle helmets and accessories, or discount coupons for area bicycle shops.

While it is common for schools in the United States to provide automobile driver education for children 15 or older, children and teens rarely receive formal safety training for walking or riding a bike. In countries where the rates of bicycling are much higher, schools typically provide formal training in safe bicycling starting in elementary school. In the Netherlands, for example, children undergo an annual three-week training on bicycling rules and maneuvers.

Walk! Bike! Fun! is a comprehensive school curriculum teaching safe traffic behavior through classroom activities and on-the-bike skills practice. The lesson plans teach skills to children to walk and bike safely.

The curriculum was developed by MnDOT, the Bicycle Alliance of Minnesota and the Center for Prevention at BlueCross and BlueShield of Minnesota.

The complete curriculum is available at http://www.bikemn.org/education/walk-bike-fun

Similar training may be provided in Edina, potentially as part of a partnership between the city, school district and Three Rivers Park District (which has a fleet of bikes available for this purpose). The city may also include additional walking and biking safety instruction in the annual summer Safety Camp. Edina schools may also consider adopting or incorporating portions of the MnDOT's Walk! Bike! Fun! curriculum.

For teens and adults walking and biking

Teens and adults range in bicycling skills and confidence. Some are comfortable riding on busy streets and mixing with traffic while others prefer quieter streets or separated trails. There are adults who ride only a few times a year and those who ride often but primarily for recreation. Each type of rider has their own concerns and beliefs about how bicycles fit into the transportation system. Effective education efforts recognize this fact and tailor messages to each group.

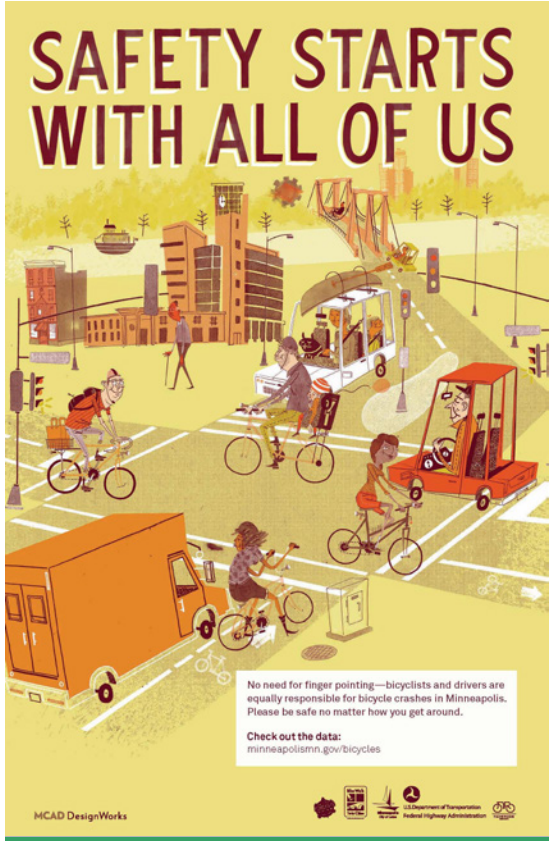
Information about safe walking and biking may be shared through Edina Community Education courses or at events like "Bike to Work Day."

For people driving

The goal in educating motorists is to foster a broad and general public awareness and respect for people walking and bicycling. All people who drive are also pedestrians, and many already ride a bike at least on occasion.

It is important to educate drivers (especially teens and new drivers) about the rights of walkers and bicycle riders, and how to safely interact with them while operating a motor vehicle. Highlighting pedestrian and bicycle education in drivers' education courses (and featuring related questions on license exams) reinforce the idea that streets and roadways are shared spaces, reminding new drivers how to safely interact with other roadway users, whether walking, biking, or driving.

The League of American Bicyclists has developed a new Bicycle-Friendly Driver Training program (www.bikeleague.org). Consider requiring contracted drivers to undergo additional training to ensure they know about laws related to walking and bicycling and understand safe vehicle operation around pedestrians and bicyclists.



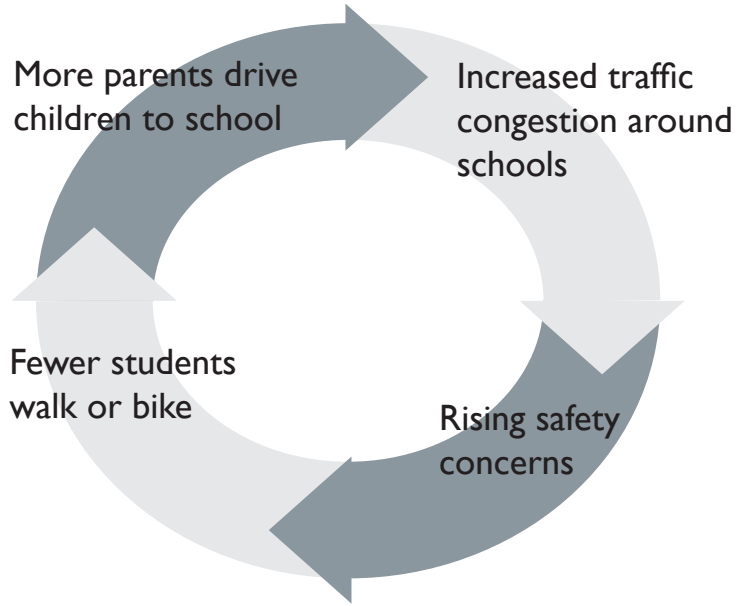
Safety campaign in Minneapolis designed to remind all road users of their shared responsibility for safety. Posters designed by Bill Rebholz.

6.4 Safe Routes to School (SRTS / ARTS) in Edina

Safe Routes to School (SRTS) is a multi-dimensional approach to improving safety and rates of walking and biking for children traveling to school.

Safe Routes to School includes both infrastructure and programming approaches. An overview of Edina's Safe Routes to School is provided in this section as an introduction to the city's existing plan.

Edina's SRTS initiative, Active Routes to School, is available for download here: https://www.edinamn.gov/DocumentCenter/View/1152/Active-Routes-to-School-Comprehensive-Plan-PDF



Active Routes to School (ARTS) is a positive response to a negative cycle in which fewer students walk or bike to school as a result of land use and transportation patterns.

Introduction and current conditions

Nationally, fewer students walk or bike to school today than in the past. Some reasons for the downward trend include traffic speeds and volumes along routes, low availability of sidewalks and sidepaths, and changes in school siting practices that result in more students living farther away from school.

In Edina, about 16% of Edina students live within a 15-minute walk (or 5 minute bike ride) from their school. According to the 2014 Edina Active Routes to School Plan, about 8% of students in Edina reported walking to school and 3% of students reported biking to school. The top concern mentioned in parent surveys was a lack of sidewalks or biking paths around schools.

Edina's Active Routes to School (SRTS / ARTS) Plan

In 2014, the City of Edina completed an Active Routes to School / Safe Routes to School plan to increase the number of students using Active Transportation (walking or biking) to get to school.

The SRTS / ARTS plan recommended a variety of infrastructure and programming improvements. Many of these improvements have already been implemented through the efforts of Edina's Public Works Department and School District.

New crosswalks, bike lanes and signs near Countryside School in Edina.

Infrastructure

The 2014 Active Routes to School plan identified 3.3 miles of sidewalk to be built to create safer and more inviting connections to neighborhood schools. As of 2018, about half of the suggested routes have been constructed, including segments along Interlachen Avenue, Valley View Road, Cornelia Drive, and Oaklawn Avenue.

Programming

The Edina School District has identified short-term (0-2 years) and long-term (3-5 years) programming efforts to help increase the number of students walking and biking to school.

Short-term initiatives

Short term initiatives include increasing the quality and number of bike parking spaces at schools, participating in walking and biking activity days, creating a walking and biking section on the school website, and incorporating walking and biking into school wellness policies and physical education classes.

Long-term initiatives

Long-term initiatives include improving school sites to better accommodate walking and bicycling, narrowing school driveways to slow automobile traffic, continuing to improve bicycle parking as funds and needs arise, and to implement more Open Streets initiatives to get the community excited about walking and biking in Edina.

Walking and biking to school provides opportunities for students to build physical activity into their day. Walking school buses or bike trains turn traveling to and from school into social events.

Chapter 7
Encouragement

Encouragement programs inspire more people to try walking or biking through fun and inviting activities including friendly competitions, incentive programs, inclusive group rides, and community-wide events like Open Streets.

7.1 Open streets and community events
7.2 Transportation demand management (TDM)
7.3 Environmental stewardship
7.4 Recognition for the city's accomplishments

7.1 Open Streets and community events

Open Streets and other special community events offer an opportunity to bring attention to practical, fun, and healthy aspects of walking and bicycling as tools for transportation, recreation, and health.

Because these events are community-wide and of limited duration, people participate without feeling like they have to commit to making a long-term change in their travel or recreation habits - but sometimes that's all that is needed to open the door to adopting new travel behaviors over the long term.

Open Streets

Open Streets events close motor traffic on a city's prominent street and open it for use by people walking, biking, sitting, exercising, eating, shopping and enjoying. Open Streets events bring people of all ages together to enjoy a collective experience of using their city's public space without concerns about traffic or safety, and help people to reimagine their relationship with walking and biking in their community.

Edina has successfully implemented a yearly Open Streets event at 50th and France since 2014. Participation and success grows every year - 2018's event was the best attended yet!

This plan recommends that the City continue to support and host yearly Open Streets events. In addition, the City may wish to consider increasing the number of yearly events (by adding one or two additional events) or varying their location (still keeping the successful location at 50th and France while exploring an additional event at another location). This may help increase the number of Edina residents who are able to easily access and participate in the events.

Scenes from Open Streets Edina 2018. These fun and interactive events bring people together to enjoy walking and biking in their city.

Walk or bike to work / school events

Walk and bike to work and school days are coordinated national (and international) events that encourage people to try a different way to commute just once in the year. They help people experience how safe, quick and enjoyable a new way of getting to their destinations can be.

Walk / bike events help raise the profile and potential for walking and bicycling in a community. Bike to Work Week, for example, typically includes special publicity, route guidance to first-time bicycle commuters, and group breakfasts where novice and experienced commuters can casually share commuting tips and route recommendations. These events offer an opportunity to try bicycling to work in a safe, relaxed and fun environment, and to do so without having to commit to a more permanent change in commuting habits. Nevertheless, many people who participate in Bike to Work Week as first-time commuters eventually become regular bike commuters.

Bike to Work Week is held as part of National Bike Month. In 2019, Bike to Work Week will be May 13–17, with Bike to Work Day on May 17. These events have been held in many Twin Cities communities over the last several years.

Walk / bike to school events work on the same principle, and help parents and students experience how safe, easy and fun it is to walk or bike to school in their community. In 2019, Bike to School Day will be held on May 8. Walk and Bike to School Day is coordinated by MnDOT's Safe Routes to School program (www.dot.state.mn.us/mnsaferoutes/)

Promotional poster for the February 6, 2019 Winter Walk to School Day.

Winter walk / bike events

Winter is a significant part of the year in Minnesota. Luckily, Minnesotans embrace winter: ice fishing, hockey, cross-country skiing, skating and snowmobiling are a normal part of our culture. Winter walking and biking events can help people experience walking and biking as part of their travel to work or school. In 2019, Winter Walk to School Day is February 6, while International Winter Bike to Work Day (www.winterbiketoworkday.org) is February 8.

Monthly group rides with staff and/or elected officials

The city currently convenes regular group rides with the Edina Mayor. Continuing to do so, and expanding the practice to also include walking at key locations (and inviting other local personalities, as well as City engineering and maintenance leaders) will help raise the profile of walking and biking in the city, grow communication with residents, and guide improvements for the city's network.

7.2 Transportation demand management (TDM)

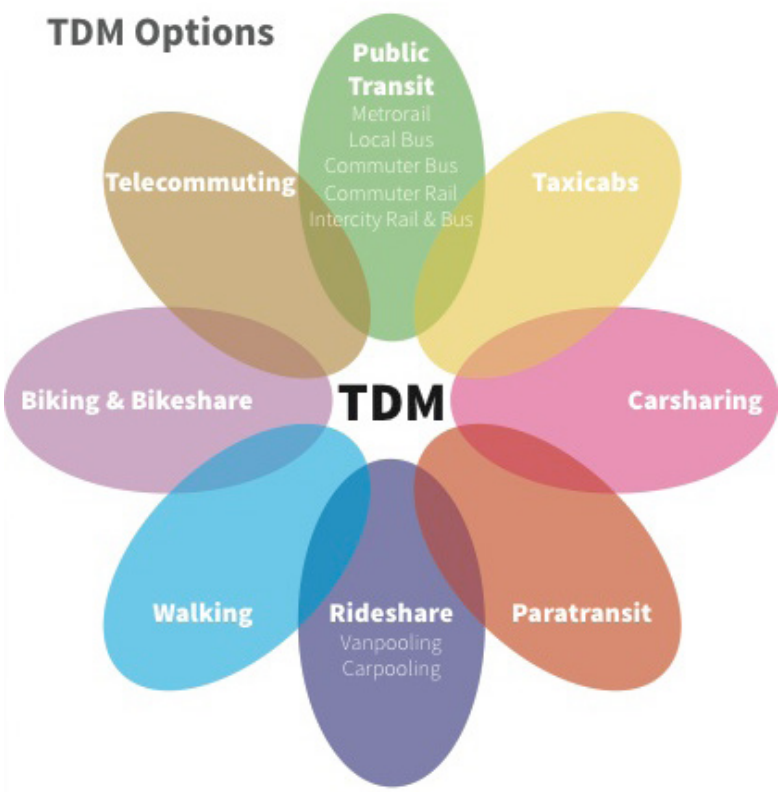


Image courtesy of Arlington County Mobility Lab.

Transportation Demand Management (TDM, also known as Mobility Management) is a comprehensive set of strategies to increase the efficiency of transportation systems and reduce the overall impacts from and resources dedicated to transportation.

TDM defines transportation as a tool (with an associated cost) that is used for allowing people or goods to reach their intended destination. Using more costly or intense types of transportation to reach the same destination is less efficient than using less costly modes or reducing the need for travel in the first place.

TDM strategies prioritize higher-value trips and modes with lower overall costs - including walking, bicycling, public transit, ridesharing and telework, among others. Successful TDM programs can reduce the number of parking spaces needed at a building site or at a neighborhood commercial node, decrease congestion along key routes, and reduce the need to increase the number of vehicle lanes at roadways serving key destinations.

TDM uses a combination of incentives and disincentives ("push and pull") strategies to help people make different decisions about the way they use transportation assets. TDM strategies can be used at a range of scales - from a single household or business to a building site, to a development, neighborhood, city, or region.

Encouragement programs as part of Edina's TDM toolbox of strategies

Encouragement ("incentive") programs are a key element of successful TDM strategies. Walking and biking-related encouragement programs can be important contributing components to Edina's overall TDM strategy and can help the city achieve its TDM goals while at the same time improving community health and supporting local economic development. Numerous types of walking and biking-related incentive programs are in use in communities throughout the United States.

Walking and biking-related TDM incentive programs that may be

implemented and/or expanded in Edina include:

Bicycle-Friendly Business program

Bicycle-Friendly Businesses offer discounts to customers who arrive by bicycle (or walking or transit). A Bicycle-Friendly Business program supports local businesses by marketing participating businesses and growing community support for bicycling. Participating businesses benefit by gaining new customers and additional exposure. The City may consider working with local business associations to coordinate start up and to disseminate information about the program.

Parking cash-out benefits

Many businesses and employers provide (and directly or indirectly pay for) automobile parking for their employees. To encourage and support employee transit, walking and biking to work, and to reduce the need to provide or expand parking, employers can offer "parking cash-out" benefits that pay the cash equivalent of those parking subsidies to employees who don't drive to work. The City may consider offering this benefit to its employees while also publicizing it as part of citywide TDM efforts.

Citywide walk and bike incentive program

The City may consider setting up a citywide walk and bike incentive program to encourage and measure the use of walking and biking by residents and visitors traveling to work, shopping and recreation locations in the city. Automated systems like the DeroZAP program (www.derozap.com) that work with RFID technology and sensors at key locations, and offer prizes to participating individuals and organizations, would support and promote active transportation in the city while allowing the measurement of growth and volume of walking and biking along key routes. Such a program would directly encourage use of these modes while also providing robust real-time data that could supplement the city's other measurement programs and support investment in walking and biking infrastructure.

Synergistic contributions from other plan initiatives

Implementation of other recommendations from this plan will help increase success for Edina's walking and biking TDM-related encouragement programs. For example, connection of business nodes to the city's All Ages and Abilities network will make it easier for more people to choose to ride their bike to their local Bicycle-Friendly Business. Similarly, availability of convenient bicycle parking (and participation of businesses in the city's "request a rack" program) will reinforce and grow success of these initiatives.

Other plan components and current programs, like the City's existing "request a rack" program, will help support the success of TDM initiatives.

7.3 Environmental stewardship

Environmental stewardship and sustainability can play an important motivating role for encouraging walking and biking in Edina.

Transportation is one major source of greenhouse gas emissions in our state. Increasing walking and biking in Edina can help reduce tailpipe emissions, improving air quality and reducing the city's contribution to climate change.

Acknowledging this important contribution to the city's overall sustainability, and presenting the positive impacts of walking, biking, and other city sustainability initiatives on air quality, sustainability and resiliency can build excitement and incentivize the broader community to not only try but also to track their walking and biking activity.

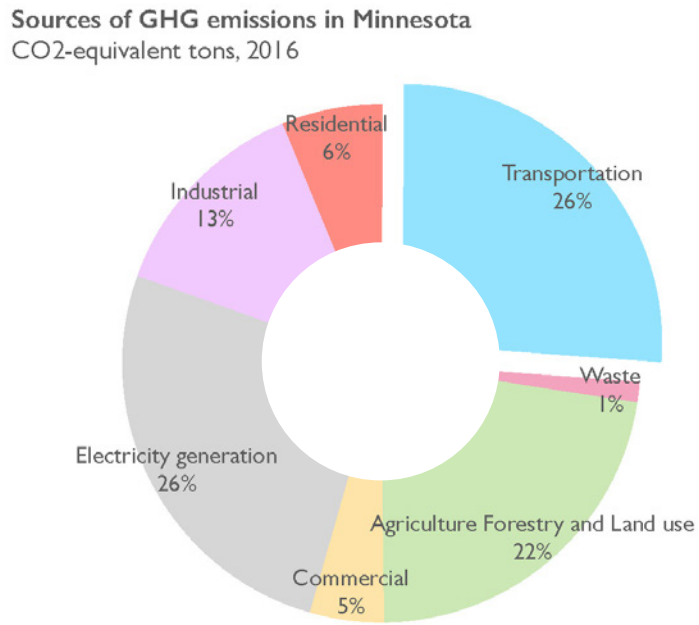
Potential events and programs include:

» Walk and bike-friendly planning for sustainability events - including meetup spots where transit riders or bikers who are new to commuting can connect with experienced riders who can share routes and tips to arrive using sustainable modes to events

» Offer incentives or giveaways at events for participants who arrive by walking or biking

» Consider implementing a pedestrian or bicycle component within environmental events - for example, including a family-friendly bike rodeo at an Earth Day event

» Support use of commuter reward or incentive apps like PiPs (www.pipsrewards.com), Oroeco (www.oroeco.com) or DeroZAP (www.derozap.com) that track and reward walking and biking



Transportation is one of the largest sources of greenhouse gas emissions in Minnesota. Data courtesy of the Minnesota Pollution control Agency: https://www.pca.state.mn.us/air/greenhouse-gas-emissions-data

7.4 Recognition for the city's accomplishments

Edina has been recognized as a bronze-level Bicycle Friendly Community by the League of American Bicyclists. The League helps communities make improvements within a comprehensive approach that matches Edina's 6Es framework.

Working to achieve silver (or gold!) designation will ensure that the city's system invites and works for people of all ages and abilities, and that new populations (including people who don't currently ride a bicycle in the city) become regular users of the system.

In addition, achievement of silver or gold status makes the city even more attractive to new residents and businesses, promotes the city's assets and investments, and opens up opportunities to receive technical assistance and funding for additional improvements.

Achieving silver status

The League's recommendations for achieving silver status include:

- Continuing to grow the bike network and increasing connectivity
- Adopting a bike parking ordinance
- Expanding bicycle safety education for students at all K-12 schools
- Developing a community-wide TDM plan and incentive program
- Organizing a Bike to Work Day event
- Supporting local promotion of Bicycle Friendly Businesses
- Collecting and tracking bike crash data
- Setting up a Bicycle & Pedestrian Advisory Committee

BICYCLE FRIENDLY COMMUNITY Fall 2018 BRONZE THE LEAGUE OF AMERICAN BICYCLISTS

EDINA, MN

TOTAL POPULATION	51,958
TOTAL AREA (sq. miles)	16
POPULATION DENSITY	3247
# OF LOCAL BICYCLE FRIENDLY BUSINESSES	0
# OF LOCAL BICYCLE FRIENDLY UNIVERSITIES	0

10 BUILDING BLOCKS OF A BICYCLE FRIENDLY COMMUNITY

	Average Silver	Edina
High Speed Roads with Bike Facilities	35%	5%
Total Bicycle Network Mileage to Total Road Network Mileage	48%	11%
Bicycle Education in Schools	GOOD	NEEDS IMPROVEMENT
Share of Transportation Budget Spent on Bicycling	11%	3%
Bike Month and Bike to Work Events	GOOD	NEEDS IMPROVEMENT
Active Bicycle Advocacy Group	YES	SOMEWHAT
Active Bicycle Advisory Committee	MEETS EVERY TWO MONTHS	NONE
Bicycle-Friendly Laws & Ordinances	GOOD	GOOD
Bike Plan is Current and is Being Implemented	YES	YES
Bike Program Staff to Population	1 PER 78K	1 PER 14K

CATEGORY SCORES

ENGINEERING *Bicycle network and connectivity*	2.7/10
EDUCATION *Motorist awareness and bicycling skills*	2.0/10
ENCOURAGEMENT *Mainstreaming bicycling culture*	1.7/10
ENFORCEMENT *Promoting safety and protecting bicyclists' rights*	3.7/10
EVALUATION & PLANNING *Setting targets and having a plan*	3.9/10

KEY OUTCOMES

	Average Silver	Edina
RIDERSHIP *Percentage of Commuters who bike*	2.7%	0.72%
SAFETY MEASURES CRASHES *Crashes per 10k bicycle commuters*	537	0
SAFETY MEASURES FATALITIES *Fatalities per 10k bicycle commuters*	6.3	0

From the League's 2017 assessment of Edina. Access the assessment and recommendations at https://bikeleague.org/sites/default/files/bfareportcards/BFC_Fall_2018_ReportCard_Edina_MN.pdf

Did you know?

Minnesota is ranked as the #2 Bike Friendly State in the US, with 25 Bicycle Friendly Communities, including Edina (bronze), St. Louis Park (bronze), Richfield (bronze), St. Paul (silver), and Minneapolis (gold). Learn more at www.bikeleague.org/bfa

Chapter 8
Enforcement

Enforcement programs often include participation from local law enforcement with a focus on enforcing traffic safety laws like speed limits, parking regulations, and safe roadway behavior from all users.

8.1 System safety
8.2 Safety enforcement methods
8.3 Progressive ticketing
8.4 Other enforcement considerations

8.1 System safety

People tend to avoid activities that feel dangerous. Providing a network of facilities that not only *feel* safe, but actually *are* safe, is essential in promoting and supporting walking and bicycling trips.

A successful pedestrian and bicycle network is safe, comfortable, and convenient to users. Not feeling safe is a common concern among people who are wary of walking or riding a bike for more of their trips.

Three components of safety

There are three measures of safety, all of which should be considered when designing facilities and assessing system safety:

Actual safety

Actual safety can be measured quantitatively by tracking the frequency and severity of collisions involving people walking or biking. What is the actual risk of being involved in a collision as a pedestrian or bicyclist, and how severe will it be?

- Track frequency and severity of collisions involving people walking or biking
- Prioritize and implement improvements in areas with high rates of collisions

Perceived safety

Also called subjective safety, perceived safety is influenced by the speed, volume, and proximity of passing vehicles. Is it easy to cross the street? Does one have to bike fast in order to keep up with car traffic?

- Provide separation between people driving, walking, and biking
- Calm traffic along corridors where people walk and bike
- Enforce speed limits and proper yielding behavior by motorists
- Provide designated pedestrian and bicycle signal phasing at intersections
- Highlight pedestrian and bicycle paths through intersections with crosswalks, colored paint, lighting, and refuge medians.

Social safety

Social safety is connected to public safety issues. Is the route well lit? Does the route feel isolated, or are there "eyes on the street"? Is crime or theft a concern?

- Design tunnels so that people can see out of them as they enter
- Address issues of crime and safety
- Keep facilities clean, and free of litter and graffiti
- Maintain vegetation so that grass, shrubs, and trees do not block visibility of walkways or bikeways
- Keep walkways and bikeways well lit at night so that users can easily see obstacles, other people walking and biking, and be easily seen by people driving

Safety measures do not operate in isolation. Addressing one safety issue is likely to improve others. Calming traffic, for example, is likely to improve both perceived and actual safety, as slower moving drivers are more likely to stop for people walking and biking, and less likely to cause severe injuries in the case of a collision.

Consider providing an easy way for people walking and biking in Edina to report safety incidents or areas of concern, and establishing a means for monitoring and addressing user conflicts.

8.2 Safety enforcement methods

Speed trailers are temporary tools to monitor traffic speeds. Image courtesy of Keeping Communities Connected.

A variety of enforcement methods can help change unsafe behaviors, making it easier for people of all ages and abilities to walk and bike in Edina.

Regardless of the method used, enforcement methods require consistency and follow-up in order to maintain effectiveness. To measure the effectiveness of an enforcement method, implement evaluation of behaviors before and after efforts. Studies may be as simple as measuring speeds or observing behavior of people driving, walking, and biking. If results are positive, continue with that method of enforcement. If results indicate little improvements in unsafe behavior, another method should be used.

Speed trailers

Portable speed trailers display drivers' real-time speeds compared to posted speed limits. Devices may help reduce driver speeds and increase awareness of local speed limits. Speed trailers are most effective when they flash "slow down," or flash lights that mimic photo speed cameras or police cars when drivers surpass the speed limit. Some trailers have the ability to collect traffic data including vehicle counts and speed information, which can be used to identify times when additional enforcement may be needed. In some cases, back-up enforcement by police officers may be needed to stop and/or ticket individuals who are speeding.

Active speed monitors

Active speed monitors are permanent devices to keep drivers aware of speeds and remind them of the need to slow down in school zones. Speed monitors are typically displayed below school speed limit signs, and visually display drivers' speed in real time as they pass.

Active speed monitors are permanently mounted to detect and read out motorist traffic speeds.

Traffic complaint hotlines

Traffic complaint hotlines or non-emergency numbers (311) allow community members to report traffic problems directly to city staff and local police. Comments can be used to identify problem traffic areas with the most frequent complains. Police may then follow up by providing concentrated enforcement in the area as needed.

8.3 Progressive ticketing

Issuing tickets is the strongest enforcement strategy, and is usually reserved for changing unsafe behaviors that other strategies fail to change. Progressive ticketing is a method of introducing ticketing through a three-stage process: educating, warning, and ticketing.

As Edina's All Ages and Abilities network is developed and introduced across different parts of the city, drivers will need to be reached through a variety of education efforts. Ensuring that new behaviors are established in the vicinity of these investments may require use of a progressive ticketing approach.

The components of this approach are:

Educate

First, community awareness of the problem must be established. Raising awareness of the issue will change some behaviors and will create public support for follow-up enforcement efforts.

Warn

Warning the public about the upcoming enforcement actions to be taken (and why they will be taken) is an important second step. Distributing flyers, posting signs, and sharing information using social and traditional media are key components of this step. Issuing warnings allows police to contact many more non-compliant motorists compared to writing citations. High frequency of stops also ensures that many other people witness warning stops, prompting them to obey the rules. It's important to give people time to change behaviors before ticketing starts.

Ticket

Finally, after the "warning" time expires, it is will be useful to clearly announce when and where ticketing operations will occur. If offenders continue to violate the law, officers begin writing tickets. Ticketing gives the program credibility by establishing police follow-through.

The Edina Police Department is a key partner in enforcement strategies for the plan, and can issue warnings and citations for speeding motorists. Image courtesy of Edina Magazine.

8.4 Other enforcement considerations

Speed enforcement in school zones

Strict enforcement of speed limits in school zones is one tool that can improve safety and comfort for students and families walking and biking to school.

A 'zero tolerance' policy for speeders in established school zones, and an increase in fines for drivers who violate posted school speed limits, are useful approaches.

In Minnesota, drivers who violate speed limits in school speed zones are fined double the amount of the basic fine unless the ordinary fine is less than $25, in which case the fine is automatically increased by an additional $25.

Adjusting Speed Limits

Modifying speed limits along specific streets is one of the most common requests received by cities' public works departments. According to current Minnesota Statutes, Minnesota cities must, in general, defer to MnDOT when setting or adjusting speed limits, even on their own road facilities.

Minnesota Statutes, however, also reserve the right for cities to set their own speed limits on their road facilities under the following circumstances, according to Minnesota Statutes § 169.14 and §160.263:

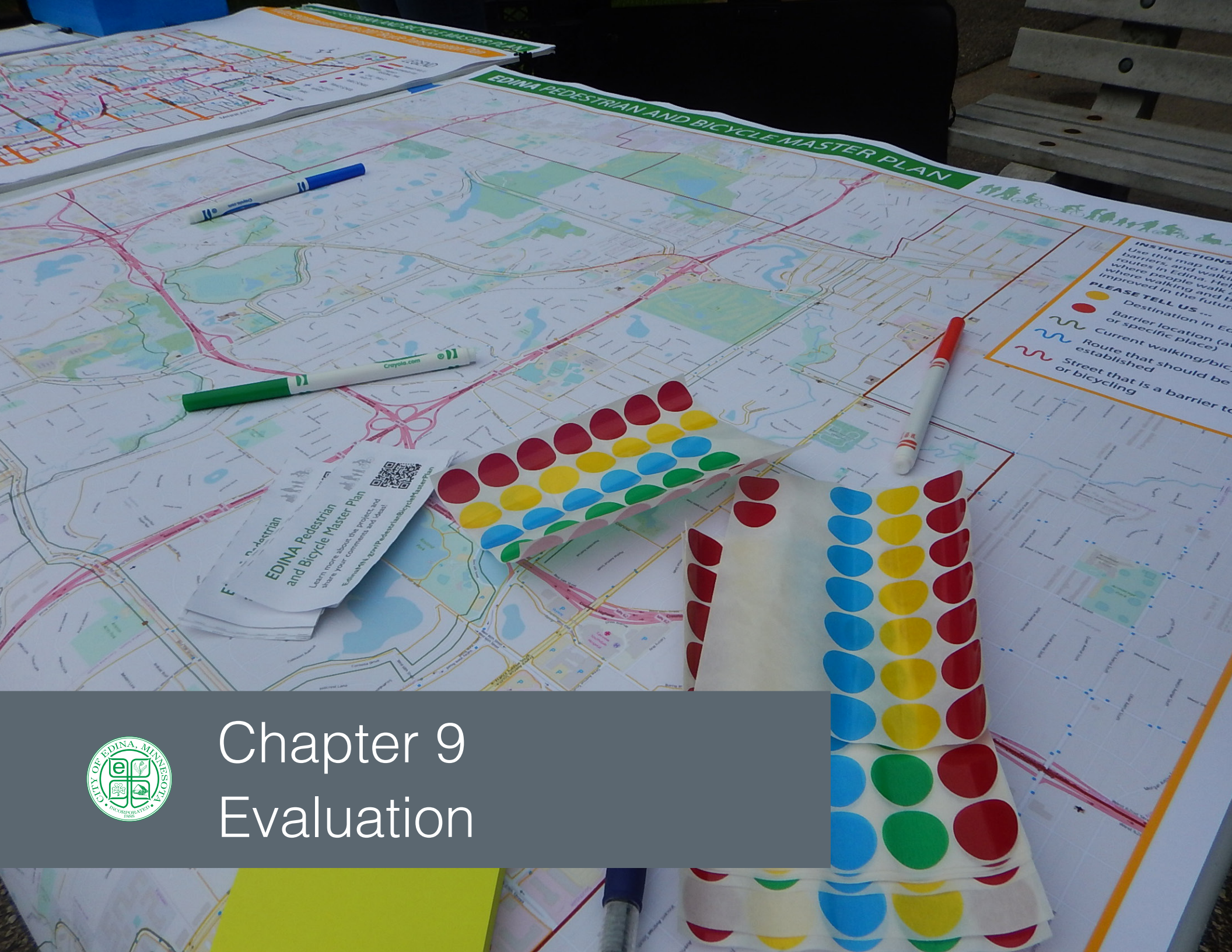
» A city may, *without any additional engineering or traffic investigation*, reduce the speed limit to not less than 25 mph on roads that have a designated bicycle lane.

» A city may, *without any additional engineering or traffic investigation*, reduce the speed limit to 25 mph on a "residential roadway." (A city street or town road whose total length is up to a half-mile).

» A city may, *without any additional engineering or traffic investigation*, reduce speed limits to 30 mph for a city street in an "urban district" (Any segment of a city street or town road that is built up with structures spaced less than 100 feet apart for a minimum distance of a quarter-mile).

» A city may, with support from an engineering or traffic study, reduce the speed limit to not less than 15 mph, or more than 30 mph below the surrounding speed limit in school zones (A segment of street or highway that abuts school grounds where children have access to the roadway or where a school crossing is in place).

25 mph speed limit applied to a road with a designated bike lane: Tracy Avenue, in Edina.



Chapter 9
Evaluation

Evaluation helps measure the success of investments at achieving desired outcomes. Evaluation takes place before and after programming and infrastructure improvements to establish a baseline and measure progress over time.

9.1 Evaluation, performance measures and goals
9.2 Counting program

9.1 Evaluation and performance measures

Performance measures help assess the extent to which progress is being made in implementing a plan. They are a set of goals, trends or targets that are meant to be met at a certain point of time in the future - for example, to double the rate of people walking or biking in Edina within ten years of the adoption of this plan. Targets or trends can also be checked at recurring intervals, or at a closer or farther time in the future.

The performance measures recommended for tracking progress toward achieving Edina's walking and biking vision address four broad categories:

» Safety and user comfort

» Use of facilities

» Facilities and network

» Community and municipal awareness and support

Goals should be set (and tracked) for all these categories, and evaluated every two years.

A Pedestrian and Bicycle Account (a public summary of the results of each evaluation and for the system's goals and next steps, typically published every two years) can be used to develop community understanding and support for next plan actions and investments.

Overview 1995 - 2006

Key figures and Cycle Policy target figures were calculated by the Technical and Environmental Administration with the exception of casualty information (the Police) and the proportion who cycle to work (Danish Transport Research Institute).

	2006	2004	2002	2000	1998	1996	1995
Key figures							
Kilometers cycled (million km per day)	1.15	1.13	1.11	1.05	0.92	0.93	0.80
Cycle track length (km)	332	329	323	307	302	294	293
Cycle lane length (km)	17	14	12	10	6	-	-
Green cycle route length (km)	39	37	32	31	30	29	29
Cycle track maintenance (DKK million)	7.3	9.9	6.8	9.1	5.3	4.7	3.9
Killed and seriously injured cyclists (number)	92	124	152	146	173	252	231
Serious cyclist casualties at signalized junctions (number)	33	38	52	57	54	88	81
On-road cycle parking spaces (1,000 spaces)	29.5	20.5	-	-	-	-	-
Cycle Policy target figures							
Proportion who cycle to work (%)	36	36	32	34	30	30	31
Cyclist risk (serious casualty per million km cycled)	0.22	0.30	0.38	0.38	0.52	0.74	0.79
Cyclist sense of safety (%)	53	58	56	57	58	60	51
Cyclist travelling speed (km/h)	16.0	15.3	-	-	-	-	-
Cycling comfort (unsatisfactory surface in %)	7	2	5	10	-	-	-

From the City of Copenhagen's 2006 Bicycle Account. Copenhagen continues to track improvements and publish progress every two years. It has tracked "cyclist sense of comfort," a key measure for an All Ages and Abilities network, since the early days of its evaluation program. Tracking the same indicators over an extended period of time (ten years or more) helps to discern overall trends vs. year-to-year variability.

Safety and user comfort

Pedestrian and bicycle crashes should be tracked. Fewer crashes per year indicate improved conditions, especially if more people are walking and biking for their daily trips. Data related to crashes can be obtained from the Minnesota Department of Public Safety, while data related to pedestrian and bicyclists sense of safety can be obtained through intercept surveys.

Recommended performance measures:

- Number of pedestrian-vehicle crashes
- Number of bicycle-vehicle crashes
- Pedestrian sense of safety (intercept or general community survey)
- Bicyclist sense of safety (intercept or general community survey)

Optional measures:

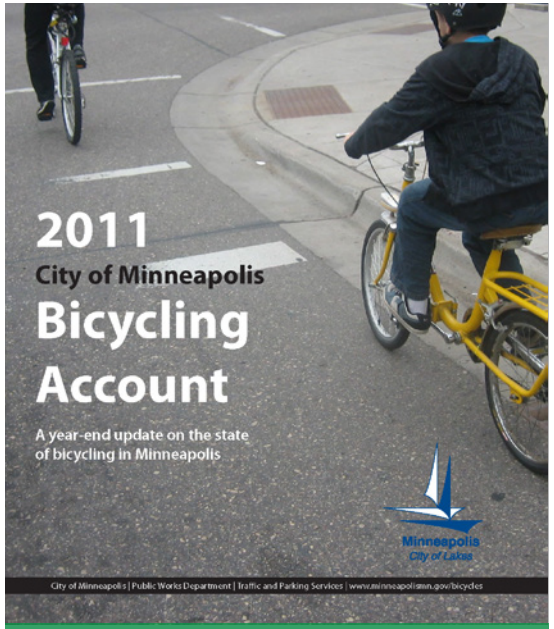
- Severity of pedestrian-vehicle crashes
- Severity of bicycle-vehicle crashes
- Automobile compliance and awareness / yielding behavior in areas with high rates of pedestrian and bicycle use (measured through observation)

Use of facilities

Counts of people walking and biking are conducted in many communities in the Twin Cities to track use of and changes in the number of people walking or biking along a given corridor, or through a specific intersection. Generally, these counts are coordinated by individual cities and conducted by volunteers. Edina currently conducts counts at five locations. Increasing the number of locations for these counts will provide a better picture of actual use and trends in the city. An increase in observed walkers or bikers would indicate an improved environment, especially if collisions involving people walking or biking decrease over the same period.

Recommended performance measures:

- Percent of residents who walk or bike to work
- Percent of students who walk or bike to school
- Percent of residents who walk or bike to other destinations
- Annual pedestrian and bicycle counts



Many local communities have begun tracking their progress in biannual Bicycle Accounts. The League of American Bicyclists has an excellent guide that could be useful for Edina at https://bikeleague.org/sites/default/files/Bicycle_Account_Guidelines.pdf

Facilities and network

A city's physical facilities and network offer the foundation that makes it possible for more people to actually use walking or biking for transportation. Tracking the progress made in the development of facilities helps support a healthy pace for plan implementation, and provides additional context for understanding potential gains in user safety and facility use that may occur as new facilities are added.

Recommended performance measures

- Miles of sidewalks and trails
- Miles of on-street bicycle facilities
- Number of new bicycle parking spaces
- Miles of gaps in pedestrian network
- Miles of gaps in bicycle network
- Percent of planned facilities installed

Municipal awareness and support

Implementation of this plan and the realization of its goals require the participation of government, community partners, and the interest and engagement of the broader community. The performance measures included in this category describe the level to which walking and bicycle interests, attitudes, and practice are part of Edina's culture. Measures to help evaluate awareness and support include:

Recommended performance measures

- Pedestrian and bicycle counts are conducted annually
- Pedestrian and bicycle maps and information are updated regularly and available to the public
- Events promoting walking and biking (like Open Streets and Walk/Bike to School Day) are held regularly
- Police enforce laws that protect people walking and biking
- Number of walk/bike interest or advocacy clubs active in or with membership in Edina

Active and well-supported Safe Routes To School (SRTS / ARTS) programs in Edina schools are a key measure of municipal awareness and support.

Potential goals

This is a list of potential goals or targets to serve as a starting point for tracking Edina's progress and achievements. It is important to review and update these goals as the plan begins implementation and the city's evaluation and measurement program develops.

These goals, and Edina's success in achieving them, should be measured and reported every two years using a "Bicycle Account" or similar document, and widely shared with the community.

Goals for safety and user comfort

- Number of crashes involving pedestrians or bicycle riders decreases by 10% every year
- Intercept survey for pedestrians and bicycle riders implemented on a yearly basis
- Perception of safety increases by at least 2% every year

Goals for use of facilities

- Number of pedestrians and bicycle riders counted at each location increases by at least 2% every year
- Number of children walking or biking to school increases by at least 4% each year

Goals for facilities and network

- Number of intersections with ADA non-compliant curb ramps decreases by 2% every year
- Implement at least 5% of the Edina Twin Loops All Ages and Abilities network each year
- Increase the total mileage of striped or separated bicycle facilities by 5% each year
- Increase number of bicycle parking spaces by 5% each year

Goals for municipal awareness and support

- Pedestrian and bicycle counts are conducted every year and coordinated with other Twin Cities jurisdictions
- Twice yearly "hand tallies" of student travel to school implemented in all Edina schools
- Pedestrian and bicycle maps and information are updated at least every two years and are distributed to the public
- Events promoting walking and biking are held regularly
- Heightened enforcement of laws protecting people walking and biking
- The City's Pedestrian & Cyclist Safety (PACS) continues to be funded at the same or higher level

9.2 Measurement ("counting") program

An active pedestrian and bicycle counting program provides the guidance and orientation needed for successful and cost-effective implementation of walking and biking transportation investments.

Pedestrian and bicycle counts and measurements help to discover where walking and biking are taking place in a community and whether a plan's implementation is effective in successfully growing use of these non-motorized modes. This information helps a city evaluate the effectiveness of its investments, and guide how it should plan and implement infrastructure and programming initiatives.

Types of measurement or counting activities

Effective measurement programs include two types of activities:

» Counts of users, and

» Evaluation of user attitudes

Counts of users

Counts of users are generally conducted by observers (volunteers or staff) who are posted at specific locations and use manual counters to record types of users (walker or bike riders) as well as other easily observable characteristics (adult or child, helmet use, etc.).

Due to cost and logistical complications, observers are typically deployed only a few times per year, and for limited periods. In the Twin Cities, annual counts are generally held during the second week of September, from Tuesday to Thursday of that week from 4 pm to 6 pm. Results are then extrapolated using established Metropolitan Council methodologies to arrive at an estimated number of daily users for that location.

Counts can be implemented at any location for a given purpose: for example, a weekend measurement may be more useful for assessing the number of recreational users along a trail.

Automated counters can also be used to provide year-round daily counts at key locations in a city's network. Current technologies for automated counts include infrared sensors, pneumatic tubes, inductive loops and video detection systems. In addition, results from app-based user tools like Strava can aggregated and extrapolated to arrive at estimated counts for specific locations.

An automated bike counter near a key link across the Mississippi River in Minneapolis.

Evaluation of user attitudes

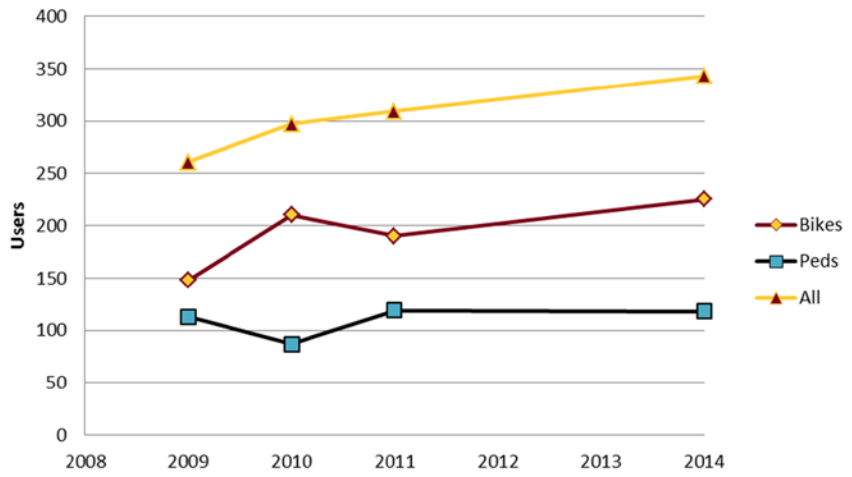
Collecting qualitative information from users, including their perceptions about relative comfort and safety while using a community's walking and biking network is as important as collecting quantitative information about actual number of users.

Because people walking and biking experience their surrounding environment without any protective envelope or barriers the stresses or discomforts they feel will play a determinant role in whether they become regular users of these modes of travel. Collecting information about user perceptions is especially important for communities like Edina that are committing to develop an All Ages and Abilities network meant to welcome all kinds of people, including those who may be less tolerant to traffic stress (which includes the majority of a community's population and roughly corresponds to the "interested but concerned" category discussed in Chapter 4 of this plan).

Surveys are the principal tool used to gather user attitude information. There are two main types that are differentiated by the method and timing of how respondents are gathered. The first type is user intercept surveys, which are administered by staff or volunteers who are stationed along several trail or bikeway locations and flag down a sampling of people walking or biking on the facilities. The second type is a general survey that may be distributed to a community overall (for example, as part of a survey sent to all residents of Edina) and which includes a set of questions related to their experience and perceptions of safety and comfort while using the city's walking and biking network.

Counting program in Edina

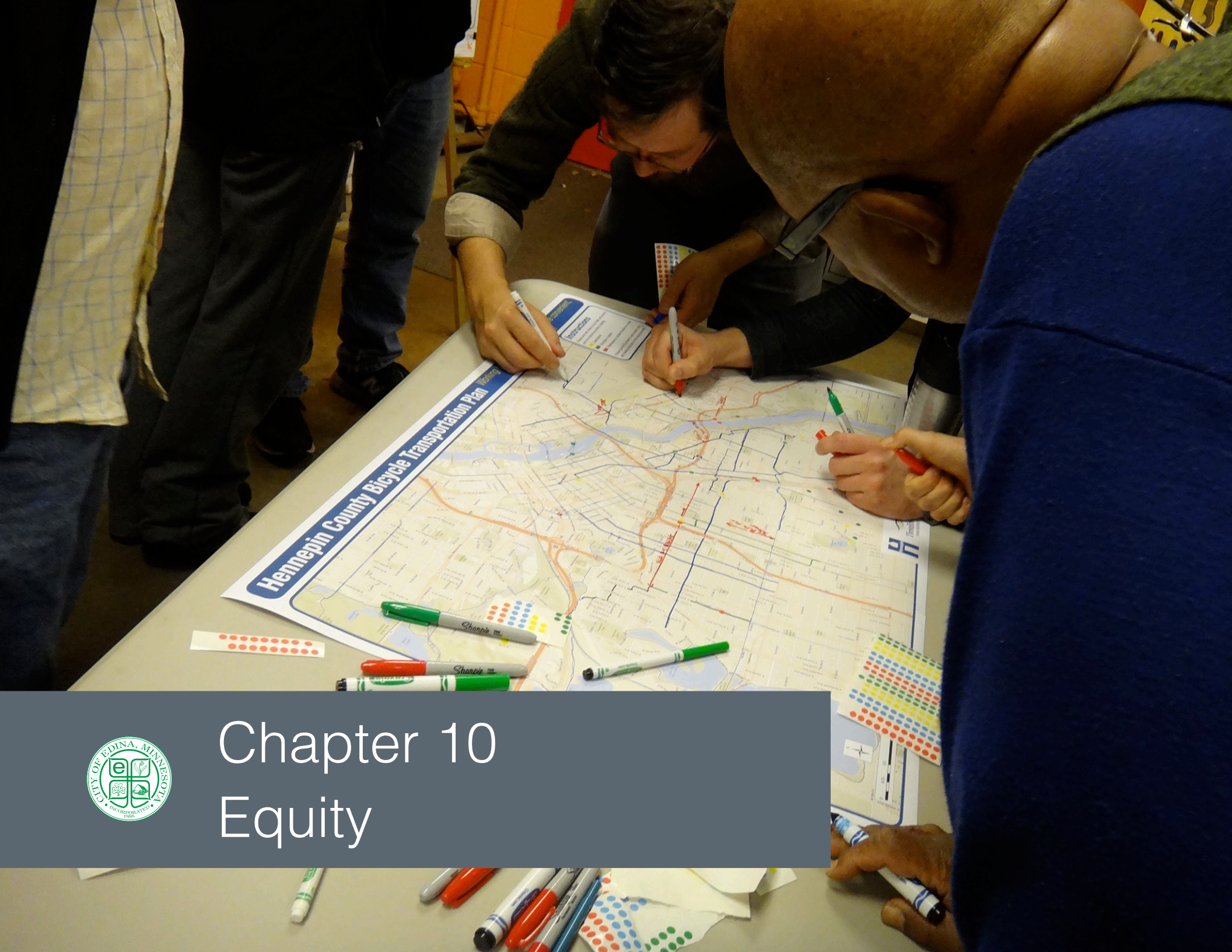
The City of Edina has collected counts of people walking and biking at about five locations since 2009 (the number of locations has varied year-to-year). Although the intent has been to collect this information on a yearly basis, because of challenges with volunteer and staff coordination data is not available for some years. Nevertheless, the data available shows clear increases in both walking and biking:



The city's counts clearly show increases in the number of people walking and biking in Edina. Source: City of Edina.

Yearly counting activities

Continuing walk / bike counting activities at strategic locations, and committing to at least a yearly frequency will help the city evaluate whether goals are being met and if the infrastructure and programming initiatives in progress are effective or if they need to be reevaluated.



Chapter 10
Equity

Equity focuses on distributing facility and programming improvements fairly throughout a community to ensure that residents of all neighborhoods and population groups have equal access to high quality facilities and programs. Equity includes intentional efforts for engaging specific diverse populations, and implementation of infrastructure and programs throughout a community to overcome economic, geographic, social, and physical barriers to walking and biking.

10.1 A proactive equity-focused approach
10.2 Increasing equitable participation and access
10.3 Americans with Disabilities Act (ADA) considerations
10.4 Connecting disparity populations

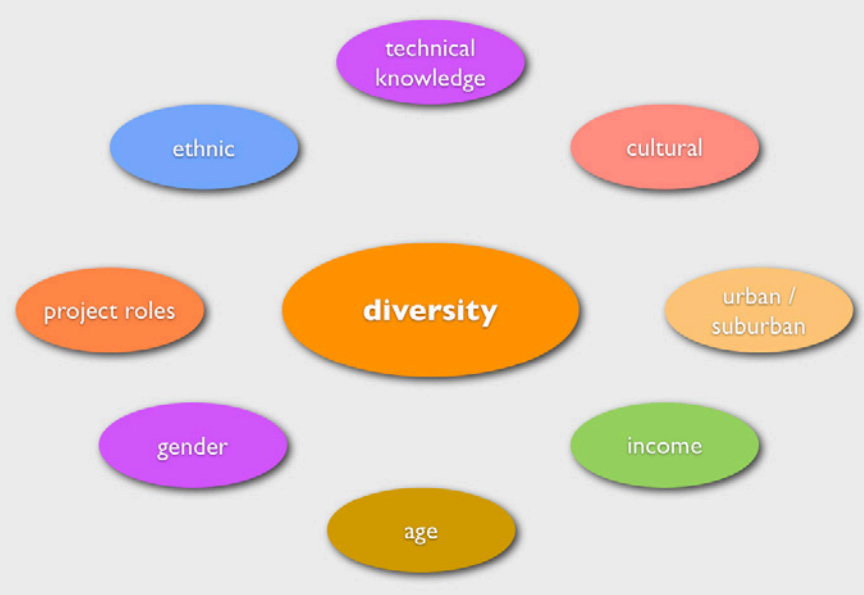
10.1 A proactive equity-focused approach

Walking and biking provide important transportation, health and quality of life benefits to the people and communities who are able to access and use these modes.

An equity-focused approach to implementation of walking and biking improvements focuses on fairly distributing access to high-quality facilities and programming improvements throughout a community to ensure that residents of all neighborhoods and population groups can equally benefit from these community investments.

An important component of an equity-focused approach includes making intentional efforts for engaging both a broad cross-section of potential users in a community's general population (for example, making sure that the interests of both commuter cyclists and families with young children are represented in planning and implementation priorities) and for connecting, engaging with and receiving comments and guidance from members of specific populations who reside or work in a community but may not often participate in planning processes (for example, members of ethnic or cultural minorities, young people, seniors, residents of multi-family housing, renters, people with physical or cognitive disabilities, or members of low-income populations, among others).

Intentional, proactive efforts to include participation from the broad range of diversities and populations who live and work in Edina - both for planning and for implementation of improvements - will help the plan meet the community's needs and result in facilities and programs that are successful, well-used and well-loved.



There are many kinds of diversities in Edina. Making proactive efforts to involve residents and workers from each of these (and other) populations will help ensure the plan is responsive and successful.

10.2 Increasing equitable participation and access

Many populations who depend on walking (and biking) to reach destinations and transit - including young people, seniors, members of ethnic and cultural communities, low income populations, and people with physical or cognitive disabilities - have often been overlooked in the transportation planning process and their needs not adequately met. These populations are sometimes identified as "under-represented populations."

Equity in transportation seeks fairness in how mobility options are distributed and made available to meet the needs of all populations in a community.

A key goal is improving access to economic, educational and social opportunities through equitable access to affordable and dependable transportation options. This is especially important for populations who have been previously under-represented or are traditionally underserved.

Approaches for increasing equitable access include:

Proactively engage diverse communities

To bring new populations into the planning process new methods for engagement must be used:

- Meet people where they are: go to events or locations where the focus population is likely to be - for example, connect with renters by setting up tables at or near multi-family housing
- Work with the city's Human Rights and Relations Commission and with members of the Race & Equity Task Force to develop connections with and engage members of ethnic and cultural communities living in and working in the city
- Proactively work to engage young people in conversations about walkability and bikeability in the city

Review the spatial distribution of planned improvements

The recommendations in this plan aim to develop well-connected walking and biking networks that serve all neighborhoods and areas of the city, including areas with a high density of under-represented populations and relatively lower levels of existing facilities.

Locations with high proportions of multi-family residential development, seniors, immigrants and lower-income populations should be reviewed to ensure that equitable access to walking and biking networks is being provided or planned. For example, the southeast quadrant of Edina includes a larger proportion of senior residents than other areas of the city and should be reviewed to ensure safe and comfortable access to walking and biking networks.

Include a diversity of residents in implementation of the plan

Consult with a wide variety of Edina residents when deciding priorities for implementation of individual segments or components of the city's walking and biking network. Connect with and consult with members of the city's ethnic and cultural communities, as well as young people, seniors, people with physical or cognitive disabilities, families with young children, residents of multi-family housing, and transit-dependent populations.

10.3 Americans with Disabilities Act (ADA) considerations

The Americans with Disabilities Act (ADA) is a Federal civil rights law prohibiting discrimination against individuals with physical or cognitive disabilities and guaranteeing their access to all areas of public life, including jobs, schools, transportation, and all public and private places that are open to the general public.

Because transportation is such an important component of access, and given that approximately one out of five US adults has a disability, consideration of ADA requirements is a key component for equitable and effective pedestrian and bicycle planning.

Generally, cities have struggled to upgrade their inventory of pedestrian facilities to comply with ADA guidance. Edina's innovative Pedestrian & Cyclist Safety (PACS) fund is helping to address ADA issues in the city's pedestrian network. Currently, approximately half of all curb ramps in Edina are not compliant with ADA requirements.

Addressing ADA requirements is an important component of building the All Ages and Abilities network envisioned by this plan. Making sure that facilities are accessible by people with physical and cognitive disabilities improves access for them and also benefits other members of the community, including seniors, parents with strollers, or transit passengers carrying heavy luggage, among others.

Design guidance for sidewalks and curb ramps is provided by the Public Right-of-Way Accessibility Guidelines (PROWAG) published by the US Access Board and by the 2010 ADA Standards for Accessible Design published by the US Department of Justice.

Some key considerations for ADA compliance include:

Sidewalks

- Minimum 4-ft wide clear travel path, with clear height of 80 inches
- Provide a flat and level landing for each 30 inches of rise and at the top and bottom of ramped sidewalks
- Provide a minimum 4-ft landing at turns in travel paths (minimum 4-foot by 5-foot turning space preferred)
- Provide a 0.5 to 2% cross slope for drainage of sidewalks

Crosswalks and curb ramps

- Provide curb ramps at all street crossings that involve a change in grade
- Crosswalks must be accessible both to people using wheelchairs or wheeled mobility devices and to people with no or low vision
- Design curb ramps and other travel paths to prevent or reduce the accumulation of water and snow
- Ramps may not have a slope exceeding 1:12

10.4 Connecting disparity populations

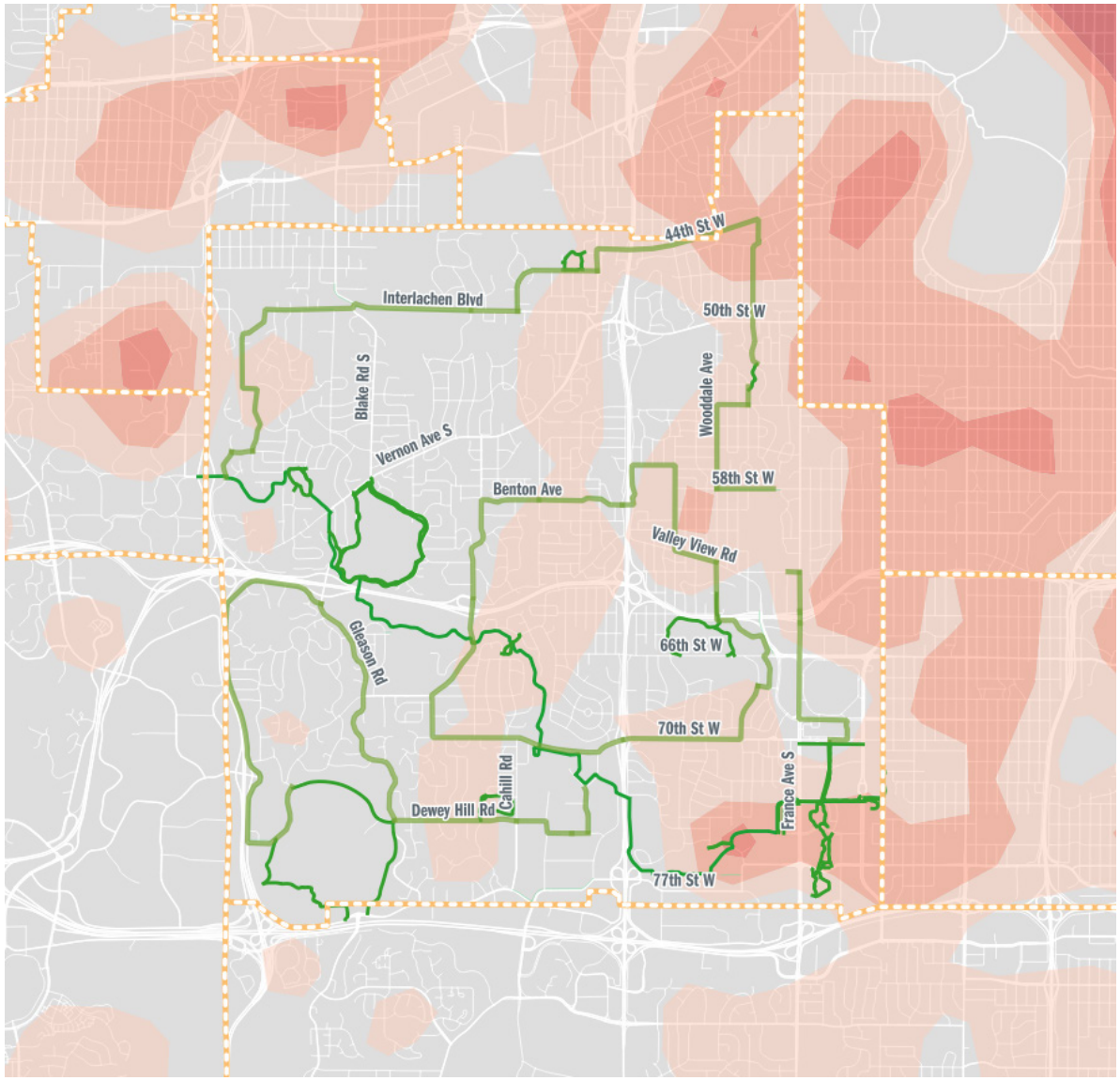
Even though Edina is a prosperous community, there are locations within the city where low-wage workers and households reside. There are also locations where entry-level jobs are available. Connecting these locations with high-quality walking and biking access is one way of increasing access to benefit low-wage households and leading to more equitable outcomes for residents of the city and surrounding communities.

Density of low-wage worker households and location of the Twin Loops

- Edina Twin Loops
- Nine Mile Creek Regional Trail

Low-wage worker households

- < 2 households (HH) per acre
- 2 to 3.9 HH per acre
- 4 to 5.9 HH per acre
- 6 to 7.9 HH per acre
- > 8 HH per acre



Chapter 11
Implementation

Effective plans facilitate and lead to action. The purpose of this chapter is to provide guidance on how to implement the plan's recommendations so they lead to improvements that Edina residents can enjoy as soon as feasible.

11.1 Approaches to implementation
11.2 General guidance for facility implementation
11.3 Implementing the Edina Twin Loops
11.4 Implementing programming initiatives
11.5 Engagement for implementation
11.6 A "pilot project" (Tactical Urbanism) approach
11.7 Updating this plan
11.8 Potential funding sources

11.1 Approaches to implementation

The Edina Pedestrian and Bicycle Plan is part of the city's Comprehensive Plan, which will guide planning work through the year 2030.

Productive steps for implementing infrastructure and programming recommendations during that time period should include:

» Developing initial concepts for pedestrian and bicycle network improvements based on recommendations from this plan, guidance from Edina staff and community, a review of existing conditions, and an analysis of gaps and opportunity corridors.

» A "test-run" of new projects by installing temporary pilot/pop-up versions of proposed changes. Pilot projects provide opportunities to measure impacts and gather comments from community members before investing in a permanent facility.

» Refining of conceptual recommendations through additional engineering and land use analysis, as well as coordination with the local community.

» Obtaining funding support for implementation of this plan's recommendations from multiple sources. A table of potential funding sources is provided later in this chapter. The city should continue to work closely with Hennepin County regarding implementation of facilities along county roadways.

» Updating this plan's priorities and recommendations as needed to reflect evolving community priorities, implementation opportunities, and available funding. Please see a recommended update process later in this chapter.

Temporary installations, also known as demonstration, pilot, or tactical urbanism projects, are useful for testing new ideas. Image: Test-run for a separated bike lane in Hopkins.

11.2 General guidance for facility implementation

Pedestrian and bicycle improvements are often implemented as part of larger streetscape and roadway improvements. For this reason, it is difficult to provide precise phasing recommendations for network implementation. Regardless, identifying priority areas and projects can be helpful in moving implementation forward fairly and effectively.

As much as possible, consider the following when selecting, designing, and implementing infrastructure recommendations:

- Coordinate pedestrian and bicycle improvements with scheduled road construction and repairs to avoid potential conflicts and take advantage of opportunities for simultaneous improvements.
- Street resurfacing, restriping, and streetscape projects provide opportunities to stripe on-street bicycle facilities or improve off-street sidewalk and trail connections at minimal costs.
- Treatments that require special consideration and careful design include raised crosswalks, channelized turn lane improvements, neighborhood slow streets with traffic calming elements, bicycle-specific traffic signals, and refuge islands.
- Pursue additional funding to support the design, implementation, and maintenance of pedestrian and bicycle improvements on a regular, ongoing basis.
- Act on opportunities to include pedestrian and bicycle improvements as part of development and redevelopment projects, or through spot improvements.

Key strategies for effective implementation

Even if a proposed improvement (like a new sidewalk or trail) has been part of a city's long-standing vision, it is important to build community understanding *before* implementation begins (or even better, before a design is finalized) as it is likely that many residents are not aware of the previous planning policies or documents.

Two useful tools and approaches to build community understanding and support are:

- Implementation of community engagement efforts specific to that improvement, and
- Implementation of a test or pilot project that provide an opportunity for community members to experience the proposed changes before it's permanently implemented.

Both of these approaches are explained in greater detail later in this chapter.

Implementing pedestrian network recommendations

Providing a continuous network of sidewalks and trails is key for supporting safe and comfortable walking trips. The following improvements will help to increase overall safety and comfort for the city's network, and should be integrated into corridor projects to increase pedestrian comfort and accessibility:

- Upgrading pedestrian signals to include countdown timers, Accessible Pedestrian Signals (APS), and revising timing to provide more time for pedestrians to cross.
- Upgrading curb ramps to ADA standards.
- Installing pedestrian-scaled street lighting along sidewalks and trails.
- Providing pedestrian refuges through median retrofits and installation.

Installation of new sidewalk along a busy roadway, Saint Paul.

Implementing bicycle network recommendations

Space for accommodating on-street bicycle facilities may be created within existing right-of-way by using one or more of the following methods:

- Narrowing the width of existing travel and parking lanes:
  - 11 ft maximum recommended travel lane width
    - Adhere to minimum allowable width of 12 ft for state aid roadways with posted speed limits over 40 mph.
- 8 ft maximum recommended parking lane width
- Reducing the number of travel lanes:
  - On streets with four or more lanes, low to moderate through volumes (20,000 ADT and below), and high left-turn volumes, the two center-most lanes may be converted into a single dual-left-turn lane, improving ease and safety of left-turns, and freeing up space for on-street bicycle facilities. This conversion is often referred to as a road diet or safety conversion.
- Removing or consolidating on-street parking where present.
- Designate existing shoulders or excess roadway space for bicycle use.
  - Recommend against shared parking/bike lanes, as they provide inconsistent and unpredictable conditions for both bicycle riders and motorists - bicycle riders may have to mix with traffic in order to pass parked vehicles.

11.3 Implementing the Edina Twin Loops

Building Edina's All Ages and Abilities network

Edina's Twin Loops will work with the recently constructed Nine Mile Creek Regional Trail to form the backbone of Edina's All Ages and Abilities network.

Implementation of the proposed Inner and Outer Loops will occur over time due to the associated costs and potential impacts of some of the improvements.

To aid project scoping and implementation, the two loops were reviewed in greater detail to provide some direction for potential implementation options based on existing facilities, GIS data, and other identified opportunities and constraints.

The tables provided over the next pages list potential options for near-term accommodation of the loop alignments and also the potential configuration and considerations for longer term implementation. This provides a starting point in the project development process as reconstruction and reconditioning projects are planned.

Street segment	Design requirements	Approx. ROW	Proposed INNER LOOP Improvements			
			Existing / Near-term		Long-term	
			Configuration	Considerations	Configuration	Considerations
W 70th St -Valley View to Hwy 100	State Aid	66'	• 5' Bike Lane, add 6-in buffer stripe • Sidewalk (both)	• 5' gutter pan • North side parking • Driveway Access	• 8 to 10' trail (south)	• Rail Bridge includes Nine Mile Creek Trail (south) • TH 100 underpass retaining wall for slope to provide trail connection • TH 100 Ramp crossing improvements, NTOR and Leading Pedestrian Phase for trail crossings
W 70th St - Hwy 100 to Cornelia Dr	State Aid	73'	• 5' Bike Lane, add 6-in buffer stripe • Sidewalk (both)	• 5' gutter pan • North side parking OR Turn Lane • Driveway Access	• 8 to 10' trail (south)	• Utilize Cornelia Dr traffic signal to cross 70th • Consider Leading Pedestrian Phase for trail crossing"
Cornelia Dr	Local	60'	• Bicycle Boulevard	• Sidewalk (west) • Driveway Access	• 8 to 10' trail (west)	• Reduce Street Width
W 68th St - Cornelia Dr to Southdale Rd	Local	60'	• Bicycle Boulevard	• Short Block	• 8 to 10' trail	• Reduce Street Width
Southdale Rd - W 68th St to W 64th St	Local	60'	• Bicycle Boulevard		• 8 to 10' trail (east)	• Extend 66th Street Median to provide refuge for two stage crossing • Consider pedestrian activated warning devices

Street segment	Design requirements	Approx. ROW	Proposed INNER LOOP Improvements			
			Existing / Near-term		Long-term	
			Configuration	Considerations	Configuration	Considerations
W 64th St - Southdale Rd/ W 66th Street to TH 62 Bridge	Local	60'	• Bicycle Boulevard	• Parkway function • Parking Lot Access	• 8 to 10' trail (west)	• Expand 64th St to west, utilize existing east edge for trail • Consider street grade trail with flexible delineators or back of curb trail due to lake/natural feature constraints • Reconstruct TH 62 Bridge to meet ADA
Wooddale Ave - W 64th St to Valley View Rd	Local	30' on trail	• Bicycle Boulevard • Trail	• South of Garrison, narrow 30' ROW	• 10' trail south of Garrison • 8' trail north of Garrison	• South of Garrison consider share street or woonerf • North of Garrison utility and encroachment conflicts in ROW
Valley View Rd - Wooddale Ave to Concord Ave	State Aid	66'	• Sidewalk (south)	• No options on Valley View without reconstruction • Wooddale Ave north of Valley View Rd includes Bicycle Boulevard - utilize in near term to connect to 58th St/ Concord/ Southview • Consider pedestrian activated warning devices at Valley View Rd	• 8 to 10'Trail (north)	• North side there are utility and encroachment conflicts in ROW • Consider pedestrian activated warning devices at Valley View Rd Crossing
Concord Ave - Valley View Rd to South View Ln	State Aid	60'	• Sidewalk (west)	• Sidewalk (west) • Southview Middle School adjacent to sidewalk	• 8 to 10' trail (west)	• Southview Middle School adjacent to proposed trail • Maintain parking (west)

Street segment	Design requirements	Approx. ROW	Proposed INNER LOOP Improvements			
			Existing / Near-term		Long-term	
			Configuration	Considerations	Configuration	Considerations
South View Ln - Concord Ave to Normandale Rd	State Aid	60'	• Sidewalk (south)	• Sidewalk (south) adjacent to Southview Middle School Parking (south) adjacent to Southview Middle School	• 8 to 10' Trail (south)	• Southview Middle School adjacent to proposed trail • Consider on-street parking needs (south)
Normandale Rd - South View Ln to Benton Ave	State Aid	Unknown	• Sidewalk (east)		• 8 to 10' Trail (east)	• Reconstruct sidewalk to include bituminous strip for trail width • Consider on-street parking needs • TH 100 Ramp crossing improvement
Benton Ave - Normandale Rd to Tracy Avenue	State Aid	60' (40' Hansen to Code)	• Partial Sidewalk (North)	• Railroad bridge • Benton Pond	• 8' Trail (north)	• Reduce street width • Constraints at Railroad bridge and Benton Pond
Tracy Ave - Benton Ave to TH 62	State Aid	60' and 66'	• 5' Bike Lane, add 6-in buffer stripe • Sidewalk (east) • Partial sidewalk (west)	• 5' gutter pan • Parking • Driveway Access	• 8 to 10' trail (east)	• Retaining wall impacts • TH 100 Ramp crossing improvements
Valley View Rd - TH 62 to Antrim Rd	State Aid	110'	• 5' Bike Lane, add 6-in buffer stripe or flexible delineators • Sidewalk		• 8 to 10' trail (north/west)	• Edina High School and Valley View Middle School at Antrim - consider crossing treatments

Street segment	Design requirements	Approx. ROW	Proposed OUTER LOOP Improvements			
			Existing / Near-term		Long-term	
			Configuration	Considerations	Configuration	Considerations
Lincoln Dr	Local	30'	• No Facility		• 8' trail (west)	• East side include topo and natural constraints, west side includes commercial property and driveways
Dovre Dr	Local	60'	• Sidewalk (north)		• 8' trail (north)	
Parkwood Ln - Dovre Dr to Parkwood Rd	Local	60'	• No Facility		• 8' trail (west)	
Parkwood Rd - Parkwood Ln to Telemark Trail	Local	60'	• No Facility		• 8' trail w/ 5' Blvd (west)	
Telemark Trail - Parkwood Ln to Malibu Dr	Local	60'	• No Facility		• 8' trail (south)	
Malibu Dr - Telemark Trail to Park Terrace	Local	60'	• No Facility		• 8' trail (east)	
Park Terrace - Malibu Dr to Interlachen Blvd	Local	60'	• No Facility		• 8' trail (south)	
Interlachen Blvd - Park Terrace to Blake Rd S	Local	60'	• No Facility		• 8 to 10' trail w/ 2 to 5' Blvd (south) as possible	• Street narrows to 30' at Park Terrace/ Interlachen Rd junction • Create trail connection into VanValkenberg Park • Bridge constraint at Blake Rd

Street segment	Design requirements	Approx. ROW	Proposed OUTER LOOP Improvements			
			Existing / Near-term		Long-term	
			Configuration	Considerations	Configuration	Considerations
Interlachen Blvd - Blake Rd S to Cooper Ave	State Aid	66'	• 5' Bike Lane, add 6-in buffer stripe or flexible delineators • Partial sidewalk (south)	• Consider driveway access needs with delineator layout	• 8 to 10' trail w/ 5' Blvd (south) as possible	• South side include topo and natural constraints near golf course
Cooper Ave - Interlachen Blvd to Circle E	Local	50'	• No Facility		• 8' trail (east)	
Circle E - Cooper Ave to Division St	Local	Unknown	• No Facility		• 8' trail (east/ south)	• South side include topo and natural constraints • Consider share street or woonerf
Division St - Circle E to Brookside Ave	Local	90'	• No Facility		• 8' trail (south)	• South side include topo and natural constraints • Consider share street or woonerf
Brookside Ave - Division St to W 44th St	State Aid	40'	• Sidewalk (west)		• 8' trail (west)	• Consider crossing treatments at 44th
W 44th St - Brookside to Grimes Ave S	State Aid	40' to 66'	• Sidewalk (north and both at east end)		• 8' trail (north)	• Bridge constraint over creek • TH 100 Underpass - piers constraint • Mature tree-lined boulevard (both sides)

Street segment	Design requirements	Approx. ROW	Proposed OUTER LOOP Improvements			
			Existing / Near-term		Long-term	
			Configuration	Considerations	Configuration	Considerations
Grimes Ave S - W 44th St to Sunnyside Rd	Local	60'	• Sidewalk (both)		• 8' trail (west)	• Large boulevard • Consider share street or woonerf
Sunnyside Rd and Arden Ave - Grimes Ave S to Arden Park	Local	60'	• Sidewalk (east and both at north end)		• 8' trail (east)	• At 50th Street consider pedestrian activated warning devices
Brookview Ave - Arden Park to W 54th St	Local	60'	• No Facility		• 8' trail w/ 5' Blvd (east)	• East side may include topo and natural constraints • West side includes residential driveway slopes
W 54th St - Brookview to Wooddale Ave	State Aid	60'	• Bike Lanes • Sidewalk (north)		• 8' trail (north)	
Wooddale Ave - W 54th St to 58th St	State Aid	66'	• Bike Lanes • Sidewalk (east)		• 8 to 10' trail (east)	
W 58th St - Wooddale Ave to Pamela Park	State Aid	60'	• No Facility		• 8' trail (north)	• North side west of Wooddale includes sidewalk • Consider crossing treatments at Pamela Park
W 62nd St - Pamela Park to France Ave	State Aid	66'	• No Facility		• 8' trail (north)	• North side may include utility and topo/natural constraints • South side includes residential

Street segment	Design requirements	Approx. ROW	Proposed OUTER LOOP Improvements			
			Existing / Near-term		Long-term	
			Configuration	Considerations	Configuration	Considerations
France Ave S - W 62nd to TH 62	State Aid	66' to 83'	• Sidewalk (west)		• 8 to 10' trail (west)	• Retaining wall impacts • TH 62 Ramp crossing improvements, NTOR and Leading Pedestrian Phase for trail crossings
France Ave S - TH 62 to W 66th St	State Aid	66' to 95' on TH 62 Bridge	• Sidewalk (west and both)		• 8 to 10' trail w/ 5' Blvd (west/ east)	• West side trail cross to east at 66th Street where east side trail begins
France Ave S - TH 62 to W 69th St	State Aid	108'	• Sidewalk (west) • Trail (east)		• In Place	
W 69th St - France Ave S to Galleria	State Aid	120'	• Partial Sidewalk (north) • Sidewalk (south)		• 8 to 10' trail (north)	• At uncontrolled crossing at Galleria Entrance consider additional improvements such as pedestrian activated warning devices
Galleria - W 69th St to W 70th St	Local	Unknown	• Sidewalk (both)		• 10' trail (east)	
W 70th St - Galleria - Centennial Lakes Trail	State Aid	80'	• Sidewalk (both)		• 8 to 10' trail (north)	• Consider crossing improvements on east leg of 70th St
Centennial Lakes to Promanade to Nine Mile Creek Trail	Local	Unknown	• Trail		• In Place	
Ohms Ln - W 72nd Blvd to W 74th St	Local	60'	• Bike Lanes		• 10' trail (north)	• Connects to existing Nine Mile Creek Trail

Street segment	Design requirements	Approx. ROW	Proposed OUTER LOOP Improvements			
			Existing / Near-term		Long-term	
			Configuration	Considerations	Configuration	Considerations
W 74th St - Ohms Ln to Dewey Hill Rd	Local	60'	• Partial Sidewalk (south)		• 8-10' trail (south)	
Bush Lake Rd - W 74th St to Dewey Hill Rd	Local	60'	• No Facility		• 8-10' trail (either)	
Dewey Hill Rd - Bush Lake Rd to Cahill Rd	Local	60'	• No Facility		• 8-10' trail (south)	• Reconstruct intersection at Cahill to four leg intersection with typical crossing
Dewey Hill Rd - Cahill Rd to Gleason Rd	State Aid	60'	• Sidewalk (south)		• 8-10' trail (south)	
Gleason Rd - Dewey Hill Rd to Creek Valley Rd	State Aid	60'	• Sidewalk (west) • Partial Sidewalk (east)		• 8-10' trail (west)	
Gleason Rd - Creek Valley Rd to TH 62	State Aid	60'	• Sidewalk (East)		• 8-10' trail (west)	• Bridge requires widening for trail • TH 62 Ramp crossing improvements
Gleason Rd - TH 62 to Vernon to Nine Mile Creek Trail	State Aid	66'	• Partial Trail Sidewalk (West)	• Nine Mile Creek Trail segment	• 8-10' trail (west) • Buffered Bike Lanes	• Connect to Trail to Nine Mile Creek Trail • Connect Buffered Bike Lanes to East leg of Vernon

11.4 Implementing programming initiatives

Effective and proactive programs are a key component of successful implementation of walk / bike initiatives, as they maximize the benefit of infrastructure investment and grow walking and biking.

The city's role in implementation of programming initiatives will vary depending on resources and capacity. The city may take the lead, provide support, or work in partnership with schools, neighborhood groups, local businesses or other organizations to initiate and implement a diverse array of programs.

Programs implementation should occur in coordination with infrastructure implementation and evolve as needed in the long term to educate all roadway users on how to safely operate in shared spaces including travel-ways and intersections, promote use of new facilities through encouragement programming, and support network safety through enforcement and facility maintenance.

When working to implement programs, the City of Edina can:

» Provide support to schools for further Safe / Active Routes to School (SRTS / ARTS) planning and programming implementation at the school-, district- and city wide levels;

» Leverage partnerships with governmental and nongovernmental agencies, community organizations, and local businesses to support education and encouragement programming; and

» Work closely with local police to enforce traffic safety laws, lead safety workshops including community education classes or bike rodeos, and provide a positive example for safe driving and bicycling behavior.

Programs are often a key and cost-efficient investment for plan success. Crossing guards, for example, can make as much difference as new facilities in getting more students to walk and bike to school.

11.5 Engagement for implementation

This plan presents a vision for a network and set of walking and biking routes across Edina. This vision will be implemented over time, segment by segment, as opportunities arise and funding is secured.

Although the plan and its recommendations have gone through a thorough process of public review and have included the active participation of the city's staff, Transportation Commission, Planning Commission and City Council, it is always a good idea to begin the implementation process for each of the specific segments it includes by informing residents (both those living near and those throughout the city) of the specific segment's purpose, need, impact and benefit (both in and of itself, and as part of the city's larger network).

A proactive approach to community engagement for implementation can go a long way toward building community understanding and goodwill, and will over the long term lead to a more effective process for implementation of the network.

Some tools, tips and techniques that may be helpful in Edina include:

Inform the larger community about the plan

We always inform nearby residents of a potential project - but making sure the larger Edina community is also informed ahead of time about the potential project will allow residents who may not live near a proposed facility but who may use it for their travel or otherwise benefit from it to also participate and weigh in during community conversations. Some tools that may be used for this purpose include the city's electronic bulletins, articles in the Sun Current, website content, or utility mailers.

Help residents envision the planned change

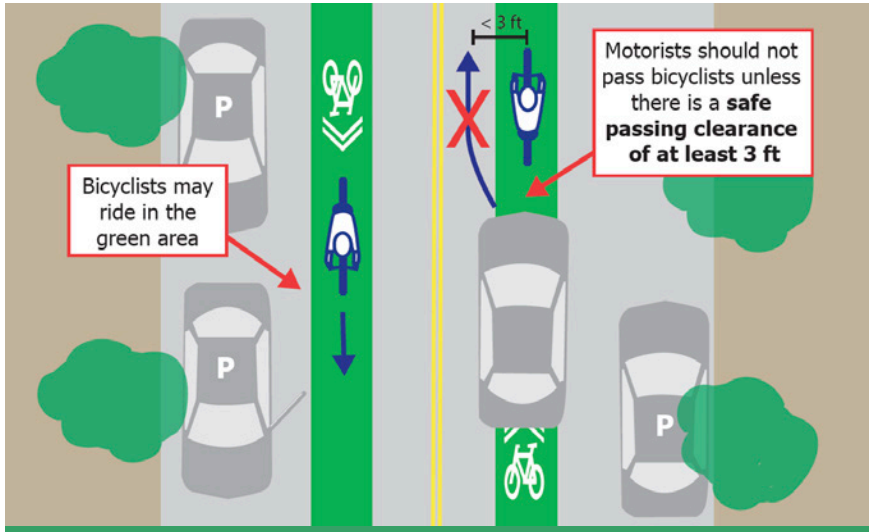
Sometimes it is difficult to understand a project's potential changes or benefits from a set of plans or diagrams. Providing richly-illustrated materials, with diagrams, 3D renderings or three-dimensional models may help to more quickly communicate a project's benefits.

Other times, especially if a project is very different from what currently exists near a specific location, it may be useful to setup a demonstration or pilot project. A demonstration project builds the intended configuration using temporary and inexpensive materials to quickly show, in or near its final location and with close approximation to its final configuration, what a project intends to do. This allows neighbors and others to become familiar with the proposed change, and to experience potential benefits and tradeoffs.

Sometimes building a temporary structure is the best way to communicate the purpose and potential benefits of a proposal. Image courtesy of Santa Monica NEXT.

Explain how to use new facilities or programs

Many useful tools and approaches may be unfamiliar to residents and visitors. As much as possible, when implementing innovative treatments, make sure that information about how to interact with these new facilities or programs is available to residents well ahead of its implementation.



From *Understanding Bicycle Markings in Minneapolis*, a publication explaining to drivers and bicycle riders how to interact with the city's new bicycle markings and each other.

An active education effort will help more people learn how to use the facilities as intended, and will help safety and overall participation. Brochures, mailers and online materials (including videos) are excellent tools to familiarize residents with new facilities and how to use them, regardless of mode.

Proactively communicate changes to area residents

Most people, including residents who live near a proposed improvement may be apprehensive about potential changes in the vicinity of their homes. Making proactive efforts to communicate the proposed changes, and explaining purpose, tradeoffs and benefits may go a long way toward receiving their support for the change. Implementing a demonstration or pilot project is especially helpful for potentially controversial or easily misunderstood projects.

Area residents explore a potential reconfiguration of their street to implement a new Three Rivers Park District trail in Brooklyn Center.

Invite a cross-section of residents to participate

Improved walking and biking options bring benefits to a wide range of residents who may live near or far from a proposed project. Making proactive efforts to invite young people, seniors, families, renters and homeowners to comment and weigh in on the implementation of specific projects will help bring a balanced view of proposed changes.

Some tools for expanding engagement and broadening community participation

To expand participation in implementation conversations across all residents and populations in Edina, consider these approaches:

Neighborhood block parties

To inform residents near a proposed project and expand the number of those local residents directly reached by project information, answer their questions, and gather their comments, implement neighborhood block parties that bring project information and activities directly to them and encourage residents to socialize and discuss the proposal. Implementing a demonstration of some aspect of the project, even if very limited, will help build community understanding.

Block party to inform residents about a new bikeway along their street. Image courtesy of Friendly Streets Initiative.

Pop-Up information sessions

Pop Up sessions are friendly and casual mobile workshops that bring information about the project to places where people are already gathering - like parks, community centers and grocery stores - to expand the number of residents familiar with the project.

Reaching young people, seniors, and other communities

Going to schools, and working with organizations that gather members of the public with a common interest or affiliation (for example, members of a neighborhood organization, a seniors' walking group, or a young parents group) can help reach segments of the population that may not otherwise have a chance to hear about or understand a potential project.

Use existing online channels

The cities existing online channels - like its website and social media accounts - to share news about a project's potential implementation can easily and inexpensively expand the number of residents who are informed (and potentially excited) about a project plan.

11.6 A pilot project / Tactical Urbanism approach

Puzzled about how to communicate the configuration and impact of a neighborhood traffic circle? How about building a temporary version and measuring how it works? Image courtesy of Santa Monica NEXT.

There is no tool that can more quickly or fully communicate the configuration, benefits or tradeoffs of a potential project as a pilot or demonstration implementation.

There are two key components of a pilot or demonstration project: the first is of course, making a plan for how to configure and assemble the demonstration, how long to keep the demonstration available, what materials to use, where to place it, and related considerations.

Sometimes this first component is sufficient if a project's configuration is already finalized, is well-accepted, and has been funded to move forward to implementation.

Sometimes though, a demonstration project can be a great tool to test out ideas, build community interest and participation, and develop the most effective configuration for the improvement.

If this is the case, then the second key component is needed. This component, which actually should begin implementation before the demonstration is built, is setting up a measurement and evaluation program to see how effective the specific intervention is and if it meets the goals of the project.

For example (and to use the illustration provided at the start of this section), if a traffic circle is being recommended as part of a neighborhood traffic calming plan (great for pedestrians and bicycle riders!), there may be residents who don't understand the size and scale of what is being proposed and may be afraid of impacts to their boulevard or parking, and may confuse it with a roundabout or a traffic rotary. There may be other residents who may be skeptical of any of the claimed traffic calming benefits.

An evaluation and measurement program would begin by, *before* any changes are made, setting up observations of the intersection in question, and measuring the overall rates of drivers' compliance with stop signs, as well as speeds and rates of speeding and overall mix of users (numbers of pedestrians, bicycle riders and drivers) and traffic volumes.

Then, during the time when the demonstration is implemented and in place (some can be left in place for several days or weeks, while others are sometimes in place for months or even up to a year), measurements are again taken to evaluate if the demonstration is

indeed changing the condition that the project seeks to improve. In the case of the neighborhood traffic circle, these changes would include improved yielding behavior to pedestrians crossing the street, decreased speeding, and maybe an increase in the number of pedestrians and bicycle riders using the street.

If there is a positive change toward the qualities that are sought, then the demonstration provides proof that the project will have the desired effect and may help persuade those who are skeptical of the project's effectiveness.

If there is no positive change toward the project goals, then this also is valuable result, as it shows that the project won't be effective in reaching the city's goals, and that it should be reconfigured or rethought (and then tested again) if it is to be implemented and be an effective addition to the city's street network.

Regardless of which outcome occurs, the demonstration itself becomes a tool to share knowledge about the project and its goals, and helps build community understanding about the city's goals and process.

How to set up a demonstration project

Several guides are now available for setting up demonstration and pilot projects in communities. Two highly recommended tools are People for Bikes' Quick Builds for Better Streets and the Tactical Urbanist's Guide to Materials and Design.

People for Bikes' Quick Builds for Better Streets (link >)provides a helpful framework and guidance for setting up a pilot project.

The Tactical Urbanist's Guide to Materials and Design (link >) provides detailed guidance on how to actually implement a project.

11.7 Updating this plan

This plan is envisioned to guide the evolution of Edina's walking and biking facilities and programs over the next ten years. Although much care has been taken to solicit, receive and incorporate guidance from residents, elected officials and city staff ahead of the completion of the plan, it is likely that as the city evolves and conditions change the plan will require some modifications over its intended lifespan.

The following recommendations are presented to help make the process of update and modification easier and more transparent and accessible.

Key parties

- Pedestrian and Bicycle Coordinator
- Edina Transportation Commission
- Edina Planning Commission

Process

It is recommended that this Pedestrian and Bicycle Master Plan be reevaluated every two years to ensure that implementation of its recommendations is proceeding as planned, and to review opportunities for making updates or improvements to its recommendations. The City's Pedestrian and Bicycle Coordinator should maintain responsibility for this process, and determine the appropriate level of response to requests for potential changes.

Generally, three main processes are contemplated for updating the Pedestrian and Bicycle Master Plan:

- Updates resulting from the plan's periodic re-evaluation
- Updates recommended or requested by the Edina Transportation Commission
- Updates recommended or requested by Edina residents

Decision-making and incorporation into plan

Depending on the origin of the recommendations as described above, these are the steps that are recommended for gaining approval and adopting changes to this document:

Updates resulting from the plan's periodic re-evaluation

The Pedestrian and Bicycle Coordinator (PBC) manages the process of re-evaluation. If the PBC determines that an update is needed, the PBC brings the proposed change to the Edina Transportation Commission (ETC). If the ETC agrees with the change, the PBC brings the change to the Edina Planning Commission (EPC) for their consideration and approval. If the EPC approves, the change is made to the plan and included as an Addendum.

Updates recommended or requested by the Edina Transportation Commission

The PBC reviews the change proposed by the ETC. If the PBC agrees, the change is brought to the EPC for their consideration and approval. If the EPC approves, the change is made to the plan and included as an Addendum.

Updates recommended or requested by Edina residents

The PBC reviews the change proposed by the public. If the PBC agrees, the PBC brings the proposed change to the ETC. If the ETC agrees with the change, the PBC brings the change to the EPC for their consideration and approval. If the EPC approves, the change is made to the plan and included as an Addendum.

11.8 Potential funding sources

A variety of funding sources and programs are available to partially or wholly support the improvement of pedestrian and/or bicycle facilities in Edina. This section presents a compilation that can serve as a starting point for future efforts.

Additionally, the City of Edina should continue to coordinate closely with Hennepin County and Three Rivers Parks District during network implementation, as both agencies are continuing to expand facilities within their areas of jurisdiction. Hennepin County has developed dedicated funding sources to support implementation of facilities along or adjacent to County roadways.

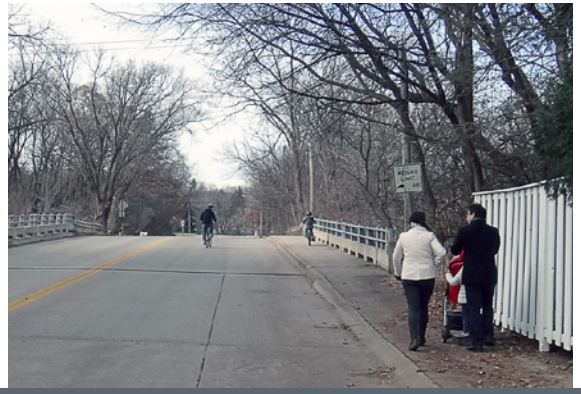
Grant/Program Name	Organization	Description	More Information	Sample / Potential Project
Livable Communities Demonstration Account	Metropolitan Council	Intended to link housing, jobs, and other amenities through comprehensive, well-designed networks. Projects can occur on both local and regional scales.	http://www.metrocouncil.org/Communities/Services/Livable-Communities-Grants.aspx	Walk or bike routes linking to small area plan locations or other important destinations.
Hennepin County Complete Streets Cost Participation Policy*	Hennepin County	Cost participation policy to support the development of Complete Streets along Hennepin County's road network: • For sidewalks: $200,000 annual budget, providing up to 25% of the cost of a sidewalk along a county road. • For bikeways: $300,000 annual budget, providing up to 50% of the cost of trail or on-street bikeway identified on the Hennepin County bicycle system plan or gap map. • For bikeway gaps: $300,000 annual budget, providing up to 50% of the cost of trail or on-street bikeway identified on the Hennepin County bicycle system gap map.	http://www.hennepin.us/~/media/hennepinus/residents/transportation/documents/cost-part-policy-feb-2012-final.pdf	Shared-use paths, sidewalks, or bike lanes on Hennepin County roadways in Edina.

Grant/Program Name	Organization	Description	More Information	Sample / Potential Project
Hennepin County Sidewalk Participation Program*	Hennepin County	County participates at a cost of 25% up to maximum of $50,000 per project.	http://www.hennepin.us/~/media/hennepinus/Business/work-with-hennepin-county/bike-ped-cip/Hennepin%20County%20Sidewalk%20Participation%20Guidelines%202015.pdf	Walk infrastructure that connects pedestrians to trip generators such as schools, libraries and parks.
Hennepin County Capital Improvement Program*	Hennepin County	• Maximum awards for construction projects will be $100,000 and $20,000 for feasibility studies. • Bikeways must be on the Hennepin County Bicycle Plan map.	http://www.hennepin.us/~/media/hennepinus/residents/transportation/documents/biking-and-walking/pedestrian-plan.pdf	On-street bicycle facilities.
Hennepin County Transit Oriented Development Grant	Hennepin County	To be used with multi-jurisdictional projects in order to connect people with transit. This includes the provision of pedestrian and bicycle facilities.	http://www.hennepin.us/business/work-with-henn-co/transit-oriented-development	Shared-use paths, sidewalks, or bike lanes linking potential future BRT or LRT stations to other portions of the city.
Hennepin County Roadside Enhancement Partnership Program (REPP)	Hennepin County	CREPP's primary purpose is to enhance the roadside environment on county roads that are located entirely within the 1999 Metropolitan Urban Services area.	http://www.hennepin.us/~/media/hennepinus/residents/transportation/documents/biking-and-walking/pedestrian-plan.pdf	• Installation of street/and or pedestrian lighting. • Construction of sidewalks and or multi-use trails.
Corridor Investment Management Strategy (CIMS)	State of Minnesota	A MnDOT program that supports quality of life improvements along MnDOT trunk highways.	http://www.dot.state.mn.us/cims/	Improve pedestrian crossing at intersections between county roads and MnDOT trunk highways.
Hazard Elimination and Railway-Highway Crossing Programs	Federal Highway Administration (FHWA)	Uses funds from Highway Safety Improvement Program (HSIP) to eliminate hazards at railroad crossings and to provide safe crossing facilities.	http://safety.fhwa.dot.gov/safetealu/fact_sheets/ftsht1401d.cfm	Various railroad crossings throughout Edina.
National Highway System (NHS)	Federal Highway Administration (FHWA)	The NHS provides a number of different grants, including some that pertain to pedestrian and bicycle safety and facilities.	http://www.fhwa.dot.gov/environment/bicycle_pedestrian/overview/	Pedestrian and bicycle safety projects including crossing beacon/signal or refuge median.

Grant/Program Name	Organization	Description	More Information	Sample / Potential Project
Surface Transportation Program (STP)	Federal Highway Administration (FHWA)	Can be used for pedestrian or bicycle facilities, or the creation of non-construction projects such as maps or education.	www.fs.fed.us/eng/pubs/pdf/07771814.pdf	Safe Routes to School maps for schools, children and parents.
Congestion Mitigation and Air Quality Act (CMAQ)	Federal Highway Administration (FHWA)	Intended to reduce air pollution and congestion by encouraging walking and biking through provision of facilities or other resources such as maps and education.	http://www.fhwa.dot.gov/environment/air_quality/cmaq/	• Development of routes. • Streetscaping along routes. • Bikeshare.
National Scenic Byways Program (NSBP)	Federal Highway Administration (FHWA)	This grant is used for construction of pedestrian walkways along scenic byways. It requires 20% local contribution.	http://www.bywaysonline.org/grants/	
Recreational Trails Program	Federal Highway Administration (FHWA)	Can be used for construction and/or maintenance of recreational trails for motorized or non-motorized transport. At least a 5% local contribution is required.	http://www.fhwa.dot.gov/environment/recreational_trails/	Construction, improvements, and/or maintenance of shared-use trails in the city.
Highway Safety Improvement Program (HSIP)	Federal Highway Administration (FHWA)	Intended to increase safety and reduce fatalities on the National Highway System. This includes pedestrian and bicycle facilities. A 10% local contribution is required.	http://safety.fhwa.dot.gov/hsip/	
Transportation Alternatives Program (TAP)	Federal Highway Administration (FHWA)	Provide funding for programs and projects including on- and off-road pedestrian and bicycle facilities, infrastructure projects for improving non-driver access to public transportation, recreational trail projects, safe routes to school, and more.	http://www.fhwa.dot.gov/environment/transportation_alternatives/	Sidewalk gaps throughout the city; bike lane projects, especially near schools and trails.
Safe Routes To School (SRTS)	National Center for Safe Routes to School	This grant provides funding for pedestrian and bicycle facilities along school routes.	http://www.saferoutesinfo.org/	• Improvements near Edina schools. • Bicycle parking.
Active Living Research	Active Living Research	Supports studies which promote active living through policy, particularly in regards to childhood obesity.	http://www.activelivingresearch.org/grantsearch/grantopportunities	Monitoring and evaluation on plan implementation impact.

Grant/Program Name	Organization	Description	More Information	Sample / Potential Project
Safe Kids Walk This Way	Safe Kids USA	Intended to create a safer pedestrian environment by educating motorists and children. This goal is achieved through community engagement practices.	http://www.safekids.org/coalition/safe-kids-hennepin-county	Material development for safer pedestrian programing events in the city.
Job Access and Reverse Commute Grants	Federal Transit Administration (FTA)	This program aims to connect low-income residents and welfare recipients to work places via transit access and pedestrian and bicycle facilities.	http://fta.dot.gov/grants/13093_3550.html	Capital, planning and operating expenses for pedestrian and bicycle access to Edina transit stations and employment concentrations.
Land and Water Conservation Fund (LAWCON)	Department of Natural Resources (DNR)	Intended to protect local land and water resources in a number of ways including trails which promote the enjoyment and protection of resources via non-motorized transportation.	http://www.dnr.state.mn.us/aboutdnr/lawcon/index.html	Implementation of trails along wetlands and streams including Nine Mile Creek and others.
Rivers, Trails, and Conservation Assistance Program	National Park Service (NPS)	Provides guidance to communities for the preservation of land and water as well as the development of recreational trails and greenways.	http://www.nps.gov/ncrc/programs/rtca/contactus/cu_apply.html	Implementation of trails along wetlands and streams including Nine Mile Creek and others.
Federal Lands Access Program (FLAP)	Federal Highway Administration (FHWA)	Intended to improve transportation facilities that provide access to, are adjacent to, or located within Federal lands, including provisions to pedestrians and bicyclists.	http://flh.fhwa.dot.gov/programs/flap/	

* Hennepin County Complete Streets Cost Participation Policy, Sidewalk Participation Program, and Capital Improvement Program share the same original funding source.



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