

# 12 • Active Transportation

## Overview/Summary

Planning for active transportation modes focuses on facilities that serve primarily bicyclists and pedestrians along with users of other non-motorized or low speed two-wheeled modes such as skateboards, scooters, and wheelchairs. Facilities for active transportation serve an important access and mobility role in the transportation system as both an end-to-end travel mode, where active transportation can serve both utilitarian and recreational needs, or as a component of a multi-modal trip in combination with a primary vehicular or transit trip.

Serving bicycle and pedestrian travel is in large measure a question of accommodation; while a certain amount of non-motorized travel occurs on trails and paths developed in corridors separate from roadways, most non-motorized travel occurs on facilities either parallel to or sharing a roadway with motorized vehicles.

In developing the recommendations in this chapter, input from the community was gathered during a series of open house and community outreach events as well as through use of on-line tools such as an interactive website that provided opportunity for comment. Input of

technical staff from the transportation departments of Olmsted County, the City of Rochester, and District 6 of the Minnesota Department of Transportation was also solicited. Information from a Community Transportation Survey conducted during development of Rochester's 2018 *Planning to Succeed: Rochester Comprehensive Plan 2040* (P2S 2040) was also reviewed. Other studies, including a 2016 study on the access and mobility needs of environmental justice populations, were also reviewed.

This Plan addresses both the Rochester urban area as well as the Greater Olmsted County area, focusing on corridors and facilities that are important in providing multi-modal connectivity to and from important destinations within walking or biking distance, such as schools, transit, parks, and workplaces. For the Rochester Urban Area, the Plan builds on the foundation provided by the 2012 Rochester Area Bicycle Master Plan, the input of the Rochester Pedestrian-Bicycle Committee, and regional committees working on active transportation development in the Olmsted County area. Relevant plans, such as the MnDOT District 6 Bicycle Plan 2019, and the work of state trail committees were also reviewed.

The pedestrian element of this chapter focuses on the Rochester urban area and looks at accommodations, accessibility, and safety for pedestrians along the major street network and transit corridors. The Plan considers recommendations included in the Rochester Downtown Master Plan and the Destination Medical Center (DMC) Development Plan that have been developed since adoption of the last ROCOG Long Range Plan, addressing the expected impact of

- An estimated 30,000 new workers and 5,000 new residents downtown in the next 25 years
- An expected increase of more than 2 million visitors annually to downtown Rochester over that time, primarily related to services provided at the Mayo Medical Center or associated with the Mayo Civic Center
- The city's convention and events venues hosting over 300,000 attendees per year

Figure 12-1 highlights the main elements found in this chapter. Among the highlights are future network plans for the urban and rural planning areas, policy directions, and identification of prospective projects anticipated in the short, medium, and long-term for urban and regional bicycles and other low speed modes.

The system plan for pedestrian facilities includes an element related to improvements needed to support transit system development at station areas located

along the future Downtown Rapid Transit line and the larger proposed Rochester Primary Transit network. It addresses improvement needs along the major street network where existing system gaps occur. Pedestrian safety is also discussed, including the multiple ways in which implementation of facility projects can occur, as well as recommended support strategies for active modes.

**Figure 12-1: Components of the Active Transportation Plan**



## Existing Active Transportation Facilities

Figure 12-2 illustrates the existing active transportation infrastructure in the Rochester urban area, including an

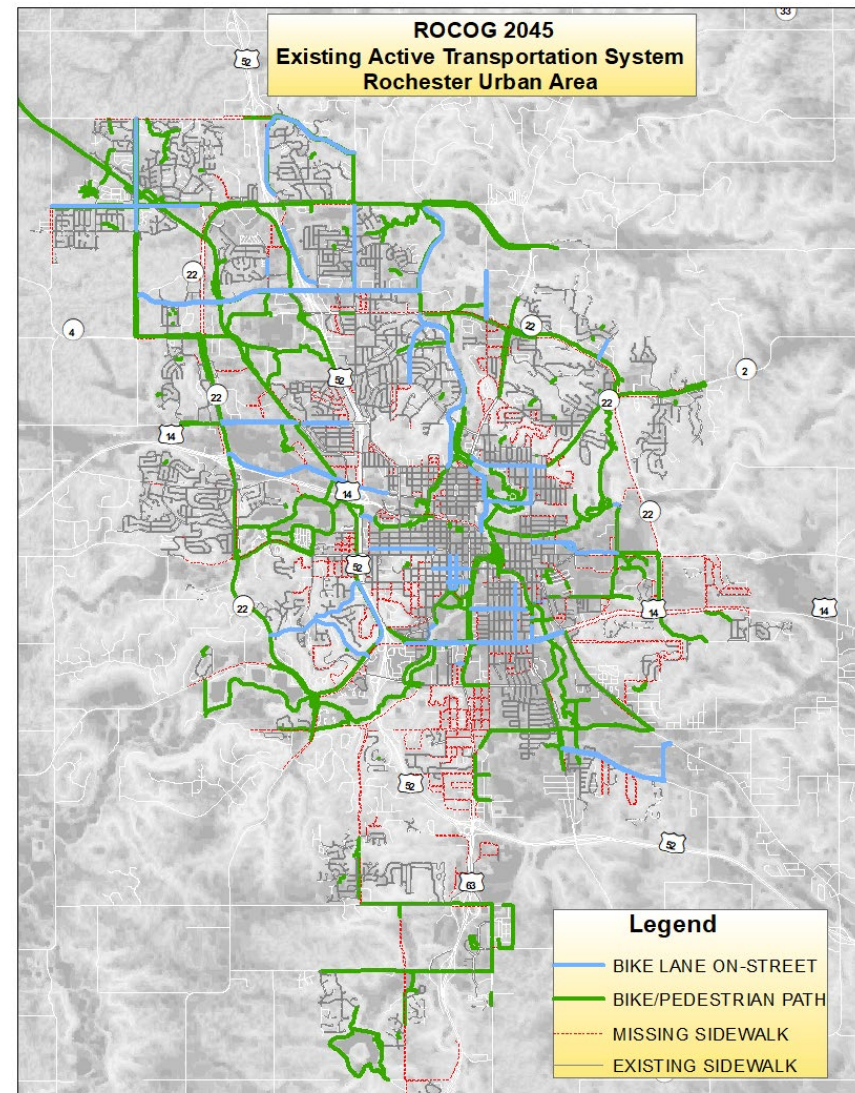
extensive 130+ mile network of trails and paths, a fairly complete sidewalk network, and 37 miles of on-street bicycle facilities. This graphic also illustrates missing sidewalk facilities throughout the urban area, most of which are on local roadways in areas originally developed before being annexed into the city. Other gaps in the sidewalk network are generally found along the major street network, where state or county roads established decades ago were built without walk facilities.

Turning to regional travel, pedestrian and bicycle travel are largely limited to roadway or roadway shoulders and a limited number of state trails. Pedestrian travel, given the distances involved, is very limited, but bicycle travel, particularly for recreational purposes, is common and found largely on paved roads with paved shoulders. Figure 12-3 provides a map of the ROCOG area illustrating existing state trails and state and county roads with shoulder surface and shoulder widths noted on the map. Generally speaking, paved shoulders of 5 feet or greater in fair or better condition will support bicycling, though somewhat dependent on traffic levels.

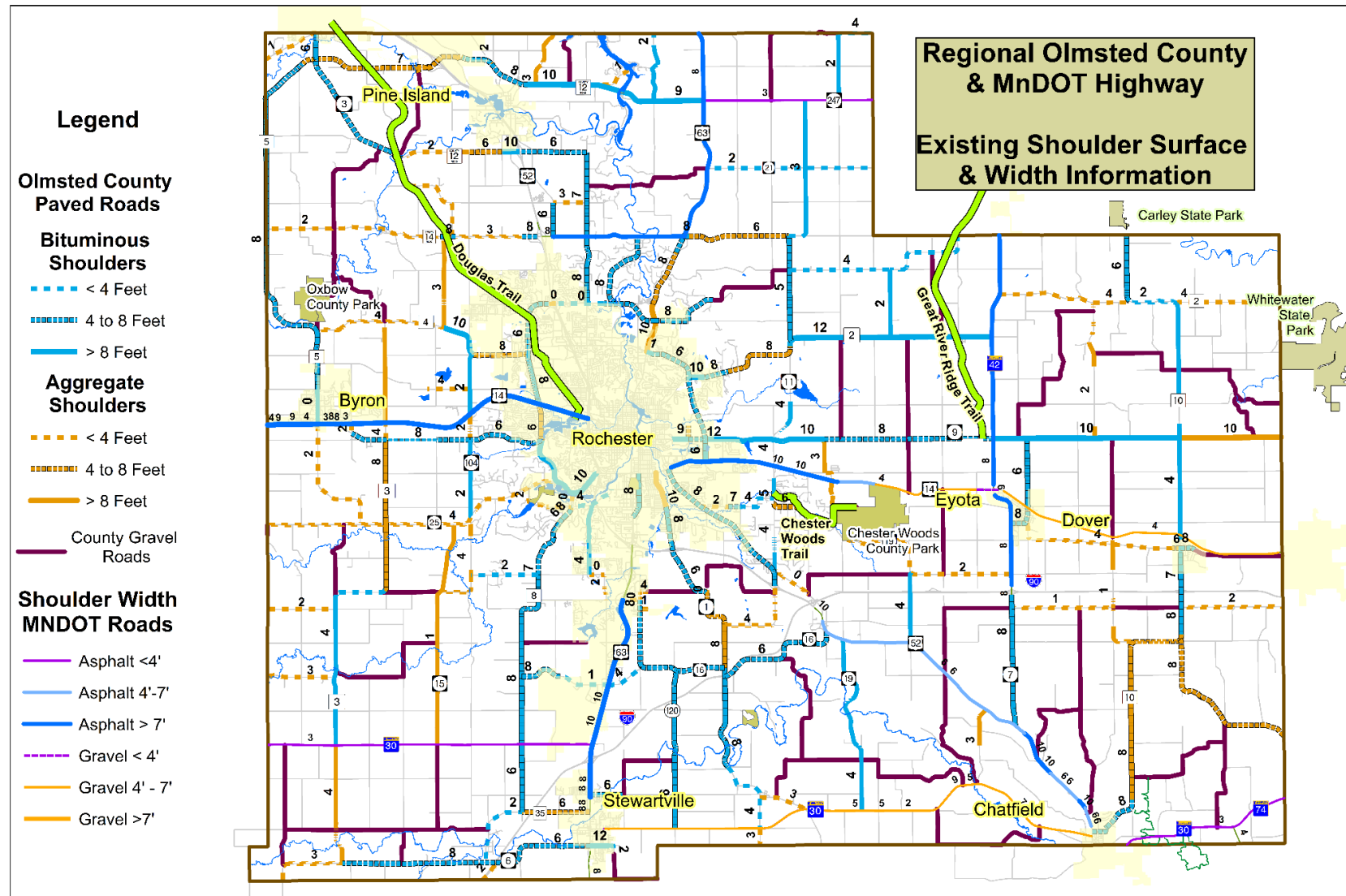
## Community Perspective on Active Transportation Travel

Community perspectives and input on active transportation needs and issues were gathered from various sources. A number of community events were held, and people were given opportunities to submit their

**Figure 12-2: Existing Urban Area Facilities**



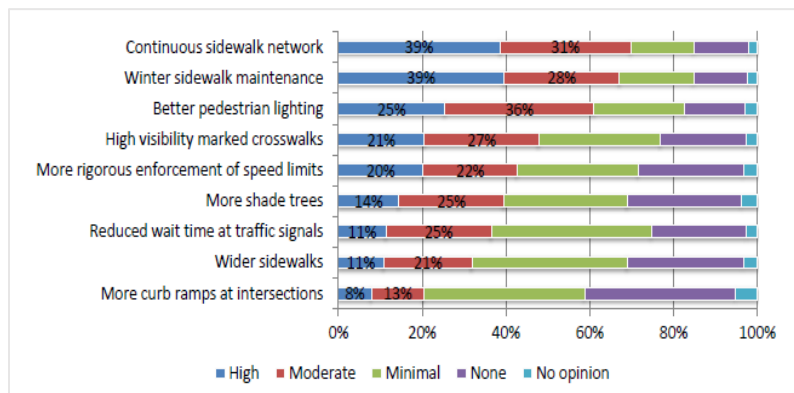
### Figure 12-3: Regional State Trails and Highway Shoulder Network





comments as part of Rochester's P2S 2040 planning process. During development of P2S 2040, a community transportation survey was conducted to gather perspectives on various transportation issues and priorities, including pedestrian and bicycling modes of transportation. Figures 13-4 and 13-5 report the results of survey questions asking about community preferences regarding improvements that should be made to the pedestrian and bicycle network in the Rochester urban area.

**Figure 12-4: Community Facility Enhancement Preferences – Pedestrian Network**

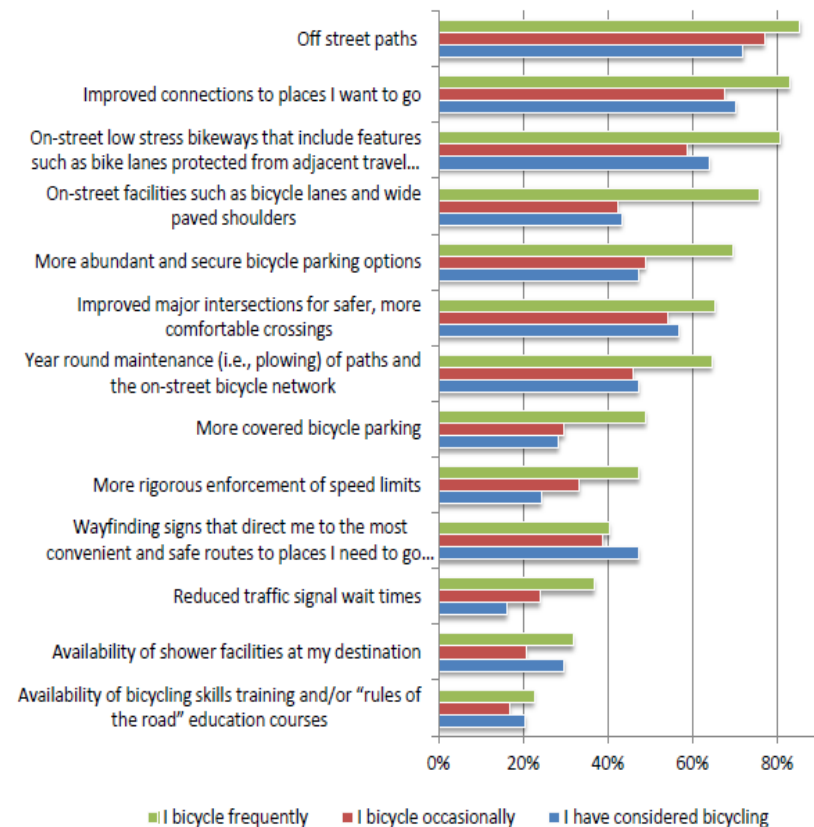


Source: Community Transportation Survey, P2S 2040

In terms of pedestrian infrastructure, the highest ranked projects or programs that respondents desired to see were continued investment in sidewalk facilities to provide a continuous network and better winter

maintenance, followed by better lighting and crosswalk upgrades. For cyclists, the highest ranked projects or

**Figure 12-5: Community Facility Enhancement Preferences – Bicycle Network**



Source: Community Transportation Survey, P2S 2040

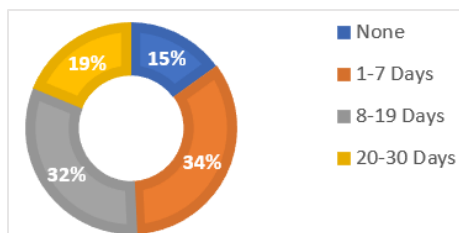
programs were network improvements, including more off-street paths and low stress bikeways to provide connections to places people want to go. The bicycle

survey showed some differences in opinion by user types; while all users were similarly interested in off-road or protected facilities, persons who bike frequently are more supportive of investing in on-street bike lanes and paved shoulders as acceptable facilities than the occasional bicyclist.

As part of the City of Rochester’s application for re-designation as a Bicycle Friendly Community, the League of American Bicyclists conducted a survey as part of the application review to gather data on the community’s perspective on bicycle facilities.

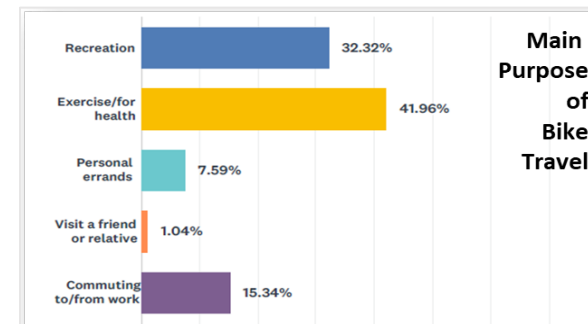
Figures 12-6 and 12-7 provide some basic data on the respondents, while Figure 12-8 reports on the main improvement needs respondents identified. Figure 12-6 reports on levels of biking, while Figure 12-7 reports on typical trip purposes. Figure 12-8 summarizes the comments as far as what type of projects and programs investments were needed.

**Figure 12-6: How Often People Ride a Bike Monthly**



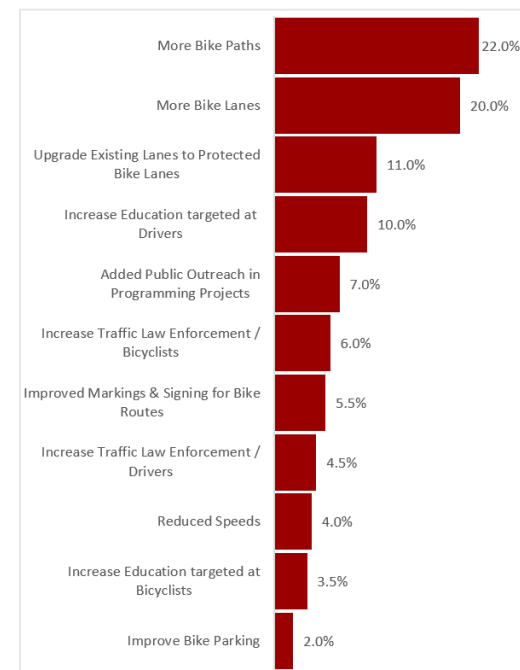
Source: League of American Bicyclists Survey 2018

**Figure 12-7: Main Purpose of Bicycle Trips**



Source: League of American Bicyclists Survey 2018

**Figure 12-8: Main Improvements Bicyclists Would Like**



## Rochester Bicycle Friendly Community Designation 2018

In 2018, Rochester received a four-year re-designation as a Bronze Level Bicycle-Friendly Community by the League of American Bicyclists. Communities that apply for designation are judged against ten building blocks of a Bicycle Friendly Community as shown in Rochester's Score Card (Figure 12-9).

The five category scores shown were used by the League to gauge the current network, bike education and encouragement efforts, enforcement, and planning. There were four main League recommendations for Rochester coming out of the review:

- Prioritize efforts to improve high speed roadways
- Expand or improve bicycle education opportunities at schools
- Devote an increased level of funding to bicycle facilities
- Place more emphasis on enforcement and encouragement

## Walk Friendly Community 2018-2023

Walk Friendly Community (WFC) is a national recognition program sponsored by the U.S Federal Highway Administration and managed by the Pedestrian and Bicycle Information Center (PBIC). Rochester applied for

WFC re-designation and was again designated as a Bronze Level Walk-Friendly Community for 2018-2023. One of the benefits of the WFC program, beyond the recognition a community receives, is the review and critique from nationally recognized professionals on how to improve pedestrian travel in Rochester, not only in terms of infrastructure but also in areas such as education, encouragement, and enforcement. The City of Rochester is actively improving pedestrian facilities and deploying the latest pedestrian safety and convenience infrastructure and facilities at major intersections, mid-block crossings, and selected locations in the downtown area. The key WFC recommendations from the 2018 review are:

- Place more emphasis on improved crossing treatments and other amenities that will enhance the pedestrian environment
- Consider educational and encouragement activities to promote active transportation
- Devote more effort to Safe Routes to School planning and programming
- Continue to apply the Complete Streets Policy on all projects



**Figure 12-9: League of American Bicyclists' Review Scorecard for Rochester**



## Summary of Key Issues and Needs

Figure 12-10 reflects the key active transportation issues reflected from input gathered during development of this plan as well development of recent plans including the 2016-2017 Destination Medical Center Integrated Transit Studies, the Rochester Area Bicycle Master Plan, and P2S 2040. These needs and issues have been identified as important factors to address to improve the attractiveness of active transportation modes.

- Surface Conditions**  
 Unsuitable surfaces such as pavement with frequent cracking, gravel shoulders, or accumulation of debris near edges of roadways discourage non-motorized travel.
- High Volume Roads**  
 High volume roads discourage walkers and bicyclists if sidewalks or paths are absent or are inadequate for users due to minimal setbacks from traffic or inadequate space for travel. Crossing difficulties also create hazards if adequate crossing time is not available and medians or refuge areas are not available.
- Access and Continuity**  
 Access to desired destinations can be limited by topographic and geographic barriers, or auto-oriented land use where space for pedestrians or cyclists is limited. Continuity issues also arise where there are

gaps or lack of connections along primary routes between origins and destinations, such as residential neighborhood areas and nearby schools.

**Figure 12-10: Key Planning Issues**



- On-Street Parking Utilization**  
 Most local and collector streets are constructed to accommodate parking on both sides of the street, but in many areas on-street parking is limited as off-street parking is plentiful. This can encourage higher speed vehicular travel, creating conflict and safety concern for both the bicyclists and pedestrians.

Conversely, in higher density areas where street parking is fully utilized, there may not be enough space to provide suitable space for bicyclists.

- **Intersection Safety**

Intersections can pose problems for cyclists and pedestrians, where left-turning cyclists encountering conflicts with through traffic and right-turning cars can conflict with both cyclists and pedestrians.

- **Bridges and Overpasses**

Older bridges and overpasses often are deficient with lack of adequate space for non-motorized users.

- **Bicycle Use on Downtown Sidewalks**

Particularly in areas of high pedestrian concentrations such as in downtown Rochester, it is undesirable for bicyclists to use sidewalks. Busy sidewalks are not appropriate for cycling speeds, there is generally insufficient width for shared bicycle and pedestrian travel, conflicts with motor vehicles at driveways become more complex as motorists are generally are not expecting a cyclist to cross their path on the sidewalk, and traffic rules, such as obligations to yield, are unclear when cyclists ride on sidewalks.

- **Roadways with No Shoulders**

In older suburban areas, many roads have been built with either no shoulders or shoulders of limited width, forcing bicyclists or pedestrians to utilize a portion of

the vehicular travel lane when traveling on such corridors and creating a safety hazard for the non-motorized traveler.

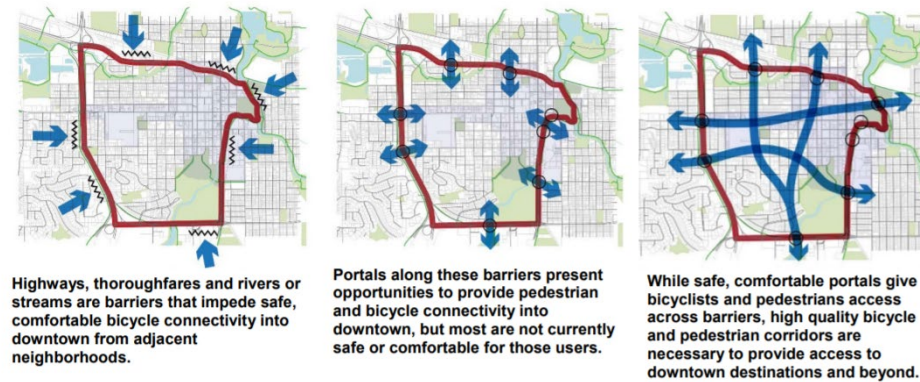
- **Regional Bicycle Travel Routes**

A major network that has been noted is the need to provide a minimum level of connectivity between communities and from communities to major regional destinations such as county and state parks. Where off-road trails can be developed to accomplish this goal, it is the preferred solution. In addition to off-road trail connections, county roads with wide paved shoulders are used to provide a minimum level of regional accessibility to small cities in the ROCOG area.

- **Major Corridor Gaps**

The presence of gaps in the path and trail network along or parallel to major highways effectively creates barriers for cross-town travel, as resident perceptions of travel routes are influenced greatly by the major street network.

- **Downtown Rochester Access and Mobility**  
Studies have identified various barriers that inhibit bicycle connectivity into and through downtown, effectively keeping people from reaching their destinations (Figure 12-11).

**Figure 12-11: Downtown Portal Improvements Needed**

Source: DMC Integrated Transit Study 2018

## Policy Framework

Safe and convenient pedestrian and bicycle travel is vital to the region's quality of life, economy, and public health. Pedestrian and bicycle facilities serve many diverse users in the community and for some are a primary means of everyday travel.

Given the range of users and diverse travel purposes which walking and bicycling serve, it is important to have a broad, inclusive vision for active transportation development and a set of basic principles which will guide decisions on infrastructure investment and support programs.

## Active Transportation Principles

- Fix it First—preserve and maintain the existing bicycle and pedestrian system
- Potential pedestrian/bicycle improvements should be considered from the perspective of developing a system, not just on based on whether an individual facility is currently used
- Always place safe design at the forefront of bicycle and pedestrian infrastructure development
- Provide connections for all neighborhoods to the active transportation network and ensure pedestrian connections to nearby community facilities exist

- Support economic development with active transportation infrastructure by developing facilities that support biking and walking tourism
- Make the active transportation network accessible and comfortable for all ages and abilities

### Active Transportation Vision

- Providing a safe, accessible, and connected bicycle and pedestrian system throughout the urban area of Rochester
- Developing an accessible and well-connected regional network of bicycle facilities connecting cities in the ROCOG area to each other, to regional trails, and to regional attractions in Southeast Minnesota such as state parks
- Meeting critical access and mobility needs of transportation disadvantaged populations in Rochester and Olmsted County

Table 12-1 refines the overall goals for the Plan described in Chapter 1 to more specifically identify a set of objectives which support the overall goals for active transportation in the Plan and illustrate how the goals and objectives align and address the planning factors spelled out in federal legislation.

### Urban Area Multi-User System Plan

Developing an adequate active transportation system requires coordination between planning, design, and financing efforts; land use and open space planning; and the land development approval process. Many elements of the non-motorized network are developed as part of private development projects, including sidewalks and multi-use paths along arterial or collector street frontages. Public entities typically take the lead in off-road trail development, the upgrading or installation of bridges serving active transportation travel, as well as on network infill projects along major roads where development and the street system have largely been built out without adequate active transportation infrastructure put in place. These “infill” projects are often managed by local road authorities, although off-road trails may develop as part of recreation or open space projects. Rochester provides a prime case study in the potential of joint development, where an extensive flood control project developed in the 1980s and early 1990s was paired with extensive park development that incorporated trails along most of the flood control system, resulting in a core network of trails that serves as the backbone of the Rochester trail system.

Figure 12-12 illustrates the Urban Area Active Transportation Network of major regional and major city

**Table 12-1: Objectives for Active Transportation and Alignment with Plan Goals & Planning Factors**

ROCOG Active Transportation Objectives	Overall Goals for 2045 ROCOG Plan	Planning Factors
<ul style="list-style-type: none"> <li>Develop active transportation infrastructure that interconnects cities, major parks and trails, and major destinations within cities</li> <li>Develop enhanced infrastructure in major transit corridors and transit-oriented districts that provides safe and convenient pedestrian and bicycle access to transit and adjacent land use</li> </ul>	<ul style="list-style-type: none"> <li>Improve connections between major destinations and activity centers</li> <li>Support first and last mile multi-modal connections to transit service</li> </ul>	Connectivity/ Integration of Transportation System
<ul style="list-style-type: none"> <li>Provide safe and well-designed corridor &amp; crossing infrastructure for cyclists and pedestrians along major streets</li> <li>Improve perceived safety by providing security enhancements such as pedestrian scale lighting &amp; secure bike parking</li> </ul>	<ul style="list-style-type: none"> <li>Improve safety through mitigation of high risk / high conflict locations</li> </ul>	Safe & Secure Transportation System
<ul style="list-style-type: none"> <li>Prioritize the closure of gaps in bicycle and pedestrian networks and provide an adequate number of crossings across major barriers such as freeways and rivers</li> <li>Ensure residential areas have suitable connectivity to the Active Transportation network</li> </ul>	<ul style="list-style-type: none"> <li>Provide adequate travel options and capacity to serve existing &amp; future land uses</li> <li>Provide convenient access to goods &amp; services, jobs and recreation for all residents regardless of social-economic status, age or physical abilities</li> </ul>	Access/Mobility of People and Freight
<p>Support economic development with active transportation infrastructure by:</p> <ul style="list-style-type: none"> <li>Improving connections to and through Downtown Rochester</li> <li>Expanding network connections into new growth areas</li> <li>Development of facilities that support biking and walking tourism</li> </ul>	<ul style="list-style-type: none"> <li>Provide travel options to serve future growth areas</li> <li>Support Implementation of DMC Development Plan</li> </ul>	Economic Vitality
<ul style="list-style-type: none"> <li>Adequately fund the preservation of the active transportation system</li> </ul>	<ul style="list-style-type: none"> <li>Maintain State of Good Repair through systematic maintenance</li> </ul>	Preservation of System
<ul style="list-style-type: none"> <li>Identify and implement actions to support and promote alternative modes of travel</li> </ul>	<ul style="list-style-type: none"> <li>Educate &amp; motivate individuals through programs &amp; services that make it easier to commute by active modes</li> </ul>	System Management and Operations



corridors existing or planned for the Rochester Urban Area.

- **Regional Corridors** (solid or dotted red lines/see map legend) are intended to provide routes that can serve trips that may cross the city as well as provide access to major destinations within Rochester, connecting major employers, major educational facilities, and community or regional parks and recreation sites throughout the city.
- **Major City Corridors** (shown in solid or dotted blue lines/see map legend) are intended to serve travel between quadrants or sectors of the city not served by a regional corridor, which can provide route continuity across multiple neighborhoods or non-residential districts, or serve as the connection between local neighborhoods and regional trails or routes.

Figure 12-12 also identifies various types of study corridors or study areas where the potential for implementing active transportation infrastructure needs further evaluation to determine possible alternatives, whether development of such infrastructure is feasible, and whether investment will serve an important travel need. The designation of corridors in the Active Transportation Network was informed by the existing Rochester Bicycle Master Plan, adopted in 2012 and being updated in 2020, P2S 2040, the 2016 Rochester

Parks & Recreation System Plan, and various downtown area planning efforts over the last 10-12 years.

The plan also identifies a limited number of locations where critical corridor needs have been identified and would benefit from further study. Some of these locations were identified in response to safety concerns; others were identified due to existing barriers to network connectivity that if overcome would benefit users of the system.


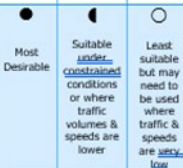










The use of regional and major city classifications is intended to provide a framework for understanding a given corridor's function and importance in the overall active transportation network. Network classification helps to identify critical routes that will facilitate the creation of an overall connected, desirably low-stress, network. Regional corridors should be viewed as having the highest importance in the area, and active transportation accommodations should be prioritized in discussions related to limited space and designed to a higher standard. The primary network of regional and major city corridors should be intuitively understandable and comfortable for most if not all users seeking to travel to key destinations in the community due to directness of travel and limited route interruption.

Assignment of corridors as a regional or major city corridor does not imply a specific type of design. From a design perspective, the Active Transportation System

Plan represents a strategic plan and definition of design will be made during the project development process when an active transportation corridor has been prioritized for development and funding has been programmed to begin project development.

However, general guidance on the type of facilities that are appropriate for regional corridors (corridors outside the planned urban area) as well as urban regional and major city corridors is provided in Figure 12-13. A “Corridor Design Toolbox” is provided to lend direction to decisions regarding the level of separation from vehicular traffic that is deemed appropriate for regional and major city active transportation facilities. The type of user to be accommodated and the environment in which a corridor is developed will help to determine the ultimate design. Where high speed or high volume traffic exists, a higher level of separation and protection for pedestrians and cyclists will likely be warranted; but where traffic impacts are minimal or where the users to be accommodated are more skilled, a corridor may be a candidate for a less stringent design standard and still meet the intent of the plan. In Figure 12-13 a range of facility types deemed suitable for consideration in a given type of corridor are identified, with final determination of the appropriate design type arrived at during the project development process.

**Figure 12-12: Design Toolbox for Active Transportation Corridors**

Corridor Design Options							
Facility Type	Regional Network	Urban Regional Corridors	Urban Major Corridors	Facility Type	Regional Network	Urban Regional Corridors	Urban Major Corridors
<b>Multi Use Trail</b> 	●	●	●	<b>Legend</b> 	●	●	●
<b>Dual Path Facility</b> 	NA	●	●			●	●
<b>Shoulder Bikeway</b> 	●	○	○	<b>Buffered Bike Lane</b> 		●	●
<b>Shared Use Path</b> 	●	●	●	<b>Shared Street</b> 		●	●
<b>Protected Bike Lane (1-Way)</b> 		●	●	<b>Standard Bike Lane</b> 		○	●
<b>Protected Bike Lane (2-Way)</b> 		●	●	<b>Neighborhood Greenway</b> 		●	●
				<b>Shared Travel Lane</b> 			○

## Regional Area Active Transportation System Plan

The Regional Active Transportation Network Plan focuses primarily on corridors that will most likely attract cyclists, in-line skating enthusiasts, or others for which greater travel distances are not a deterrent. Pedestrians may find these facilities attractive when located in proximity to suburban residential areas, or when accessed from a regional park or recreation facility where travel distances between origin and destination are not so great.

When thinking about the regional active transportation network, there are multiple tiers of facilities that provide service to different user groups.

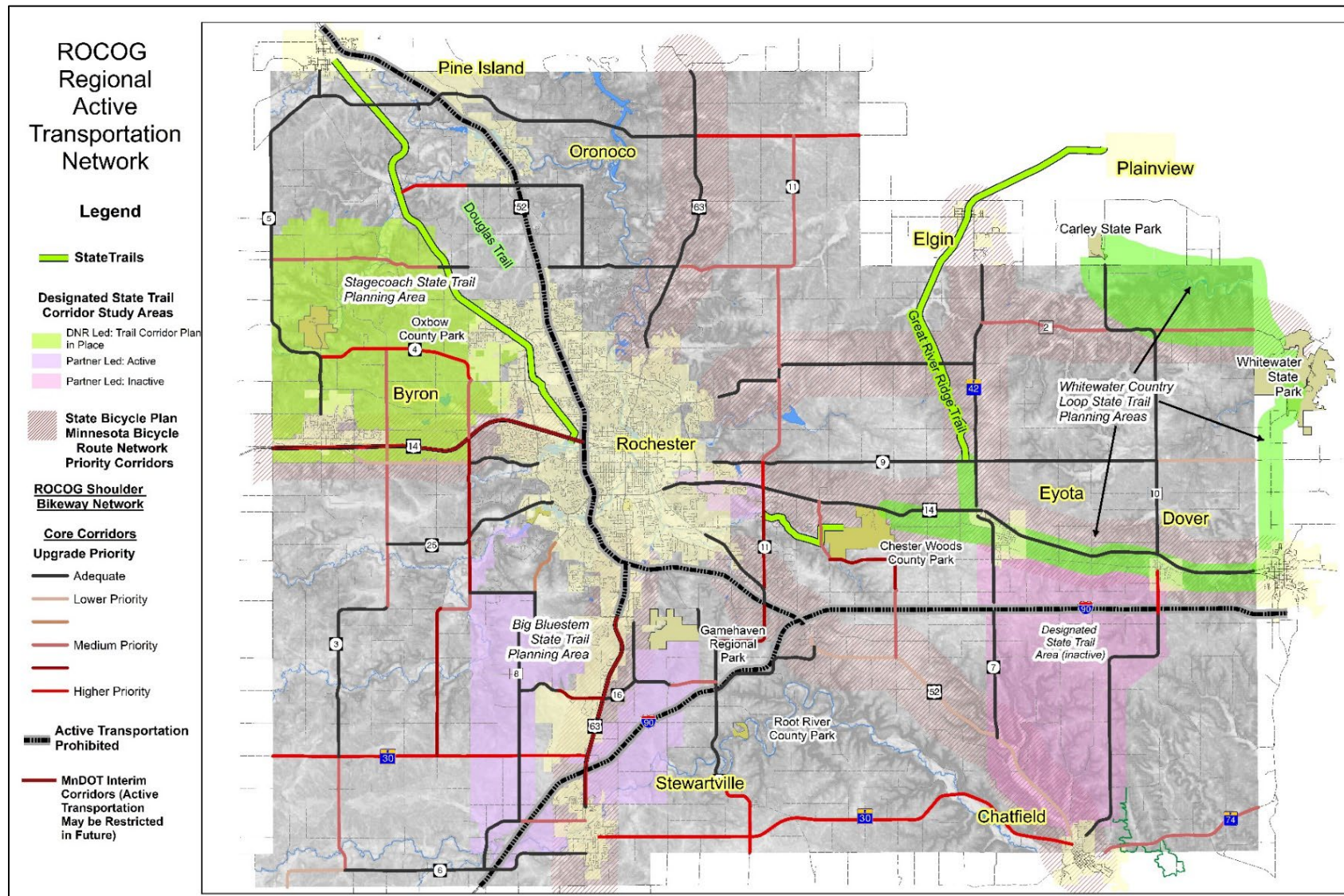
- State Trails, such as the Douglas Trail, connect population centers and major regional park facilities. The system plan identifies both existing State Trails and "State Trail Planning Areas" where interest in developing future state trail connections has been recognized through state legislative action.
- The Minnesota State Bicycle Network Plan, developed by MnDOT in 2018, identifies a series of travel desire lines that will provide service within regions of the state and provide state level guidance to national network development within the state. MnDOT District Bicycle Plans refine the state plan by identifying highway corridors where the goal is to

enhance the roadways with safe and well-maintained paved shoulders for non-motorized travel, connecting towns and cities and/or regional attractions throughout the state. In some instances, off-road trails or paths may be incorporated into this network where feasible.

- The ROCOG Shoulder Bikeway Network reflects approximately 150 miles of roadway where the goal is to provide paved shoulders of adequate width to provide a minimum level of non-motorized access to/from all areas with the ROCOG Planning region. This network of roads and highways will likely be most attractive to experienced bicyclists who are comfortable riding along with vehicle traffic.

Figure 12-14 highlights the Active Transportation Network Plan for the regional ROCOG area, reflecting the components of State Trails, the MnDOT State Plan, and the Regional Highway Shoulder Network. These facilities serve as an investment in health and recreation and a potential boost to local economic development where communities and businesses choose to enhance connections to the system. Along with Rochester, many of the smaller communities in the ROCOG Area are also working on local trail connections to these facilities.



**Figure 12-13: Regional Active Transportation System Plan**

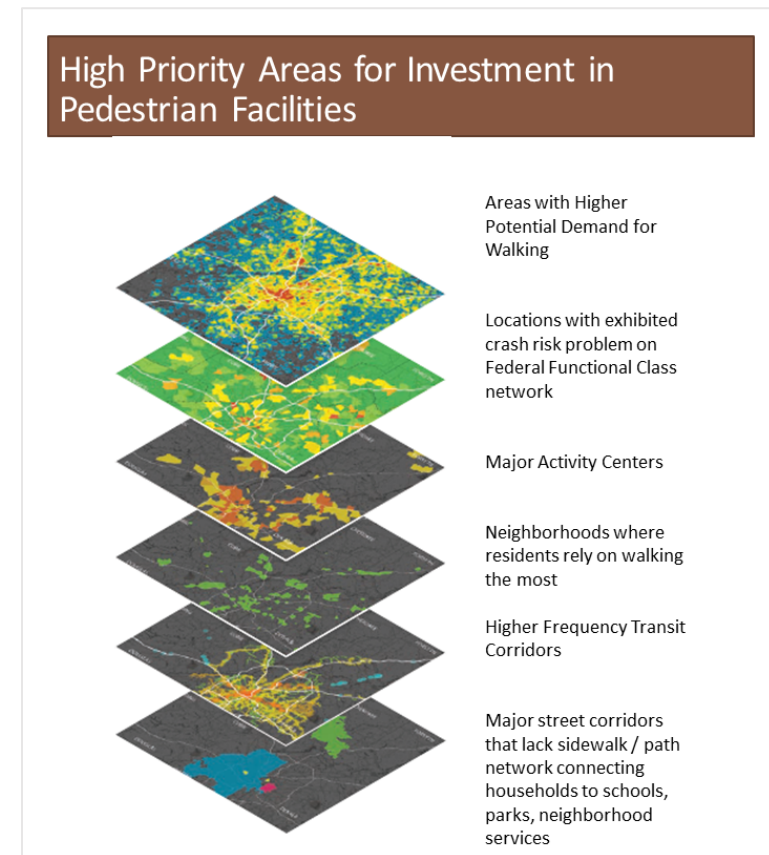
## Rochester Urban Area: Pedestrian Improvement Areas

Encouraging pedestrian travel is a socially, economically, and environmentally responsible and healthy approach to improving the performance of our transportation system. In addition to community efforts to develop sidewalk and pedestrian enhancements on local street networks, providing safe and comfortable facilities along major streets, transit corridors, and in major activity centers is important for access and mobility.

The ROCOG Plan focuses on two major elements in its identification of pedestrian improvement areas. The first is providing pedestrian connections to transit in order to maximize the value of public investment in transit and support its success, particularly the new Downtown Rapid Transit system and proposed Primary Transit Network described in Chapter 11. Both of these systems represent a substantial investment in transit infrastructure, and for those services to attract users, pedestrian infrastructure is critical. The other core area of concern for ROCOG is pedestrian infrastructure along the major street network; here issues relating to connectivity and continuity of the network are of primary importance, along with safety. While limited funding is available through the Transportation Alternatives program, it is important for ROCOG to plan for pedestrian improvements that will

serve to advance multi-modal travel along roadways and transit corridors where other funding opportunities exist.

**Figure 12-14: Types of Federal Pedestrian Investment**



## Transit Network Pedestrian Improvements

Figure 12-16 illustrates the planned network of transit corridors to be known as the Primary Transit Network



(PTN) that will be served with higher frequency, higher capacity Bus Rapid Transit over time as planned transit-supportive land use patterns emerge to support the Central Business District/Destination Medical Center economic development vision. These corridors are envisioned to provide a wider range of housing choices and business location options in corridors served by frequent transit. Access to the PTN will be provided at stations generally located 1/3 to 1/2 mile apart. For residents, workers, and visitors, good pedestrian connections to stations will be a necessity.

An analysis was completed looking at the types of pedestrian infrastructure that would benefit the vision of transit supportive land use in general and service to transit stations in particular. Three types of improvement packages are anticipated:

1. The most basic improvement need will be to eliminate gaps in the existing sidewalk or walking path network along the PTN corridors. These areas are highlighted in black in Figure 12-17.
2. The immediate walkshed around proposed stations areas will benefit from and enhanced level of pedestrian amenity, including lighting, landscaping and crossing safety improvements. Potential station areas were identified on Figure 12-17 to understand approximately how many stations there would be; actual locations would be determined as part of PTN development.
3. Along the PTN network, the City of Rochester has identified certain areas as Transit Oriented Development nodes, which will benefit from the highest level of pedestrian amenity including station-oriented improvements as well as wider walkways and accommodation of activity such as sidewalk cafes.

Figure 12-16 provides examples of the types of improvements that can be expected in the immediate vicinity of stations as well as along PTN corridors traversing through a Transit-Oriented Development node.

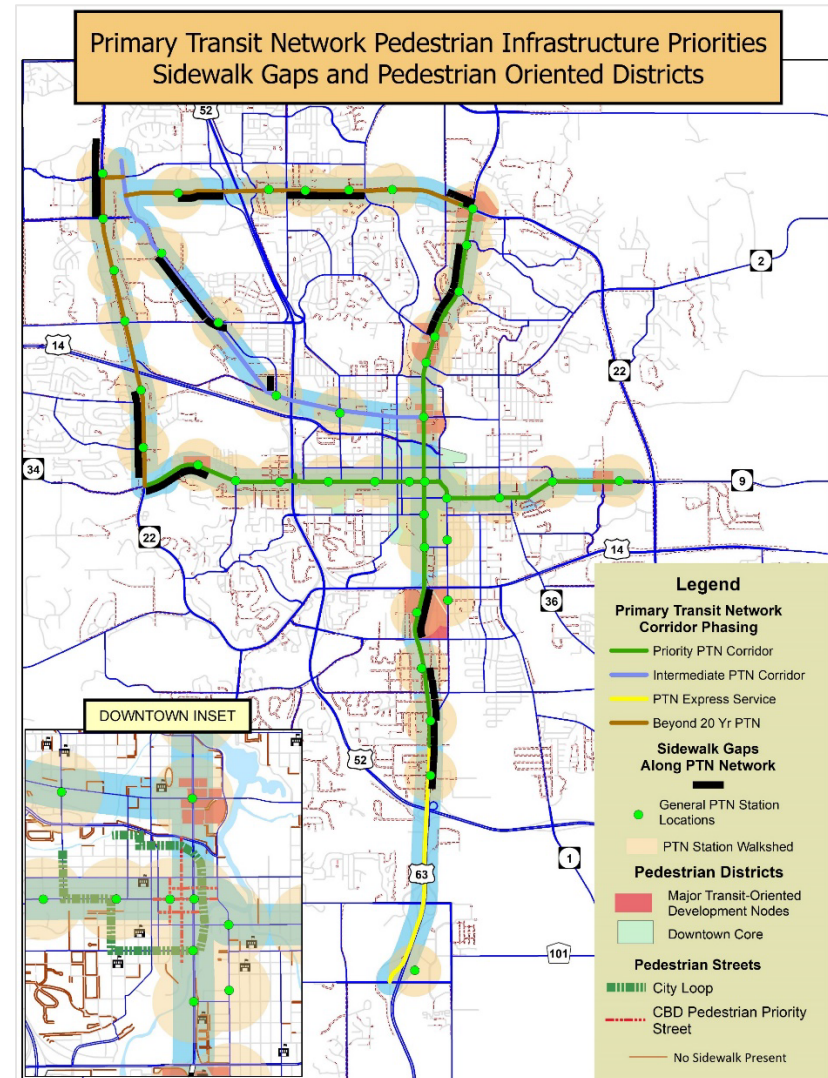
It is expected that much of the pedestrian infrastructure associated with the PTN will be developed as part of the development of this Bus Rapid Transit service, with costs incorporated into that project and potentially funded by federal transit funds that are available for BRT development.

Many of the missing sidewalk segments shown in Figure 12-17 are a legacy of commercial, industrial, and residential development that occurred at a time when development regulations did not require sidewalk installation as part of the basic package of site improvement requirements. Others are due to past policy for major roadway corridors that did not include construction of pedestrian facilities when private properties did not front directly on the highway.

**Figure 12-15: Examples of Pedestrian Improvements Along Major Transit Corridors**



**Figure 12-16: Primary Transit Network Pedestrian Investment Priorities**



## Walkway Improvements Along Major Streets and Supporting Transit Investment

Walkway needs along the major street network are primarily a legacy of historic development policies. As a result, there are a number of areas in the Rochester urban area where gaps exist in terms of sidewalks or multi-use paths along arterial or collector streets. Figure 12-18 illustrates major street corridors without some type of pedestrian accommodation in the Rochester urban area. The City of Rochester adopted a policy in 1990 that all new development is required to install sidewalk facilities at the time of development, which has helped to minimize creation of additional areas where sidewalk is not available for users.

Multiple avenues exist for providing pedestrian sidewalks or multi-use paths in the locations identified. One of the main opportunities in areas that have been built out is when streets need reconstruction or major rehabilitation, which allows for adjustments in cross section design that will allow for accommodation of pedestrian facilities. Other opportunities include private development of properties that front on major streets lacking sidewalks or paths, where facilities can be incorporated into the site development process. In certain cases, the development of public facilities such as schools or parks can also facilitate pedestrian facility development.

**Figure 12-17: Pedestrian Improvement Priorities Along the ROCOG Major Street Network**

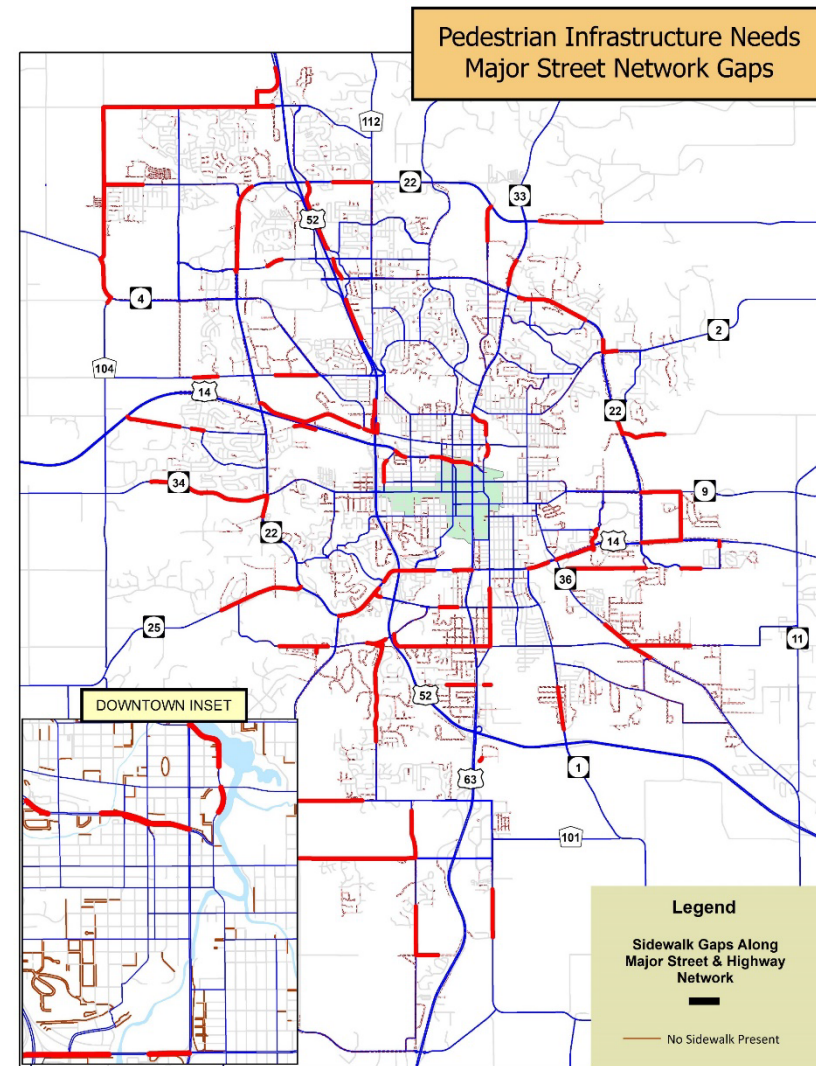




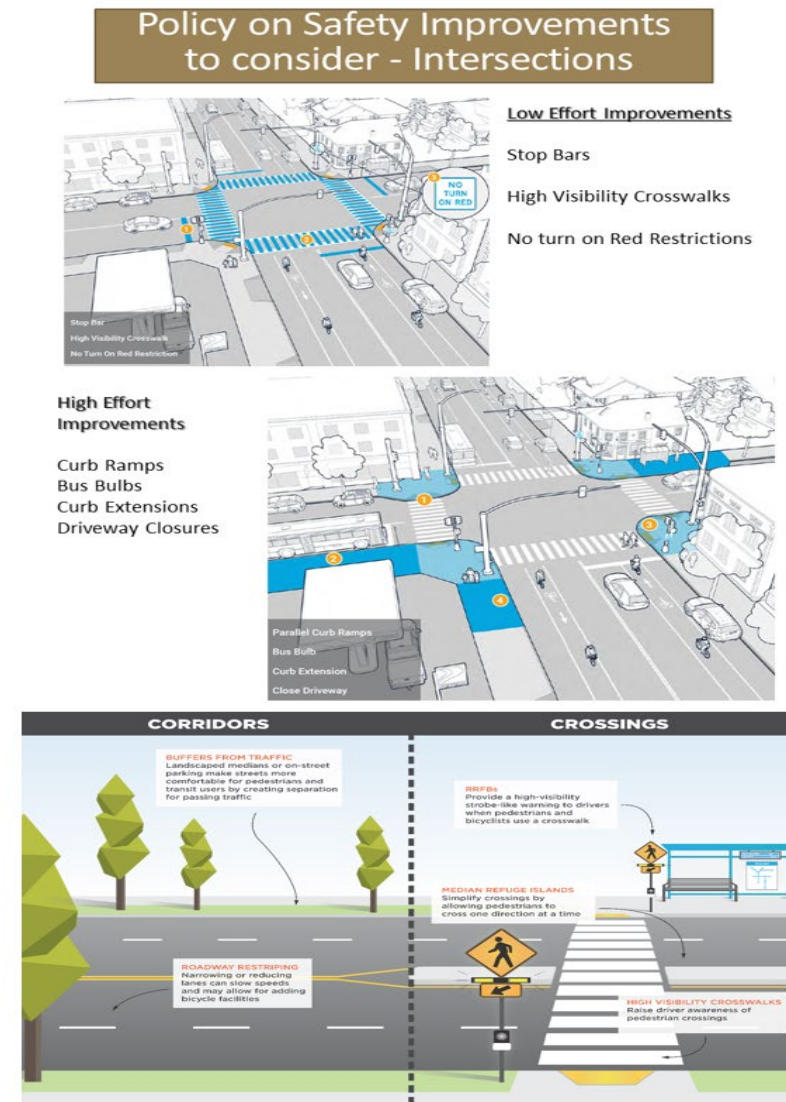
Figure 12-18 is intended to serve as a starting point to identify areas where the City of Rochester will need to work with landowners or state and county road authorities to confirm whether a viable funding plan to install sidewalks can be identified, and whether a sidewalk facility is in fact constructible at a reasonable cost in the locations identified.

Along arterial and collector streets, safety is an important concern and pedestrian or path projects provide an opportunity to address safety considerations as an integral part of project development. Figure 12-19 illustrates some principles and approaches to enhancing safety that should be considered when projects along arterial and collector roads are designed.

## MnDOT Statewide and District Bicycle Plans/DNR State Trails

The MnDOT Statewide Bicycle System Plan (SBSP) was adopted in 2016 sets out an ambitious vision and goals to improve safety, convenience and comfort for local, regional, and statewide bicycle trips in Minnesota. The State Bicycle Plan network plan identifies broad travel corridors that envision connections linking destinations throughout the state by bicycle. The statewide plan does not define the actual facilities that will form these connections, that work is accomplished through district level bicycle plans. As shown in Figure 12-20, the statewide plan does prioritize corridor development, with

**Figure 12-18: Examples of Pedestrian Intersection and Mid-Block Improvements**



State Priority Corridors (shown in blue) as the highest priority improvement. Not all corridors will exclusively use State Highways; development of actual facilities depends on finding comfortable and direct connections and working to make those happen with local and regional partners.

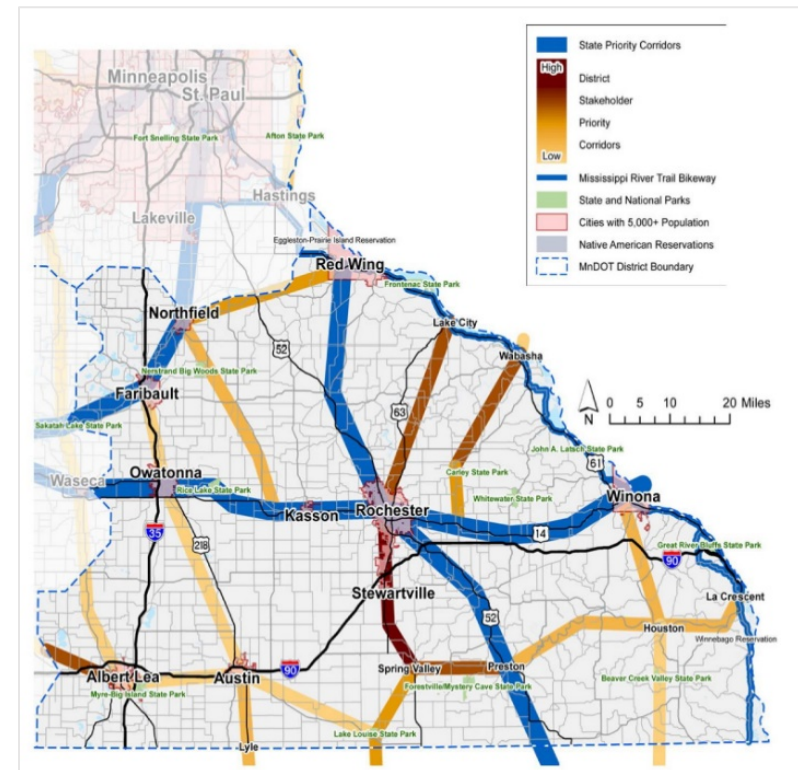
Rochester serves as a fulcrum for connecting many routes in Southeast Minnesota as seen in Figure 12-21. It is expected that given the limited access available to the TH 52/63/14 corridors, there will be a need to utilize regional corridors defined in the urban network plan to facilitate completion of this vision.

## District 6 Bicycle Plan

The District 6 Bicycle Plan builds off the Statewide Bicycle Plan by identifying specific Bicycle Investment Routes within the search corridors specified in the Statewide Plan. Bicycle Investment Routes are planning tools that will guide future investments in bicycle facilities across the District. They are not intended to be used as navigational tools, except when designated and mapped as State Bikeways and/or U.S. Bicycle Routes.

MnDOT staff coordinated with local partners to develop these routes to better understand where it is most appropriate to make investments in bicycle infrastructure throughout District 6. A prioritization exercise was completed to see where Bicycle Investment Routes may

**Figure 12-19: SE Minnesota Regional Priority Corridors**



overlap with projects in MnDOT's Capital Highway Investment Plan. Overlap with CHIP projects provides an opportunity to incorporate bicycle route improvements into highway improvement projects at a lower cost than completing work as a free-standing project. In Olmsted County, two such potential projects were identified:

- Highway 30 east of Stewartville



- Highway 30 through Stewartville

Other corridors that ranked highly based on other prioritization factors included

- CSAH 1 from TH 52 to Simpson
- CR 143/CSAH 36 from Chester Woods Park to Rochester
- CSAH 2 from CSAH 11 to CSAH 22
- CSAH 33 from TH 63 south to 37th St NE
- CSAH 34 from CSAH 22 to CR 104

Most of these local corridors found on county roads provide the equivalent of “last mile connections” from the projects identified in the State CHIP. The City of Rochester trail system effectively provides connectivity between the MnDOT regional network and the Rochester Urban Area Active Transportation Network.

ROCOG in developing its Regional Active Transportation Network (Figure 12-14) has accommodated these investment routes to the greatest degree possible as part of the ROCOG Shoulder Bikeway Network.

## Southeast Minnesota State Trail System

Southeast Minnesota is home to some of the most popular state trails in Minnesota. In Olmsted County, the Douglas Trail linking Rochester and Pine Island and the Great River Ridge Trail between Eyota and Plainview are part of a growing network of trails being developed to

**Figure 12-20: MnDOT District 6 Bicycle Investment Routes**



foster recreation opportunities and economic development in the southeast part of the state. Work is scheduled to finish the last segment of the Chester Woods Trail between Eyota and Chester Woods Park, and Rochester has programmed the completion of the last segment of the Chester Woods system west of the park

that will connect with the City of Rochester Trail Network, opening up bicycle access to Chester Woods Park for residents of Rochester.

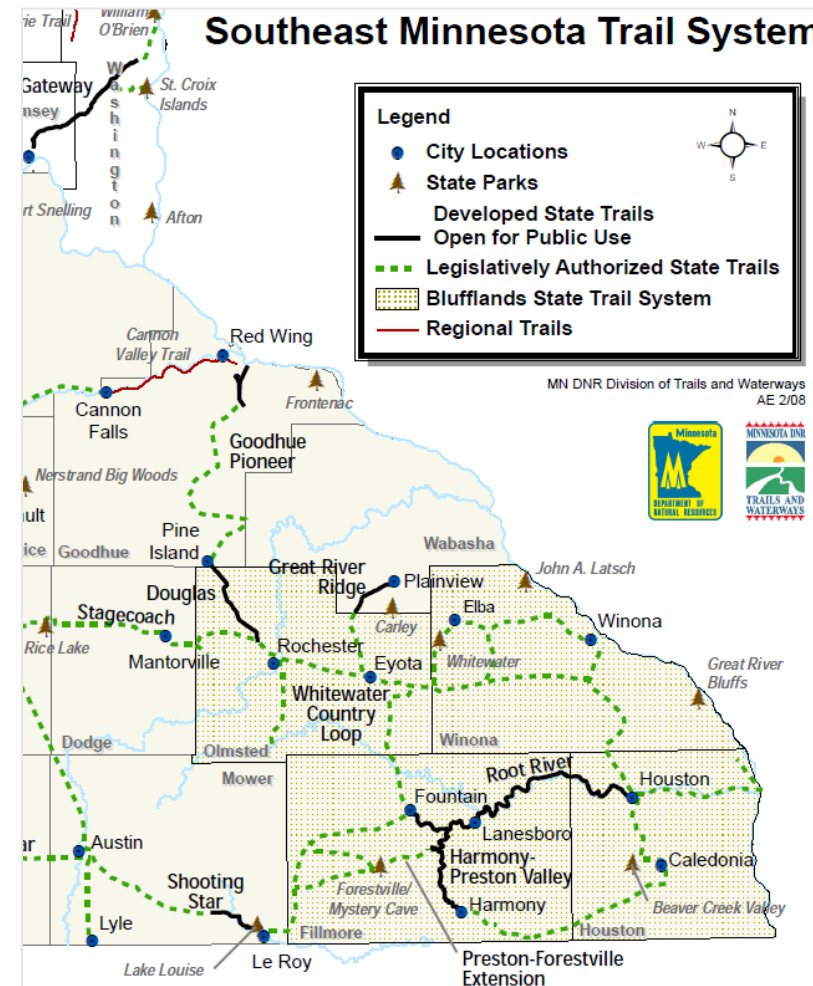
The Chester Woods Trail is part of a planned 50-mile loop known as the Whitewater Country Loop Trail that will connect Rochester, Eyota, Dover, St Charles, and Whitewater State Park. Another project in the active planning stage is the Stagecoach Trail, which ultimately will provide a connection from Rice Lake State Park near Owatonna to Rochester.

The Inter-Regional Bikeway Network Map for Southeast Minnesota developed by Department of Natural Resources (DNR) is shown in Figure 12-22. It illustrates regional trail connections between existing or planned urban area bikeways and the future inter-regional bikeways in the ROCOG area. Routes shown on this map correspond with corridors and communities that have been designated in state legislation as part of the Blufflands State Trail System, making facility development ultimately eligible for state trail funding.

Certain corridors that are included in the Blufflands State Trail System have been designated as partner led projects, which means that expectations are for the local community to lead initial planning for these corridors. In the ROCOG area, the connection between Stewartville and Rochester, known as the future Bluestem Trail, and

the unnamed corridor connecting Chatfield, Dover and Eyota, have been designated as partner led projects.

**Figure 12-21: Southeast Minnesota Trail System**



Other projects such as the Stagecoach Trail and parts of the Whitewater Country Trail have been handed to the MnDNR to lead project development.

The ROCOG Regional Active Transportation Plan incorporates all the various state trail projects into its recommendations, appropriately reflecting the status of projects that are well into project development versus those that are in the early planning stages. To summarize, the status of the various projects includes:

- Chester Woods Trail connection east of Rochester has been funded and is under construction and expected to be completed in 2020
- Stagecoach Trail connection is still in the planning stage and expected to be funded in near future
- Bluestem Trail connection is in the initial stages of planning and expected to form a trail group to work together to take it to the next stage of planning
- Chester Woods Trail extensions from Chester Woods park east to Eyota and Dover are awaiting final route determination and funding

### Active Transportation Project Implementation

In this section, implementation of the potential universe of active transportation projects suggested by the various network plans presented in the chapter is considered.

Four major facility implementation plans for bicycle and pedestrian facilities are recognized and recommended to guide active transportation development as part of the ROCOG Long Range Transportation Plan. These facility implementation plans include:

- Rochester Urban Area Active Transportation Network Map (Figure 12-12)
- Regional Area Active Transportation System Plan (Figure 12-14)
- Primary Transit Network Pedestrian Investment Priorities (Figure 12-16)
- Major Street Network Pedestrian Investment Priorities (Figure 12-18)

To understand the magnitude of financial effort that would be needed to implement the potential projects suggested by these plans, an analysis was completed that identified the scope of potential projects suggested by the plan, estimated what the cost of project implementation would be, and assessed whether there was opportunity through some project mechanism other than a freestanding bicycle or pedestrian project where the work could be incorporated into another project.

### Implementation of Urban Area Projects

Federal guidelines require MPOs to include a fiscal constraint analysis to demonstrate that there is a reasonable and credible balance between the expected

revenue available for transportation investment and the estimated costs of the facility projects. The findings and conclusions of the fiscal constraint analysis for all modes will be presented in Chapter 15. However, in this chapter, the basics related to project costs and implementation options will be discussed. The urban area analysis will focus on the project concepts suggested on the following three system plans:

- Rochester Urban Area Active Transportation Network Map (Figure 12-12)
- Primary Transit Network Pedestrian Investment Priorities (Figure 12-16)
- Major Street Network Pedestrian Investment Priorities (Figure 12-18)

Figure 12-23 illustrates the location of various projects suggested by the network plans. A total of 83 projects are identified. Different project groups are color-coded to indicate the type of project anticipated:

- Multi-Use Pedestrian-Bicycle Facility (green lines)
- Pedestrian-Only Facility (red lines)
- Bicycle-Only Facility (light purple)
- 400 Series Projects(Future Study Areas): The map will only show the project number in the general study area proposed to be investigated

- 300 Series Projects (Crossing Improvements): The map will only highlight the location of high priority crossing improvement needs that were identified in the plans.

Table 12-2 provides high level information about each project, including its endpoints, a short description of the anticipated project concept, and a preliminary estimate of development costs.

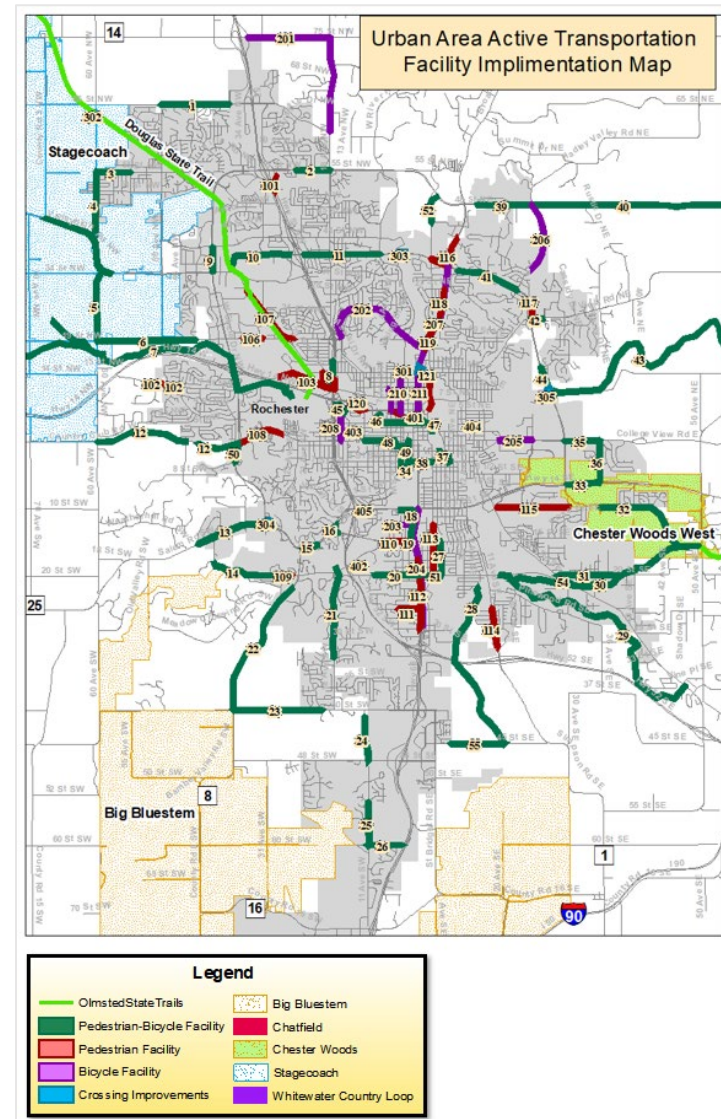
Table 12-2 also provides an assessment of how implementation of projects may be facilitated. A total of nine implementation paths or mechanisms were identified that potentially could lead to construction of a project. These nine paths included:

1. Construction of a project as a free-standing active transportation project
2. Construction of active transportation improvements as part of a larger street reconstruction project
3. Construction of improvements as part of a transit capital project such as segments of the PTN network
4. Implementation of active improvements as part of a Complete Streets project. Complete Streets projects involve road preservation short of complete reconstruction (covered under #2) where work such as a pavement mill & overlay provide opportunity to reallocate pavement space



5. Construction of improvements as part of an intersection improvement project
6. Construction of improvements as part of private land development
7. Construction of improvements as part of a Safe Routes to School project
8. Construction of improvements as part of a Rochester sidewalk improvement program project
9. Construction of improvements under the auspices of the Destination Medical Center.

**Figure 12-22: Rochester Urban Area Active Transportation Project Concepts**





**Table 12-2: Urban Area Active Transportation Project Summary**

MapID	Location	Endpoint	Endpoint	Description	Cost
<b>Active Transportation Projects</b>					
14	CR 125	Stonegate Dr SW	Zumbro River Trail Trailhead	(Local Network) Construct future multi-use path on north side of corridor; included on project list due to connectivity to Regional Active Transportation corridor (Zumbro River Trail)	\$1,080,000
27	CP Railroad Spurline SE	20th St SE	16th St SE	Construct trail along CP Rail Spurline corridor with path along 16th St SW from spurline to 3rd Ave SE	\$504,000
32	Chester Woods Trail	Towne Club Parkway	CSAH 11	Construct Chester Woods trail connection from Towne Club Parkway east to CSAH 11	\$1,581,800
54	CSAH 36	Melrose St	30th Ave SE	Construct path along south/west side to interconnect system	\$500,000
28	Willow Creek Trail	Willow Creek Middle School	CR 101/45th St SE	Construct Trail following along alignment of Willow Creek. This project may be implemented in phases given its cost. Logical breakpoints for phases include: 1) 28th or 30th St SE south to CR 101 / 45th St 2) 28th or 30th St SE north to Willow Creek Middle School 3) End of CP Rail Corridor at 20th St south to trail @ <u>approx 25th St</u>	\$3,518,250
107	Valleyhigh Dr NW	19th St NW	Douglas Trail Bridge	Construct pedestrian facility along northeast side of Valleyhigh Dr to improve access to trail & transit network as well as neighborhood destinations	\$368,500
9	CSAH 22 West	CSAH 4	41st St NW	Construct multi-use path on east side of corridor	\$480,000
11	37th St NW	West River Rd	TH 52 East Frontage Rd	Construct multi-use facility for pedestrians and low speed two wheeled vehicles on north side	\$1,440,000
33	TH 14 East	CSAH 22 East	36th Ave SE	Construct multi-use path or trail improvement along north side of TH 14 East to connect City Trail Network to park facilities & neighborhood via signalized intersection at TH 14 / CSAH 22 East	\$387,500
37	Riverside School Trail Connector	4th St SE	6th St SE via 7th Ave	Construct trail along south side of Bear Creek from 4th ST SE bridge over Bear Creek to 7th Av SE	\$193,750

## 12 • Active Transportation

MapID	Location	Endpoint	Endpoint	Description	Cost
41	CSAH 22 East	6th Ave NE	Stonehedge Dr	Construct multi-use path along south side of East Circle Dr	\$780,000
44	CSAH 22 East	Century Hills Dr (south end)	Silver Creek Rd	Construct path or trail connection along east side of CSAH 22 to provide access to Silver Creek Trail including safety crossing enhancements	\$273,000
PC	CP Spurline Development	12th St S	16th St S	Public Comment suggested development of path along corridor after it is decommissioned from 16th St into downtown. Staff recommendation is to consider development of trail from 12th St to 16th St SE	\$417,000
R	Chester Woods Trail East	Chester Woods Park	St Charles	Construct State Trail facility connecting Chester Woods Park to Eyota	\$2,780,000
R	Great River Ridge Trail	CSAH 9	Chester Woods Trail	Connect Great River Ridge Trail south of CSAH 9 with future Chester Woods Trail	\$2,112,200
18	Broadway Ave S TH 14 W	12th St to Broadway Av to.	14th St SW Crossroads Dr	Construct multi use path across north and east side of Crossroads Shopping Center	\$700,000
29	Badger Run	20th St SE Bridge over Bear Creek	CSAH 36 near Ranch Ct SE	Construct future trail along Badger Run	\$4,980,000
30	Bear Creek Trail	20th St SE Bridge over Bear Creek	Chester Woods Trail at CSAH 11	Construct future trail along Bear Creek from confluence with Badger Run to future Chester Woods Trail	\$3,300,000
43	Silver Creek Trail Extension	Quarry Hill Park	Haverhill Twp Reservoir	Construct future trail along Silver Creek corridor from Quarry Hill Park to Haverhill Township Reservoir	\$4,800,000
45	Cascade Creek Trail	End of Trail near Tennis Club	Trail end under NB off ramp TH 52	Construct connection between Cascade Creek Trail in Kutzky Park & existing trail along NB off-ramp of TH 52 at Civic Center Dr	\$531,000

MapID	Location	Endpoint	Endpoint	Description	Cost
401	North Broadway	6th St N	2nd St North	(EVALUATION NEEDED) Connect North Broadway Protected Bike Lanes to City Loop	
R	Chester Woods Trail East	Chester Woods Park	St Charles	Construct State Trail facility connecting Eyota to Dover and St Charles	\$5,386,250
R	Stagecoach Trail / Olmsted County	West County Line	City Trail Network	Routing undetermined at this time but options for connection to Rochester / Olmsted County trails would include: 1) connect to proposed city trail at Reservoir KR-7/KR-3 along CR 151 west of 60th Ave NW 2) connect directly to Douglas Trail near Douglas or west of Oronoco	\$6,255,000
7	Cascade Creek	Cascade Lake Recreation Area	Kalmar Twp Reservoir	Construct trail from West Circle Drive to Reservoir KR-3 or KR-7; provide on-road or off-road connection to Cascade Lake Recreation area east of CSAH 22; develop crossing of CSAH 22	\$6,120,000
<b>Street Reconstruction Projects</b>					
1	65th St NW	34th Ave NW	50th Ave NW	Construct Multi-Use Path on south side of corridor	\$1,200,000
4	CR 104 (CSAH 44) CSAH 4	34th St NW to ~55th Av NW to	55th St NW CSAH 3	Construct multi-use path on east side of 60th Ave from CSAH 4 to 55th St (1 mi); on west side of 60th Ave along existing Pebble Creek development from 51st St to 55th ST (0.3 mi); grade for future paths along remainder of project	\$3,132,500
20	20th St SW	Broadway Ave	CR 125 / Mayowood Rd	Construct multi-use facilities for pedestrians and two wheeled vehicles along 20th ST SW	\$1,146,000
211	Broadway Ave N	6th St N	14th St NW	Develop protected bicycle lanes on North Broadway	\$648,000
301	Broadway Ave N	Zumbro River Bridge		Add pedestrian and bicycle crossing improvements to North Broadway Bridge	\$1,187,500

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MapID	Location	Endpoint	Endpoint	Description	Cost
303	37th St NE	Zumbro River Bridge		Construct pedestrian and bicycle bridge crossing improvements at 37th St bridge over Zumbro River	\$725,000
39	48th St NE	CSAH 33	Hadley Valley Rd	Construct multi use path or trail from end of current path to Hadley Creek Rd NE	\$960,000
55	CR 101 45th St SE	East Boulder Ridge Dr	Gamehaven Park entrance	Construct multi-use path along 45th ST SE / CR 101 to connect Gamehaven Regional Park and areas west to future Willow Creek trail	\$960,000
118	Broadway Av N	24th St NE	27th St NE	Construct pedestrian infill facilities along west side of North Broadway	\$201,000
119	Broadway Av N	Elton Hills Dr	23rd St NE	Construct pedestrian infill facilities along west side of North Broadway from Elton Hills Dr to 23rd St NE	\$351,000
5	CR 104 (Future CSAH 44)	19th St NW	34th St NW	Construct multi-use path on east side of corridor	\$1,260,000
6	19th St NW	Ashland Dr NW	60th Ave NW	Construct multi-use path on north side of corridor; sidewalk on south side with development	\$2,553,750
10	37th St NW Extension	TH 52 Interchange	Douglas Trail	Construct multi-use path or trail across north side of former IBM Campus	\$1,200,000
21	18th Ave SW	32nd St SW	CR 125 / Mayowood Rd	Construct multi-use path on one side with connection north of Mayowood Rd to Zumbro River Trail	\$2,430,000
38	City Loop SE / 6th St SE	Broadway Ave	3rd Ave SE	Construct multi-use dual track trail from Broadway to east side of Zumbro River and pedestrian and bicycle accommodations as part of future extension of 6th St SE	\$500,000
40	48th St NE	Hadley Valley Rd	CSAH 11	Construct future multi use path on one side of 48th St from Hadley Creek Rd to CSAH 11	\$3,600,000
52	East River Rd	44th St NE	CSAH 22 N	Construct trail or path along one side of East River Road	\$540,000



MapID	Location	Endpoint	Endpoint	Description	Cost
101	East Frontage Rd TH 52	55th St N	Pennington Court	Develop pedestrian facility along East Frontage Rd	\$83,750
120	Civic Center Dr	4th Av NW to 11th Ave to	6th Ave NW 16th Ave NW	Construct pedestrian infill facilities along south side of Civic Center Dr between 4th and 6th Ave NW and between 11th Ave and 16th Ave NW	\$117,250
R	TH 14 E	CP Railroad Overpass	near Chester Woods Park	Correct shoulder width deficiency on TH 14 under railroad overpass	\$562,500
115	Eastwood Rd SE	CSAH 36	Felty Dr	(Local Network) Construct multi-use path or trail along Eastwood Rd SE to connect area with sidewalk, path and trail networks along Marion Rd and Towne Club Pkwy to serve existing /future residential development	\$1,284,000
204	Broadway Ave S	12th St South	28th St S	Develop bicycle accommodations along South Broadway consistent with 2015 Broadway Corridor Study	\$2,100,000
207	Broadway Ave N	14th St NE	37th St NE	Develop bicycle accommodations along North Broadway consistent with 2015 Broadway Corridor Study	\$1,800,000
302	Douglas Trail	60th Ave NW		Construct bridge overpass for Douglas Trail over 60th Ave NW	\$1,375,000
405	CSAH 22 / TH 14-52 Interchange	Memorial Parkway	Fox Valley Dr	(EVALUATION NEEDED) Develop option for pedestrian/bicycle travel across TH 14/52 along or paralleling Salem Rd/12th St SW corridor	
201	TH 63 North & 18th Ave NW	TH 52 N to Overland Dr to	18th Ave NW TH 63 N	Construct bicycle focused improvements along TH 63 from TH 52 to 18th Ave and along 18th Ave from TH 63 to Overland Dr	\$3,180,000

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MapID	Location	Endpoint	Endpoint	Description	Cost
PC	16th St SW	Zumbro River Bridge	CSAH 8	Public comment was to improve 16th St SW for two-wheel travel through Apache Mall area and west to CSAH 22. Staff recommendation is for initial step to improve Zumbro River Bridge through reconstruction or cantilever of path facility off bridge to improve access to Apache Mall to/from east (including Zumbro River trail on east side of river)	\$725,000
<b>Transit Corridor Projects</b>					
19	Broadway Ave S	14th St SW	16th ST SW	Construct multi-use path along west side of South Broadway	\$232,500
108	2nd St SW	CSAH 22W	West Transit Village <i>(proposed)</i>	Construct pedestrian facility along north side of 2nd St SW to provide interconnected pedestrian network	\$224,450
112	Broadway Ave S	18th St SW	28th St SW	Construct pedestrian infill improvements along west side of South Broadway	\$780,000
<b>Complete Streets / Complete Corridor Projects</b>					
12	CSAH 34	CSAH 22 West	CR 104	Construct future multi-use path on south side of corridor	\$2,640,000
15	CSAH 22/25 West	CSAH 8	Carriage Dr SW	Construct multi use path along south side of CSAH 22/25 to provide residential area connection to River Trail network	\$232,500
16	16th St SW CSAH 22/25	CSAH 22 /25 to 16th St to	Greenview Dr E Greenview Dr W	Construct path or trail along south/west side of 16t St and south/east side of CSAH 22/25 to provide access to safe crossing at signalized intersection. North side connection to Frontage Road.	\$240,000
35	CSAH 9	36th Ave SE	CSAH 22 E	Construct multi-use path or trail improvement along one side of CSAH 9	\$387,500
203	14th St SW	Broadway Ave S	Zumbro River Trail	Develop bicycle travel accommodation along 14th St SW to connect Graham Park / South Broadway Trails to Zumbro River Trail	\$21,000
210	4th Ave NW	Civic Center Dr	14th St NW	Enhance on street bicycle travel along 4th Ave NW from Civic Center Dr to 14th St NW	\$24,000

MapID	Location	Endpoint	Endpoint	Description	Cost
8	TH 52 West Frontage Rd	7th St NW	TH 52 Pedestrian Bridge	Construct multi-use path on west side of corridor	\$310,000
25	11th Ave SW	Southern Ridge Dr	60th St SW	Extend multi-use path along east side of 11th Ave SW from Southern Ridge Dr SW to 60th St SW	\$780,000
51	20th St SE	Broadway Ave	3rd Ave SE	Develop facilities for pedestrians and two wheeled vehicles along 20th St SE	\$156,000
104	Valleyhigh Dr	14th St NW	800' south of 14th St SW	Construct pedestrian facility along Valleyhigh Dr NW to complete sidewalk network along this bus route	\$33,500
105	East Frontage Rd TH 52	7th St NW	14th St NW	Construct pedestrian facility along East Frontage Rd to eliminate gap in sidewalk network and access to transit route	\$117,000
106	19th St NW	32nd Ave NW	Scott Rd NW	Construct pedestrian facility along north side of 19th St to provide fully connected sidewalk network	\$83,750
110	16th St SW	2nd Ave SW	6th Ave SW	Construct pedestrian improvements along south side of 16th St to close gap in sidewalk network along transit network and improve trail system access	\$83,750
113	3rd Ave SE	14th St SE	20th St SE	Construct pedestrian improvements along east side of 3rd Ave SE to improve eliminate gap in sidewalk network and improve access to Graham Park area	\$251,250
117	CSAH 22 East	Viola Rd	Century HS Bike/Ped Bridge	Construct path along east side of East Circle Dr to connect Viola Rd sidewalk to Ped/Bike Bridge and path along north side of East Circle Dr	\$116,250
31	20th St SE	CSAH 36	Bear Creek - 20th St crossing	Construct on or off-road path/lane to provide neighborhood access to City Trail Network and Marion Rd path	\$459,000
121	West Silver Lake Dr	Broadway Ave N	8th St NE	Construct pedestrian improvements along west side of West Silver Lake Dr	\$201,000
122	West Silver Lake Dr	7th St NE	1500' south of 7th St	Construct pedestrian improvements along west side of West Silver Lake Dr to eliminate gap in sidewalk network and serve future development	\$60,300

## 12 • Active Transportation

MapID	Location	Endpoint	Endpoint	Description	Cost
<b>Private Development Activity</b>					
2	55th St NW	25th Ave NW	18th Ave NW	Construct multi-use path on south side of corridor	\$600,000
3	55th St NW	55th Ave NW	60th Ave NW	Construct multi-use path on north side of corridor	\$600,000
4	CR 104 (CSAH 44) CSAH 4	34th St NW to ~55th Av NW to	51st St NW CSAH 3	Complete paving of multi-use path north side of CSAH 4 from 50th Ave to CSAH 3 and along west side of CR 104/60th Ave south of 51st St NW	\$2,867,500
23	40th St SW	Odyssey Dr	CSAH 8	Construct multi-use path or trail along north side	\$1,402,750
24	11th Ave SW	48th St SW	500 ft south of 40th St	Construct multi-use path on west side (limited development potential on east side)	\$780,000
42	CSAH 2	CSAH 22 East	Century Hills Dr	Construct multi-use path along south side of Viola Rd	\$156,000
50	CSAH 22 West	Berkman Dr	2nd St SW	Construct multi-use trail along west side of CSAH 22	\$457,500
116	37th St NW CSAH 33	East River Rd to 37th St NE to	CSAH 33 41st St NE	Construct pedestrian improvements along north side of 37th St and west side CSAH 33 to serve future TOD node / improve transit access	\$840,000
<b>Safe Routes Program</b>					
202	Elton Hills Dr	Broadway Ave	East Frontage Rd	Enhance bicycle travel along Elton Hills Dr	\$900,000
22	CSAH 8	CR 125 / Mayowood Rd	40th St SW	Construct multi-use path or trail along east side	\$1,650,750
114	CSAH 1 / 11th Ave SE	25th St SE	31 St SE	Construct pedestrian improvements along CSAH 1 / 11th Ave to provide safe access to Willow Creek MS and transit	\$936,000
304	Intersection Safety	CSAH 22 West	CSAH 25 West	Implement Safety features to facilitate connection of Salem Rd trail with West Circle Dr trail	\$25,000



MapID	Location	Endpoint	Endpoint	Description	Cost
13	CSAH 25	CSAH 22 West	Westhill Dr SW	Construct pedestrian-oriented facility on north side	\$930,000
404	Eastside N/S Bike Connector	Slatterly Park to 14th St NE		(EVALUATION NEEDED) Develop on-street designated bike corridor serving north/south travel on east side of central Rochester	
<b>Sidewalk Program</b>					
36	36th Ave SE	CSAH 9	TH 14	Construct multi-use path or trail improvement along west side of 36th Ave	\$465,000
109	28th Ave SW / CR 125	Maywood Cm St to 28th Ave SW to	CR 125 Bamber School	(Local Network) (Included as possible Safe Routes to School project) Construct pedestrian facilities along 28th Ave SW and Mayowood Rd SW to improve access to Bamber Valley School and trail/path network for residents south of Mayowood Rd	\$171,600
PC	Country Club Manor	Various Streets		(Local Network / Local Cost) Implement Country Club Manor Protected Bikeway network along 36th Ave / Manor Woods Dr / 7th St NW)	\$109,500
26	60th St SW	11th Ave SW	South Pointe Dr	Construct multi use path or trail along one side of 60th St SW	\$600,000
111	25th St SW	Broadway Av S	Oakridge Dr SW	(Local Network) (Included due to possible funding as part of transit access project) Construct pedestrian facilities along 25th St SW to provide improved connections to transit service, nearby business area and City path network	\$273,000
206	Stonehedge Dr NE	CSAH 22 East	48th St NE	(Local Network / Local Cost) Enhance bicycle accommodations on existing and future Stonehedge Dr NE to provide bike connectivity between East Circle Dr to 48th St NE	\$50,000
209	6th Ave NW	Civic Center Dr	Cascade Creek Trail	Enhance on-street bicycle travel along 6th Ave NW to connect downtown with Cascade Creek Trail	\$15,500
103	7th St NW Sidewalk Infill	TH 52 East Frontage Rd	TH 14 North Frontage Rd	Construct pedestrian improvements along 7th St NW to improve connectivity, provide access to Douglas Trail and improve connections to future transit services	\$284,750
102	7th St NW Sidewalk Infill	Manor Park Dr	Coventry Ln	Construct missing segments of sidewalk along 7th St NW between Manor Park Dr and Coventry Lane	\$83,750

MapID	Location	Endpoint	Endpoint	Description	Cost
<b>DMC Projects</b>					
49	2nd Ave SW	2nd St SW	6th St SW	Construct Discovery Walk facility	\$16,800,000
34	City Loop South / 6th St SE	4th Ave SW	Broadway Av	Develop south section of City Loop along 6th St SW from 2nd Av to Broadway & along the north boundary of Soldiers Field Park between 2nd Av and 4th Ave SW	\$2,905,000
48	City Loop SW / 2nd & 3rd St SW	11th Ave SW	2nd Ave / Discovery Walk	Develop dual track City Loop generally along 2nd St and 3rd St	\$4,375,000
46	City Loop North / 2nd St North	1st Ave NE	8th or 9th Av NW	Develop dual track north leg of City Loop facility along 2nd St NE/NW	\$5,792,500
47	City Loop NE / along Zumbro R	Center St	1st Ave NE	Develop northeast leg of dual track Downtown City Loop along Zumbro River corridor and Civic Center Dr	\$672,000
403	City Loop West	2nd St to Kutzky Park	N-S Avenues	(EVALUATION NEEDED) City Loop connection between 2nd St SW and Cascade Creek Trail	\$437,500

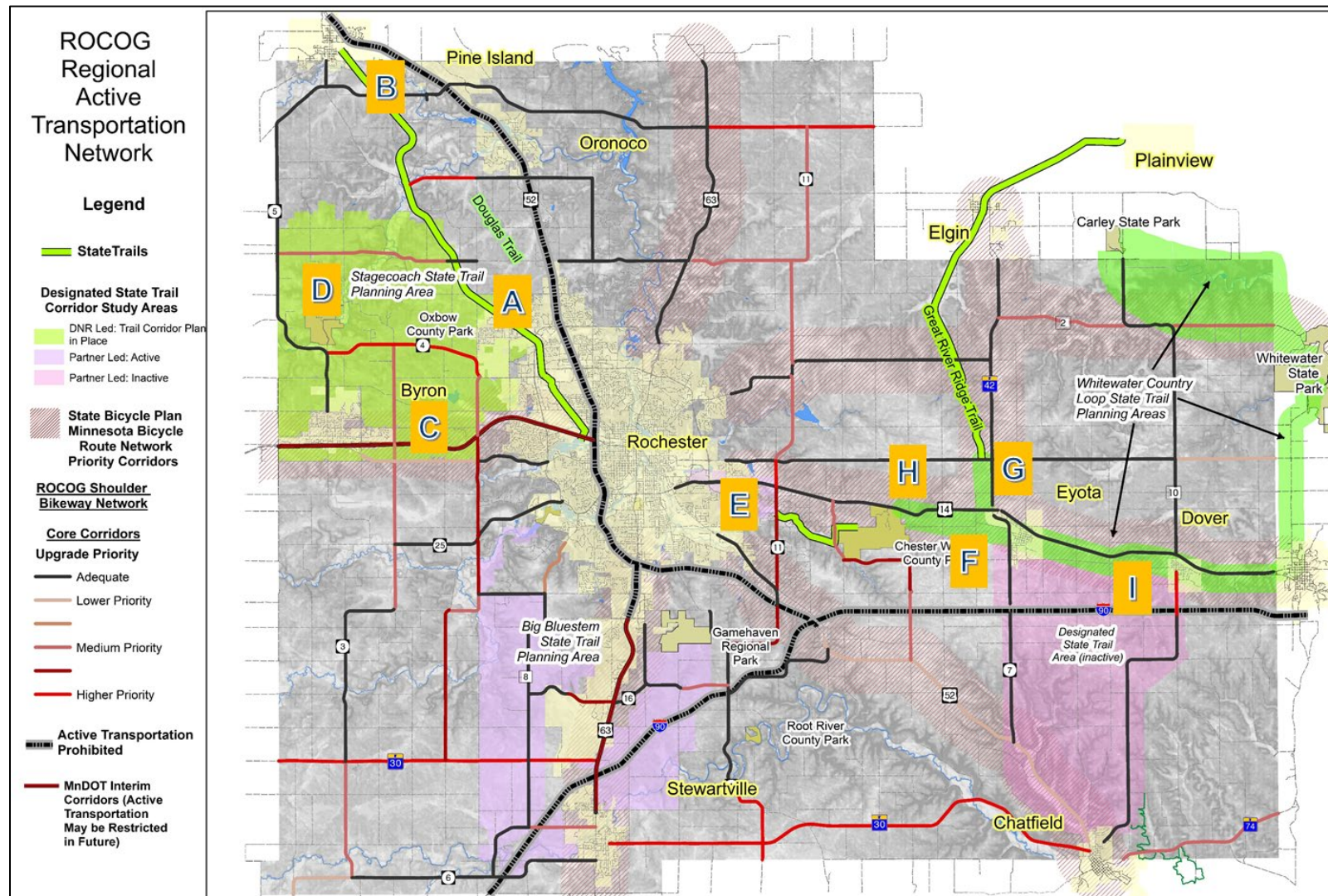
## Implementation of Regional Active Transportation Projects

The major work associated with the Regional Active Transportation Network Plan primarily focuses on a series of state trail projects and work related to state highway crossings to facilitate active transportation. Figure 12-24 highlights the locations of these projects. Table 12-3 describes each project and provides, where available, a very preliminary estimate of costs associated with each project.

The other major aspect of the Regional Plan is the designated ROCOG Shoulder Bikeway Network, reflecting approximately 150 miles of roadway where the goal is to provide paved shoulders of adequate width to provide a minimum level of non-motorized access to/from all areas within the ROCOG Planning region. This network of roads and highways will likely be most attractive to experienced bicyclists who are comfortable riding alongside of vehicle traffic.

**Table 12-3: Major Regional Projects**

	Major Regional Trail Projects in Olmsted County	Cost
A	Construct grade separation on Douglas Trail at 60th Ave NW and 65th ST NW	\$ 1 million per structure
B	Completion of Paved Off-Road Trail with construction of new CSAH 5 from CSAH 3 to 31st Ave NW	Cost built into Zumbro River Crossing cost
C	Grade separation at various locations on TH 14 between Rochester and Byron will facilitate shoulder bikeways	Cost built into eventual interchange(s)
D	DNR-led project to determine connection of future Stagecoach Trail to Rochester area trail network	Planning Estimate of \$6.2 million
E	Phase 2 of Chester Woods Trail / Connect trail at CSAH 11 to Rochester River Trails network	2020 project with est cost of \$1.6 million
F	Phase 3 of Chester Woods Trail from Chester Woods Park to Eyota	Est cost of \$2.7 million
G	Connect south end Greater River Ridge Trail to Chester Woods Trail near Eyota	Est Cost of \$2.1 million
H	Upgrade geometrics of Railroad Overpass on TH 14 near Chester Woods Park Entrance to provide adequate shoulders	Est cost of \$565,000
I	Phase 4 of Chester Woods / Whitewater Country Trail from Eyota to Dover	Est cost of \$5.4 million

**Figure 12-23: Regional Improvement Projects**



## Key Principles for Implementing the Plan

As a planning agency with a limited role in the programming of funding for active transportation outside of federal funding and a limited direct role in seeing projects or programs through from project development to completion or deployment, ROCOG must work with and rely on its local partners to advance the recommendations in the Plan. ROCOG's work on planning and early phases of project development will be guided by a set of principles outlined in this section. Success in implementation will require involvement from not only the public sector (State agencies, Olmsted County, local municipalities), but also facility users, neighborhoods groups, business interests, and the development community, all of which have varying roles and responsibilities in regards to achieving the goals of the plan.

Implementation requires that key directions advanced by the plan be incorporated into the routines and practices of jurisdictions and agencies and for those actions to be supported by local citizens and their elected officials. Successful implementation of a plan will rely on:

- Jurisdictions and agencies considering plan policies and strategies in capital programming and development review procedures

- Roadway agencies and site developers incorporating accommodation of non-motorized users in their project design process
- Jurisdictions and agencies continuing efforts to fund non-motorized facility development and work with private or non-profit partners as opportunities arise to implement various actions or strategies

As a general rule, infrastructure systems such as trail and path networks should be planned prior to development. Attempting to assemble route networks in piece-meal fashion after development has occurred will generally result in a disconnected and poorly planned trail or path system.

The following implementation principles will guide ROCOG's work going forward and is grouped into series of major categories including system development, safety, planning, education/encouragement.

### System Development Principles

The bicycle and/or pedestrian transportation system should allow users of varying ability to safely travel between various origins and destinations on an interconnected network of facilities. In considering system development, factors to account for include:

- Providing access to desired destinations
- Route continuity

- Route attractiveness
- Minimization of conflict with vehicular traffic
- Ease of implementation
- Cost

The types of land uses that should be connected include neighborhoods, schools, parks, youth centers, employment and commercial centers, transit hubs, existing public trails, and natural areas. To accomplish this, key strategies to pursue include:

- Require the provision of bikeways and walkways consistent with the ROCOG Long Range Transportation Plan in the following cases:
  - ▶ In all new highway construction projects
  - ▶ When reconstructing or improving existing bridges and roads
  - ▶ In public open space development projects
- Local units of government should adopt policies that require the inclusion of adequate bicycle and pedestrian access in all development and standards or guidelines for the dedication or acquisition of easements and rights-of-way for bikeways and walkways in conjunction with development approval.
- Municipal parkland dedication requirements should be considered not only for neighborhood park development but the creation of linear park facilities

which would facilitate path or sidewalk development that would enhance overall system connectivity.

- Transportation agencies, utility agencies and jurisdictions should coordinate the development of trail or path links along utility corridors, railway corridors, and stormwater management corridors.
- Development of non-motorized crossings should be considered in urban areas over waterways or freeways where existing crossings are spaced more than a mile apart

### System Development in Rural and Suburban Areas

In rural or suburban areas, non-motorized networks will be focused primarily on creating connections between communities, to regional trail systems, and to major destinations such as regional parks. Pedestrian network development is not a high priority, though specific issues such as safety of school bus stops should be addressed on an as-needed basis. A primary improvement strategy for bicycle and pedestrian traffic in rural and suburban areas will be the development of paved shoulders on roadways. Priority should be given to investing in paved shoulders on main corridors connecting cities with other towns and other major destinations such as regional parks. Long term, paved shoulder areas should be considered on all roads whenever traffic volumes are

expected to exceed 1000 vehicles per day, particularly where posted speeds are above 30-35 MPH.

## Public Transit

Transit trips typically begin and end with a walk or bike ride. Pedestrian and bicycle facilities in transit corridors make transit systems more effective. Therefore, high priority should be given to providing sidewalks and bikeways on transit routes and on local streets feeding these routes from neighborhoods.

## Facility Design

Consistency in design helps to foster understanding between different users and improve safety as all users can better anticipate the actions of other users in a shared roadway environment.

Access management is an important element of facility design and addresses the coordination of roadway design in a manner that reflects the safety and traffic management needs of roadway users while recognizing the need for reasonable access to facilitate land development. Consideration should be given to the placement and design of driveways and side street intersections along major roads as properties development to minimize the number and width of driveways and roads connecting to major roadways in order to reduce points of conflict and making vehicle traffic more predictable.

Intersection crossings are the most challenging aspect of travel pedestrians and bicyclists often face and are where most crashes occur. Some pedestrians, especially people with mobility impairments and the elderly, need additional crossing time. Particularly in areas of high pedestrian activity, methods to improve pedestrian safety should be considered including:

- Shortening crossing distances with tools such as pedestrian refuge islands, curb extensions or by reducing curb return radii
- Alerting or warning motorists of the potential presence of pedestrians through use of measures such as signage, crosswalk markings, signals, and lights
- Removing sight obstructions, such as parked cars, trees, and signs in the immediate vicinity of an intersection crossing to improve visibility of pedestrians and vehicles
- Implementing longer crossing times in areas expected to serve slower pedestrians, such as near retirement homes, while balancing with traffic flow operation such that the increased crossing time does not come at the expense of excessively long wait times causing pedestrians to grow impatient and cross during gaps in traffic

### Pedestrian Oriented Design

Pedestrian-friendly communities that are well-planned encourage walking and promote higher levels of pedestrian travel. Dedicated pedestrian facilities improve pedestrian safety and increase opportunity for the widest range of potential users. Addressing pedestrian needs should be a routine consideration in every planning study and project development process. The character and setting of an area, nearby land use intensities, the mix of nearby land uses and the presence of pedestrian generating activities (such as transit service) will influence the level of pedestrian use and should inform planning for pedestrian facilities.

### Facility Maintenance

In order to provide safe facilities and year-round usability reasonable maintenance standards and practices should be adopted and implemented. Jurisdictions should establish a timely and regular maintenance and repair program for all bicycle and pedestrian facilities, which may include enforcement of the responsibility for path and sidewalk maintenance by adjacent property owners. The level of maintenance can be determined on a corridor-by-corridor basis or can be established on a system-wide basis but should be documented in terms of a maintenance policy. Ongoing maintenance costs should be routinely considered when preparing budgets and

capital improvement programs, and reflect growth in the system as it occurs.

### Safety

Efforts should be made to assess and evaluate safety needs and reduce conflict between non-motorized and vehicular traffic created by features such as narrow bridges, wide streets, and high volume, high speed traffic corridors. Successful safety efforts include giving attention to road design, traffic operations, safety messaging targeted to all users (motorists, pedestrians, bicyclists) and enforcement.

#### Safety Planning

Monitor data on crashes involving bicyclists or pedestrians on a routine basis to determine where needs may exist a) for better signing, lighting or traffic control, b) for education initiatives targeted to users of the area, and c) for new facilities to reduce the risks to bicyclists and pedestrians.

#### Safety Education

Education efforts should focus on building awareness through measures such as safety campaigns in the media, curriculum content within schools and driver education classes, and making information available through venues such as websites or public access television.



## Safe Routes Programs

Programs such as Safe Routes to Schools, Safe Routes to Transit, and Safe Routes for Seniors focus on improving the pedestrian or cyclist experience by combining measures drawn from the “5 E’s” toolbox of engineering, education, enforcement, encouragement and evaluation. In many instances, improvements will improve conditions for all targeted user groups (students, transit patrons, seniors). Transportation and public health agencies should coordinate with school district facility planners to support a Safe Routes to School (SR2S) program and identify improvements that can enhance bicycle and pedestrian access to schools.

## Planning/Plan Coordination

In order for communities and agencies to be successful in developing a safe and effective network of active transportation facilities, it is important that the needs and issues of bicyclists and pedestrians are considered not only at the project level but in community planning efforts. This is particularly important since partnerships will be needed to achieve the goals of this plan in an era of limited resources and to ensure that available resources are used most efficiently. Along with early planning, measuring and communicating progress is important to help build ongoing support for future improvements. To this end:

- ROCOG should ensure that bicycle and pedestrian needs are considered in any subarea land use or transportation study or highway corridor study
- ROCOG should work with local jurisdictions to identify needs and opportunities to preserve corridor right-of-way for bicyclists, pedestrians, and other complementary transportation purposes
- ROCOG staff should monitor petitions to vacate existing right-of-way to consider the appropriateness of maintaining the corridor as public right-of-way for plan purposes
- ROCOG should continue to support the work of the following planning committees:
  - ▶ Rochester Pedestrian-Bicycle Committee (BPAC)
  - ▶ Southeast Minnesota Association of Regional Trails (SMART)
  - ▶ Local trail development groups that typically spearhead the development of regional trail corridors; the organizational template for such efforts is the Dover/Eyota/Chester Woods Trail Committee, who developed a process driven by grassroots community support and participation

## Non-Infrastructure Support Measures

While facility design is an important factor in enhancing the bicycle and pedestrian travel experience, effective education and encouragement programs or strategies are

important tools to heighten awareness and help mitigate traffic congestion, promote healthier lifestyles and create a more livable community. User familiarity with pedestrian and bicycle facilities as well as familiarity with the rules and responsibilities of the road will lead to a safer and more enjoyable travel experience.

### Funding

ROCOG will continue to provide support for federal, state, and non-profit grant applications to develop active transportation projects or programs upon request.

ROCOG is in a position to provide planning history, data, and technical expertise in preparation of grant applications.