Implementation SECTION 4

July 2016

Overview

The Alternative Transportation System Plan establishes an overall vision for the community that is ambitious yet realistic if incrementally implemented. This section sets forth an overall implementation strategy and baseline priorities to guide that process. Operations, maintenance, and education are also considered in this section as an important aspect of implementation planning.

Keeping the Momentum

The City of Bloomington has made improvements to the alternative transportation system over the past several years. These improvements are recognized as added amenities by residents and visitors. As more transportation options become available, users will expect additional expansion of the systems and they will expect that the trails, bikeways, sidewalks and associated amenities are maintained to the same standards, or better, as other elements in the City.

As planning efforts continue in accordance with the vision and plan in Sections 2 and 3, project implementation efforts will proceed as well. Additions to the alternative transportation system and other changes in the City's infrastructure may have altered future system needs as priorities may have changed. It is beneficial to re-assess project priorities and re-prioritize projects that have not been completed with new projects that have been added through the on-going planning process.

The vision and values set forth in Section 2 suggest that Bloomington is at a threshold with respect to transportation planning, with more emphasis being placed on balancing transportation options within the City. Through the public process, citizens and their elected and appointed officials have reassessed past practices and considered various means to enhance the public infrastructure to better accommodate alternative modes of transportation. As described in Section 3, providing a more robust network of interconnected trails, pedestrian-ways, and bikeways is achievable from a physical planning perspective.

Implementation of the plan will continue with inherent challenges and tradeoffs. Both diligence and patience will be required as the plan is realized. Thoughtful phasing and prudent implementation decisions will be critical to successfully making changes to the public infrastructure that affect various user groups in different ways. Especially with bikeways, testing ideas along select corridors is advised in order to understand tradeoffs, judge impacts to established traffic patterns, and assess the true value they offer. Fiscal limitations also reinforce the importance of focusing resources on the highest value amenities first to gain public support and enthusiasm.

Success in implementing the plan will require insightful leadership and a willingness to use a variety of strategies to manage change and leverage financial resources to full advantage.

Integrating the Alternative Transportation Plan with the Comprehensive and Other Plans

Through formal City Council action, the ATP becomes part of the City's larger Comprehensive Plan, as is the case with the updated 2008 Parks and Recreation Master Plan. Periodic updating of the plan is recommended to ensure that it evolves over time in response to changing needs, opportunities, and learned experience.

Plan Requires Additional Review in Context of Other Plans

Note that implementation of this plan will require additional technical review relative to other City plans to determine feasibility, relative tradeoffs, and timing coordination with other development initiatives as district plans and development area studies evolve. In other words, implementation of this plan will not happen in a vacuum, and final outcomes will often be affected by other community planning concerns.

Figure 4.1: *Alternative Transportation Policy and Planning Framework*

See p. 2-3 for more on the alternative transportation policy and planning framework

A Balanced Approach to Implementation

As defined in Section 2, the alternative transportation framework consists of three key policy and planning tools: The City's Complete Streets Policy, the ATP, and the Safe Routes to School Program (see Figure 4.1). Each of these adds value to public infrastructure in complementary ways. Taking a balanced approach to implementing each of these will ensure that multiple community values are being concurrently realized and that the wide-ranging expectations of residents are well served as time goes on. A balanced approach also provides the City more latitude in taking advantage of opportunities as they arise.

Consistent with this framework, the implementation strategy consists of three implementation categories. Each of these will have its own implementation strategy and set of priorities, as considered later in this section.

A Disciplined Approach to System Investments

An important consideration in developing an implementation strategy for each of these categories is that the opportunities to enhance the system are quite substantial and diverse. The magnitude of potential investments to achieve full plan implementation will undoubtedly require setting priorities that respond to realistic resource limitations.

The temptation to spread investment dollars too thinly across the entire system is also a major implementation consideration. Unfortunately, this strategy often falls short in that limited improvements do not have a major effect on the public's perception that the quality of the system has improved. This often leaves residents with a sense of unmet expectations, which can result in a decrease in the perceived value of the system, rather than an enhancement.

By focusing on raising the level of service through strategic and prioritized investments, the role that the system plays as a defining element in the City's infrastructure can be strengthened.

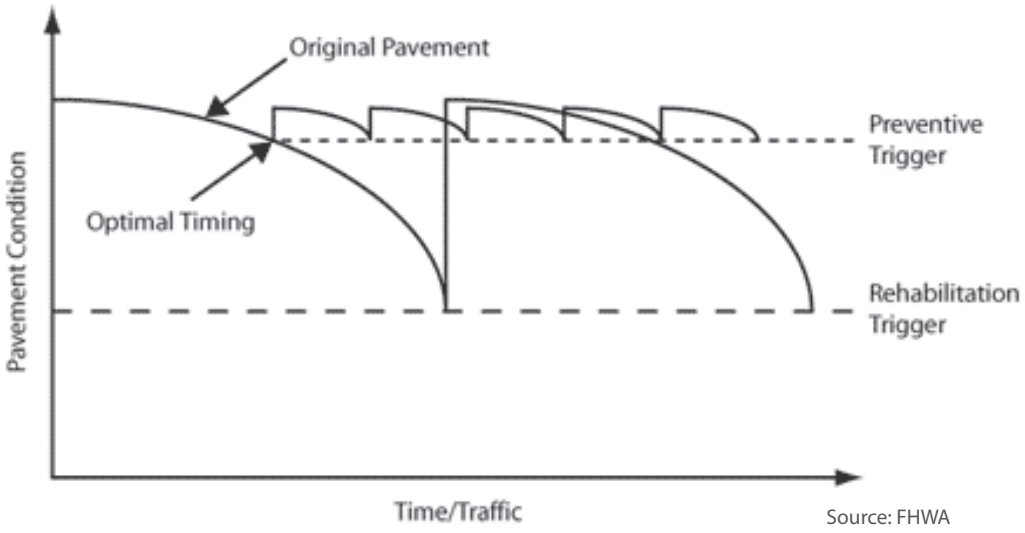
Long-Term Commitment to a Sustainable System

A sustainable system is the point to which the community is willing to support implementing the system plan to receive desired public benefits. Benefits relate to cultural (personal and social) and economic values that individual residents and the larger community find important and are willing to support by making investments in the system.

To be sustainable, implementation of the plan must take into account the long-term commitments required to develop, operate and maintain, and ultimately replace each aspect of the system as it moves through its lifecycle. Figure 4.2 illustrates this important point.

As illustrated, the total investment required to sustain a given component of the system is the cumulative cost for initial development, routine operations and maintenance costs, and redevelopment once a given amenity reaches the end of its useful lifecycle. Given the major implications to long-term funding, the City should define the level of service it can indefinitely sustain at the point of initial implementation.

Figure 4.2: *Lifecycle Costs and Long-Term Commitments to Sustaining Each System Component*



Source: FHWA

Prioritization Criteria for System Enhancements

The following table outlines general criteria for prioritizing plan implementation. The criteria are broad enough to encompass the predominant factors in the decision process, yet limited enough to be manageable for decision makers to gain consensus and take action. The criteria in Figure 4.3 were considered in establishing the priorities for implementation.

Figure 4.3: *Criteria for Prioritizing Plan Implementation*

Evaluation Criteria	Criteria Description
Community Demand	Action is warranted due to identified community demand based on needs assessment studies, public input, and defined trends.
Redevelopment/ Upgrading of Alternative Transportation Facility	Action is warranted due to facility being: In an unsafe condition or of poor quality Old and at the end of its useful lifecycle Ineffective at servicing current needs
Redevelopment Opportunity	Action is warranted to take advantage of redevelopment opportunity where alternative transportation features can be integrated.
Funding Availability/ Partnership Opportunity	Actions is warranted due to: Funding availability for specific use Partnership opportunity for specific type of development
Safety	Action is warranted due to: Resolve an immediate safety issue that needs to be addressed
Accessibility	Action is warranted to provide access to key destinations, and community and regional amenities including transit
Economic Efficiency	Action is warranted to make use of efficiencies gained by combining work with other public works initiatives (Pavement Management Program)

Implementation Strategies and Priorities

The strategy for implementing the system plan and establishing priorities is underpinned by two objectives:

1. Developing a balanced system offering multiple community values
2. Taking advantage of opportunities as they arise

At times, these objectives will be in conflict in that opportunities to develop various aspects of the system will present themselves in an unbalanced, "out-of-order" manner. As such, the implementation of the plan inherently requires some degree of flexibility to respond to opportunities as they arise. The City Council will have to consider these issues as they occur and determine the best course of action, which could include a rethinking or departure from the stated priorities.

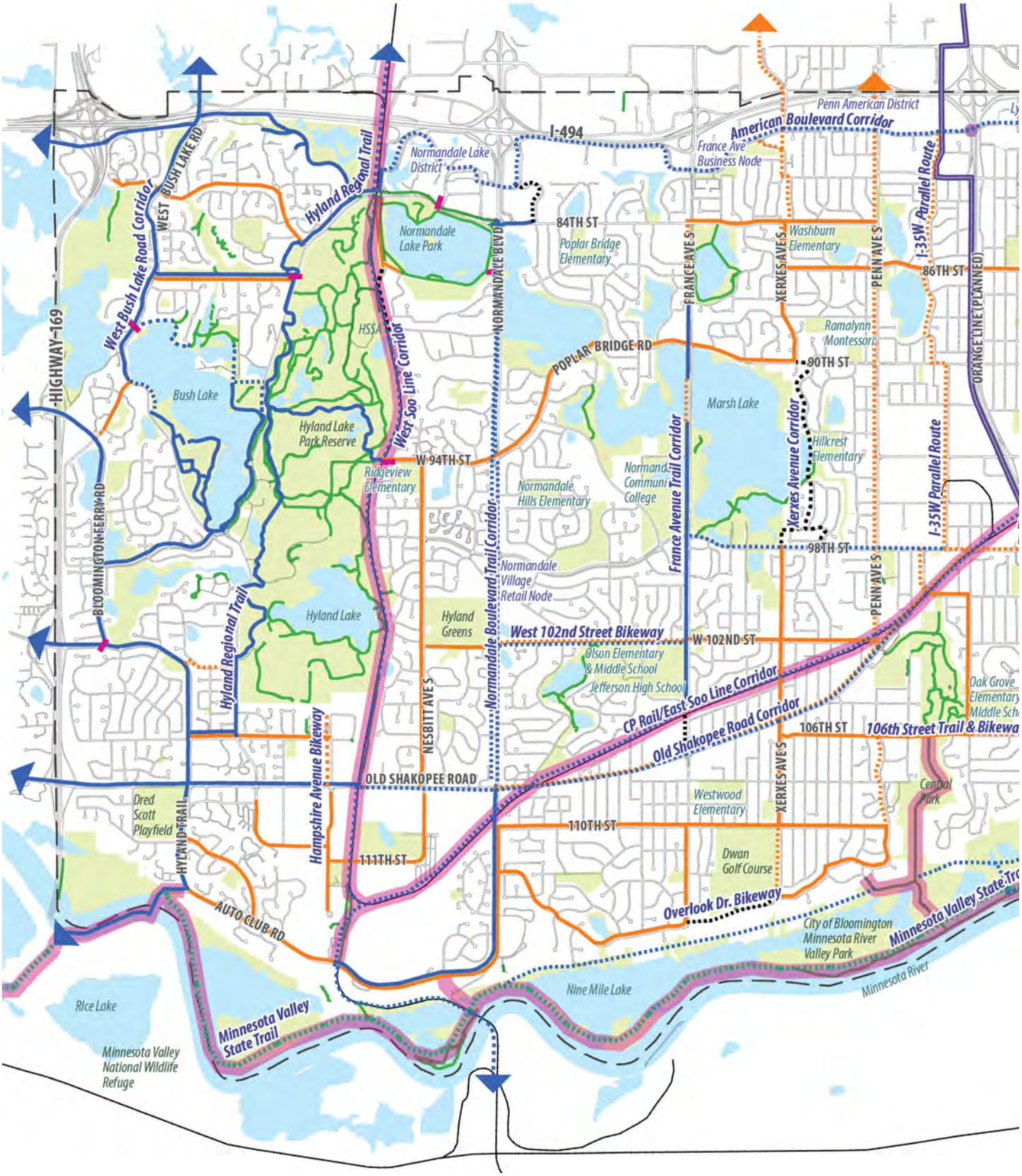
The following defines the implementation strategy and priorities associated with each of the categories illustrated in Figure 4.1.

Implementation Strategy for the Alternative Transportation System Plan

The Alternative Transportation System consists of trails, pedestrian-ways, and bikeways categorized as Regional Trails , Community Corridors, and Local Connections. Since each of these accommodates different user groups, concurrently investing in each of these over time is the overall recommendation to ensure that each user group's needs are being addressed. Within each of these components, priorities were established by the Task Force based on value judgments, cost implications, and perceptions of demand, as the following considers. Actual implementation may change priorities based on funding and other variables considered by the City Council.

Note that the priorities related to implementation planning at a system level, which ranks one item relative to another in terms of overall value. It does not take into consideration day-to-day decisions to complete a missing segment of trail or sidewalk where doing so has more immediate value. It also does not take into consideration more immediate safety concerns, in which replacement of a trail segment is necessary due to existing quality issues.

Figure 4.4: *ATP System - Priority Regional Trail connections highlighted*



This map highlights the priority trails that provide regional connections. Additional community and local priority corridors are mapped on the following pages.

Nine Mile Creek Regional Trail
I-494
American Boulevard Corridor
Lyndale Ave Area Retail Node
Mall of America Retail Node
South Loop District
Minnesota Valley National Wildlife Refuge Headquarters
BLUE LINE
Smith Park
HIGHWAY 77
Nokomis-Minnesota River Regional Trail
RED LINE (PLANNED)
86th St. Bikeway
ORANGE LINE (PLANNED)
LYNDALE AVE S
C.P. Rail/East-Soo Line Corridor
NICOLLET AVE S
PORTLAND AVE S
Valley View Elementary & Middle School
Minnesota Valley State Trail
Minnesota DNR (Fort Snelling Park)
Long Meadow Lake
OLD CEDAR AVE S
Portland Avenue Corridor
Kennedy High School
Lyndale Ave Retail Node
OLD SHAKOPEE ROAD
Indian Mounds Elementary
I-35W
& East 102nd Street Bikeway
Oak Grove Elementary & Middle School
Lyndale Ave
Trail & Bikeway
City of Bloomington Minnesota River Valley Park
Black Dog Lake
Valley State Trail
Minnesota Valley National Wildlife Refuge
Priority Regional Trails
Proposed Off-Street Trails
Proposed On-Street Facility
Proposed Facility, Undetermined
Existing Off-Street Trails
Existing On-Street Facility
Existing Park Trails
Minnesota Valley State Trail
Grade-separated Crossing (proposed and existing)
Transitways and Stations
Bloomington Municipal Boundary
Railroad
Open Water
Parks
0
0.5
1
Miles

Regional Trails

With respect to trails, the main strategy is to make investments in the highest value trail corridors first to maximize the cost-benefit of system enhancements. Consistent with research findings, investing in destination trails offers the highest return on investment as reflected in expected use levels. Said another way, completion of these corridors will, with little doubt, be highly valued by the community – if designed and built to the highest standard. In terms of priorities for implementation, the following is recommended. Regional priority corridors are mapped in Figure 4.4. Community and local priority corridors are mapped in more detail on the following pages.

Priority #1a – Minnesota Valley State Trail (Regional Trail)

This trail corridor has proven to be very popular and highly valued by virtually all user groups. Given the interconnections with other systems, it will also be of high value to transportation users commuting to other cities. The planned Minnesota Valley State Trail segment in Bloomington will be constructed, maintained, and managed by the MnDNR. The State Trail is proposed to consist of two trails; the first, a natural surface hiking and mountain biking trail, and the second, a new a multiple-use ADA-compliant trail. The City of Bloomington encourages the MnDNR to work with the public to solicit feedback as to the design and surfacing for the multiple-use trail. This trail corridor provides many connections to other Bloomington trails and is a high priority due to the commitment of funding from the State of Minnesota.

Priority #1b – Minnesota River Valley Trail Connectors

Includes trails that connect to the Minnesota Valley State Trail that are not located on City of Bloomington property. This includes a trail connection from the Minnesota Valley State Trail to American Blvd. This trail connection is on FWS and MnDOT properties and is proposed to be a future MnDNR project.

Priority #1c – Local Connections to the Minnesota Valley State Trail

Includes trails that connect to the Minnesota Valley State Trail that are located on City of Bloomington property or street ROW. These include both on and off-road connections to City trailheads, as well as trails from trailheads to the State Trail. The road connections include but are not limited to Lyndale Avenue, Normandale Boulevard and E. 104th St. at Pond-Dakota Mission Park. Plans for the specific river valley trail connections will be developed at a later date via the City's Minnesota River Valley Strategic Plan.

Priority #2 – Hyland Trail (Regional Trail)

With much of this trail corridor already completed, the implementation focus is on finishing missing links. The remaining segment that is a priority for completion is the northern connection between 84th Street West and the planned Nine Mile Creek Regional Trail. Once completed the City should seek designation as a Regional trail by the Metropolitan Council. As a designated regional trail it would be eligible for Metro Regional Parks CIP and maintenance funding. Connections to the Minnesota Valley State Trail and Nine Mile Creek Regional Trail make it a solid candidate for a regional trail designation.

Priority #3 – Nokomis-Minnesota River Regional Trail

Three Rivers Park District anticipates completion of a large segment of the Nokomis-Minnesota River Trail from 12th Avenue to East 86th Street in 2016. Funding has been awarded for the Park District to construct the trail segment between East 86th Street and East Old Shakopee Road, with construction tentatively slated to begin in 2017. The City of Bloomington will be completing the southern segment of the trail (south of East Old Shakopee Road) with the rehabilitation of the Old Cedar Avenue Bridge. See Figure 4.4.

Priority #4 – Nine Mile Creek Regional Trail

Three Rivers Park District will also be implementing a portion of the Nine Mile Creek Regional Trail adjacent to Bloomington. This trail provides an east-west connection between the Hyland and Nokomis-Minnesota River trails and provides opportunities for connections to Edina, Richfield, and Minneapolis. Continuing progress on this trail, including segments along Airport Lane and 34th Avenue in Bloomington, should be a priority.

Priority #5 – CP Railroad/East Soo Line Corridor (Regional Trail)

The CP Railroad/East Soo Line Corridor is identified as a regional trail corridor on the Hennepin County Plan due to the ability to provide an independent trail alignment from the Southwest Metro to Minneapolis. Costs to implement, the unavailability of right-of-way makes this a lower priority. See Figure 4.4 to see the entire trail corridor in context.

Priority #6 – West Soo Line Corridor (Regional Trail)

The West Soo Line Corridor is identified as a regional trail corridor in previous versions of the Bloomington ATP. Currently the corridor is identified in the Hennepin County Plan north of Hyland Park Reserve only. However, the City would like to maintain the extent of the West Soo Line Corridor within Bloomington as a low priority trail corridor for future consideration.

Community Corridors

Priority #1 – France Avenue Trail Corridor (Community Corridor)

The France Avenue trail provides an important north-south connection between American Boulevard and Old Shakopee Road including connections to 86th Street Bikeway and Normandale Community College. The priority focus with this corridor is completion of the missing trail links, especially the sections through the wetland areas, and the reconstruction of the existing trails and sidewalks to current standards. Although addressing these sections will be relatively costly, it is of little value to improve other segments unless these limitations are improved first. This corridor is a Tier 1 Transportation Corridor identified in the Metropolitan Council Twin Cities Regional Bicycle Study (see page 2-7).

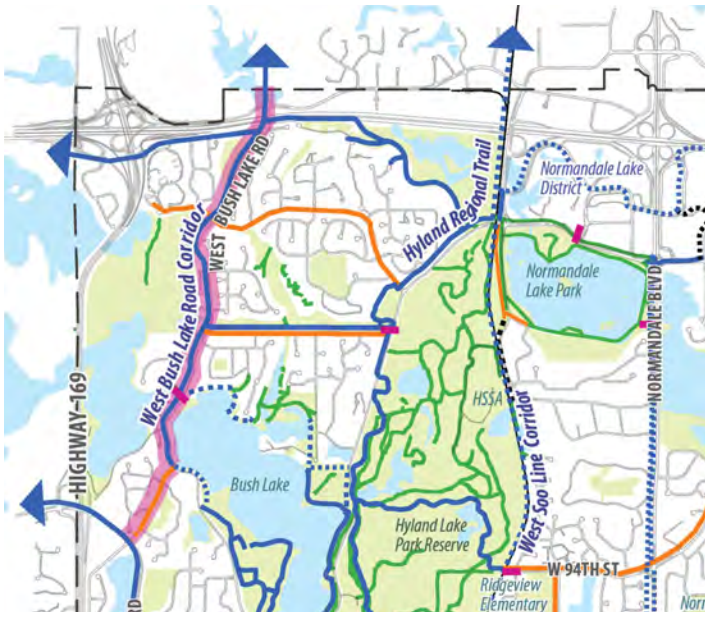
France Avenue Trail Corridor

Priority #2 – Normandale Boulevard Trail Corridor (Community Corridor)

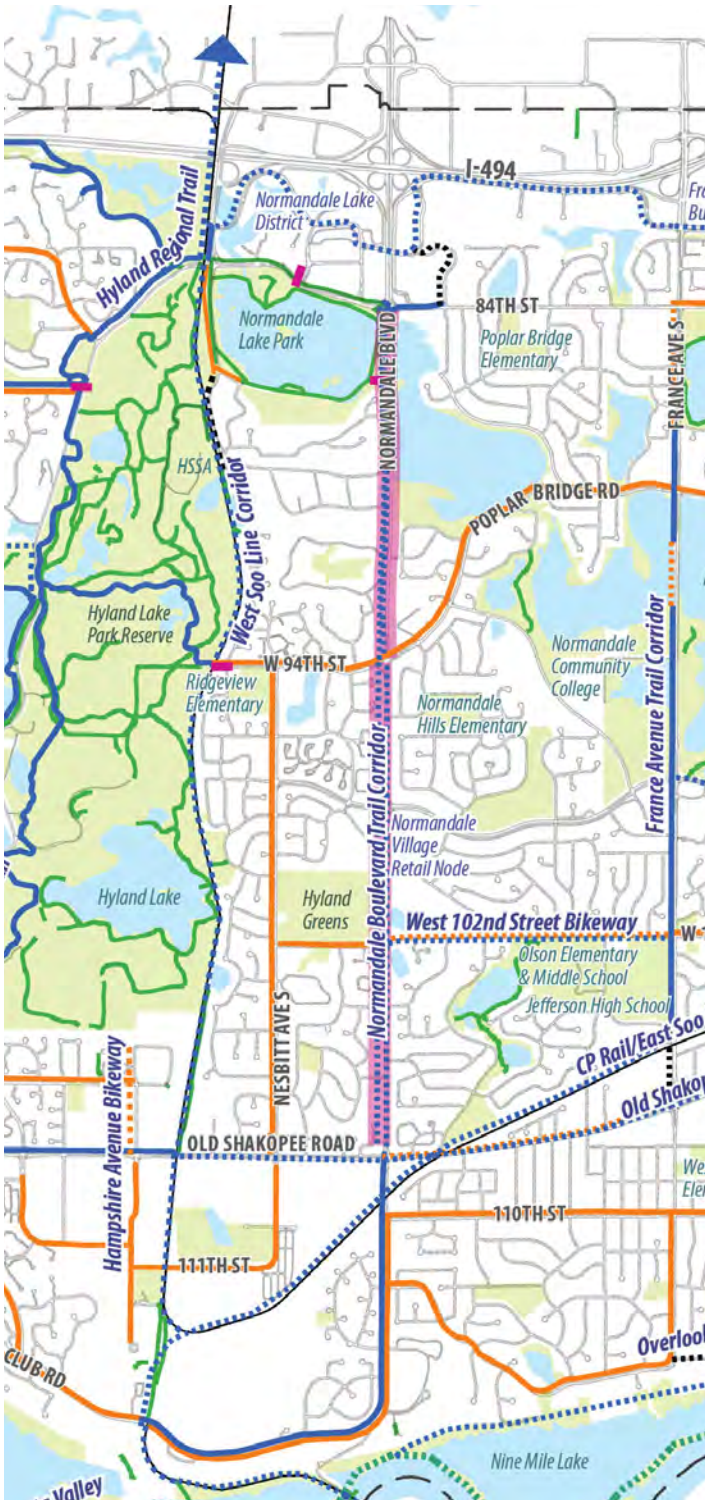
Existing trails along Normandale Boulevard are substandard and in poor condition. As a corridor identified on the Hennepin County Bicycle Plan, and an important community corridor, this corridor should be a priority for the reconstruction of the trails and sidewalks to current standards. Completing this segment provides an important connection to Normandale Lake Park, 86th Street Bikeway, and 102nd Street Bikeway. The segment from Nine Mile Creek to Poplar Bridge Road is funded for construction in 2016.

Priority #3 – West Bush Lake Road Corridor (Community Corridor)

This corridor builds on the existing off-road trail and underpass along West Bush Lake Road and continues along Veness Road to the south and from Oakmere Road to the north to provide a north-south corridor. While the section of trail between Veness Road and Oakmere Road was recently reconstructed, the balance of the trail requires reconstruction to current trail standards.



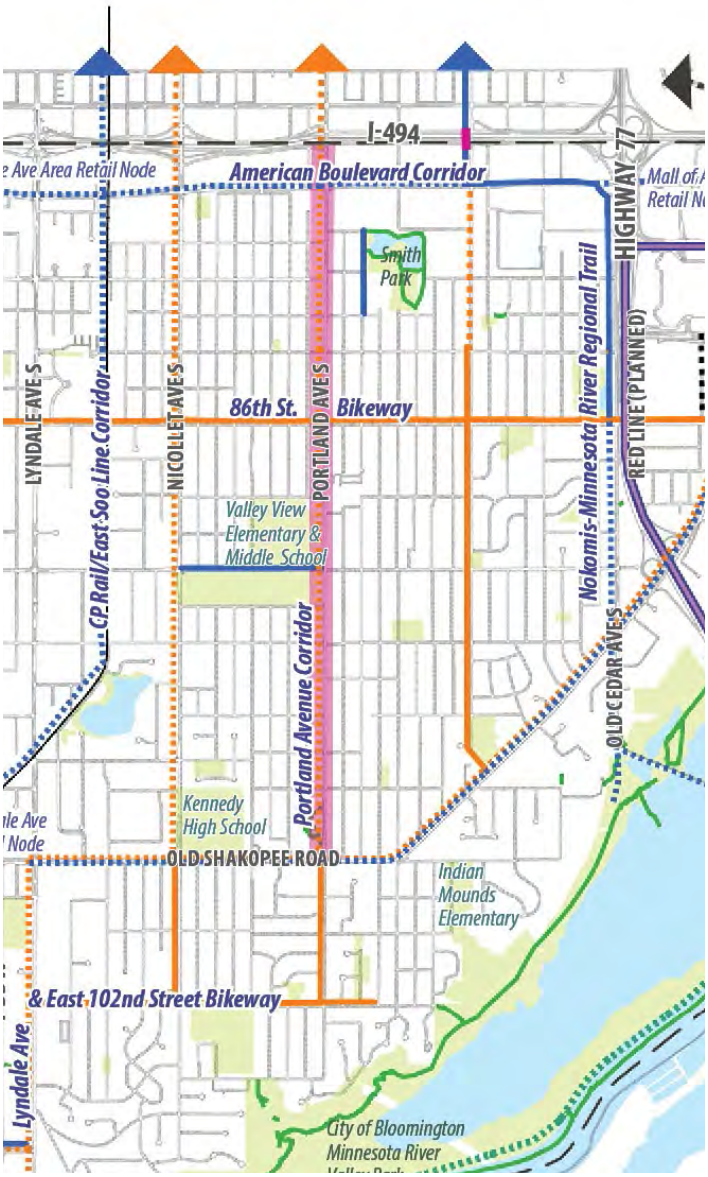
West Bush Lake Road Corridor



Normandale Boulevard Trail

Priority #4 – Portland Avenue Corridor (Community Corridor)

The Portland Avenue Corridor is identified on the Hennepin County Bicycle Plan and provides a direct on-street north-south route between East Old Shakopee Road and American Boulevard. This includes connections to bikeways in the City of Richfield, the bikeway corridor on 86th Street, and the Nine Mile Creek Regional Trail.



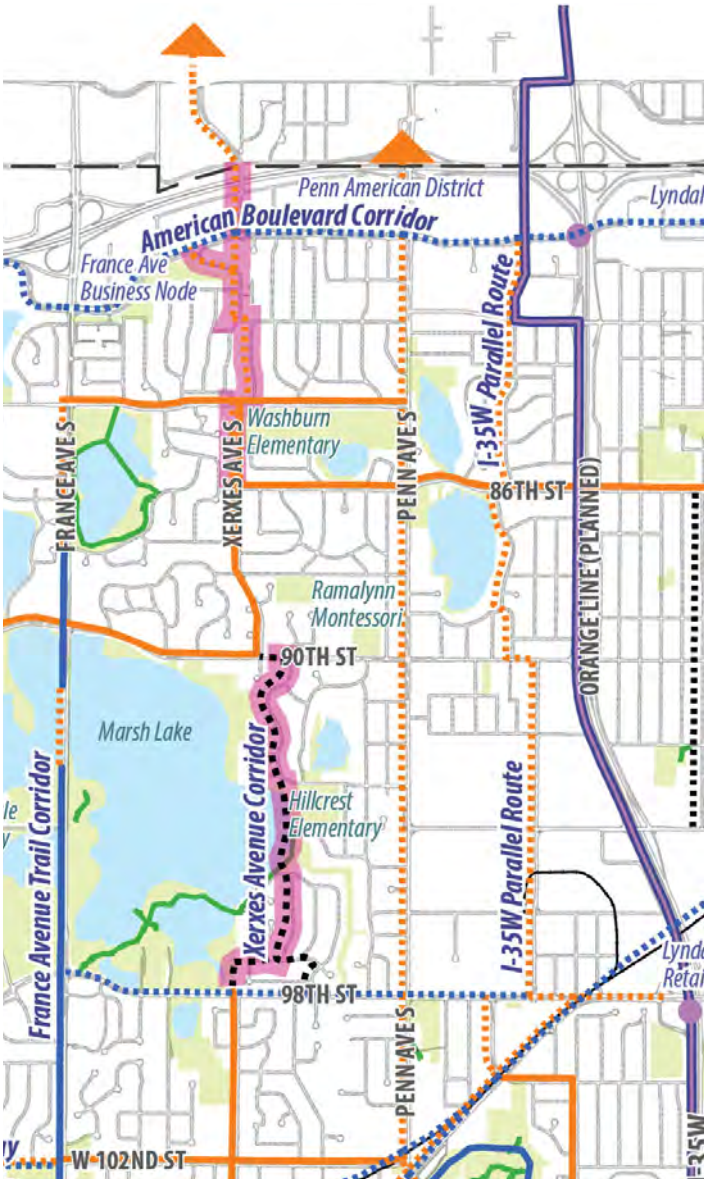
Portland Avenue Corridor

Priority #5 – Xerxes Avenue Corridor (Community Corridor)

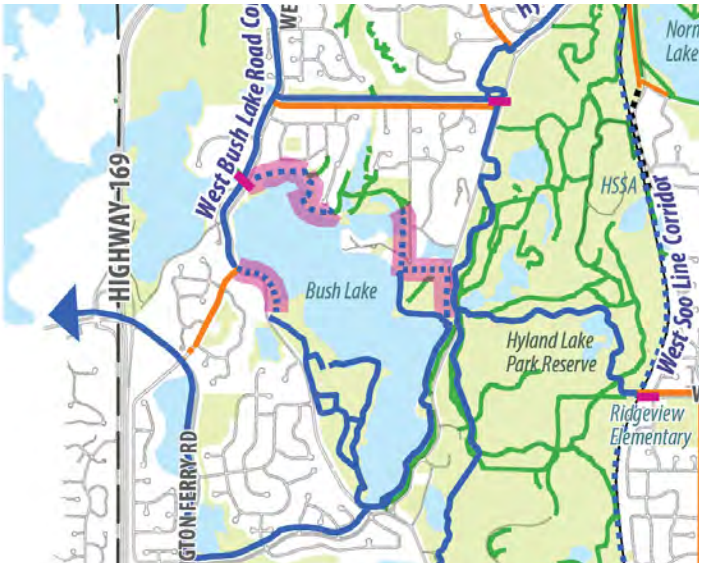
The Xerxes Avenue Bikeway builds on the progress of prior work to provide two connections to the existing 86th Street Corridor, Edina to the north and the Old Shakopee Road Corridor to the south. This is a lower priority primarily due to the need to develop the trail on the east side of Marsh Lake in order to fill the gap between the south and north end of Xerxes Avenue. Since the development of the trail is a more costly item, it will likely take longer to fund through the City's CIP.

Priority #6 – Bush Lake Park Trails (Community Corridor)

This includes a trail connection on the south/west side of the lake, as well as trail connection along the north side of the lake. The City will continue to evaluate the need/cost to provide trails along both the north shore of the lake and around the North Bay. Recent public feedback has been in opposition to the north shore trail, particularly where it is proposed to cross private properties along Izaak Walton Road. The trail segment on the south/west side of the lake is a higher priority, because it currently is a gap in the recreation and transportation system, and there is no existing sidewalk or trail in this segment for pedestrians or cyclists to use.



Xerxes Avenue Bikeway



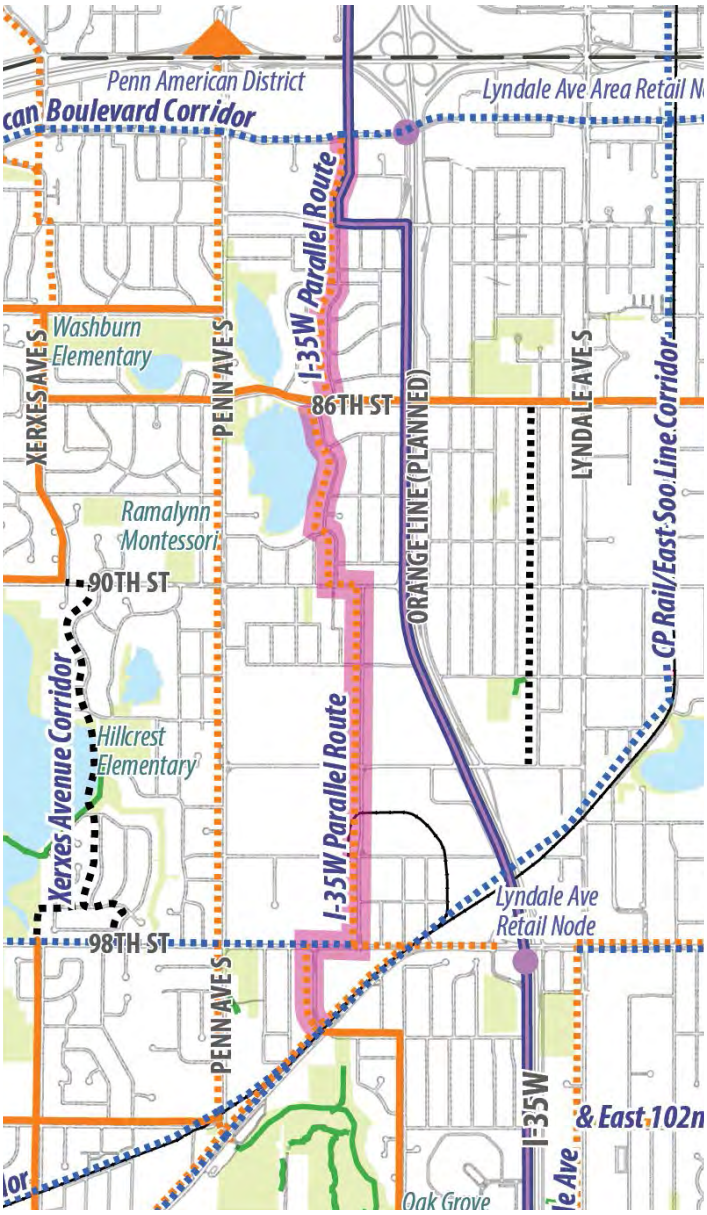
Bush Lake Park Trails

Priority #7 – I-35W Parallel Route (Community Corridor)

The I-35W Parallel Route provides an opportunity for a significant addition to the City's transportation system by providing a bicycle/pedestrian element to the heavily used I-35W corridor. Connections to a new I-35W Bridge over the Minnesota River, City Hall and Orange Line transit facilities make this an important corridor for residents of Central Bloomington. This trail also provides convenient access to the Minnesota Valley Trail and the connections to communities to the south. A study will need to be completed to determine the best alignment for this route.

Priority #8 – American Boulevard Corridor (Community Corridor)

The American Boulevard corridor is an important connection between the Nokomis-Minnesota River trail, Nine Mile Creek and Hyland trails. The continuation of pedestrian-way enhancements as part of street improvements along this corridor are recommended, as is filling any gaps that currently exist. As with the previous corridor, this will take many years given cost realities.



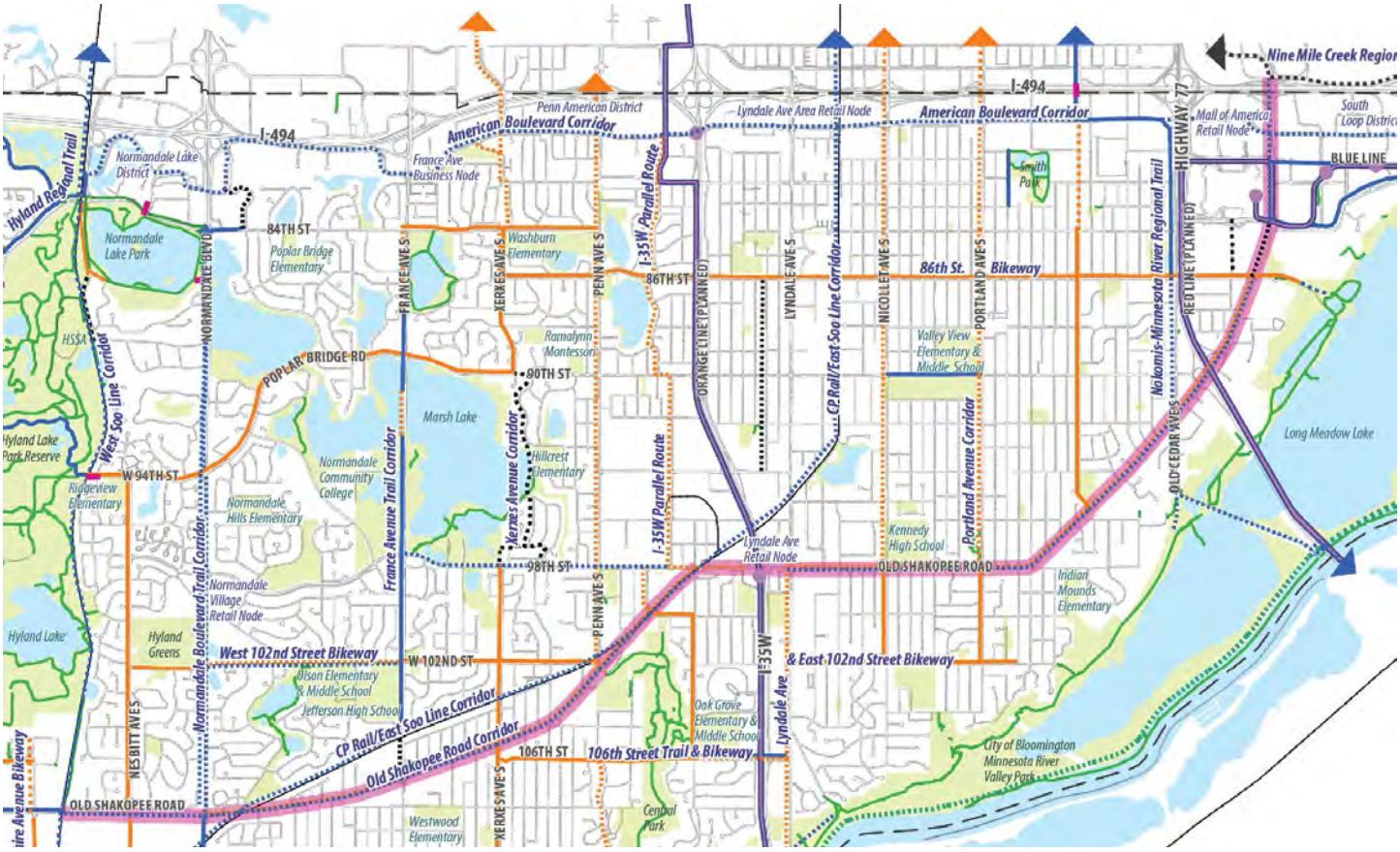
I-35W Parallel Route

American Boulevard Corridor

#9 – Old Shakopee Road Corridor (Community Corridor)

This corridor is among the most complex, trafficked, and costly of the corridors to improve. For that reason, it is a lower priority in that improvement costs are likely to be high while public value relatively modest as compared to the other corridors. In the near term, priority focus should be on completing missing gaps and continuing to provide enhanced pedestrian connections to retail and business nodes as they develop.

Applying the Complete Streets Program guidelines as segments of this corridor are upgraded over time is the recommended approach to enhancing this corridor for pedestrians and bicyclists.



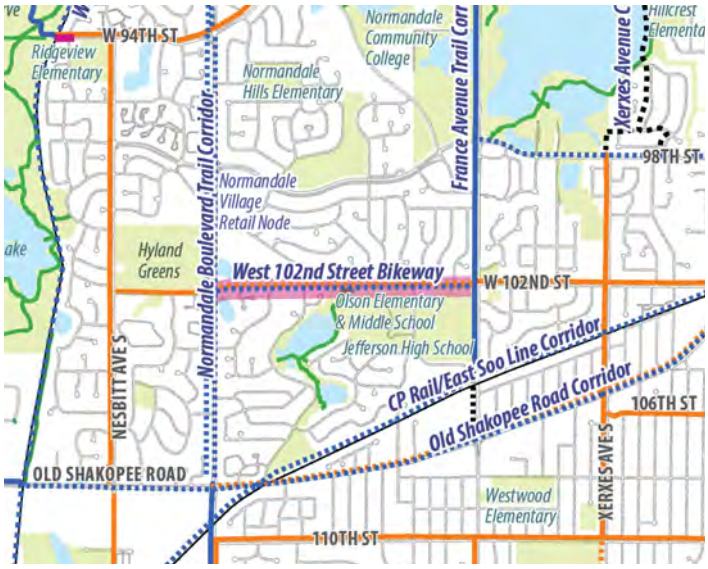
Old Shakopee Road Corridor

Local Connections

With respect to local connections, the first implementation priority starts with reconfiguring streets with fewer constraints (i.e., major intersections) before attempting to reconfigure a more complex corridor, as is the case with the second priority. With each priority, the City will need to test ideas, understand tradeoffs, and judge impacts to established traffic patterns before actual implementation – which will likely affect the actual order of priority once implementation begins. With this strategy in mind, the following is the recommended priorities for reconfiguring streets to accommodate bikeways.

Priority #1 – West 102nd Street Bikeway

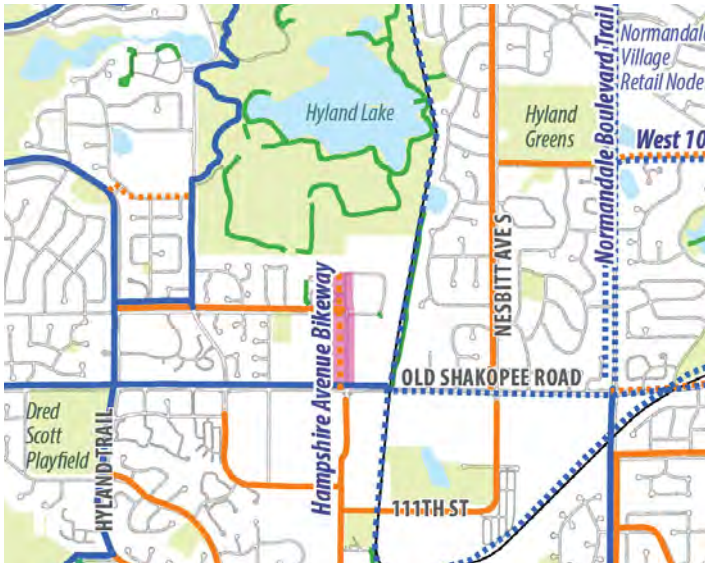
Much of this local connection has been completed since 2008, however a gap remains between Normandale Boulevard and France Avenue. This segment should be a high priority for completion.



West 102nd Street Bikeway

Priority #2 – Hampshire Avenue Bikeway

This bikeway complements the previous bikeway and creates an appealing connection between Hyland Park and the Bloomington Ferry Road Trailhead. It also poses relatively few constraints, with the exception of the linking trail segment on the southern section.



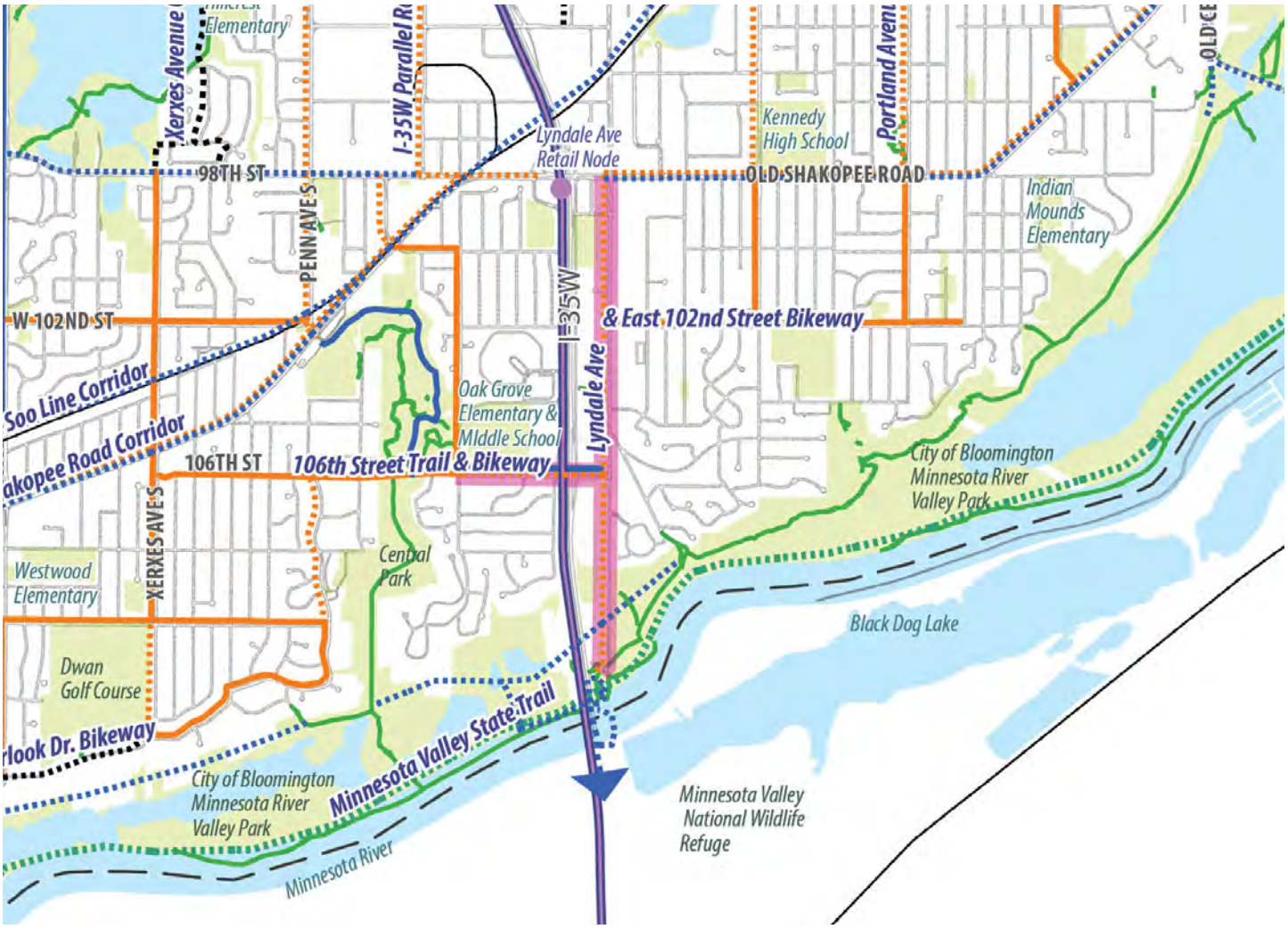
Hampshire Avenue Bikeway

Priority #3 – 106th Street (Trail and Bikeway), Lyndale Avenue, and East 102nd Street Bikeway

Establishing the bikeway segment between Humboldt Avenue and Lyndale Avenue would complete an east-west bikeway across the southern portion of the city. Additional study is required to determine the best approach (on or off-road) for the 106th Street bikeway, in coordination with the I-35W Parallel Route study.

Priority #4- Overlook Drive Bikeway

This segment would connect the on-street facilities on Overlook Drive with the facilities on France Avenue.



106th Street Trail and Bikeway, Lyndale Avenue and East 102nd Street Bikeway

Overlook Drive Bikeway

Implementation Strategy for Neighborhood Pedestrian/Safe Routes to School

There are two primary implementation strategies for this component of the system plan, as the following considers.

Neighborhood Pedestrian

As defined in Section 3, in existing developed neighborhoods not subject to redevelopment, the focus is on the removal of barriers that diminish the likelihood of a person walking or biking to a destination. Common barriers include gaps in the sidewalk system, inconsistent standards, and lack of end-of-trip facilities at destinations, especially schools. The implementation strategy for addressing these issues is expansion of the City's successful Pavement Management Program (PMP).

The PMP provides a systematic program of street rehabilitation and repair in order to assure that the city streets are serviceable, safe, functional, and provided at a reasonable cost to meet the needs of residents and the traveling public. The program focused on the upkeep of approximately 340 miles of city streets within its boundaries. This includes seasonal maintenance activities such as crack sealing, street patching, chipseal, as well as structural maintenance of the street system.

In neighborhoods subject to redevelopment, removal of existing barriers and application of the Complete Streets guidelines defined in Section 3 is recommended to enhance the use of alternative forms of transportation at the neighborhood level.

Safe Routes to School

To complement the City's own PMP program, continuing to pursue other funding to enhance pedestrian-level access to schools is recommended, as has been the City's recent practice. Although this type of program has funding limitations, it is still important for the City to pursue these programs to augment local funding sources.

Implementation Strategy for Complete Streets Policy

The Complete Streets policy focuses on incorporating alternative transportation features into all new public and private developments or redevelopment. Newer developments along American Boulevard and the retail nodes along Old Shakopee Road are examples of where the City is already incorporating many of the features important to enhancing pedestrian-level access and encouraging alternative forms of transportation.

Continued expansion of these practices are consistent with the City's Complete Streets policy and best practices described in Section 3. The Complete Streets policy should be considered for all new or upgraded streets, transit facilities, public spaces, and private development areas to ensure safe access and movement for all users of various modes of transportation.

Implementation Strategy for Trail Maintenance

The City of Bloomington Pavement Management Program Trails is a program developed to maintain the existing inventory of bituminous asphalt trails and bituminous asphalt (asphalt) sidewalks throughout the City with routine pavement maintenance or reconstruction. This program is similar to the street Pavement Management Program (PMP) and is referred to as PMP Trails or TPMP.

The existing inventory of asphalt trails and asphalt sidewalks in the City includes all Right-of-Way and Park trails for a total of 38 miles (2014). Of the 38 total miles, there are about 24 miles of asphalt sidewalks (narrow trails) and 14 miles of asphalt trails.

The PMP Trails program evaluates the condition of the asphalt trails and sidewalks and identifies the best maintenance practices to maximize the life of the asphalt. Based on the PMP Trails pavement condition evaluation, about 9 miles of existing asphalt trails or sidewalks are in poor condition, with a Pavement Condition Index (PCI) between 0-35.99, and have been identified for reconstruction over the next 10 years or sooner, depending on funding. The remaining miles of asphalt trails and asphalt sidewalks will be part of a routine pavement maintenance program that will include crack sealing, chip sealing and other techniques discussed in the Operations and Maintenance Considerations Section of this document.

If any new bituminous trails are constructed in the City, they will need to be added to the PMP Trails plan, and additional funding will need to be added to fund the program. A few of the segments prioritized in this Plan are also included in the PMP Trails for reconstruction within the next 10 years.

Implementation Cost Projections

The forthcoming cost projections define the potential costs associated with implementing the core components of the system plan to reach an optimal level of development. The projections are based on a combination of site-specific development issues and professional judgments based on projects of similar size and characteristics. The projections are based on 2015 dollars, which will require inflation adjustments over time. Trail costs include supporting infrastructure such as signage and trail amenities like bike racks and trash receptacles.

The cost projections take into consideration assumptions regarding the basic age of existing amenities. The actual timing of upgrading a particular component will affect whether there is any value in salvaging an existing feature or simply replacing it. With trails, it is assumed that developing a destination or linking trails entails removal of the existing trail or sidewalk and replacing it with a new one meeting desirable standards.

Timing will also affect the cost projections – which generally mean costs will rise above what is shown the further out upgrades are made.

Use of the Cost Projections

The intended use of the cost projections is to aid the City Council in developing an overall funding and implementation strategy, including:

- Defining the potential magnitude of the public investment needed to develop the system to its optimal level.
- Comparing the relative cost of one park or trail improvement over that of another.
- Determining the level of service threshold that the community is willing to support with local funding.
- Prioritizing and budgeting for capital improvement initiatives based on funding availability.

Limitations of the Cost Projections

Implementation costs will vary, perhaps significantly, depending on the actual conditions found out in the field, final design and scope of a given project, right of way or easements, and economic conditions at the time of bidding and implementation. To remain relevant, the cost projections should be updated on a periodic basis to stay in alignment with potential cost increases over time, and to factor in costs to replace items that have subsequently worn-out.

Given the uncertainties of size and scale associated with implementing the Neighborhood Pedestrian/Safe-Routes to School Program and Complete Streets Program, projecting costs for these elements is too uncertain at a system planning level to be of much value. Instead, projecting the costs for these improvements is best accomplished through the PMP as gaps in the infrastructure are more accurately documented and prioritized.

Cost Projections for Trails and Bikeways

Projecting the costs for developing these trails and bikeways without the benefit of site surveys and design layouts offers certain practical limitations. Given this, it is important to underscore that the cost projections presented here are for planning purposes and that more detailed evaluation is required to firm up costs as the City develops their funding packages and grant applications.

The forthcoming cost projections for trails are based on estimated unit costs assuming generally good construction conditions and requiring a modest degree of site preparation (e.g., soil corrections), storm water work, and limited retaining walls. Commonly, trail development ranges from $500,000 to $700,000 per mile, exclusive of bridges or underpasses. With limited right-of-way and other constrictions, trail projects in Bloomington tend to be on the higher end of the cost range. Based on recent bidding on local area projects, the cost projections for implementing the core trail plan as defined in Section 3 are based on a $680,000 average cost per mile. The cost to replace existing sidewalks in a road corridor with a paved trail, such as along American Boulevard, is based on a $340,000 average cost per mile. Sections of roadway that need additional right-of-way may incur costs that are substantially higher, based on current costs for land or easement acquisitions.

With bikeways, cost projections relate to restriping streets from 4-lane to 2-lane configurations. Cost projections for implementing the core bikeway plan are based on a $101,000 average cost per mile. This includes blacking out existing painted lines, painting new lines, and on-road stenciling associated with bike lanes at major intersections. Bikeway signage is estimated at $1,500 average cost per mile. Added together, per mile costs for bikeways is approximately $102,500. Additional costs may be incurred if signal modifications are needed to incorporate bikeways through intersections.

There is also a projection for the cost of maintaining existing natural surface trails located within the park system. Maintenance on these trails includes mowing, vegetation management, periodic tree trimming, and minor grading/soil stabilization. Mowing and vegetation management occur regularly throughout the year, while tree trimming and selective grading are on an as-needed basis. Cost for the activities is estimated to $2,100 average cost per mile.

Cost Projections for Expanding PMP to Cover Sidewalks, Trails, and Streetscape Features

The current Pavement Management Program (PMP) typically includes sidewalk and pedestrian ramp repair as part of all reconstruction and overlay projects. New reconstruction or gap infill of sidewalks, trails and streetscape features is outside of the current funding level and structure of the Streets PMP.

The Pavement Management Program Trails (PMP Trails) is a newly developed program to maintain and improve the existing inventory of bituminous asphalt trails throughout the City. Additional information about this program can be found in the Maintenance portion of this chapter and in Appendix B.

Funding Sources for Capital Projects

There are several sources for funding capital projects including federal and state grants administered by the Minnesota Department of Transportation and the Minnesota Department of Natural Resources. Potential funding sources for capital projects include:

- City of Bloomington
- Transportation Alternatives Program (Grant Coordinator: MNDOT)
- Parks and Trails Legacy Grant Program (Grant Coordinator: MN DNR)
- Regional Trail Grant Program (Grant Coordinator: MN DNR)
- Local Trails Connection Program (Grant Coordinator: MN DNR)
- Federal Recreational Trail Program (Grant Coordinator: MN DNR)

Figure 4.5: *Potential Cost for Implementation of Regional Trails and Community Corridors*

Segment: Regional Trails	Estimated Length	Projected Construction Cost	Annual Maintenance Cost
Priority #1a – Minnesota Valley State Trail A. Includes both paved and natural surface trails along the Minnesota River from Bloomington Ferry Bridge to Minnesota Valley National Wildlife Refuge Headquarters. *Owner: MnDNR Lead: MnDNR Maint: DNR Fund: State of Minnesota Maint Fund: DNR*	16.67 miles	$5,100,000	$72,198
Priority #1b – Minnesota River Valley Trail Connectors Includes trails that connect to the Minnesota Valley State Trail that are not located on City of Bloomington property. *Owner: Various Lead: FWS & MnDNR Fund: Various*	1.25 miles	$850,000	$5,414
Priority #1c – Local Connections to the Minnesota Valley State Trail Includes natural surface or paved trails that connect to the Minnesota Valley State Trail that are located on City of Bloomington property or along street ROW. *Owner: COB Lead: COB Fund: TBD*	3.86 miles	$300,000	$8,106
Priority #2 – Hyland Trail Since much of this trail is completed, estimate only includes paved trails on the north end of this corridor. This does not include bridge modifications over I-494. *Owner: Various Lead: TBD Maint: COB Fund: TBD Maint Fund: New*	0.56 miles	$381,000	$2,425
Priority #3 – Nokomis-Minnesota River Regional Trail Corridor			
A. A small segment of the trail corridor from 86th Street to the Old Cedar Avenue Bridge. *Owner: COB Lead: TRPD Maint: COB Fund: TAP Grant and local match Maint Fund: New*	.72 miles	$563,800	$3,117
B. Trail corridor from Old Shakopee Road to Old Cedar Avenue Bridge. This cost estimate does not include boardwalk or bridges that may be needed. *Owner: COB Lead: COB Maint: COB Fund: Combo Maint Fund: New*	.53 miles	$350,000	$2,297
C. Trail corridor from Old Cedar Avenue Bridge to the State Trail. *Owner: COB Lead: COB Maint: COB Fund: TBD Maint Fund: New*	.5 miles	$350,000	$2,166
Priority #4 – Nine Mile Creek Regional Trail This estimate is for a short segment of trail along airport lane and 34th Avenue. Assume full trail construction. *Owner: TBD Lead: TRPD Maint: TBD Fund: TBD Maint Fund: New*	1.4 miles	$952,000	$6,063
Priority #5 – CP Rail/East Soo Line Corridor Assumes an independent trail alignment along East Soo Line right-of-way from spur at Hampshire/114th to I-494 towards Minneapolis. *Owner: TBD Lead: TBD Maint: TBD Fund: TBD Maint Fund: New*	6.73 miles	$4,576,000	$29,148
Priority #6 – West Soo Line Corridor Assumes an independent trail alignment along the CP/West Soo Line right-of-way from Minnesota River/Auto Club Road to I-494 near East Bush Lake Road. *Owner: TBD Lead: TBD Maint: TBD Fund: TBD Maint Fund: New*	5.81 miles	$3,951,000	$25,163
Subtotal Regional Trails		$17,299,000	

Segment: Community Corridors	Estimated Length	Projected Construction Cost	Annual Maintenance Cost
Priority #1 – France Avenue Trail Corridor (Existing: Reconstruct and Fill Gap)	2.9 miles	$3,504,000	---
Includes replacing existing paved trails and some sidewalks along this corridor with new and wider trails. Assumes many of the existing trails and sidewalks are reaching the end of their effective lifecycle or are substandard. City estimate includes retaining walls, boardwalk, etc., for areas of limited space between the road edge and wetland, as well as estimated right-of-way needs.			
A. Reconstruct existing poor quality and narrow bituminous trail/sidewalk along France Avenue	1.9 miles		$8,229
B. Infill gaps in existing system along France Avenue including the wetland segment (at Nine Mile Creek), between Poplar Bridge Rd and W 84th Street, south of Jefferson HS to Old Shakopee Road and other gaps)	1.0 mile		$4,331
Priority #2 – Normandale Boulevard Trail Corridor (Existing: Reconstruct)	5.95 miles	$4,046,000	---
Includes replacing existing paved trails and sidewalks along this corridor with new and wider trails. Assumes many of the existing trails and sidewalks are reaching the end of their effective lifecycle or are substandard.			
A. Reconstruct poor quality trails on both sides of Normandale Boulevard between Nine Mile Creek and Poplar Bridge Rd/W 94th Street	2.25 miles		$9,744
B. Reconstruct poor quality trails on west side of Normandale Boulevard between Poplar Bridge Rd/W 94th Street and Old Shakopee Road	1.85 miles		$8,012
C. Determine if trail along east side of Normandale Boulevard between Poplar Bridge Rd/W 94th Street and Old Shakopee Road is needed	1.85 miles		$8,012
Priority #3 – West Bush Lake Road Corridor (Existing: Reconstruct)	1.52 miles	$1,034,000	$6,583
This trail segment reconstructs the off-road trail on West Bush Lake Road from Oakmere to the north to Washington Avenue/Marth Road			
Priority #4 – Portland Avenue Corridor	2.5 miles	$255,000	on-road
Assumes an on-street bicycle facility connecting from Richfield to Old Shakopee Road.			
Priority #5 – Xerxes Avenue Corridor	3.0 miles	$300,000	on-road
This estimate includes filling of gaps from 84th Street to American Boulevard and between 98th Street and 90th Street along the east side of Marsh Lake. Undetermined if it will be on-road or off-road connections, but the existing corridor is on-road. Total length 4.2 miles			
Estimated length of off-road trail:	1.2 miles	$816,000	$5,197
Priority #6 – Bush Lake Park Trails			
A. Completes the gap in the trail/sidewalk on the southwest side of the lake between Veness Rd and approx. 9149 West Bush Lake Rd	.23 miles	$112,550	$996
B. Trail connection along the northeast and north sides of the lake from Picnic Shelter #3 to Lakeview Avenue.	.22 miles	$107,657	$952
C. Trail connection along the northeast and north sides of the lake, from Lakeview Avenue around North Bay and connecting to West Bush Lake Road	1.05 miles	$513,818	$4,548
Priority #7 – I-35W Parallel Route	5.02 miles	$512,000	primarily on-road
Assumes a primarily off-road facility between I-35 Minnesota River Bridge and the Knox Avenue station of the Orange Line. Further study needed to define route.			

Segment: Community Corridors, cont.	Estimated Length	Projected Construction Cost	Annual Maintenance Cost
Priority #8 – American Boulevard Corridor Assumes that completion of pedestrian-ways along this street will be incrementally as part of ongoing redevelopment and streetscape improvements from East Bush Lake Rd to 12th Avenue.	5.8 miles	$1,972,000	concrete pedestrian-way facility
Priority #9 – Old Shakopee Road Corridor Includes replacing existing paved trails and sidewalks along this corridor with new and wider pedestrian facilities and possibly off-road trails. Some segments will require substantial right-of-way.	6.91 miles	$4,699,000	undefined facility type
Estimates assuming a new 10' bit trail on one side from just west of Normandale to Killebrew.	7.4 miles	$4,995,000	$32,049.40
Subtotal Community Corridors		$22,867,025	
Base Total Regional Trails & Community Corridors		$40,166,025	
Contingency (20%) and Professional Fees (15%)		$14,058,000	
Overall Projected Construction Cost Total		$54,224,025	

Costing Note! *Contingency includes extraordinary costs such as bridges, extensive retaining walls, or right-of-way acquisition, if needed.*

Adjusting for inflation! *A 10% per-year cost estimate increase is recommended from date of plan adoption to account for inflation.*

Figure 4.6: *Potential Cost for Implementation of Local Connections*

Segment: Local Connections	Estimated Length	Projected Construction Costs
Priority #1 – West 102nd Street Bikeway (Normandale Boulevard to France Avenue)	1.02 miles	$104,040
Priority #2 –Hampshire Avenue Bikeway	0.38 miles	$38,760
Priority #3 – 106th Street Bikeway and Lyndale Avenue Bikeways	1.5 miles	$153,000
Priority #4- Overlook Drive Bikeway	0.5 miles	$51,000
Priority #5- Gaps in Trail Network	1.14 miles	$116,200
Base Total		$463,000
Contingency (20%)		$92,600
Overall Total		$555,600

Figure 4.7: *Trail Maintenance Costs*

Type	Unit	Projected Costs	Notes
On-street sweeping	Mile	$583.00	Cost per mile
Sweeping	Mile	$200.00	Cost per mile
Snow and ice removal	Mile	$50.00	Cost per mile
Mowing clear zones	Mile	$600.00	Cost per mile
Asphalt crack repair	LF	$1.00	Includes blowing out debris
Asphalt edge/patch repair	SY	$40.00	Includes sawcut, removal, base repair and paving
Sealcoating/fog sealing	SY	$1.25	One coat of emulsion-only (no rock)
Signage	SF	$35.00	Cost per square foot for individual signs
Natural Surface Trail Maintenance	Mile	$2,100	Mowing, vegetation management, signage repair, minor grading

Figure 4.8: *Suggested Seasonal Schedule for Inspections*

Season	Inspection Focus
Spring	Inspect for damage from winter use and freeze-thaw cycles. Check for erosion, plugged culverts, fallen vegetation, vandalism, user and maintenance vehicle–caused damage, slumping, cracking, and other visible signs of surface imperfections. Record problems and schedule maintenance on a priority basis.
Summer	Inspect regularly and after storms for damage to facilities. In addition to items listed for spring, also inspect vegetation growth and encroachment and pay special attention to drainage ways and ditches that may have eroded during the spring runoff. Record all problems and schedule maintenance on a priority basis.
Fall	Inspect regularly and after storms for damage to facilities. Focus on maintenance that should be done before winter to avoid more damage during spring thaw. Pay special attention to culverts and drainage ways that will be needed to handle spring runoff. Fill cracks.
Winter	This is a good time of year to check low areas and drainages that cannot be easily accessed during the summer. This includes culverts, ditches, and beaver ponds. Winter is a good time to conduct major vegetation maintenance and trimming activities because heavier vehicles can access trail corridors while the ground is frozen and fewer if any users are on the trails.

Mowing the "clear zone"

Maintenance and Replacement Cost Budget Considerations for Trails

Undertaking routine and preventive maintenance ensures a safe environment, reduces hazards, and helps control future repair costs (maintenance costs and responsibility for maintenance should be assigned when projects are planned and budgets developed.) Replacement costs also have to be factored into cost planning. Generally, trails can be expected to have up to a 25-30 year lifecycle with regular maintenance.

For long-range budgeting purposes, factoring in an annual maintenance and replacement cost of 10 percent of infrastructure replacement costs accounts for year-to-year maintenance plus replacement of the facility after 25-30 years.

Operations and Maintenance Considerations

The following operations and maintenance guidelines provide general recommendations for monitoring and maintaining paved trails, sidewalks, and bikeways. The objective is to prolong the life of these based on common practices in Minnesota and take into consideration climate and other site conditions. Note that the guidelines are generic and not a substitute for City policies, practices and maintenance programs tailored to site specific conditions. In all likelihood, these considerations would be integrated into the City's existing PMP.

Monitoring and Inspections Schedule

Monitoring and inspections of all facilities should occur throughout the year to detect maintenance issues before safety is compromised. The management plan and monitoring inspection schedule will be consistent with the City's Pavement Management Program (PMP), which is a tool the City utilizes to track pavement deterioration and provides guidance for maintenance, repairs and replacement of trail pavement. A PMP that identifies the right action at the right time can save money and help maintain safe pavement surfaces. Figure 4.8 provides an overview of inspections that can be completed during each season.

Inspections Schedule Considerations

A routine inspection schedule is important for staying on top of maintenance issues and taking care of problems at an early stage. The following is a suggested seasonal schedule for inspections.

A Paved Trail Inspection Template is included in the Appendix B that includes a list of items that should be reviewed when inspecting trail facilities.

General Maintenance Guidelines

Maintenance of paved trails, sidewalks, and bikeways falls into a number of basic categories, as the following considers.

Vegetation Management

To maintain an acceptable clear zone and to preserve the integrity of the trail and sidewalk surfaces, vegetation along these facilities needs to be managed. Preventing vegetation from breaking up the edges of the asphalt surface is especially important to extending a trail's life cycle. If vegetation is left unchecked, cracking, crumbling, and surface holes can rapidly develop.

Woody vegetation close to the trail can send root suckers under and then through the asphalt, destroying the integrity of the pavement. This vegetation needs to be removed by cutting or trimming and removing the trimmed material from the site.

A vertical clearance of ten feet above trails and sidewalks should be maintained. Trimming overhead branches and removing dangerous limbs is an activity that should be reviewed on an annual basis.

A two to three foot "clear zone" should be maintained on both sides of trails and sidewalks. Within this area, there should be no obstructions such as trees, signs, posts or fences. The "clear zone" should be maintained by mowing turf grass or, in wooded areas where grass will not grow, wood mulch can be installed along the shoulder. If erosion has taken out vegetative cover, solve the problem before restoring vegetation.

Asphalt Crack Repair

Routine crack repair is critical to trail longevity. It is especially important to complete this work before winter. In general, all cracks wider than three-eighths inch should be filled. Those wider than one-half inch should be cut out and patched. Longitudinal cracks, which are typically structural problems, should be cut out and patched, not filled.

In areas where cracking is extensive and the subgrade is deemed stable by an engineer, an overlay can be used since the problem will not be resolved through crack filling. Note that drainage of the trail needs to be reviewed to make sure it is not compromised if an overlay is added. If so, the drainage issue must be corrected.

Repairing Crumbling Edges

Broken or crumbling edges are typically caused by either poor subgrade preparation before paving or heavy maintenance vehicles deflecting the asphalt surface and causing it to fail, especially in the spring during the frost-out period. Poor subgrade drainage can also be a factor in edge failure. If the trail, subgrade, and base material are poorly drained and remain wet, especially through freeze-thaw cycles, pavement failure can be

expected, typically starting at the edge where the pavement is the weakest.

Cutting out the damaged area and inspecting the subgrade is required in these instances. If the subgrade is confirmed to be stable, the area can be patched using MnDOT specifications for asphalt repair, which include the use of a tack coat to seal the patch from moisture. If the patching area is large, removal of the entire area and replacement is recommended, since patches can annoy trail users.

Pitting and Grooving

Pitting and grooving can be caused by trail grooming or snowplowing equipment. If the damage is extensive enough to be of concern, an asphalt overlay of at least 1 inch is recommended. In the most severe cases, or when this is a routine problem (such as the approach to a bridge), using concrete for a section 30 feet or less is a common approach.

Slumping, Caving, and Holes

Slumping, caving, and holes can be attributed to many factors, including animals, erosion, culvert failure, settling at bridge approaches, and subgrade problems.

To repair holes caused by animals, smooth them out, re-compact the subgrade, and fill with an asphalt patch, which should be compacted. The patch should be level with or slightly crowned (but not lower than) the adjoining surfaces to avoid trapping water and causing future problems.

In situations where erosion and culvert failure are the problems, identify and address the cause before making the repair. Use the patching approach described above.

The area where an asphalt trail surface abuts a bridge deck is highly susceptible to separation, cracking, and slumping. Although specific repairs depend on the bridge design, the typical problem is the lack of a solid backing for the asphalt surfacing to be placed against or over. Either concrete or pressure-treated wood can often be used in these situations, although site-specific solutions are most common due to the variability of what can be encountered. The bridge manufacturer, who should be contacted to ensure that solutions do not compromise the bridge integrity, may have additional suggestions.

Sealcoating/Fogsealing

Sealcoating relates to surface treatments used to cover minor surface imperfections and asphalt deterioration from weathering and oxidation. Although sealcoating has its advocates, it also poses some significant limitations, including:

» Short life span – with extreme variability between products

» Tendency for the finished surface to become slippery when wet unless a material such as sand or crushed rock chips are added (which is not desirable for most bicyclists and in-line skaters)

Patching

Fog seal

Asphalt crack repair and seal combined

» Incompatibility and inconsistency in products – with some products found to not bind to asphalt very well

For these reasons, the cost/benefit of sealcoating/fogsealing is uncertain and some maintenance departments forgo it and do an overlay on a shorter rotation with the money saved. Note that as products improve, the cost/ benefit of sealcoating/fogsealing may become more justifiable. For best results, a sealcoat/fogseal should be applied in the second year to prevent moisture from seeping into surface cracks and voids and to prevent the surface from drying out. Thereafter, sealcoating/fogsealing every 3 to 5 years is common.

Management Plans

A management plan identifies maintenance needs and responsibilities. A management plan that includes the maintenance component for a proposed facility should be prepared during project planning and be funded as part of implementation approval.

Additionally, a management plan should include a means for users of the system to report maintenance and related issues and to promptly address them. User-initiated maintenance requests should follow an established procedure to help avert deterioration of the city's infrastructure and reinforce resident-ownership of the system.

Maintenance Schedules

A maintenance schedule is the best way to ensure that specific maintenance activities are completed and at the optimal frequency. A maintenance schedule can be a simple spreadsheet or it can be incorporated into the City's asset management software that tracks pavement management. A sample spreadsheet for trail maintenance is included in Appendix B.

Routine Maintenance Considerations

In addition to seasonal monitoring and inspections, routine maintenance also needs to be undertaken consistent with City of Bloomington policies. The following highlights a few areas of particular importance.

Snow and Ice Removal

To foster year-round use of trails and pedestrian-ways, a snow and ice removal policy and accompanying plan is necessary. When provided on a designated trail, pedestrian-way, or bikeway, snow and ice should be pushed well out of the travel lane. Bikeways, gutters, and curb ramps should not be used as snow storage areas for snow removed from streets. When snow and ice are removed from trails, it should be pushed far enough away from the trail edge to maintain the two-foot clear zone on both sides of the trail.

Sweeping

Loose sand and debris on the surface of all trails, pedestrian-ways, and bikeways should be removed at least once a year, normally in the spring. Sand and debris will tend to accumulate on bicycle lanes and shoulders, because 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. Other times when sweeping is necessary includes after storm events when vegetation debris has fallen on trails and in the fall after all leaves have dropped from trees. Proper trail sweeping is important to maintain safe trail surfaces, since trail use will continue until snowfall and throughout the winter if trails are plowed for year-round use.

Drainage Facilities

Drainage facilities often deteriorate over time. Ensuring that bicycle-safe drainage grates are located at the proper height greatly improves bicyclist safety. Adjusting or replacing catch basins that have deteriorated or present a hazard should occur as needed to ensure continued safe operations and improve drainage. When a catch basin or drainage grate is located within or adjacent to a trail, it is important that the grate openings are small and set perpendicular to the direction of travel so that bicycle or in-line skate wheels to not get caught in the spacing. Neenah Foundry and other grate manufacturers make grate covers specifically for locations where bicycles and other small-wheel activities will occur.

Natural Surfaced Trails

With respect to natural-surfaced trails, implementation priority centers on expansion of the trails along the Minnesota River Valley, with the first step being to open up negotiations with various affected agencies to determine the extent to which this can occur. This step should be followed by detailed alignment planning. Note also that implementation of this trail plan is inherently lock-stepped with the proposed destination trail along the river. Second to the trail along the river is implementation of the nature trails defined under the Parks and Recreation Master Plan.

Education and Promotion

Complementing the alternative transportation system defined under this plan with an education program is important to increasing actual use and safety of the system. The following covers the most important aspects of education and promotion programs to foster increased participation in the use of alternative forms of transportation in Bloomington.

Bicyclists, motorists, and pedestrians each have a responsibility for making all modes of transportation safe. The City has established guidelines for the safe usage of parks and trails within the City. These guidelines can be found in the "Bloomington Park Trails, Regional Trails and Sidewalk Usage Policy". Effective safety programs can reduce the risk of crashes and injuries while giving pedestrians and bicyclists greater confidence to use alternative transportation facilities.

Typically, safety training focuses on:

» Developing and reinforcing safe skills in children and adults

» Teaching bicyclists their rights and responsibilities

» Increasing awareness of motor vehicle operators of the rights of bicyclists and pedestrians, especially their responsibility to safely share the road with bicycles and respect pedestrians in crosswalks.

With children, working closely with local schools to provide safety training and teach riding skills is recommended. Critical messages for children and adults include: always wear a helmet, obey traffic laws, ride with the flow of traffic, and be visible.

With motor vehicle operators, the goal is to increase awareness of the alternative transportation system and follow established laws related to accommodating bicyclists on roadways and pedestrians in crosswalks.

Promoting the Safe Use of Alternative Transportation Facilities

The City is encouraged to actively promote the use of the system through various programs and forms of communication. The following provides a few suggestions in this regard.

Special Events and Programs

Events ranging from weekend group rides to major bike rides and walking-for-a-cause should continue to be promoted. City-based, non-profit, and advocacy groups should be encouraged to sponsor events and activities that promote healthy lifestyles through physical activity. Advocating local walking clubs is also gaining favor in some communities, with the City providing a conduit for interested residents to meet up with others.

Special events can help raise the profile and potential for bicycle commuting and walking, educate the community of the facilities that are available, and promote healthy lifestyles. For example, the City of Bloomington annually hosts walking and biking events and fundraisers. Bike races, such as the mountain bike races held on the Minnesota River Valley trails in January, are another great way to promote active living.

School-Age Programs

Encouraging healthy, active lifestyles at the earliest ages is important to establishing life-long habits. Working closely with local schools to encourage students and staff to develop these habits is recommended. This ranges from implementation of Safe Routes to School Programs to establishing awards and incentives for riding or walking to school. Student discounts at area bicycle shops can also be an effective tool for encouraging bicycling.

Adult Bicycle Incentive Programs

Increased use of bicycle transportation can be encouraged with adult incentive programs as well. For example, business associations can provide discounts to shoppers who arrive by bike; employers can provide close-to-the-door and secure bike parking areas; and transit facilities can provide high quality and secure bicycle facilities.

Bike and Trail System Maps and Signage

An alternative transportation system is only of value if residents first understand it and then know how to access and use it to get around the community and to various destinations. Providing system maps (i.e., Bloomington Active Living Biking and Hiking Guide) in printed and electronic form are a high-benefit, low cost approach to promoting the use of the system. In addition to providing system information, maps can provide information on rules, safety, and connections to transit hubs. Another helpful tool is the use of web-based mapping that allows users to define their own routes.

Law Enforcement

As with motor vehicles, enforcement of bicycle and pedestrian laws, in concert with educational programs and peer pressure, will foster the safe and responsible use of the alternative transportation features defined under this plan. Being effective in this regard will require a close working partnership between local law enforcement, City staff, local schools, and local advocacy groups in coordinating educational programming backed up by appropriate law enforcement.

Outreach and Public Involvement

Bloomington continues to expand its outreach effort to improve public awareness of its programs and services. This outreach effort will be extended to informing the community about the alternative transportation system as it evolves. This includes the use of:

- Printed Materials: Bloomington develops and distributes on a periodic basis brochures and maps, including trail and park maps.
- Electronic Communication: Bloomington has a well-established web page to inform citizens about the City's functions and services. Bloomington also uses Twitter and Facebook to keep residents informed about current events in the city. For large projects, Bloomington may establish a web site or project-specific Facebook page to keep neighbors and the general public up to speed on the project schedule and progress. In addition, the public can contact the City offices through the e-mail system.
- Other Outreach: Other forms of outreach and marketing include displays at events, articles in local publications, the production of flyers and brochures and the display of information at City Hall kiosks. The City also publishes news releases and advertisements in local community and metropolitan area newspapers that highlight upcoming programs and facility openings.

Bloomington is committed to continuing public involvement through the implementation of the system plan. The degree to which this will occur will vary depending on what aspect of the plan is being implemented.

For larger scale projects, such as development of a major trail, public involvement in the actual design process may be fairly extensive and involve representation from key stakeholders. In addition, forums for broader public input (e.g., open houses and presentations) should also be used as needed to communicate and exchange ideas with interested citizens. For smaller scale projects, notification of interested parties would be a more appropriate approach.

The objectives associated with involving citizens in the implementation process include:

- Determine who the stakeholders are and their interest in a particular development initiative
- Understand their needs and unique perspectives
- Identify and understand concerns and problems
- Develop alternatives and find appropriate solutions with input from stakeholders

In addition, Bloomington will continue to take advantage of new and evolving tools such as the Rapid Health Assessment described in Section 1 to involve the community in the planning process.

Funding Sources

Funding sources for operations and maintenance activities are different than capital projects. Funding for operations and maintenance may come from the following sources:

- City of Bloomington
- Parks and Trails Legacy Grant Program for trail restoration and maintenance (Grant Coordinator: MN DNR)
- Regional Trail Grant Program for contracted maintenance and trail rehabilitation (Grant Coordinator: MN DNR)
- Local Trails Connection Program for contracted maintenance and trail rehabilitation (Grant Coordinator: MN DNR)
- Federal Recreational Trail Program for contracted maintenance and trail rehabilitation (Grant Coordinator: MN DNR)