



CITY OF SAINT PAUL

Christopher B. Coleman, Mayor

25 West Fourth Street
Saint Paul, MN 55102

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TRANSPORTATION COMMITTEE OF THE PLANNING COMMISSION

Monday, January 12, 2015, 4:00 p.m. – 5:30 p.m.

All meetings are held in the City Hall Annex 13th floor

Conference room at 25 West 4th Street in Saint Paul

1. 3rd Street/Kellogg Bridge Timeline update – Glen Pagel, Public Works, 5 minutes
2. Como Park Transportation Improvements update – Bryan Murphy, Parks, 10 minutes
3. Citywide Bicycle Plan – Reuben Collins, Public Works, 45 minutes

Upcoming Transportation Committee Meetings

- February 9th
- March 2nd

Meetings are open to the public. The Chair may allow five minutes for informal public comment (from non-committee members) at the beginning of each agenda as needed. Additional time may be allocated for comments or further discussion at the discretion of the Chair. Meetings will be cancelled if there is not a quorum expected, or if there are no agenda items. For additional information on the Transportation Committee of the Planning Commission, please visit our website at bit.ly/StPaulTC or contact Hilary Holmes at hilary.holmes@ci.stpaul.mn.us or 651-266-6612.

Transportation Committee Staff Report

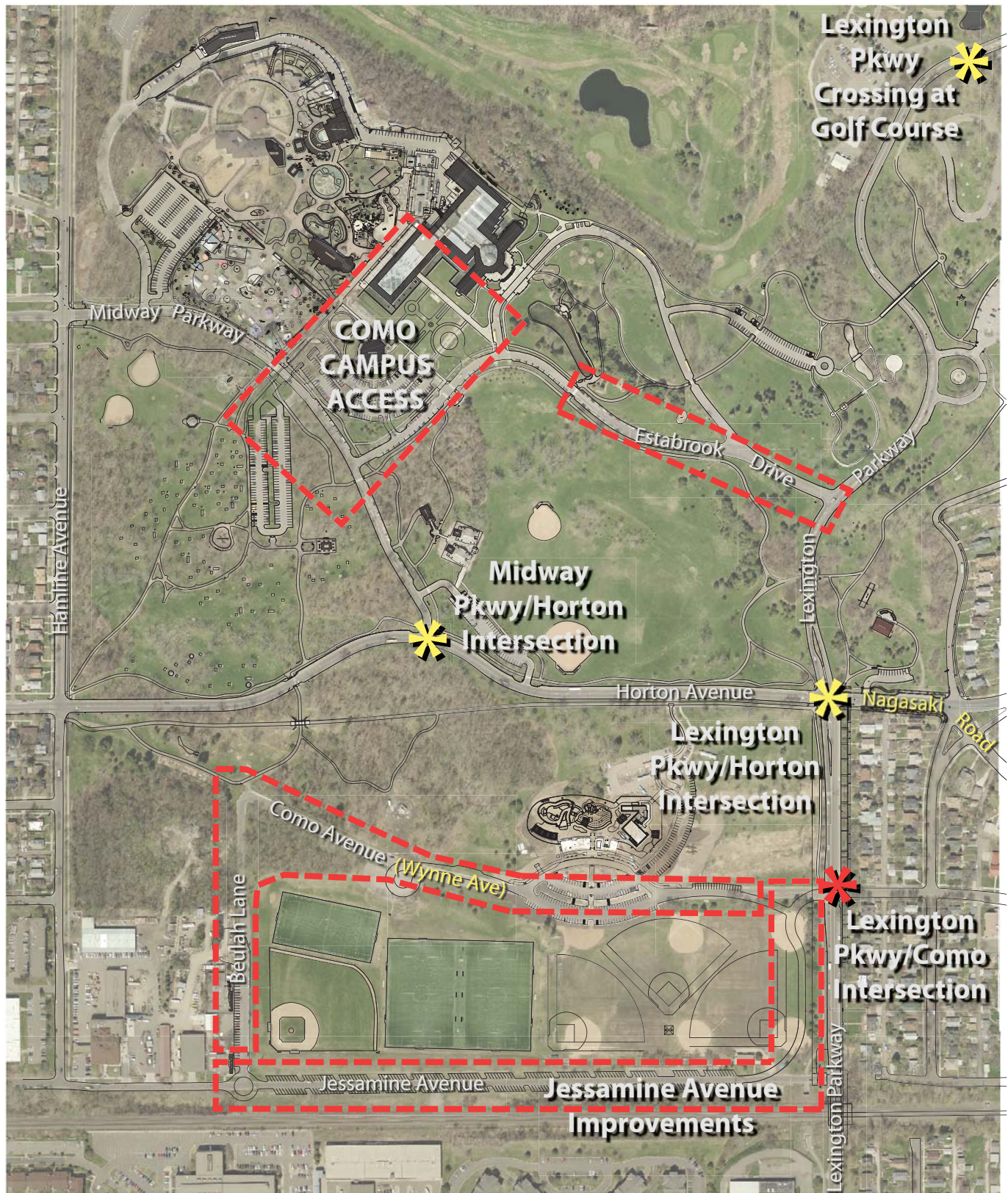
Committee date: 1/12/2015

Project Name	<i>Como Regional Park Transportation Improvements</i>
Geographic Scope	<i>Como Park</i>
Ward(s)	<i>4 and 5</i>
District Council(s)	<i>6, and 10</i>
Project Description	<i>Various road and parking improvements at Como Park</i>
Project Contact	<i>Parks: Don Ganje, Bryan Murphy</i>
Contact email/phone	Don.ganje@ci.stpaul.mn.us ; Bryan.murphy@ci.stpaul.mn.us
Lead Agency/Department	<i>Parks</i>
Purpose of Project/Plan	<i>Improve circulation and alleviate parking congestion at Como Park</i>
Planning References	<i>NA</i>
Project stage	<i>Design</i>
General Timeline	<i>Design - 2015, Construction - 2016</i>
District Council position (if applicable)	<i>Support</i>
Level of Committee Involvement	<i>Inform</i>
Previous Committee action	<i>None</i>
Level of Public Involvement	<i>development of project/program</i>
Public Hearing	<i>Not at this time</i>
Public Hearing Location	<i>NA</i>
Primary Funding Source(s)	<i>State Bonding</i>
Cost	<i>\$5.4 Million</i>

PED Staff to fill in

Staff recommendation	
Action item requested of the Committee	
Committee recommendation	<i>To be filled in at the meeting</i>
Committee vote	<i>To be filled in at the meeting</i>

Level of Committee Involvement

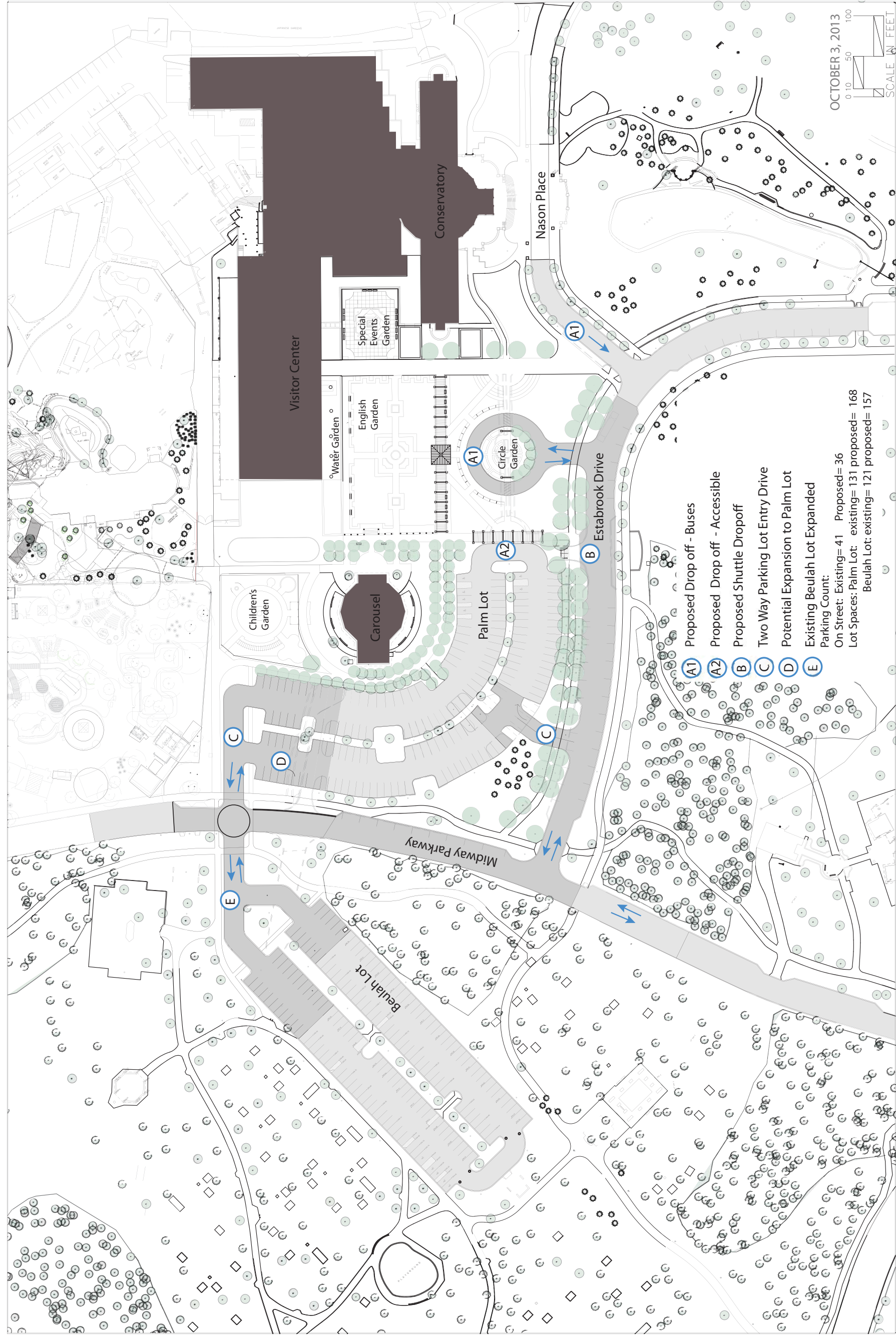


Como Regional Park Transportation Improvements



JANUARY 2015

- Improvement Area
- ✱ Intersection Improvement
- ✱ Intersection Improvement (Alternate Funding)



INFORM: Informational briefings	Projects that are in implementation phase; projects from other jurisdictions; policy documents from other agencies/jurisdictions
ADVISE AND CONSENT: Informational briefings with policy discussion, general directives to staff for follow-through	Project and program reviews primarily initiated by staff; or involvement with program development by others
INVOLVE: Discussions to develop directions for projects & programs	Policy involvement from inception through design, inc. policy development; environmental documentation,
DEVELOPMENT OF PROJECT/PROGRAM: Discussion to form process; screening of ideas; development of recommendations; and managing outreach to the community	Committee has primary responsibility for concept development, and/or overseeing participation process, and/or making specific recommendations to Planning Commission, Mayor and/or City Council

Transportation Committee Staff Report

Committee date: 1/12/2015

Project Name	<i>Saint Paul Bicycle Plan</i>
Geographic Scope	<i>Citywide</i>
Ward(s)	<i>All</i>
District Council(s)	<i>All</i>
Project Description	<i>Final draft of the Saint Paul Bicycle Plan. The plan designates corridors for future development of bikeway and addresses other policies and topics related to bicycling.</i>
Project Contact	<i>Reuben Collins</i>
Contact email/phone	<i>651-266-6059</i>
Lead Agency/Department	<i>Department of Public Works</i>
Purpose of Project/Plan	<i>The plan designates corridors for future development of bikeways and provides recommendations regarding bikeway facility types for those corridors. The plan will be used by Public Works as an implementation guide.</i>
Planning References	<i>Comprehensive Plan, Bike Walk Central Corridor Action Plan</i>
Project stage	<i>Planning</i>
General Timeline	<i>Drafts of the plan were released on 1/21/2014 and 10/6/2014. This final version of the plan is recommended for adoption.</i>
District Council position (if applicable)	<i>None</i>
Level of Committee Involvement	<i>Involve</i>
Previous Committee action	<i>Presentations regarding this plan were presented to the Transportation Committee on 6/13/2011, 4/22/2013, 1/27/2014, 5/19/2014, and 10/6/2014.</i>
Level of Public Involvement	<i>Involve</i>
Public Hearing	<i>A public hearing at the Planning Commission was held on 12/5/2014.</i>
Public Hearing Location	<i>Planning Commission</i>
Primary Funding Source(s)	<i>Unknown</i>
Cost	<i>Unknown</i>

Staff recommendation	<i>Recommend adoption of the Saint Paul Bicycle Plan</i>
Action item requested of the Committee	<i>Review plan document. Provide input to recommended changes to document. Committee will be asked to vote on the final plan on 2/9/2015.</i>
Committee recommendation	<i>N/A</i>
Committee vote	<i>N/A</i>



CITY OF SAINT PAUL
Christopher B. Coleman, Mayor

1500 City Hall Annex
25 W. Fourth Street
Saint Paul, MN 55102-1660

Fax: 651-266-6222

DRAFT

TO: Transportation Committee

FROM: Reuben Collins, Department of Public Works

DATE: 2/9/2015

SUBJECT: Summary of Public Hearing Feedback and Recommendations on draft Saint Paul Bicycle Plan

On December 5, 2014, the Planning Commission held a public hearing regarding the draft Saint Paul Bicycle Plan (SPBP). Since the most recent draft of the SPBP was released on October 6, 2014, the following statements have been received by city staff.

- 33 statements were delivered at the public hearing.
- 98 statements were received through the Open Saint Paul online tool.
- 42 statements were received via email
- 6 Statements were received from other groups or organizations: CapitolRiver Council, Fresh Energy, Friends of the Parks and Trails, Lower Phalen Creek Project, Sierra Club, Smart Trips/Women on Bikes
- Saint Paul Area Chamber of Commerce, Saint Paul Building Owners and Managers Association, & Wabasha Partners reiterated their previous statement dated April 1, 2014.

In some cases, individuals submitted similar or identical statements through multiple channels.

This feedback received is in addition to the feedback received on the first draft of the SPBP between January and April, 2014, when staff received nearly 400 written statements, including statements from 10 District Councils. This is also in addition to the feedback received from the public through several phases of public involvement and outreach since 2011 when the planning process began. Appendix A, B, C, and E of the current draft of the SPBP summarize all of the feedback received since 2011.

The statements received were evaluated and subjectively placed into one of the following four categories:



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Statement Characterization	% of Statements Received
Support the SPBP as is. No recommendations or concerns were stated.	40%
Support the SPBP, but offered recommendations for improvement or expressed a concern.	35%
Did not specifically state support or opposition to the SPBP, but offered recommendations or expressed a concern.	10%
Opposed to the SPBP.	15%

The testimony received was generally supportive of the SPBP. Supporters cited reasons such as quality of life, economic development potential, safety, livability, a desire for transportation options, affordability, and health benefits. Those opposed to the SPBP cited reasons such as cost, misguided priorities, and impacts to parking.

Recommended Changes in Response to Statements

The following is a list of the most frequent concerns or recommendations raised at the public hearing or received through other channels, along with staff recommendation or response.

- **Parking** – The largest concern voiced at the public hearing was concern regarding potential loss of parking in downtown due to construction of the downtown loop & spur trail concept proposed in the SPBP. Commenters concerns ranged from a general lack of parking in the downtown area, the need for more convenient parking near retail storefronts, the importance of on-street parking on particular streets such as Wabasha Street, and concerns about the price of parking (too expensive).
 - o **Staff Response:** Staff recommends no changes to the SPBP. Staff is currently conducting a downtown parking study to help understand issues relating to parking and develop strategies for improving the overall parking situation in downtown. This study will be complete in early 2015. The SPBP recommends that further study is needed of the downtown loop & spur before implementation to allow time for additional conversation about parking and other issues. That additional study of the downtown loop & spur would also happen in 2015 to allow the two studies to inform each other.
- **Bicycle Parking Ordinance:** Numerous individuals voiced concern with Action Item 7.1.1, which recommended that the City consider adopting an ordinance that would prohibit locking bicycles to certain objects in the public right-of-way. Many commenters felt that there is not currently enough bicycle parking, thus resulting in bicycles locked to things

other than bike racks. Many felt it was inappropriate to begin restricting bicycle parking options while there exists a deficit of legitimate bike parking options in many locations.

- o **Staff Recommendation:** Staff recommends removing Action Item 7.1.1, and reiterates a commitment to Action Items 7.1.4 and 7.1.5 (to be renumbered 7.1.3 and 7.1.4), which address concerns regarding a lack of bicycle parking. While the action item will be removed, the SPBP text will retain general statements that it is undesirable for bicycles to be locked to certain objects within the public right-of-way.
- **Recommending bikeways on Arterials vs. parallel routes** - Several statements questioned the purpose of recommending bikeways be developed along arterials, instead recommending that bikeways be identified on streets with lower motorized traffic volumes. Specific questions were raised regarding Cleveland Avenue and Fairview Avenue. However, these comments are balanced by comments from other individuals stating that not enough of the arterials are represented for bikeways in the SPBP, specifically with reference to West 7th and East 7th. Smart Trips included a recommendation in their statement that “the addition of more arterials as bicycle routes should be considered”, citing the directness of routes and access to destinations along arterials.
 - o **Staff Recommendation:** Staff recommends no changes to the SPBP. Discussion about whether bicyclists and the city as a whole are best served by having bicycle routes on arterials or parallel routes has been a common theme throughout the creation of the SPBP and is a topic of much discussion nationally and in every city that endeavors to craft a bicycle plan. The preferences of bicyclists are diverse, and the SPBP strives to strike a balance between bicycle routes on arterials and routes on parallel routes.
- **Maintenance** – Several comments recommended that the SPBP address winter maintenance procedures. Statements recommended setting minimum maintenance standards or identifying maintenance schedules or procedures.
 - o **Staff Recommendation:** Staff recommends no changes to the SPBP. Staff agrees this is an important topic, but developing maintenance standards is outside the scope of this planning effort. However, maintenance issues can be addressed in future studies or planning efforts.
- **Update Timeline** – Several commenters stated that the recommendation for the SPBP to be updated in 5-7 years was too long a timeframe and that more frequent updating would be desirable.
 - o **Staff Recommendation:** Staff recommends no changes to the SPBP. Completion of the Comprehensive Plan in 2018 will provide an interim opportunity for assessing progress. An update to the SPBP may be initiated sooner than 5-7 years if it becomes clear that an update is needed.
- **Citywide traffic speeds and Truck Routes** – Several commenters mentioned a desire to consider lowering speed limits throughout the city, or on residential streets, citing safety concerns. Others commented regarding prohibiting truck traffic on certain routes, particularly along Raymond Avenue.
 - o **Staff Recommendation:** Staff recommends no changes to the SPBP. Citywide traffic speeds and modifications to freight routes are outside the scope of this planning effort.

- **Education, Enforcement, & Encouragement** – Several commenters requested that the SPBP address issues of education, encouragement, and enforcement of traffic laws.
 - **Staff Recommendation:** Staff recommends the addition of Section 8.7: Education, Encouragement, & Enforcement, to mention the importance of these topics and to discuss how the City might seek partnerships with other agencies such as MnDOT or other advocacy groups to create materials, programs, or initiatives regarding education, encouragement, & enforcement. The text includes an action item to pursue these efforts.
- **Cost** – Several commenters expressed concern about cost. Some felt that any investment in bicycle infrastructure is unwarranted and should not be a priority. Others expressed concern about the cost of certain recommendations, the downtown loop & spur in particular. Others were not concerned about the cost, but thought that the planning level cost estimates presented in Section 9.6 overestimated the costs of developing bikeways.
 - **Staff Recommendation:** Staff recommends adding additional text to Section 9.6 clarifying that bundling bicycle projects with other roadway projects is anticipated to bring significant cost savings.

Other Recommended Changes

City staff also proposed the following changes to the document as a result of additional internal dialogue between departments and additional conversation with Metropolitan Council staff regarding consistency with the draft 2040 Transportation Policy Plan (TPP) and 2040 Regional Parks Policy Plan (RPPP), which are anticipated to be adopted in early 2015.

- **Section 4.0 Policy and Planning Context** – The first draft of the SPBP released in January 2014 included an extensive discussion of the roles and responsibilities of partner agencies such as the Metropolitan Council, MnDOT, Ramsey County, & the DNR. The second draft of the SPBP released on October 2014 moved much of this text to the appendix in an effort to improve readability and clarity. However, after discussion with Metropolitan Council staff, city staff recommends moving much of the text back into Section 4.0 and eliminating the appendix item. This section will include additional discussion of the Regional Bicycle Transportation Network (RBTN) that was not in previous drafts.
- **Section 5.2 – Bicycle Network Functional Classification** – The SPBP included language about the Metropolitan Council being “in process” of updating the TPP. Staff recommends removing outdated language relating to the RBTN in light of anticipated adoption of the TPP before adoption of the SPBP. This section will also include stronger language about the challenges associated with the use of freight railroad corridors for bikeway development.
- **Section 6** – Staff recommends inserting a new section 6.4 to discuss the RBTN. A new figure will be inserted (as Figure 6) to present the RBTN in Saint Paul. The text will include an action item to identify specific RBTN alignments within the search corridors.
- **Section 6.5 –Regional Trail Improvements – (renumbered from Section 6.4)** – Staff recommends revising the language to be more consistent with language used in the 2040 Regional Parks Policy Plan, due to be adopted by the Metropolitan Council in advance of the SPBP. The associated Figure 7 (renumbered from Figure 6) relating to Regional Trail has been significantly revised, though the inherent recommendations remain the same. Usage of

terms such as “regional trail search corridor” or “planned regional trail” have been revised to be more consistent with the 2040 RPPP.

- **Section 7.2 Showers, Lockers, and other Amenities** – The SPBP suggested considering a change to the zoning code to encourage or require showers and locker rooms in some developments. After additional discussion with zoning and planning staff, it is unclear if the zoning code is the appropriate tool to accomplish the intent of this action item. Staff recommends that the text be amended to allow for the zoning code or other planning and regulation tools to accomplish the intent.
- **Trout Brook Regional Trail** – A recommendation for an off-street path along Jackson Street from Maryland to Arlington has been added as a possible interim alignment for the Trout Brook Regional Trail until the freight railroad spur becomes available for trail use.
- **General Formatting and Appearance** –A new cover sheet has been added and pagination has been adjusted. Table numbers have been added, and the contents of the tables have been updated to reflect additions to the bicycle network that have taken place since the draft was released.

Recommendation

Staff recommends that the Saint Paul Bicycle Plan, as amended, be recommended for consideration by the Planning Commission to be adopted as an addendum to the Comprehensive Plan.

4.0 POLICY & PLANNING CONTEXT

The Bicycle Plan builds on previous planning efforts and existing policy both established by the City as well as work completed by agency partners, such as Ramsey County, [MnDOT](#), and [the Metropolitan Council](#). Planning for, constructing, and maintaining the bicycle network in Saint Paul is a joint effort between the Department of Public Works, the Department of Parks and Recreation, and the Department of Planning and Economic Development. Each department plays an important role in planning and developing bicycle facilities throughout the city.

There are numerous planning efforts that have informed the development of this plan, including Small Area Plans and District Plans, which have been adopted as addenda to the Comprehensive Plan. The level of detail into which each of these plans gives recommendations regarding the bicycle network varies greatly. In addition, there have been a number of planning efforts that were adopted by the city council but not as addenda to the Comprehensive Plan, as well as numerous studies that were not adopted by the council. Some of the large-scale planning and policy documents are described below

4.1 Comprehensive Plan (2008)

The Comprehensive Plan strongly supports the development of a multi-modal transportation system, including the development of a citywide bicycle network. The plan states the importance of using a Complete Streets approach to planning the transportation system and promotes context sensitive design. The following strategies identified in the Comprehensive Plan are most directly relevant to this planning effort:

[Transportation Chapter](#)

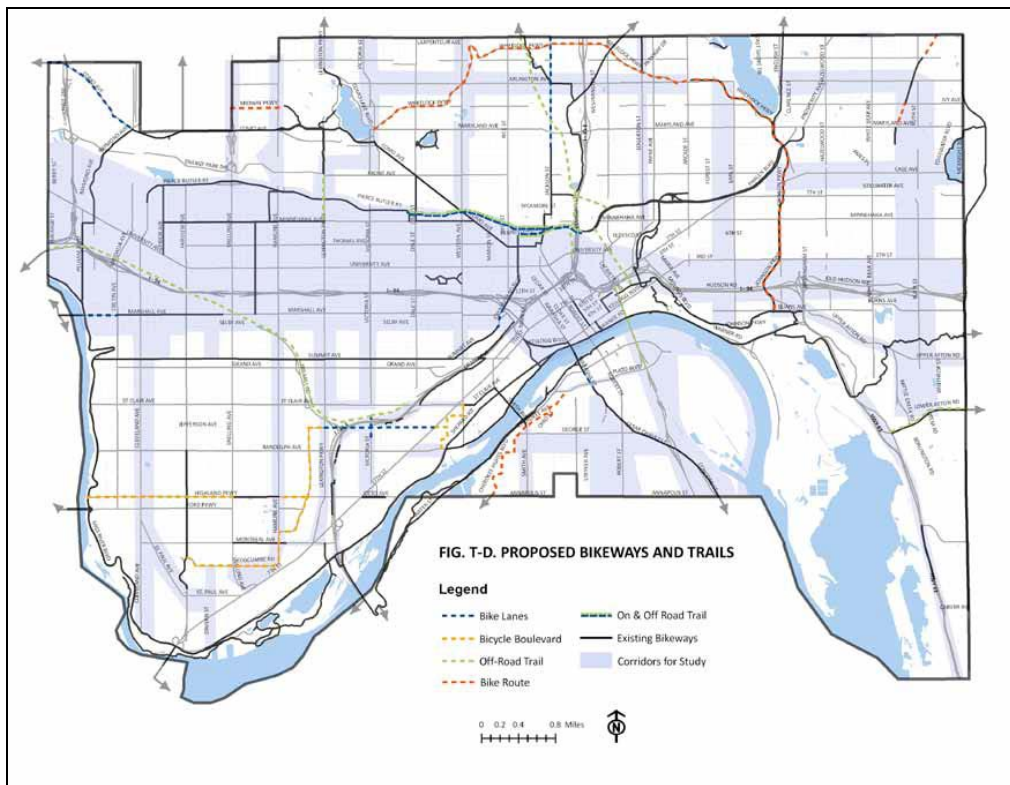
- **1.1 Complete the Streets.** – The needs of all users of the transportation system – including pedestrians, cyclists, transit, freight, and motor vehicle drivers – should be accommodated. The public right-of-way must account for the safety and convenience of the most vulnerable populations.
- **3.4 Develop and maintain a complete and connected bikeway system.** – Generally, bikeways should be no more than a half-mile apart, and arterial striped bike lanes and/or off-street trails should be no more than one mile apart. It is the desired goal of the City to increase the bicycle mode share from 2% in 2000 to 5% in fifteen years and increase the mode share of bicycling commuters from 0.6% to 2.5% during the same period. Saint Paul will become a world-class bicycling city that accommodates cyclists of varying skill levels riding bicycles for both transportation and recreation and encourages bicycle use as part of everyday life.
- **3.5 Support existing off-street shared-use paths and add facilities and amenities supportive of active living principles.**
- **3.6 Fill gaps in the bikeway system.**
- **3.8 Promote “bicycle boulevards” as a new type of bikeway.** - The implementation of bicycle boulevards should be explored, particularly to connect neighborhoods and major destinations and to provide convenient nearby alternatives to bicycling on major streets.
- **3.10 Create public bicycle parking facilities to increase bicycling trips citywide.** – Develop bicycle parking facilities as a part of new or improved public facilities, particularly at hubs of retail and commercial activity; in public parking facilities; and at community gathering spaces. Providing facilities for bicyclists to not only park their bikes but also to

shower, store gear, and get needed bike maintenance can help to make bicycling more convenient and attract new cyclists.

Parks and Recreation Chapter

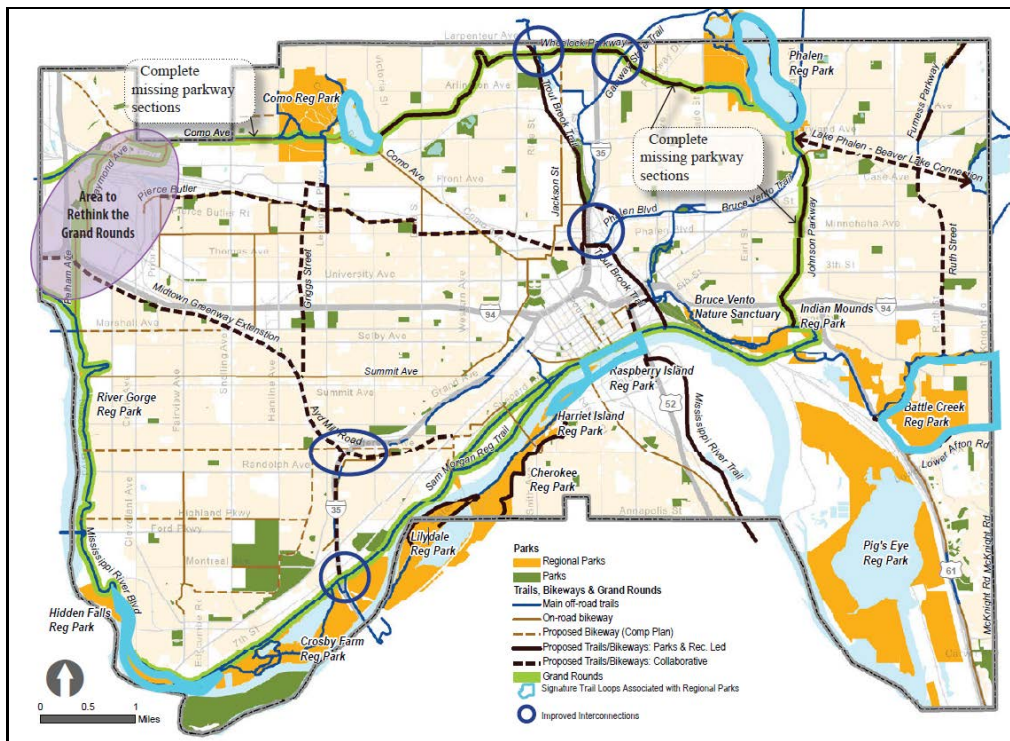
- **1.2 Complete the trail and bikeway system.**
- **1.3. Provide functional, accessible, and secure bike racks at all parks and recreation centers.**
- **1.5 Provide better public information on getting to parks and recreation facilities on foot and bike.**
- **6.7 Build the Grand Round Parkway from a loop route to a complete parkway.** - The City should add off-road trails, on-road bike lanes, and “green” the Grand Round to create a scenic recreational parkway experience, enhance property values, and build tourism. Parkway identity should be achieved through the use of cohesive paving, lighting, landscaping, signage, and street furnishings.
- **6.8 Connect the Saint Paul and Minneapolis Grand Rounds parkways together.** - Since the 1880’s a true Twin Cities Grand Rounds parkway system has been envisioned. The two parkway systems would create the finest and largest urban scenic byway system in the United States.
- **6.11 Work to close gaps in the trail system to ensure seamless connections for bicycles and pedestrians across the city of all ages and abilities.**
- **6.12 Work toward better pedestrian and bicycle connections between parks, recreation centers, schools, major facilities, and special events.**
- **6.13 Build new off-road trails and upgrade existing off-road trails to make cycling and walking more convenient, safe, and pleasant, and add facilities and amenities to improve the experience of using Saint Paul’s trails.**

The Comprehensive Plan makes several recommendations regarding new bikeways to be developed throughout the city, many of which have since been implemented; however, the plan primarily establishes a number of search corridors for further study.



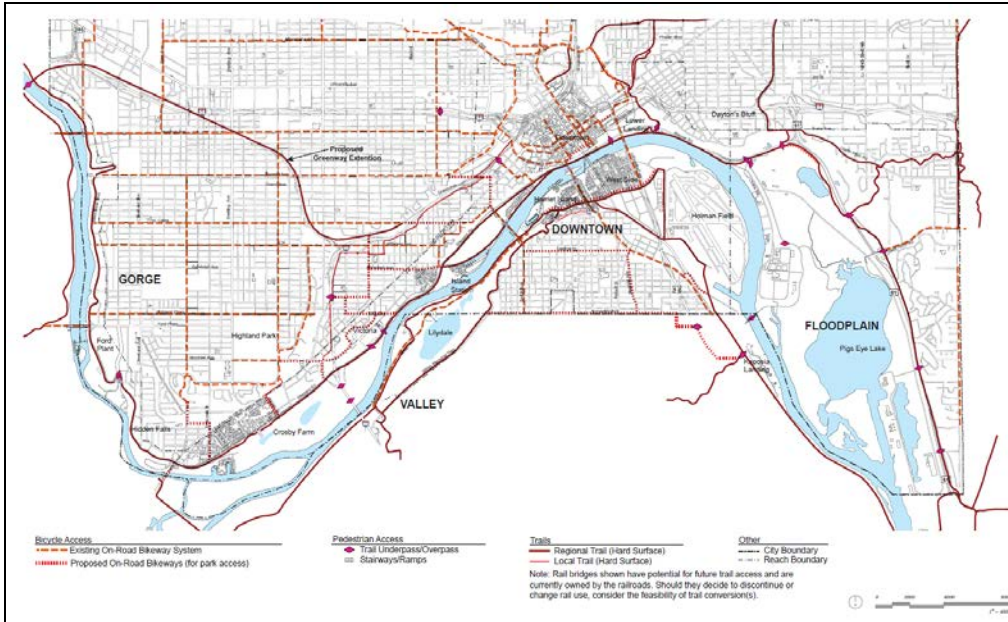
4.2 Parks and Recreation System Plan (2010)

This plan establishes a strong vision for bicycling, primarily within the context of Regional Parks & Trails, the Grand Round, and on city Parkways. The plan places a high emphasis on completing the city Grand Round, particularly along Johnson Parkway, Wheelock Parkway, Como Avenue, Pelham Boulevard, and Raymond Avenue. The plan envisions a number of new bikeways throughout the city, some of which have already been constructed, such as bike lanes along Ruth Street, the development of a trail within Cherokee Park and Ohio Street, and extension of the Furness Parkway trail. The plan strongly recommends the development of an extension of the Midtown Greenway from Minneapolis through the Ayd Mill Road corridor in Saint Paul.



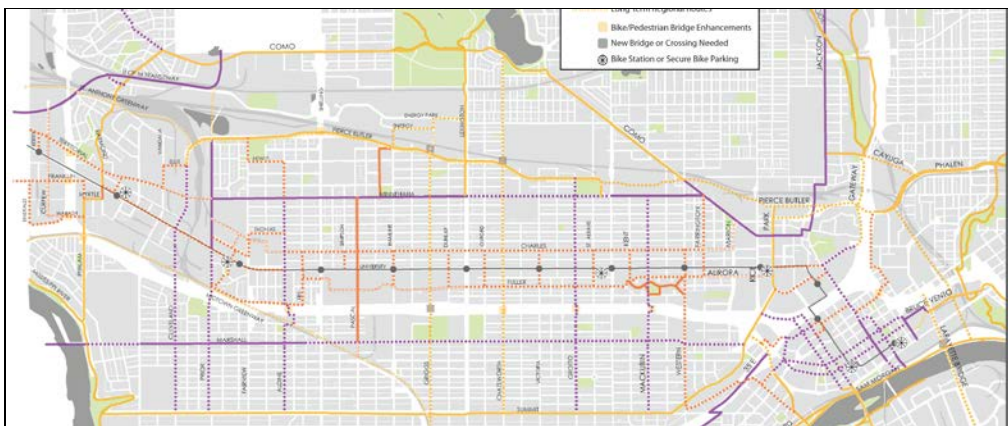
4.3 Great River Passage (2012)

The Great River Passage plan places great emphasis on enhancing and improving the many existing trails along the Mississippi River corridor. The plan promotes the Mississippi River as a critical corridor for bicyclists and establishes a vision for drawing more users to the trails and the river. The plan establishes support for improving access to the river through bike lanes, shared lanes, off-street paths, and bicycle boulevards. The plan identified a number of proposed bikeways to connect the existing bikeway network to the Mississippi River corridor.



4.4 Bike Walk Central Corridor Action Plan (2010)

The Bike Walk Central Corridor Action Plan was developed in anticipation of the Green Line LRT to plan for bicycle and pedestrian access along and across the Green Line. The plan identified bike routes and gave recommendations for facility types along these corridors. The plan identified a fine-grained network of bikeways to connect with green line station locations.



4.5 Complete Streets Resolution (2009)

In March of 2009, the city council approved a resolution adopting a complete streets policy. The resolution directs city staff to approach roadway implementation projects with a “Complete Streets” approach to encourage walking, biking and transit usage. The resolution states that complete streets will be “achieved over time, project by project”.

4.6 Ramsey County Planning and Policy Context

Ramsey County has jurisdiction over a number of roadways and parks within Saint Paul. The County and City work together to determine what type of accommodations for bicycles are appropriate along county roadways or throughout county parks.

Active Living Ramsey Communities, an arm of the County Parks department actively plans and encourages bicycling as an important quality of life and health issue. They actively plan for bicycle facilities throughout Ramsey County.

At the time of this writing, Ramsey County is beginning a process to develop a county-wide bicycle and pedestrian plan.

Ramsey County 2030 Comprehensive Plan (2009)

The County Comprehensive Plan states the importance of providing and maintaining a regional transportation system of bicycle/pedestrian pathways throughout the County for both recreational and utilitarian trips. The plan states that the county’s role in providing for bicycle travel is to provide a link between municipal and state bikeway networks. The plan states that “accommodation of pedestrians and bicycles is very important to the County”, and that “the County will encourage multi-modal forms of transportation wherever feasible.”

4.7 MnDOT Planning and Policy Context

The Minnesota Department of Transportation (MnDOT) owns and operates the trunk highways (TH) throughout the state, including a number of roadways throughout Saint Paul. MnDOT also typically has jurisdiction over bridges that cross MnDOT highways, even if the bridge carries local or county roadways or bikeways.

MnDOT typically relies on the City or County to operate, and maintain (including snow clearance) bicycle facilities along trunk highways, with the exception of facilities provided on major bridge structures. While MnDOT may permit or encourage the development of bike facilities along or across MnDOT rights-of-way, ongoing maintenance and operation of those facilities is typically a local responsibility.

MnDOT also plays an important role in providing critical connections across major barriers such as the Mississippi River. Many of the bridges across the Mississippi River are under MnDOT jurisdiction and provide critical connections for bicycles.

In the Twin Cities, MnDOT works closely with the Metropolitan Council to plan for regional transportation facilities and administer state and federal transportation funding sources. MnDOT collaborated on the Metropolitan Council’s recently completed Regional Bicycle System Study to identify a set of regional bikeways. That study will inform MnDOT’s forthcoming Metro District Bicycle Plan.

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MnDOT Bicycle Modal Plan (2005)

The MnDOT Bicycle Modal Plan establishes the role of bicycle in Minnesota's transportation system. It reviews all State and Federal laws, policies, and guidance related to bicycle transportation. The modal plan clarifies policies under which accommodating bicycles is required on MnDOT projects, outlines an initiative to establish a scenic bikeway system throughout Minnesota, and provides basic bikeway design guidelines. An update to this plan is anticipated in 2015 under the title Statewide Bicycle System Plan.

Statewide Bicycle Planning Study (2013)

The Statewide Bicycle Planning Study provides foundational information to assist MnDOT in better integrating bikeway facility planning and integration into its day-to-day business. The study provided recommendations for MnDOT in the planning, programming, scoping, design, and implementation of trunk highway projects with consideration to state bikeways. A primary initiative of the study was to create a consistent statewide database of existing and planned statewide bicycle routes, including the production of a new State Bicycle Map.

4.8 Department of Natural Resources (DNR)

The Department of Natural Resources (DNR) manages the nearly 1,300 mile state trail network, of which 541 miles is paved and intended for use by people on bicycles, including the Gateway State Trail in Saint Paul. The Gateway State Trail was opened for public use in 1993, originally as an extension of the Minnesota-Wisconsin Boundary State Trail, which was envisioned to connect the Twin Cities with Duluth. The DNR is responsible for all maintenance and management of the Gateway State Trail. The City and the DNR work together to ensure integration of the Gateway State Trail into the city bikeway network.

The DNR plays an important role in promoting bicycling statewide. While the state trail network is intended primarily for recreational use, experience has shown that state trails can play an important role for utilitarian bicycle trips as well. This is especially true of state trails that penetrate into urban areas, such as the Gateway State Trail.

The DNR plays an important role in funding bikeway projects by administering several funding programs available to help local agencies statewide develop off-road paths, though many of the funding sources are available only to agencies outside the seven-county metropolitan area. Within Saint Paul, applicable programs include the Federal Recreational Trails Program and the Local Trail Connections Program.

Gateway State Trail Master Plan (1985)

More accurately titled A Master Plan for the Gateway Segment of the Minnesota Wisconsin Boundary State Trail, this plan established the vision for the initial construction of the Gateway State Trail, including a desire to extend the trail into the "downtown area" of Saint Paul, though a preferred alignment for this extension was not identified. The plan identified the southwestern terminus of the trail near Arlington Avenue, though the trail has since been extended as far south as Cayuga Street. In conjunction with the MnDOT I-35E Cayuga Interchange project, the Gateway Trail will be extended approximately 0.7 miles south to University Avenue by 2016.

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4.9 Metropolitan Council

The Metropolitan Council does not own, operate, develop, or maintain any bikeways or facilities. However, they play an important role in the planning, funding, and coordination of bicycle facilities throughout the Twin Cities region. Council staff works with MnDOT, counties, and municipalities on bicycle and pedestrian planning efforts in the region, and provides technical assistance to partner agencies. The Metropolitan Council supports the development of bikeway facilities through two primary systems:

- Regional Bicycle Transportation Network
- Regional Trail System

The two systems are complementary, and some bikeways may be included in both systems. The two systems are described below in greater detail.

The Metropolitan Council provides planning guidance on land use issues related to bikeways and with the Transportation Advisory Board administers a competitive process for allocating federal transportation funds to bicycle and pedestrian projects.

In addition, the Metropolitan Council assists local governments through the following:

- Establishes regional policies and strategies relating to bicycling
- Assists with interjurisdictional coordination and planning
- Maps and inventories bikeways throughout the region
- Encourages educational and promotional programs
- Establishes priorities for distribution of federal funding

2040 Transportation Policy Plan (2015)

The Metropolitan Council is charged with creating and updating the 25 year Transportation Policy Plan (TPP), which was last updated in 2015 and establishes a long range regional transportation vision. The TPP establishes several policy objectives and strategies that promote and support bicycling as a critical part of the regional transportation network. The latest update to the TPP incorporates the Regional Bicycle Transportation Network (RBTN) as a regional transportation priority.

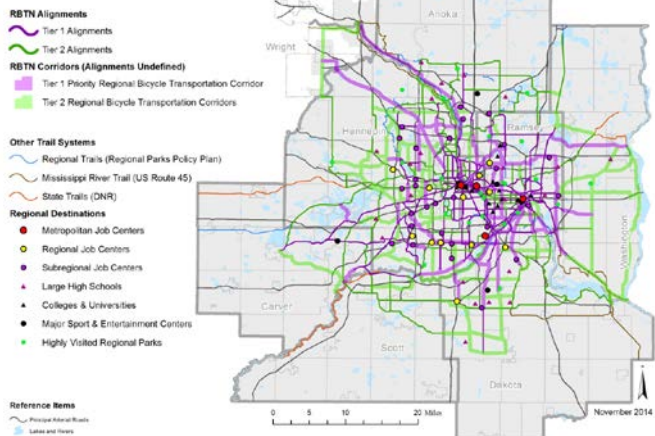
The goal of the RBTN is to establish an integrated seamless network of on-street bikeways and off-road trails to most effectively improve conditions for bicycle transportation at the regional level and to encourage planning and implementation of future bikeways by cities, counties, parks agencies, and the state, in support of the RBTN vision. The RBTN vision network is subdivided into two tiers for regional planning and investment prioritization.

- Tier 1 corridors and designated alignments are planned in locations where they can attract the most riders and where they can most effectively enhance mode choice in favor of biking, walking, and transit over driving alone. These Tier one corridors are given the highest priority for regional planning and investment in the 2040 Transportation Policy Plan.
- Tier 2 corridors and designated alignments include all the remaining segments of the RBTN and are given the second highest priority for regional planning and investment.

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Regional Bicycle Transportation Network Vision

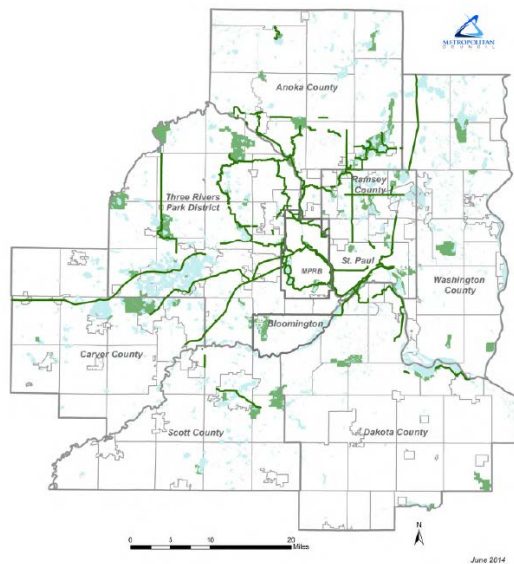


2040 Regional Parks Policy Plan (2015)

The Metropolitan Council designates and coordinates a system of regional parks and recreational facilities, including a network of regional trails. The regional trail system is guided by the Council's Regional Parks Policy Plan, a 25 year vision policy plan to guide the development of regional parks and trails. The Metropolitan Council partners with 10 regional park implementing agencies, including Saint Paul and Ramsey County, which own and operate regional parks and trails.

Regional trails are designated to connect regional park facilities to one another. These parks and trails play an important role in providing recreational opportunities, however many regional trails also serve an important transportation function.

The Metropolitan Council plays an important role in funding the costs of acquiring and developing regional trails through its Regional Park Capital Improvement Program, Park Acquisition Opportunity Fund, and through administration of the Parks and Trails Legacy Fund. The Council also passes through state funds to partially finance operation and maintenance of regional parks and trails.



5.0 BICYCLE NETWORK FRAMEWORK

Implementing a citywide network of bikeways throughout the city is the most basic way the city encourages and promotes the use of bicycles. Providing safe, comfortable, and intuitive space for people to ride bicycles is a prerequisite to increasing bicycle use throughout the city. For many people, the perception of safety is the most important factor in determining whether to use a bicycle.

5.1 The Bicycle Base Map

Figure 1 presents a base map that identifies all roadways where bicycles are permitted as well as all roadways where bicycles are prohibited. The map also shows all off-street paths that permit bicycle use. In general, bicycles are permitted to use all roadways and paths unless steps are taken specifically to prohibit bicycle use, such as on freeways, or on off-street paths that are marked for pedestrians only.

Bikeways and the Bicycle Network

For the purposes of this plan, the term “bikeway” will refer to any roadway where signage or pavement markings have been used to identify a bicycle route or to alert bicyclists and motorists that bicycles will be on the roadway. The term “bikeway” is also applied to all off-street paths that permit bicycle use. As bikeways intersect each other and connect to destinations, they combine to create the bicycle network. It is the primary function of this plan to identify and designate the planned bicycle network.

Other Streets that Permit Bicycle Use

It is critical to understand that bicycle use is not limited to the bicycle network. All other streets that permit bicycle use but are not designated as bikeways or considered part of the bicycle network serve as circulation routes that provide “front door” access to every destination in the city. Most trips made by bicycle will use these streets for some portion of the trip. Bicyclists should be anticipated on every street where bicyclists are permitted. No signage, striping, marking, or other investment for bicycles is anticipated on these corridors at this time.

Shared Lane Roadways

Bicycles are permitted to ride on most roadways within the city. A shared lane is a term used to describe any lane on a roadway to which motorists and bicyclists are granted equal access, whether or not that roadway or lane has been designated as a bikeway. These roadways may not have any signage, striping, or pavement markings specific to the operation of a bicycle. Bicyclists and motorists are expected to share the roadway and bicycles are subject to all of the same applicable laws and expectations as motorists. This arrangement works best on low-volume, low-speed roadways, however, roadways with any volume of motorized traffic or traffic speeds may be considered shared lane roadways. Most low-volume, low-speed residential roadways function well for most people on bicycles without any additional investment.

Roadways where Bicycles are Prohibited

There are several roadways where bicycling is prohibited. These are limited access roadways and freeways and the accompanying ramps that have high motorized vehicle speeds and volumes. The roadways where bicycles are prohibited in the City of Saint Paul include the following:

- Interstate 94
- Interstate 35E

- Trunk Highway 280
- US Highway 52
- US Highway 61 (south of Lower Afton Road)
- Trunk Highway 5 (west of approximately Wheeler Street)
- Ayd Mill Road

While bicycles are prohibited from operating in the roadway in these corridors, several of them provide off-street accommodations for bicyclists. For example, the TH-52 (Lafayette) bridge over the Mississippi River provides an off-street path for use by bicycles and pedestrians. Similar accommodations are provided on the I-35E and TH-5 bridges over the Mississippi River.

5.2 Bicycle Network Functional Classification

This plan establishes a new bicycle network functional classification, which is intended primarily to ensure that the bikeway facility types developed within each transportation corridor are consistent with how bicyclists are anticipated to use the corridor. The functional classification system is also intended to encourage that the bicycle network provides appropriate facility types for the larger transportation context. The functional classification system does not specify a facility type for each corridor, however it suggests that the operational characteristics of the facility type assigned to each corridor should be consistent with the intended purpose of the bikeway.

Each element of the bicycle network is assigned to one of two bicycle network functional classifications:

- Major Bikeways
- Minor Bikeways

Bicycle network functional classification, much like the roadway functional classification system, is primarily a planning tool designed to help guide city policies regarding development, maintenance, and design of bikeways rather than something that will be visible to persons riding bicycles throughout the city.

Distinguishing features between the bicycle network functional classification system include:

- The level of investment anticipated on each corridor
- Connections to major attractions or trip generators
- The relative number of anticipated users
- Trip and facility length and connectivity to other bikeways or jurisdictions
- The appropriate modal balance relative to the competing needs of the multi-modal transportation system.

In some cases, this plan identifies planned bikeways that cannot be easily implemented on a short-term time frame because there may be a substantial disruption or challenge involved, because development of the bikeway is contingent on another event occurring (e.g. redevelopment of a large parcel), or because the city has little control over the timeline. For example, this plan identifies the use of several active railroad corridors for the development of off-street path facilities. While the city is committed to pursuing these opportunities, the timeline for these projects is generally controlled by the railroad companies. Implementation of a trail along an active railroad corridor requires permission and approval from the railroad company and property owner, and may be a significant obstacle to implementation. These trails are best implemented after a railroad company

has ceased use of the corridor for freight or passenger movement. These more challenging bikeways are identified in this plan as Long Term facilities.

All facilities and corridors that have been designated by the Metropolitan Council as a component of the regional bicycle transportation network (RBTN) are identified as major bikeways in this plan. Future updates to this plan should consider introducing the RBTN as a separate tier in the city's bicycle network functional classification system.

Major Bikeways

Major bikeways form the backbone of the bicycle network. They carry the majority of longer-distance bicycle trips and provide the primary connections to major attractions and trip generators. Major bikeways provide the primary connections across major barriers (e.g. rivers, railroad tracks, freeways) or to other adjacent communities. Greater weight should be given to the needs of bicycles regarding questions of how to balance the competing multi-modal needs. Major bikeways should be designed to anticipate a larger number of users.

Major bikeways should be distributed throughout the city at approximately one-mile spacing. This plan prioritizes facility types on Major bikeways that provide dedicated space to cyclists, such as bike lanes, cycle tracks, or off-street paths. The designation of a corridor as a major bikeway emphasizes the needs of bicyclists along these corridors. In some cases (but not all cases), it may be necessary to remove parking, travel lanes, or other roadway features to establish space for use by bicycles, and when these occasions arise on a major bikeway, this designation gives greater weight to the needs of bicycles than on other bikeways.

Where space does not permit the development of dedicated space facilities, or other conditions do not warrant this treatment, shared space facilities such as bicycle boulevards or enhanced shared lanes may be recommended. When the major bikeway classification is applied to off-street trails where shared use with pedestrians is anticipated, the major bikeway classification does not imply that the needs of bicyclists outweigh the needs of pedestrians using the same facility.

~~All facilities and corridors that have been designated by the Metropolitan Council as a component of either the regional bicycle transportation network (RBTN) will be considered major bikeways in this plan. At the time of this writing the Metropolitan Council is in the process of updating the Transportation Policy Plan (TPP). The draft TPP includes a discussion of the newly developed RBTN. This is a first step towards identifying a regional functional classification system for bikeways. In some cases, the RBTN does not identify a particular alignment, but rather identifies a half-mile-wide search corridor. Additional work should identify specific alignments for all segments of the RBTN. Future updates to this plan should consider introducing the RBTN as a separate tier in the city's bicycle network functional classification system.~~

~~Action Item: Identify specific alignments citywide for the regional bicycle transportation network (RBTN) and incorporate this designation into the functional classification system.~~

Minor Bikeways

Minor bikeways are anticipated to provide neighborhood level connectivity to the major bikeway network. They should be spaced at approximately a half-mile apart and ensure that every destination in the city is within a quarter-mile of a major or minor bikeway.

Minor bikeways may be recommended for the development of dedicated space facilities (in-street separated lane or off-street path facilities) depending on the space available and the larger roadway

and traffic context, however the minor bikeway designation does not establish the same preference for bicycles relative to other transportation modes as the major bikeway designation. Designation as a minor bikeway should not be interpreted as a willingness to compromise on elements of bikeway design related to safety.

5.3 Bikeway Facility Type Groups

There are many different types of bikeway facilities, and each has inherent operational characteristics. Some of the most common facility types in Saint Paul include bike lanes and off-street paths. In recent years, the City of Saint Paul has begun developing a new type of bike facility often called a “bicycle boulevard.” Across the U.S., a number of cities are also developing relatively new bicycle facilities referred to as “cycle tracks” or “protected bike lanes”. In addition, there is a wide array of signage and pavement markings that can be used to designate and improve bikeways.

The range of bicycle facility types available to engineers is rapidly evolving and expanding, and the task of determining which facility type is appropriate for each corridor requires a detailed engineering examination of each corridor, which is beyond the scope of this planning effort. However, this planning effort has established several facility type groups that identify bikeway facility types with similar operational characteristics. Rather than identifying a specific facility type for each corridor, this planning effort identifies the preferred facility type group for each corridor, leaving final decisions about the specific facility type for a later date when additional data can be collected.

For example, this plan may identify a corridor for the development of an off-street path facility. There are many variations that this facility could take – it could be a shared-use path with pedestrians, or it could be a path intended only for bicycles adjacent to a sidewalk for pedestrians. This plan will not specify on which side of the street the trail should be located, or how wide that trail should be. It will not identify which signage or pavement markings should be used along that trail. These questions will need to be answered through an engineering study at the time of implementation.

A second example – this plan may identify a corridor for the development of an in-street separated lane facility. This may take the form of a bike lane established through the use of paint. It may have bike lanes in both directions on the street, or only one direction. The bike lane may include a painted buffer zone between moving traffic and the bicycle lane. The design may also include locating a parking lane between moving traffic and the bike lane, a strategy sometimes referred to as a “cycle track”. Each of these variations of in-street separated lane facilities may be appropriate in different locations depending on circumstances. The final configuration of the facility will be determined through an engineering study at the time of implementation.

This planning document is not intended to provide engineering design guidance for the various types of bikeway facilities. For additional discussion of the operational characteristics or design considerations of various bicycle facility types, readers are referred to the *Saint Paul Street Design Manual*.

The four bikeway facility type groups discussed in this plan are as follows:

- Group 1: Enhanced Shared Lane
- Group 2: Bicycle Boulevard
- Group 3: In-Street Separated Lane
- Group 4: Off-Street Path

Group 1: Enhanced Shared Lane

An enhanced shared lane uses pavement markings or signage to reinforce the rights and responsibilities of roadway users. These are corridors where bicyclists and motorists share the roadway and bicyclists are subject to all of the same applicable laws and expectations as motorists. These corridors are identified using some form of signage or pavement markings intended to provide greater visibility for cyclists, or as wayfinding guides for cyclists to find preferred routes. Enhanced shared lanes are best suited to roadways with lower operational speeds and traffic volumes.

Specific treatments for these corridors will depend on context, however, common treatments may include:

- Shared lane markings (“sharrows”)
- W11-1 or W16-1P Bicycle Warning or SHARE THE ROAD signage
- R4-11 BIKES MAY USE FULL LANE signage
- D1 series wayfinding signage
- D11-1 series BIKE ROUTE signage
- M1 series identification signage

These facilities are similar to Group 2: Bicycle Boulevard facilities in that they both rely on motorists and bicyclists sharing space. However, enhanced shared lane strategies may be used on roadways with higher traffic volumes or speeds than would be appropriate for a bicycle boulevard facility.



Shared Lane Markings were installed on Prior Ave in 2013, establishing the corridor as an enhanced shared lane facility.

Group 2: Bicycle Boulevard

A bicycle boulevard is a shared lane facility that has been identified for prioritizing non-motorized travel above motorized travel. These streets remain open and usable by motorists, and these facilities generally do not impact on-street parking. However, longer motorized trips on bicycle boulevards are discouraged, providing a lower-speed, traffic-calmed environment where longer-distance trips by bicycle are more attractive.

Specific treatments for these corridors will depend on context, however, common treatments may include:

- Traffic calming elements
- Bump-outs
- Neighborhood traffic circles
- Elements to facilitate bicycle movement, such as crossing medians where a bicycle boulevard crosses a larger roadway
- Shared lane markings (“sharrows”)
- Bicycle boulevard pavement markings
- D1 series wayfinding signage
- M1 series identification signage

These facilities are similar to Group 1: Enhanced Shared Lane facilities in that they both rely on motorists and bicyclists sharing space. However, bicycle boulevards are limited in applicability to streets with very low traffic volumes and speeds and are characterized through an emphasis on traffic calming.



Bicycle Boulevard type facilities designate low-stress bikeways on local residential streets.

Group 3: In-Street Separated Lane

An in-street separated lane designates a portion of a roadway for exclusive use by bicyclists. These facilities provide dedicated space for cyclists on a roadway, and typically accommodate a higher bicycle operating speed than other facility types. These facilities are most appropriate on roadways with higher operating speed or volumes. Separated lane facilities enhance the safety of people on bicycles by providing dedicated space, which allows motorists to more easily pass cyclists. This facility type group includes the following types of facilities

- Bike lanes (shared lane markings may be used for short segments)
- Buffered bike lanes
- Bike shoulders
- Protected bike lanes or cycle tracks (including one-way or two-way facilities)
- Climbing bike lanes (bike lane provided only in uphill direction)



Left: A bike lane on Burns Avenue was established in 2013. Right: A buffered bike lane.



*Left: a one-way cycle track protected by a parking lane and buffer and showing optional green paint.
Right: a two-way cycle track, protected with optional flexible bollards and buffer.*

Group 4: Off-Street Path

An off-street path provides bicyclists with space separated from motor vehicle travel. These facilities are often (but not always) shared with pedestrians, and thus typically have a lower operating speed for bicyclists than other facility types. Off-street paths tend to attract the widest variety of users. When at-grade street crossings are kept to a minimum, off-street paths can greatly enhance safety for cyclists.

Sidewalks are not off-street paths. Minnesota statutes permit bicycle riding a bicycle on sidewalks except for in business districts, though riding on sidewalks is discouraged for adult cyclists. However, the distinction between sidewalks and off-street paths is not always clear to users, as both sidewalks and paths may have various widths and be constructed of various pavement materials. A typical concrete sidewalk along residential streets in Saint Paul is approximately 5 feet in width and is not a recommended place for adult cyclists. A wider concrete sidewalk outside of residential neighborhoods may provide a better user experience than cycling in the street, depending on conditions.

This plan considers all pedestrian bridges (e.g. over freeways) to be shared-use paths, even in cases where the existing bridge includes stairs on the approaches or is relatively narrow and may require walking a bicycle. In current form, such conditions may be a significant deterrent to bicycle travel. However, as pedestrian bridges age and are replaced, the replacement bridges should be designed to accommodate bicycles.



*Left: Trail through Battle Creek Regional Park.
Right: Path adjacent to Mississippi River Boulevard.*

5.4 Merging Facility Types and Functional Classification

The framework presented in this plan establishes a loose connection between the functional classification and facility type that is identified for each corridor. The facility type assigned to each corridor should be consistent with the larger transportation context of that corridor. As such, facilities that are identified as major bikeways should anticipate higher volumes of bicyclists and thus provide facility types that will be attractive to the largest number of bicyclists.

Facility types that provide dedicated space for cyclists, specifically off-street paths and in-street separated lane facilities, are better suited to accomplish the purposes of the major bikeway functional classification, and they are the preferred facility types for major bikeways. In some cases bicycle boulevards may also effectively serve this purpose if they are of sufficient length and provide direct connections. Enhanced shared lane facilities are discouraged from use within the major bikeway network as they typically provide the least degree of separation from motorized traffic, however, in some cases, other suitable alternatives cannot be identified.

5.5 Planned Bikeway Identification Process

The planned improvements to the bikeway network are based on a set of mapping criteria established early in the planning process for this plan. The full mapping criteria used to develop the recommendations in this plan are provided in **Appendix D** and are summarized below. The bikeways identified in this plan are based on a combination of the recommendations adopted from previous planning efforts as well as field work to identify new corridors.

Spacing

The 2008 Comprehensive Plan established the spacing and facility type standard that “bikeways should be no more than a half-mile apart, and arterial striped bike lanes and/or off-street trails should be no more than one mile apart.” This plan interprets and fulfills this directive by establishing spacing guidelines for major and minor bikeways at one-mile and half-mile spacing respectively.

This plan strives to identify bikeways that achieve geographic and socio-economic equity. Spacing bikeways at no greater than one-half mile apart guarantees that most properties and residents in the city will be no more than a quarter mile from a bikeway.

Previous Planning Efforts

Much planning has been completed in the past by both the City and other partner agencies. This plan strives to be consistent with these other planning efforts to the extent possible.

Making Direct Connections

The bicycle network should provide direct and continuous routes between destinations. Bicycle routes that meander or make unnecessary turns are less likely to be an effective means of increasing the number of bicyclists using the facility. Especially in the case of signed bike routes or bicycle boulevards, facilities that turn or meander for reasons that are not readily apparent to people riding bicycles may be confusing for users. In some cases, cyclists may be willing to travel additional distance to utilize a more attractive route, but this is dependent on a number of variables that are not easily identified. This plan places a high priority on providing direct, straight, and continuous bikeways.

The bicycle network should connect key destinations to each other, and connect residential neighborhoods with employment and commercial centers, schools, and other key destinations. The bicycle network should build off and connect with existing bikeways and transitways.

Modal Balance

Bikeway facility types and locations must be a reflection of the existing context, including both topography and the context of the built environment. Bikeway recommendations must consider factors such as roadway motorized traffic volume, signal locations, roadway width, right-of-way width, and topography. In some cases, providing appropriate accommodations for bicycles requires tradeoffs from other transportation systems, such as narrowing travel lanes, removing travel lanes, or removing on-street parking. This plan strives to achieve a balance between the needs of all the various modes modal users (including bicycles, pedestrians, transit, freight, and general traffic), and seeks to identify opportunities for bicycling to complement other modes as much as possible.

Effectiveness

This plan seeks to identify a bicycle network that will increase bicycle ridership, improve safety conditions, and address critical gaps in the network. This plan does not propose development of bikeways where this potential is limited. The effectiveness of each bikeway is weighed against the relative cost.

Safety

This plan identifies a bicycle network that minimizes conflict with other travel modes and accommodates people with varying levels of experience and diverse preferences. Special consideration is given to areas where there are known safety concerns. This plan recommends a bicycle network that utilizes proven safety design features that provide dedicated operating space for bicyclists (e.g. a route where dedicated bike lanes can be developed is preferred over a route with similar traffic characteristics where dedicated bike lanes can not be developed).

6.0 EXPANDING THE BICYCLE NETWORK

The primary objective of this plan is to establish the planned bicycle network as directed by Strategy 3.4 of the Comprehensive Plan. The planned bicycle network is the result of a planning process that included substantial public input and collaboration between city staff from several departments, including Public Works, Planning & Economic Development, and Parks & Recreation. The primary objective of the planned bicycle network is to provide safe and comfortable places for people of all ages, abilities, and preferences to ride a bicycle.

6.1 Existing Bicycle Network

There are a total of 157 miles of bikeways in Saint Paul, including facilities owned and managed by agency partners. The network of existing bikeways is divided relatively evenly between off-street paths and on-street facilities of various types. About 48% of the existing facilities throughout the city are off-street paths, with bike lanes and shoulders composing an additional 35% of the bike network. The remaining 17% of the existing bicycle network is comprised of bicycle boulevards or enhanced shared lanes. The existing bicycle network is identified on **Figure 2**.

[Table 6.1.1 Existing Bicycle Network](#)

Facility Type		Existing* Facilities (miles)	Percent of Bikeway Network
Off Street Facilities	Off-Street Paths	73.9	48%
	<i>Off-Street SubTotal:</i>	<i>73.9</i>	<i>48%</i>
On-Street Facilities	Bike Lanes**	33.5	22%
	Bikeable Shoulders**	19.8	13%
	Bike Boulevards	7.2	5%
	Enhanced Shared Lanes	18.3	12%
	<i>On-Street SubTotal:</i>	<i>78.8</i>	<i>52%</i>
TOTAL		152.7	100%

*This table excludes bikeways that are planned, funded, or under construction, but not yet open for public use.

**This table reports total miles of roadway, not mileage of lanes. Roadways with bike lanes on one side of the street only are not differentiated from roadways with bike lanes on both sides.

6.2 Planned Bicycle Network

This plan identifies a full bicycle network of 346 miles, an increase of 195 miles of new bikeways. This is a 127% increase in bikeways, compared to the existing 153 miles of bikeways. The planned bicycle network was designed to serve major destinations throughout the city based on the mapping criteria presented in **Appendix D**. The complete functional classification and facility types for each link in the bicycle network are shown on **Figure 3** and **Figure 4**.

This plan envisions a bikeway system based primarily on off-street paths and in-street separated lane facilities such as bike lanes or cycle tracks to appeal to the widest range of potential users. Approximately 71% of the planned bicycle network is comprised of off-street path or in-street separated lane facilities. An additional 13% of the full bikeway network is comprised of bicycle boulevard facilities. Roughly 17% of the planned bicycle network are enhanced shared lane facilities. In many cases this facility type recommendation was made where space or traffic characteristics did not permit for the implementation of one of the other three facility types. Roughly 60% of the planned bicycle network is identified as major bikeways, 4% of which were identified as long term facilities.

In some cases, the planned bicycle network includes improvements to existing bikeways. For example, this plan recommends that the 19.8 miles of roadway with “bikeable shoulders” should be modified to fit into one of the planned bikeway facility type groups. In many cases, the existing shoulders can be converted into bicycle lanes relatively easily, though in other cases this plan recommends development of an alternate facility type.

Table 6.2.1 Planned Bicycle Network Expansion by Facility Type

Facility Type		Existing Facilities (miles)	Proposed Facilities (miles)	Total Facilities (miles)	Percent of Bikeway Network
Off Street Facilities	Off-Street Paths	74	56	130	37%
	<i>Off-Street SubTotal:</i>	<i>74</i>	<i>56</i>	<i>130</i>	<i>37%</i>
On-Street Facilities	In-Street Separated Lanes*	53	60	113	33%
	Bicycle Boulevards	7	39	46	13%
	Enhanced Shared Lanes	18	40	59	17%
	<i>On-Street SubTotal:</i>	<i>79</i>	<i>139</i>	<i>218</i>	<i>63%</i>
TOTAL		153	195	348	100%

*This table reports total miles of roadway, not mileage of lanes. Roadways with bike lanes on one side of the street only are not differentiated from roadways with bike lanes on both sides. Existing mileage includes bikeable shoulders. All corridors that currently have bikeable shoulders are proposed to transition to other facility types.

Table 6.2.2 Planned Bicycle Network by Functional Classification

Functional Class	Total Facilities* (miles)	Percent of Bikeway Network
Major	194	56%
Major Long Term	13	4%
Minor	132	38%
Minor Long Term	7	2%
TOTAL	346	100%
*Includes existing facilities		

The major bikeway network stresses separation between motor vehicles and bicycles, while the minor bikeway network relies more heavily on shared facilities. Nearly 90% of the major bikeways are off-street paths or in-street separated lane facilities. In contrast, only 42% of the minor bikeways are off-street paths or in-street separated facilities. Nearly 24% of the minor bikeways are bicycle boulevard facilities.

Table 6.2.3 Planned Bicycle Network by Facility Type and Functional Classification

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Facility Type		Major Bikeways			Minor Bikeways			Total Facilities (miles)
		Near Term Facilities (miles)	Long Term Facilities (miles)	Total Major Facilities (miles)	Near Term Facilities (miles)	Long Term Facilities (miles)	Total Minor Facilities (miles)	
Off Street Facilities	Off-Street Paths	87	13	100	29	1	30	130
	<i>Off-Street SubTotal:</i>	<i>87</i>	<i>13</i>	<i>100</i>	<i>29</i>	<i>1</i>	<i>30</i>	<i>130</i>
On-Street Facilities	In-Street Separated Lanes*	84	0	84	27	2	29	113
	Bicycle Boulevards	12	0	12	34	0	34	46
	Enhanced Shared Lanes	11	0	11	43	4	47	58
	<i>On-Street SubTotal:</i>	<i>106</i>	<i>0</i>	<i>107</i>	<i>103</i>	<i>6</i>	<i>110</i>	<i>216</i>
TOTAL		194	13	207	132	7	139	346

*This table reports total miles of roadway, not mileage of lanes. Roadways with bike lanes on one side of the street only are not differentiated from roadways with bike lanes on both sides.

6.3 Barrier Crossings

One of the most significant challenges to bicycling in Saint Paul is the challenge of finding safe locations to cross linear barriers, such as freight railroads and freeways. In addition, while the Mississippi River is a major attractor for bicyclists looking to enjoy the scenic riverbanks, opportunities to cross the Mississippi River are limited.

Most barrier crossing locations take the form of bridges over the river, a freeway, or a railroad. However, some crossings are underpasses below the barrier, and there are a number of existing locations where bicyclists (as well as pedestrians and motorists) are permitted to cross freight railroads at-grade. For this reason, this plan intentionally uses the generic term “crossing” to describe locations where the bicycle network crosses barriers. **Figure 5** presents all of the crossings located on the existing or planned bicycle network.

While there are examples of locations where off-street paths cross freight railroads at-grade both in Saint Paul as well as other places in the metropolitan area, recent history suggests that new at-grade crossings of mainline freight railroads are unlikely, and that any new crossings will require a bridge or underpass.

This plan envisions seven new bridges or underpasses, which are identified on **Figure 5**, the majority of which were first identified in previous planning efforts. Planned crossings were identified based on the spacing between adjacent crossings, the feasibility of identifying alternate routes, and an informal engineering feasibility analysis. Of the seven planned crossings, five of them will be bicycle and pedestrian crossings only. The remaining two crossings will be constructed in connection with planned new roadway bridges. In particular, this plan identifies the Kittson Road bridge over the freight rail to intersect Warner Road as well as the Transfer Road extension across the freight rail to intersect Como Avenue.

One of the planned bicycle and pedestrian crossings will replace and relocate an antiquated existing bridge over I-94 on the eastern side of the city. The existing bridge at Hazelwood Street is planned to be relocated to approximately Kennard Street to the east. This location will provide increased visibility of the bridge and improve access to the planned Flandreau Street Bikeway and the shopping center south of I-94.

A number of the existing bridge structures are not conducive to bicycle use due to width or because they have stairs on the approaches, such as the Trunk Highway 5 bridge over the Mississippi River or the Hazelwood Street bridge over I-94. In addition, many older bridges over freeways were constructed primarily for pedestrians and were not designed with bicyclists in mind. However, as aging bridges are replaced, current regulations require all new bridge structures to be designed with ramps rather than stairs, and these bridges will be designed to accommodate both bicycles and pedestrians.

Action Item 6.3.1:

-Complete detailed feasibility studies of the planned crossings to identify concept designs, cost estimates, and impacts.

6.4 Regional Bicycle Transportation Network Refinement

All facilities and corridors that have been designated by the Metropolitan Council as a component of either the regional bicycle transportation network (RBTN) will be considered major bikeways in this plan. At the time of this writing the Metropolitan Council is in the process of updating the Transportation Policy Plan (TPP). The draft TPP includes a discussion of the newly developed RBTN. This is a first step towards identifying a regional functional classification system for bikeways. In some cases, the RBTN does not identify a particular alignment, but rather identifies a half-mile wide search corridor. Additional work should identify specific alignments for all segments of the RBTN. Future updates to this plan should consider introducing the RBTN as a separate tier in the city's bicycle network functional classification system.

Action Item: Identify specific alignments citywide for the regional bicycle transportation network (RBTN) and incorporate this designation into the functional classification system.

The purpose of the Regional Bicycle Transportation Network (RBTN) is described previously in Section 4 of this plan. Figure 6 identifies the Tier 1 and Tier 2 RBTN alignments and corridors in Saint Paul. In some cases, the RBTN does not identify a particular alignment, but rather identifies a search corridor. Additional work remains to identify specific alignments for all segments of the RBTN.

Further evaluation of the RBTN should be completed to determine the need for possible future revisions or additions to the RBTN within Saint Paul. If desired revisions or additions are identified, the city will be required to seek an amendment to the Metropolitan Council's Transportation Policy Plan.

Action Item 6.4.1

Identify specific alignments for the RBTN to be developed within the RBTN search corridors.

6.4-5 Regional Trails Improvement

Regional trail corridors are intended to provide for recreational travel along linear pathways for bicyclists, pedestrians, and other users throughout the metropolitan area. Regional trails must be designated by the Metropolitan Council and are intended to pass through or provide connections

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between components in the Regional Parks System. Regional trails are defined in the Metropolitan Council's Regional Parks Policy Plan. Regional parks and trails identified in the Regional Parks Policy Plan are eligible for other funding sources, as described in Appendix F. Facilities that have been designated as regional trails are eligible for additional regional funding sources.

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In urban areas such as Saint Paul, the regional trail network also plays an important function for transportation bicycling and often forms the backbone of the bicycle transportation network. Regional trail facilities are often developed along natural or linear features, which can limit the number of intersections, greatly enhancing safety and comfort for trail users.

Four facilities in Saint Paul have been designated as Regional Trails:

- Samuel Morgan Regional Trail
- Bruce Vento Regional Trail
- Trout Brook Regional Trail
- Summit Avenue

~~Historically, the~~ The Metropolitan Council has ~~been hesitant to~~ generally does not designate trails that are wholly contained within regional parks as regional trails. However, many of these trails are critical in connecting the various regional ~~parks and~~ trails together into a cohesive system network and are eligible for the same funding sources as regional trails. In Saint Paul, these facilities are:

- Mississippi River Boulevard (Mississippi Gorge) Trail
- Lilydale/Harriet Island Trail
- Cherokee Trail
- Indian Mounds Trail
- Battle Creek Trail

Figure 6-7 identifies the existing ~~and planned~~ regional trails and other ~~significant~~ linear trails that pass through regional parks, as well as planned regional trails and regional trail search corridors. The Metropolitan Council requires the city to prepare a master plan document for all planned regional trails. ~~Corridors are identified as planned regional trails if the alignment is relatively well-known. Regional trail search corridors are defined by the Metropolitan Council in the Parks Policy Plan. In some cases, the planned trail alignment needs further study, and these are identified as regional trail search corridors.~~

Action Item 6.5.1:

Actively pursue designation and development of additional regional trails as shown on Figure 6Z. Identify regional trail alignments within the regional trail search corridors, and prepare regional trail master plans for trails where alignments are known.

6.5-6 Grand Round

The 2010 Saint Paul Parks and Recreation System Plan describes the desire to enhance the 27 mile Grand Round system throughout the city: "Trails are currently the most desired parks and recreation facility by Saint Paul residents. They are an important quality of life element and a factor in choosing where to locate for many residents and businesses. [...] Trails and parkways are advantageous from a fiscal and a recreation standpoint. Trails allow self-directed recreation which is immensely popular, does not require any staffing (besides periodic maintenance) and requires less initial investment than [other types of facilities]. Due to their linear nature, they have large service areas, and can expand the service areas of parks connected by trails. [...] For these reasons,

trails, especially those associated with the historic Grand Round, are a key part of the 21st Century Parks and Recreation System.” The Grand Round is identified on **Figure 78**.

While the Grand Round was initially perceived as a recreational facility, the portions of the route that are already in place also form the backbone of the bicycle network for transportation cycling as well. The potential for high-quality parkway trails to encourage bicycle use for transportation purposes and to attract a new segment of the population to bicycles should not be underestimated.

An enhanced system of parkways and multi-use off-street paths will allow connections to and between the regional parks, downtown, and other key destinations. The Grand Round - a scenic green parkway for drivers, pedestrians, and people on bicycles around the entire city - has been a vision for Saint Paul for over 100 years.

The Saint Paul Grand Round was conceived by famed landscape architect H.W.S. Cleveland over one hundred years ago. His vision led to the completion of several parkway segments in the early 1900's. By the 1930's, however, implementation of the remainder of the system was halted. Many residents are familiar with the alignment of the Grand Round through participation in the Saint Paul Classic Bike Tour, the largest annual bicycle tour in Minnesota that follows the scenic loop around the city.

The ideal Grand Round is comprised of low-speed, scenic parkways and off-street pedestrian and bicycle paths. Wherever possible, bicycles and pedestrians should be provided with separate paths or sidewalks to minimize conflict between the two modes, either on the same side or opposite sides of the parkway. The Grand Round should include bicycle and pedestrian facilities that are useable and maintained year-round, including snow removal in the winter.

The Saint Paul Grand Round plays an important role in the bicycle transportation and recreation network. This plan establishes a vision for much of the Grand Round to accommodate all types of users by providing multiple facility types within the same corridor. Providing both off-street paths and on-street bike lanes along portions of the Grand Round is envisioned to attract users of all preferences. Off-street paths will attract slower bicyclists and pedestrians, while on-street bike lanes will attract faster cyclists.

While the off-street paths attract a wider range of cyclists and are critical to establishing the inclusive nature of the Grand Round, the city should strive to provide on-street bicycle facilities where space permits as well. As many of the off-street paths will permit both bicycles and pedestrians, providing the in-street bicycle facilities will immensely help to encourage faster-moving bicyclists to use the roadway rather than the trail.

In addition, the Saint Paul Grand Round should include a number of other features, including wayfinding, interpretive signing, bike racks, connections to local parks, drinking fountains, appropriate lighting, historical markers and interpretive elements, landscaping, public art, street furniture, scenic overlooks, and other amenities that add to the comfort, safety, and enjoyment of visitors.

Some portions of the Grand Round have already been implemented with multiple facility types in the same corridor. For example, Wheelock Parkway between Arcade Street and Phalen Boulevard provides on-street and off-street bicycle facilities. This plan envisions extending these facilities to other parts of the Grand Round, including Wheelock Parkway west of Arcade Street, Johnson Parkway, and portions of Pelham Boulevard and Como Avenue.

However, this plan does not present a singular vision for the Grand Round, and the planned improvements must be guided by existing constraints. This vision does not propose in-street facilities where the Grand Round follows the Sam Morgan Regional Trail. In-street bicycle facilities are not recommended for Shepard Road or Warner Road. This vision also does not propose off-street path facilities along Raymond Avenue and portions of Como Avenue where right-of-way is limited. In-street bicycle facilities are recommended in these locations.

6.6-7 State Trails

State trails are owned, operated, and maintained by the Minnesota Department of Natural Resources (DNR). The DNR operates one trail facility in the City of Saint Paul. The Gateway State Trail was opened for public use in 1993, originally as an extension of the Minnesota-Wisconsin Boundary Trail, which was envisioned to connect the Twin Cities with Duluth. Approximately 2.1 miles of the trail is located within Saint Paul.

At the time of this writing, the southern terminus of the Gateway State Trail is located at Cayuga Street west of I-35E, though in conjunction with the I-35E Cayuga Interchange project, the Gateway State Trail will be extended approximately 0.7 miles south to University Avenue by 2016. The 1986 master plan created by the DNR established a desire to extend the trail into the “downtown area”, though a preferred alignment for this extension was not identified.

Action Item 6.7.1

Coordinate with the DNR to identify the appropriate long-term southern terminus of the Gateway State Trail.

6.7-8 Mississippi River Trail (MRT) – U.S. Bike Route (USBR) 45

MnDOT has been the lead agency on the development of the Mississippi River Trail (MRT), also known as U.S. Bike Route (USBR) 45, which is a 3,000 mile long planned bikeway from the Mississippi River headwaters to the Gulf of Mexico. The U.S. Bike Route System is a national effort to establish a network of numbered interstate bicycle routes across the nation. Approximately five numbered routes have been identified at a conceptual level that pass through Minnesota. One of these, the MRT, passes through Saint Paul. MnDOT has been the lead agency in identifying the specific alignment of the MRT, and is the lead agency in establishing all signage designating the route. In Saint Paul, the MRT is established entirely on existing bikeway corridors through signage and wayfinding. The MRT is identified on Figure 9.

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Action Item 6.8.1

Coordinate with MnDOT to determine possible future revisions to the alignment of the Mississippi River Trail, particularly as it passes through Lilydale. Consider revising the MRT alignment to include the South Saint Paul to Harriet Island Regional Trail after it is constructed (planned for 2017).

6.8-9 Ford Site

The 125 acre Ford Motor Company Twin Cities Assembly Plant site is currently in the process of undergoing a major transformation. The former assembly plant has been removed and the city is currently in the process of planning for future redevelopment. The city has established a vision for a “21st Century Community”, and the site will be a livable, mixed use neighborhood that looks to the future with clean technologies and high quality design for energy, buildings, and infrastructure. The site will place a high priority on encouraging walking, biking, and transit.

The city is currently in the process of setting a vision for new roadways, transit access, walkways, and bikeways throughout the site, and planning should be complete in 2016. This ongoing planning process should include establishing a plan for bikeways to be developed throughout the site. Special care should be taken to identify bikeways that both serve the planned development site as well as facilitate bicycle passage through the site. At a minimum, the following bikeway priorities should be set for the Ford site and the surrounding areas:

- Off-street and in-street bikeways, as well as support facilities such as bicycle parking, should be incorporated to the fullest extent possible within the Ford site redevelopment, to provide a strong network of bicycle connections to, from, and within the site for all types of users.
- Improvements to the existing facilities along Mississippi River Boulevard – The existing trails adjacent to the Ford site along the west side of Mississippi River Boulevard are not of sufficient width to accommodate existing users, and space to expand the trails is limited given the current location of Mississippi River Boulevard. Improvements to Mississippi River Boulevard that result in additional space to develop higher quality off-street trail facilities along the west side of Mississippi River Boulevard adjacent to the Ford site should be considered, including the existing trail bottleneck where Mississippi River Boulevard passes underneath Ford Parkway.
- Improved connections between Mississippi River Boulevard and Ford Parkway – The existing connections between Mississippi River Boulevard and the Ford Parkway bridge are insufficient and opportunities to improve these connections should be explored.
- Ford Rail Spur – Ford site planning should anticipate reuse of the freight railroad spur as a public transportation opportunity and include off-street paths for walking and biking, in addition to other potential modes such as transit. Ford site planning efforts should develop a plan to connect trail users to both Mississippi River Boulevard and the Ford Parkway bridge.
- Montreal Avenue Extension – Montreal Avenue is an important existing east/west bicycle route. Concepts should be developed that facilitate east-west travel between the current western terminus of Montreal Avenue and Mississippi River Boulevard.
- Ford Parkway Improvements – This plan identifies an enhanced shared lane strategy for a portion of Ford Parkway adjacent to the Ford site. However, this is not an optimal solution given the traffic volumes and speeds on Ford Parkway. Ford site planning efforts should consider alternative options to accommodate east/west bicycle travel on Ford Parkway.

6.9-10 Downtown Trail Loop and Shared Lanes

This plan recommends the development of a unique off-street trail network throughout the downtown area as well as enhanced shared lanes on most downtown streets. This strategy is designed to make downtown a hub in the city bicycle network and to effectively and safely accommodate cyclists of all preferences. The trails are designed to accommodate slower bicyclists and to encourage new or casual cyclists to visit downtown. The enhanced shared lanes throughout downtown will accommodate faster cyclists who are seeking the operational and speed benefits of integrating with motorized traffic.

The planned downtown trail network can be described as a loop alignment as well as connections between the loop and the existing bikeways approaching downtown. The loop trail will effectively place a majority of downtown within two or three blocks of the trail.

The trails are planned to be off-street path type facilities that accommodate two-way bicycle traffic, even when adjacent to one-way streets. The trails throughout downtown will be of a different aesthetic character than other trails throughout the city. Generally off-street path facilities are constructed using asphalt, and are surrounded by turf, landscaping, or other boulevards on both sides where space permits. The downtown trails will take on more of an urban character and may be constructed out of a number of different materials, including concrete to provide a distinctive appearance. Despite the different look and feel of these urban trails, they will share similar operational characteristics with other popular off-street paths throughout the city. People who are comfortable riding a bicycle on off street trails in other contexts will find these facilities familiar and attractive.

The downtown trail network is a unique recommendation that places Saint Paul at the forefront of bicycle planning in the U.S. Very few other cities have developed similar facilities. Saint Paul may look to the Indianapolis Cultural Trail for design inspiration. The Indianapolis Cultural Trail is a similar 8-mile network of off-street paths through downtown Indianapolis connecting the major cultural institutions throughout the city. In Saint Paul, the off-street trail network would connect popular attractions such as the Xcel Center, the Ordway Theater, the Science Museum of Minnesota, the Minnesota History Center, the Union Depot, the Farmers Market, the Lowertown Ballpark, the Landmark Center, the Minnesota Children's Museum, and other institutions and businesses throughout downtown.

The recommendation to develop a network of off-street trails throughout the downtown has larger objectives than simply accommodating bicycle transportation. At a basic level, this is a recommendation to develop vibrant urban spaces that encourage city residents and visitors to enjoy being outdoors whether or not they are using a bicycle. This strategy is best implemented within the context of full reconstruction of adjacent sidewalks (if not the full right-of-way), when the needs of pedestrians and ground floor activity in adjacent buildings can be enhanced. The call for utilizing unique and innovative design features extends beyond the bicycle facilities to the sidewalks, plazas, and other public spaces.

This recommendation is designed to be an economic development catalyst for downtown businesses. Companies that choose to locate in downtown must be confident that downtown is a place where employees will want to work and spend time. Businesses must be confident that the downtown built environment will help them attract top talent from across the nation, in addition to encouraging graduates from the many colleges and universities in Saint Paul to want to stay and work locally. Businesses of all types will flourish as downtown becomes a place where people want to spend time outdoors.

[Phase I - Jackson Street](#)

The first phase of the downtown bicycle facilities will be developed on Jackson Street, from Shepard Road to 11th Street. Jackson Street is a logical choice to be developed as phase one of the downtown trail loop because of the wide right-of-way, and the need to invest in the corridor to correct other deficiencies such as poor pavement quality. In addition, development of this first phase of the loop will help make the connection between the Gateway State Trail and the Sam Morgan Regional Trail, a critical missing link in the regional trail network. The trail is initially envisioned to be along the west side of Jackson Street, though this recommendation should be confirmed as detailed design progresses.

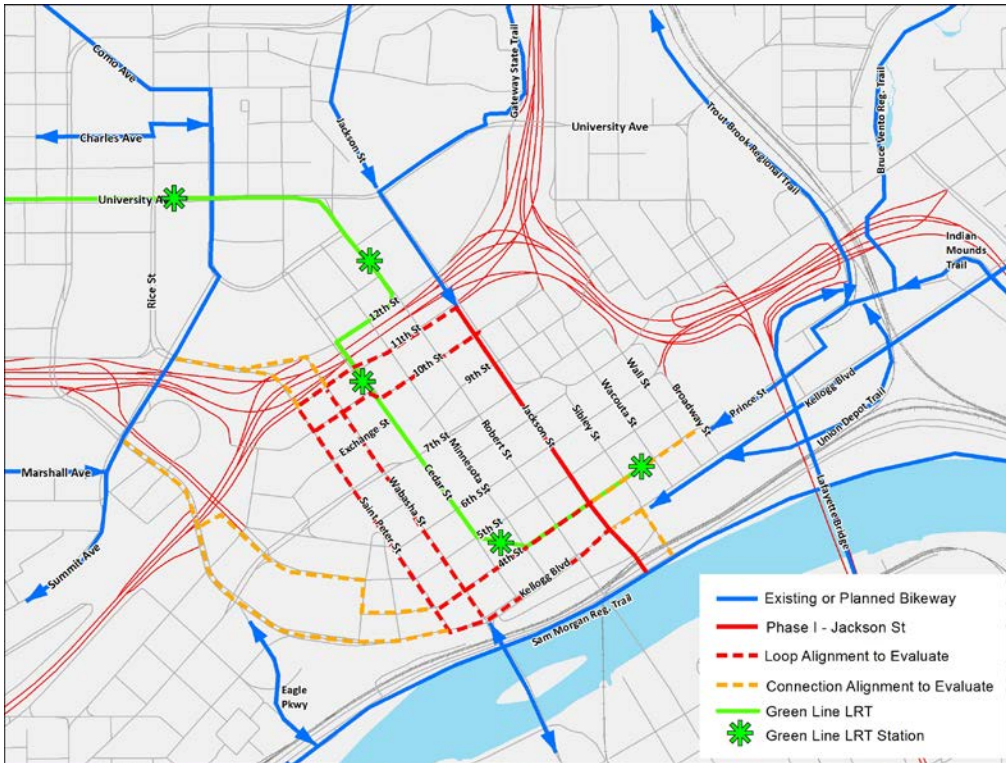
Additional Trail Alignments

As work progresses on developing a trail along Jackson Street, further study is needed to determine the final alignment of the loop trail network as well as connections between the loop and the existing bikeways that approach downtown. The following corridors should be evaluated to determine the most appropriate final alignment for the remaining three sides of the loop:

- Saint Peter Street or Wabasha Street
- Kellogg Boulevard or 4th Street
- 10th Street or 11th Street

Connections between the loop and other existing and planned routes into and out of downtown will be developed to ensure connectivity to the surrounding bicycle network. The following corridors should be evaluated to determine the most appropriate connections between the loop and the surrounding areas:

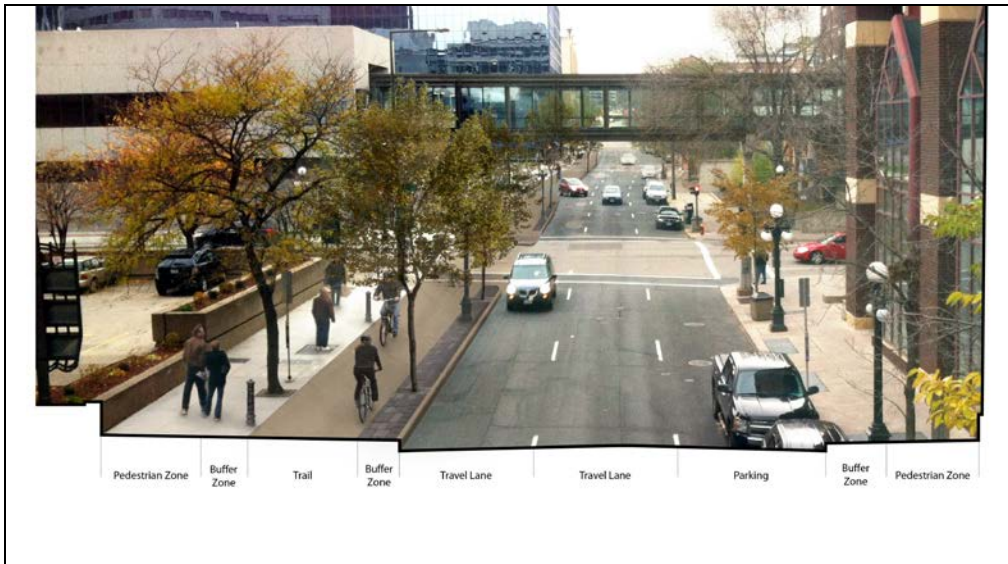
- West along Kellogg Boulevard or 5th Street to connect to the bikeways on Summit Avenue and Marshall Avenue, and Eagle Parkway.
- East on Kellogg Boulevard or 4th Street to connect to the Union Depot Trail, Bruce Vento Regional Trail, Trout Brook Regional Trail, and Indian Mounds Trail.
- Northwest on Saint Peter Street or Wabasha Street to connect to the existing bike lanes on John Ireland Boulevard, Park Street, and Como Avenue, as well as the Charles Avenue Bikeway.
- South on Sibley Street to connect to the Sam Morgan Regional Trail.
- The alignment should include a connection to the Wabasha Bridge.



Downtown loop trail alignment.



Indianapolis Cultural Trail



Rendering of off-street trail along Jackson Street.



Rendering of off-street trail along Jackson Street.

6.10-11 Interim Facilities & Other Notes

In some cases, the planned bikeways identified in this plan are intended to be an interim measure until alternative facilities can be developed. Several of the planned bikeways have been identified as interim facilities, while others have unique circumstances or conditions. A summary of these conditions is presented below:

Table 6.11.1 Interim Facilities & Other Notes

Street Name	From	To	Length (miles)	Existing Facility Type	Proposed Facility Type Group	NOTES
Marshall Ave	Western Ave	John Ireland Blvd	0.4		In-Street Separated Lane	Counter-flow bike lane.
Manomin Ave	George St	Cherokee Ave	0.1	Enhanced Shared Lane	Enhanced Shared Lane	Existing interim route until Cherokee Ave Trail extension across Smith Ave is constructed.
George St	Cherokee Ave	Smith Ave	0.1	Enhanced Shared Lane	Enhanced Shared Lane	Existing interim route until Cherokee Ave Trail extension across Smith Ave is constructed.
George St	Smith Ave	Manomin Ave	0.1	Bike Lane	In-Street Separated Lane	Existing interim route until Cherokee Ave Trail extension across Smith Ave is constructed.
Hamline Ave	Montreal Ave	Pierce Butler Rte	3.8		In-Street Separated Lane	Implementation of bike lanes is contingent upon further engineering study and traffic analysis. Portions of this alignment may not be feasible with current traffic volumes.
Aldine St	Summit Ave	Carroll Ave	0.8		Bicycle Boulevard	Must convert roadway to 2-way traffic & remove parking.
Earl St	Wakefield Ave	Maryland Ave	1.7		In-Street Separated Lane	Northbound bike lane - One-way pair with Forest Street.
Forest St	Old Hudson Rd	Maryland Ave	1.7		In-Street Separated Lane	Southbound bike lane - One-way pair with Earl Street.
University Ave	Raymond Ave	Aldine St	1.4		Enhanced Shared Lane	Recommended as interim route until alternate parallel routes to north and south are established.
Vandalia St	Territorial Rd	Ellis Ave	0.2		Enhanced Shared Lane	Recommended as interim route until Minnehaha Avenue extension from Vandalia Street to Prior Avenue can be developed.
Ellis Ave	Vandalia St	Transfer Rd	0.2		Enhanced Shared Lane	Recommended as interim route until Minnehaha Avenue extension from Vandalia Street to Prior Avenue can be developed.
Charles Ave	Raymond Ave	Transfer Rd	0.6		Enhanced Shared Lane	Recommended as interim route until Minnehaha Avenue extension from Vandalia Street to Prior Avenue can be developed.

7.0 END OF TRIP FACILITIES

Ensuring adequate end-of-trip facilities, including bicycle parking, showers, changing rooms, and other amenities, is a critical part of creating an attractive bicycle transportation system. The presence or absence of these facilities will often play a substantial role in determining whether bicycling is viewed as a realistic transportation option.

7.1 Bike Parking

Bicycle parking is an important part of a functioning streetscape and is a basic need for anybody using a bicycle. At both ends of every trip, users must be confident that their bicycle can be stored in a safe location.

Bicycle Parking can be described as short-term or long-term. Short-term bicycle parking should emphasize convenience and ease of use for parking durations of less than two hours. Long-term bicycle parking should emphasize security and weather protection for durations of greater than two hours.

Table 7.1.1 Short-term and Long-term Bicycle Parking Characteristics

Criteria	Short-term	Long-term
Parking Duration	Less than two hours	More than two hours
Fixture types	Simple bicycle racks	Lockers, racks in a secured area
Weather protection	Typically unsheltered	Sheltered or enclosed
Security	Relies on user-provided bicycle locks and passive surveillance (e.g. eyes on the street)	Unsupervised:
		"Individual-secure" such as bicycle lockers
		"Shared-secure" such as a restricted access room
		Supervised:
		Staffed bicycle storage area
Location	May be inside or outside of the public right-of-way	Typically outside of the public right-of-way
Provider	May be privately owned or provided by the city or other partner agency.	Typically privately owned and located on private property.

SOURCE: Adapted from APBP Bicycle Parking Guidelines

Properly designed long-term bicycle parking almost always offers a superior level of security compared with short-term parking, and will typically be located outside the public right-of-way or on private property. However, it will often be located in access controlled areas and may not be available for use by visitors. Short-term bicycle parking, where feasible, may be provided on private property. However, much of the demand for short-term bicycle parking will be met by providing bicycle parking in the public right-of-way.

It is of critical importance to provide appropriate long-term bicycle parking within residential properties. While many residents in single-family homes have a garage that effectively serves this function, many residents of multi-family housing do not have a similar space to store a bicycle.

Residents of multi-family housing should be provided a secure and sheltered long-term bicycle parking location that is separate from their private living space and does not require the bicycle to be carried on stairs or elevators.

It is desirable to ensure a sufficient quantity of bicycle parking to discourage people from locking bicycles to inappropriate objects, such as gas meters, trees, or hand rails; or in areas where the locked bicycle will impede movement, such as in front of doorways, pedestrian curb ramps, or at bus stops. By proactively providing bicycle parking in appropriate locations, the City can discourage bicycle parking in inappropriate locations. ~~The city does not currently have any regulations establishing or defining illegal bicycle parking practices within the public right-of-way.~~

~~Action Item: Consider establishing an ordinance to regulate bicycle parking within the public right-of-way. The regulations should identify objects to which it is illegal to lock a bicycle, such as trees, gas meters, bus stop signs, etc.~~

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The vast majority of bicycle parking owned by the city is short-term parking provided in the public right-of-way. The City does not operate any bike lockers, though some are available through partner agencies such as the Metropolitan Council on city-owned property.

City Zoning Code Bicycle Parking Requirements

Section 63.200 of the City zoning code establishes the bicycle parking requirements for all new construction and redevelopment throughout the city. The code establishes the minimum number of bicycle parking spaces required for a development, and provides guidance for where and how bicycle parking should be provided.

The code states that “the location of bicycle parking facilities shall be at least as convenient to the main entrance of the primary use as the most convenient third of the automobile parking.” The code allows the required bicycle parking to be located within the public right-of-way with a permit from the city engineer. Bicycle parking must be provided a similar level of protection from weather as is provided for motor vehicle parking.

A summary of the current minimum bicycle parking requirements are as follows:

- **General:** one bicycle parking space for every 20 motor vehicle parking spaces
- **Residential:** one bicycle parking space for every 14 dwelling units
- **Allowed Substitution:** Bicycle parking spaces may be substituted for up to 10% of the required motor vehicle parking spaces. One motor vehicle parking space may be replaced by two bicycle lockers or four bicycle parking spaces.

The current zoning code does not specify whether the required bicycle parking is intended to function as short-term or long-term bicycle parking, and does not provide different guidelines for each type. In addition, the requirement for residential bicycle parking may not provide adequate bicycle parking. For non-residential properties, the number of required bicycle parking spaces is directly tied to the number of required motor vehicle parking spaces, which may not provide adequate bicycle parking facilities in locations such as along the Green Line LRT where required motorized parking may be reduced by 100 percent.

Action Item 7.1.1:

Conduct a zoning study to evaluate revisions to the zoning code to differentiate between short-term and long-term bicycle parking, to evaluate minimum bicycle parking requirements for residential

developments, and to consider strategies to ensure sufficient bicycle parking is provided along the Green Line LRT and future transit corridors.

Bicycle Parking in the Public Right-of-Way

Short-term bicycle parking should be located near the primary entrance to each destination. Often, locating bicycle parking within the public right-of-way will provide the most convenient experience for bicycle users. Short-term bicycle parking in the public right-of-way is primarily provided in commercial areas to help people on bicycles easily access local businesses and workplaces. In most cases, this is accomplished through the installation of simple bicycle racks in the boulevard and furnishing zone of the sidewalk. Public Works has developed installation and spacing guidelines for bicycle parking in the public right-of-way.

In some locations, opportunities to locate bicycle parking in the boulevard are limited, though demand for bicycle parking may be high. In these cases, it may be appropriate to locate bicycle parking within the parking lane of a roadway, often called a “bike corral”. Bike corrals will typically only be installed at the request of an adjacent property owner. The first bike corral in the city was installed in the fall of 2014.

Public Works maintains a database of bicycle rack locations throughout the city, though some of the data may be outdated or incomplete at the time of this writing. The database of bike racks is publicly available through the city online GIS mapping tool.

Action Item ~~7.1.2:~~

~~Complete a full inventory of bicycle parking within the public right-of-way and establish a procedure to update and publish the maps and inventory as appropriate.~~

The city continues to receive requests for additional bicycle parking within the public right-of-way. In response, the City has developed a Neighborhood Bike Rack Program for the purpose of installing short-term bicycle parking. In 2014, this program was funded by a grant for the amount of \$10,000. The number of requests for bicycle parking exceeded the available funding. No long term funding source has been identified to continue this program.

It is not well understood at this time where there is a need for additional bike parking in the public right-of-way, how much is needed, or how to prioritize future investments in bike parking.

Action Item ~~7.1.3:~~

~~Conduct a study to identify where there exists a deficit of bike parking in commercial areas and create a proactive strategy and program to fund and install additional bike parking in high-demand areas.~~

The easiest and most cost effective opportunity to install bicycle parking in the public right-of-way is by performing the work at the same time as other work is being performed, such as street or sidewalk reconstruction. Many bicycle racks have been installed in the public right-of-way in the past as part of larger reconstruction efforts, however, the City has not consistently taken advantage of these opportunities due to a lack of established procedures.

Action Item ~~7.1.4:~~

~~Establish a policy and procedure to install bicycle parking facilities in the public right-of-way in conjunction with all street or sidewalk construction or reconstruction projects. The quantity and placement of the bicycle parking should be consistent with existing or anticipated demand.~~

Bicycle Parking within Heritage Preservation Districts

The bicycle has played an important role throughout the history of transportation. Bicycles were popular and affordable before the automobile reached widespread use, enjoying an initial peak in popularity in the 1880's and 1890's, a time when much of Saint Paul was still developing. Special care must be taken to incorporate bicycle parking facilities into identified Heritage Preservation Districts in a thoughtful manner.

Action Item ~~7.1.5:~~

Coordinate with the Heritage Preservation Commission and staff to identify appropriate short-term bicycle rack styles to be used within the public right-of-way in identified Heritage Preservation Districts.

Bicycle Parking at Transit Stations

Improving bicycle access to transit stations and stops is a top priority to encourage multi-modal trips. Effective integration of bicycle parking and routes with transit facilities and routes will increase both bicycle use as well as transit ridership.

Bicycling can greatly expand the viability of using transit to complete a trip. While bicycling has the potential to expand the effective service area of a transit route, transit likewise expands the ability to use a bicycle for a portion of a trip. This is especially true for trips of sufficient length that bicycling alone is not a realistic option. The vast majority of buses and LRT vehicles operating in Saint Paul already permit transit users to bring bicycles onto the transit vehicles, giving people using bicycles the option of leaving their bicycle at the transit stop or station, or bringing their bicycle with them on the bus or LRT vehicle.

Provision of bicycle parking at transit stations and stops is a collaborative effort between the city and transit operators. For example, bicycle parking provided by Metro Transit is located at many of the Green Line LRT stations in a location of prime convenience for transit users. However, bicycle parking is frequently not provided at typical bus stop locations. In absence of bicycle parking at bus stops, however, transit users may lock a bicycle to a transit post sign or other object within the bus stop area that interferes with bus loading and unloading.

Action Item ~~7.1.6:~~

Support transit agency partners in their efforts to provide high quality bicycle parking in and around transit stops and stations, much of which will be located within the public right-of-way. Integrate bicycle parking into station areas as possible at all new high-capacity transit stops and stations, including stops and stations along the arterial BRT routes, such as the "A Line", as well as other transitways such as the Gateway Corridor. Coordinate with transit agencies to ensure that adequate bicycle parking is provided at Park and Ride facilities in and near the city.

7.2 Showers, Lockers, and other Amenities

End-of-trip facilities such as changing rooms, showers, personal lockers, and self repair services (such as air pumps) are all important factors in determining whether individuals will choose to use a bicycle for transportation, especially for commuters who may need to maintain a professional appearance at work. An attractive and secure place to freshen up after breaking a sweat is a necessity for many potential bicycle commuters.

Employers should be encouraged to provide showers and other end-of-trip facilities for their employees. For many smaller businesses or developments, this will not be a realistic possibility. However, opportunities for multiple small businesses to share facilities can make it a more realistic

possibility. In some cases, partnerships with nearby facilities (such as private gyms or fitness centers) may provide realistic opportunities for employers to provide this benefit to employees. In many cases, large employers or office developments will include showers in connection with other on-site fitness amenities.

| There are currently no ~~zoning code~~ requirements regarding provision of changing rooms, showers, or other end-of-trip amenities.

Action Item 7.2.1:

~~*Conduct a zoning study to consider modifications to the zoning code that would require or encourage*~~
~~*Consider encouraging or requiring end-of-trip amenities as appropriate in new development,*~~
~~*particularly in large office buildings.*~~

In the summer of 2014, five tune-up stations provided by private sponsors were installed at locations throughout Saint Paul. The tune-up stations provide air pumps to inflate tires as well as other basic tools to help bicyclists keep their bicycles in working order. Opportunities to expand the offering of tune-up stations should be explored.

8.0 BICYCLE PROGRAMS AND OTHER TOPICS

8.1 Bicycle Counting

It is important to understand how and where people are using bicycles to make informed decisions about infrastructure. However, the city currently has a limited understanding of how many people are using bicycles, how frequently they are using them, and what routes they are using, especially compared to our understanding of usage levels of other modes of transportation.

Manual Counts

There have been several efforts to begin gathering count information of bicyclists. A local nonprofit organization Transit for Livable Communities established a program to conduct annual counts at a handful of locations in Saint Paul in 2007. Other data has been collected by the city or neighborhood groups on an ad-hoc basis for specific projects or other initiatives over time.

In 2013, the city established a bicycle and pedestrian count initiative to establish a formal methodology and counting procedure. The counting methodology relies on volunteers to collect two hours of count data each year in early September, and is based on recommendations from MnDOT and the FHWA about bicycle counting methods. The methodology recommends that the counting effort be repeated annually. The count was repeated in 2014, though it is uncertain whether the city can sustain this effort on an annual basis in the future.

The city frequently receives requests from individuals, developers, and neighborhood organizations for data regarding the number of bicycles using a particular route. The city does not currently have a clear method for cataloging and publishing bicycle count data. The results of the 2013 and 2014 bicycle counts are published on the city website, but more efficient or useful data presentation methods may be developed.

Action Item ~~8.1.1:~~

Explore the feasibility of continuing the manual counting efforts on an annual basis. Consider partnerships with other groups and agencies that may be able to assist with volunteer recruitment, training, and organization. Establish a clear methodology for cataloguing, and publishing bicycle count data.

While the various volunteer-driven manual counting efforts have provided a good start to understanding bicycle traffic, manual counting efforts are labor intensive and may not be a sustainable approach over time to collecting data. In addition, the current methodology of collecting two hours count data one day each year provides merely a snapshot in time of bicycle usage. The current methodology does not provide an understanding of bicycle usage throughout the day, week, or year.

Automated Counts

Various methods to automate the collection of count data are rapidly emerging. Traditional technologies such as pneumatic tubes can be used to collect bicycle count data in some circumstances. In addition, new technologies such as thermal imaging or cameras may be an effective strategy. While automated counting procedures may not provide perfect counting accuracy, the ability to collect greater volumes of data over time is inherently valuable.

| *Action Item ~~8.1.2~~: Explore opportunities to automate the collection of bicycle and pedestrian count data. Document costs associated with automated counting as well as current best practices for ensuring accuracy. To the extent feasible, establish a methodology for collecting and publishing automated count data.*

8.2 Wayfinding & Mapping

Wayfinding tools such as signage, pavement markings, maps, or electronic guidance can help make the city easier to navigate by bicycle, especially for new cyclists, or people using an unfamiliar route. The city publishes a map of the existing bicycle network and updates the map at least annually. In addition, various organizations such as advocacy groups have published bicycle network maps.

Several online wayfinding tools such as Google Maps directions and Cyclopath allow bicyclists with internet access to access route information and recommendations. However, these services provided by third parties may not have up-to-date information about the bicycle network, including information about temporary disruptions or detours to the network.

| *Action Item ~~8.2.1~~: Ensure the portability of electronic information about the bicycle network and provide third parties with easy access to the data.*

However, the city should not assume that all persons using bicycles have access to electronic route information. Traditional wayfinding elements such as signage and pavement markings should be used to help bicyclists find destinations when the route is not clear or obvious. The existing wayfinding system should be enhanced and expanded, in accordance with the guidance included in the *Saint Paul Street Design Manual*. Wayfinding signage across route systems should be coordinated among the various managing agencies.

8.3 Nice Ride Minnesota

Nice Ride Minnesota is a nonprofit bicycle sharing system operating in the Twin Cities. The system was established in Minneapolis in 2010 and expanded into Saint Paul in 2011. The system currently boasts over 1,550 bikes and 170 stations in operation across the Twin Cities.

Bicycle sharing is often ideal for short distance point-to-point trips, especially spontaneous trips where users do not have their own personal bicycles with them, or when they would rather leave their bicycles at home. In many ways, bicycle sharing can be viewed as an extension of the transit network, with bicycling providing the last mile service of a combined trip with the light rail or bus service. The system is popular for both residents and tourists and is often one of the simplest ways to get around Saint Paul.

Users of Nice Ride are typically seeking a casual bicycling experience. The bicycles are designed to provide a comfortable upright seating position and are geared to provide easy pedaling, though that results in slower speeds than on more high-performance bicycles. As a result, users of Nice Ride are often drawn to bicycle facilities that provide the most comfortable user experience traveling at

slower speeds. Users of Nice Ride will naturally be drawn to facilities such as off-street paths or cycle tracks that enhance the perception of safety and provide separation from motor vehicles.

While Nice Ride stations are typically located in the public right-of-way and must be coordinated and approved by the city, the station locations are typically selected by Nice Ride.

The current Nice Ride service area is focused around downtown and the central portions of the city bounded by University Avenue and Grand Avenue, though some stations exist on the city's West Side and as far north as Como Regional Park. However, the east side of Saint Paul is not currently served by Nice Ride.

Action Item ~~8.3.1:~~

Coordinate with Nice Ride to encourage and facilitate the continued expansion of the system to portions of the city not currently served as well as the densification of the system throughout the city. Encourage coordination of station locations near substantial bicycle trip generators, transit facilities, and near the bicycle network. Support Nice Ride MN efforts to test new strategies and tools to encourage bicycle ridership.

8.4 Lighting

Ensuring that the bicycle network is well lit is critical to ensure the safety and usability of bicycles. This is especially true of off-street paths that pass through isolated areas and are not adjacent to roadways or buildings. The usability of poorly lit or unlit paths can be greatly diminished during overnight hours and much of the winter when daytime hours are reduced.

The city has a well established street lighting policy that guides how lighting is used along public rights-of-way. However, this policy is focused primarily on roadways lighting and does not provide clear guidance on lighting expectations for bicycle facilities that are not adjacent to roadways. In general, bikeways that are located in the street or immediately adjacent to the street do not require any additional lighting beyond what is provided according to the current street lighting policy.

When lighting bikeways, special care should be taken around bridges, culverts, or other structures that may cast shadows or block other ambient light sources. Special care should also be given to appropriate lighting of bicycle and pedestrian bridges.

Action Item ~~8.4.1:~~

Develop a policy to guide lighting of bikeways that are not adjacent to roadways, including lighting on bicycle and pedestrian bridges.

8.5 Traffic Signal Detection

Throughout the development of this plan, many bicyclists stressed the importance of ensuring that traffic signals throughout the city function appropriately for bicyclists. In many cases, traffic signals are programmed to detect the presence of bicyclists, motorists, or pedestrians to trigger a green light for bicyclists. In some cases, if a traffic signal is not capable of detecting the presence of a bicycle, bicyclists must wait through a long traffic signal cycle, even if there is no opposing traffic. In other cases, the bicyclist will never receive a green light if they are not detected. Traffic signals that do not efficiently accommodate bicyclists may result in an increased rate of bicyclists illegally running red lights.

Minnesota State Statute 169.06 subd. 9 permits bicyclists to enter an intersection against a red light provided that:

- The bicycle has been brought to a complete stop
- The signal shows a red light for an unreasonable time
- The signal is malfunctioning or is not capable of detecting bicyclists
- No motor vehicle or person is approaching on the street or is far enough from the intersection that it does not constitute an immediate hazard.

There are various methods and technologies that can be used to detect bicyclists. Active detection methods require bicyclists take an action, such as push a button, to be detected. This may be appropriate in locations such as where a low traffic volume bicycle boulevard crosses a busy arterial. In these cases, the push button should be placed in a location where bicyclists are able to easily reach the button without dismounting.

Passive detection methods such as induction loops or cameras do not require the bicyclists to take an action to be detected, though they may still require a bicyclists to stop at a specific location in the roadway. In these cases, a pavement marking may be used to indicate where bicyclists should position themselves.

Bicyclist detection is not necessary in some situations, such as when the traffic signal operates on a fixed cycle and phasing pattern. In addition, detection may not be necessary on higher-volume roadways where the signal is already programmed to prioritize the heavy through traffic volumes.

Action Item ~~8.5.1~~:

Consider bicyclist detection at all signalized intersections on the bicycle network and as part of all new signal installations.

8.6 Bicycling on Sidewalks

Minnesota Statute 169.222 permits riding a bicycle on a sidewalk, except for within a business district unless permitted by local authorities. Bicycling on sidewalks is generally discouraged for adult bicyclists, and can be unsafe for bicyclists, pedestrians, and motorists. Saint Paul does not currently have a local ordinance that governs bicycle riding on sidewalks, nor has the city installed any signage or pavement markings in business districts to actively discourage unsafe sidewalk bicycling.

In many cases, bicyclists who choose to ride on the sidewalk rather than in the street do so because they do not feel safe in the street. Actions to discourage bicycle riding on the sidewalk may not be effective without simultaneous efforts to provide bicyclists with a safe alternative space to ride.

Action Item ~~8.6.1~~:

Consider developing a policy regarding signage or pavement markings to discourage bicyclists from riding on sidewalks in business districts.

8.7 Education, Encouragement, & Enforcement

The vision established in this plan to encourage new bicycle ridership will not be realized without a range of programs designed to encourage use of bicycles, to provide education materials, promote enforcement of traffic laws. Education and encouragement efforts will raise the visibility of

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bicycling throughout the community and help information of bicycling reach new audiences. In particular, helping new bicyclists understand the rules and expectations for bicyclists.

Many community groups are well positioned to assist with education and encouragement efforts and the city should work to promote partnerships with groups who can provide leadership on these efforts. Groups such as St. Paul Women on Bikes, Cycles for Change, Friendly Streets Initiative, Nice Ride, Saint Paul Bicycle Coalition, and other groups may be able to contribute significantly to encouragement and education efforts. In addition, partnerships with local schools may be an effective venue to provide educational materials and workshops for children.

MnDOT has developed a range of educational and promotional materials that local agencies can use and adapt to improve bicycle safety. The popular Share the Road campaign includes flyers, videos, and other resources Saint Paul could use. The materials highlight expectations and regulations for both bicyclists and motorists.

Enforcement of existing traffic laws is an important step to encourage bicyclists and motorists to behave predictably and responsibly while driving and biking. The Saint Paul Police Department is responsible for enforcing existing traffic laws for motorists, bicyclists, and pedestrians. Travelers using all modes benefit from increased compliance with traffic laws. Enforcing existing laws for all users will help make bicycling a safe and easy choice and will help support more respectful relationships between bicyclists and drivers. In particular, some agencies have reported success in using targeted enforcement efforts as a chance to distribute educational materials to bicyclists, motorists, and pedestrians.

Action Item 8.7.1

Explore opportunities to partner with other agencies or community groups to develop education, encouragement, and enforcement efforts, safety programs, and other initiatives designed to raise awareness of bicycling.

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9.0 IMPLEMENTATION

9.1 Funding Network Expansion

Strategies to implement the recommendations of this plan must necessarily flow from an understanding of how the city funds capital projects. Most projects are funded locally, though some projects are funded by agency partners such as Ramsey County, ~~or~~ MnDOT, or the Metropolitan Council. External state or federal grant sources are also available, though these sources are often not a predictable way to plan for network expansion.

Many of the bikeways recommended in this plan will be funded and developed as independent projects, though there may be some opportunity to bundle several similar projects together in a single funding request. In addition, much of the bicycle network will be funded through routine maintenance or reconstruction efforts. Bicycle network capital projects may be managed by either the Department of Public Works or the Department of Parks and Recreation, and are channeled through the city's Capital Improvement Budget (CIB) process for financing and implementation.

Capital Improvement Budget

The City maintains a two-year Capital Improvement Budget (CIB) that outlines all capital expenditures anticipated for the upcoming two-year period. The CIB is overseen by the CIB Committee, a citizen's committee comprised of 18 city residents appointed by the Mayor and approved by the City Council. The CIB is created through what is commonly referred to as the "CIB process", in which all city capital projects compete with each other for funding.

On a bi-annual basis, city departments (such as Public Works or Parks and Recreation) as well as community organizations submit proposals for capital funding. These proposals are evaluated and ranked by several citizen-based task forces of the CIB Committee. Next, the CIB Committee prepares a recommended budget, which is reviewed, modified, and approved by the Mayor and City Council. Generally, only a small portion of the capital projects that are proposed will be selected to receive funding.

Every bicycle capital project will be proposed and funded through this process, either as a standalone bikeway project, or as part of a larger capital project. This includes projects that are successful at receiving state or federal funding to aid in implementation and require additional matching local funds, which will be identified through the CIB process.

Bicycle, Pedestrian, and Traffic Safety Program

Included within the CIB is the annually funded Bicycle, Pedestrian, and Traffic Safety Program, designed to fund safety improvements at various locations throughout the city. The program is intentionally flexible to fund safety improvements such as pavement markings, signs, pedestrian countdown timers, audible pedestrian signals, pedestrian ramps, traffic calming elements, dynamic speed display signs, and other elements.

While limited in scope by its funding appropriation (\$252,000 in 2014), the program remains an important local funding source for bicycle infrastructure. However, it is not intended in scope to be the primary source of funding for expanding the bicycle network. Rather, it is intended to fund

miscellaneous small-scale pedestrian and bicycle improvements that would not otherwise be funded.

[External Grants](#)

The city will seek external funding sources as much as possible to implement the bicycle network, though the application process is often quite competitive. Typical grant sources include trail funding sources administered through the DNR and federal transportation grants administered by the Metropolitan Council. A full list of funding sources is presented in **Appendix F**.

Each funding source is unique and often comes with very specific requirements regarding eligible expenses. Often the qualifying or selection criteria for each funding source will determine the type of bikeway project that is likely to be successful at receiving funding.

The city will be best positioned to compete for external grants by completing the Phase 1: Planning stage of the Bikeway Development Process to demonstrate public support for the project and to be well-prepared to complete the applications.

9.2 Bikeway Development Process

This plan strives to create a consistent, careful, and systematic approach to implementing elements of the bicycle network. The intent of this approach is to minimize the timeline required to secure funding for the project, to facilitate the development of effective bicycle infrastructure in a cost-effective manner, and to better position the city to compete for external funding sources for bikeway implementation.

The project development approach can be described in four phases:

- Phase 1: Planning
- Phase 2: Develop Implementation Strategy
- Phase 3: Final Design & Implementation
- Phase 4: Evaluation & Maintenance

This document establishes a long-term vision for the development of a bicycle network throughout the city. However, there are still many details that remain to be determined for each corridor identified in this plan. This process is intended to help city staff and residents understand how and when these details are determined.

This process is not intended to be rigid or to discourage neighborhoods or staff from employing unique or new strategies of public involvement or planning. It is understood that each neighborhood will require a unique planning approach and that unanticipated opportunities for implementation may present themselves that should be seized.

In some cases, bikeways may be implemented quickly and easily without changing the operational characteristics of a roadway. This is particularly true of roadways identified for enhanced shared lane type bikeways that rely on shared lane markings or signage alone to establish the bikeway. In these cases, a formal planning or public involvement process may not be necessary and the bikeway may be implemented immediately upon identification of funding.

Phase 1: Planning

The purpose of this phase is to establish the long-term vision and preferred design for full build-out of a bikeway. It is increasingly becoming a reality of local, state, and federal funding sources that city staff and residents must have completed a substantial amount of initial planning and public engagement in advance of applying for external funding. The purpose of this phase is not to discourage the city or neighborhoods from seeking funding either external to the city or through the city CIB process without completing initial planning or public involvement efforts if there is a compelling reason to do so. Rather it is to better position those projects to be successful at receiving funding.

Initial planning efforts for development of new bikeways or improvements to existing bikeways may be led either by city staff or neighborhood groups in collaboration with city staff. The end result of this phase should be an understanding of the existing conditions, a vision of the desired bikeway, and what improvements are required to realize the preferred design. This phase should also establish a concept level construction cost estimate for the bikeway.

This is also the most appropriate time to coordinate efforts between the City, Ramsey County, MnDOT, the DNR, and the Metropolitan Council to ensure consistency and agreement among agencies.

At a minimum, the planning phase should include the following:

- Collection of relevant data such as street widths, motorized and non-motorized traffic volumes, right-of-way width, existing conditions, crash history
- Identification of objectives
- Identification of long-term vision
- Initial public engagement effort
- Development of design alternatives
- Identification of a preferred design
- Development of concept level cost estimate

Phase 2: Develop Implementation Strategy

The second phase is the process of matching the identified preferred design with a funding source or implementation opportunity. Funding for infrastructure projects is often a combination of several different sources, and each source will bring with it certain expectations and limitations. In some cases, the full project may need to be constructed in several construction phases over time, and each phase may be constructed using a different funding source.

This phase of the process should:

- Identify short-term and long-term opportunities
- Identify short-term and long-term priorities
- Evaluate potential for bundling bikeway implementation with other opportunities (such as upcoming routine roadway maintenance or planned reconstruction)
- Identify internal and external funding opportunities and timelines
- Apply for funding of full or partial project implementation
- Secure funding

In many cases, this will become an iterative process. If funding is secured to implement only a portion of the preferred design, the elements of the preferred design that remain unfunded will continue in Phase 2 until funding can be identified.

Phase 3: Final Design and Implementation

After funding has been secured to implement a preferred design, final design and construction documents will be completed by city staff and the project will be implemented. Construction may be performed by city staff or a private contractor, depending on the project scope and other factors. In most cases, this phase should also include a public involvement and notification effort consistent with the level of anticipated impacts. In some cases, educational or marketing materials may be needed to provide information to bicyclists, motorists, residents, and other stakeholders about new or unfamiliar designs.

Phase 4: Evaluation and Maintenance

After a bikeway has been implemented, it should continue to be evaluated and monitored to ensure that the design is performing as intended and to identify any unforeseen challenges or possible future improvements. This phase is continuous as the city should always be monitoring and evaluating existing infrastructure. At a minimum this phase includes the following:

- Monitor crash and usage data to evaluate the effectiveness of the facility
- Perform routine maintenance on the bikeway and evaluate the effectiveness of maintenance operations
- Evaluate the need for additional modifications or upgrades to the facility

[INSERT DELIVER PROCESS GRAPHIC HERE]

9.3 Implementation Opportunities

The most fiscally efficient way to implement bicycle facilities is by implementing the bikeway as part of a larger construction or maintenance project, and doing so will often result in a better overall finished project. By including bicycle elements in other projects with a larger scope, the cost of implementing the bikeway is absorbed into the budget of the larger project, often at little additional cost to the larger project. The following is a list of common capital projects that can provide the means for implementing bikeways.

Mill and Overlay

The mill and overlay process involves grinding off the existing surface of the roadway and replacing it with new asphalt. In this process, the existing roadway striping and markings are removed, presenting an opportunity to re-evaluate the previous striping and lane configurations and consider implementing painted bicycle facilities for very little additional cost.

Implementing bicycle facilities through a mill and overlay process is not always possible. In some cases, implementing the planned bikeway will require additional work beyond the scope of a mill and overlay, such as roadway widening or significant signal revisions. In these cases, it will not be possible to implement the planned bikeway without identifying additional funding.

Action Item 9.3.1:

Incorporate implementation of bikeways with routine maintenance projects whenever possible.

Residential Street Vitality Program

The Residential Street Vitality Program (RSVP) is a local street reconstruction program designed to coordinate and implement public and private utilities, street paving, lighting, and landscaping improvements. Typically, only local residential streets are included in the RSVP program. The RSVP program presents a cost effective opportunity to construct bikeways and traffic calming elements on local streets, especially bicycle boulevard facilities. RSVP projects include a full reconstruction of

the roadway and curbs, allowing for the implementation of traffic calming elements at little additional cost.

Action Item ~~9.3.2:~~

Incorporate implementation of bikeways with RSVP projects.

Arterial and Collector Reconstruction

Full reconstruction of arterial or collector roadways presents the most cost-effective opportunity to implement all types of bikeway facilities, including end-of-trip facilities such as bicycle parking. In a full reconstruction, the existing roadway is removed and replaced, including all curbs. Full reconstruction also typically includes replacement or repair of sidewalks, driveway aprons, lighting, trees, and other streetscape elements. This process provides an opportunity to reevaluate elements such as street width, parking availability, sidewalks, off-street paths, lane configurations, and signal locations. Often, the cost of including bicycle facilities in a full reconstruction project is minimal.

Action Item ~~9.3.3:~~

Incorporate implementation of bikeways with full reconstruction projects.

9.4 Improving Existing Bikeways

Much of this plan focuses on expanding the bicycle network and the construction of new facilities. It is important to remember the need to continuously evaluate and improve existing bikeways. Improvements to existing bikeways may be needed in response to field observations about how the facility is operating, an analysis of crash history, in response to public complaints, or other reasons. Implementing improvements to existing facilities must proceed through the same funding processes as implementing new infrastructure.

9.5 Bicycle Network Prioritization Principles

Full implementation of this plan will take many years to complete, elevating the importance of developing a process to prioritize investment. Throughout the public involvement process that helped develop this plan, several important themes emerged that established two top priorities

Priority 1: Develop a Downtown Bicycle Network

The development of a network of bicycle facilities in the downtown core is the top priority for encouraging bicycle ridership and economic development in Saint Paul. Statements received from city residents throughout the development of this plan repeatedly mentioned the challenges associated with circulating throughout downtown and as well as the challenges associated with entering and exiting downtown on a bicycle.

The planned reconstruction of Jackson Street through downtown in 2016 will implement bicycle facilities on this portion of the street. A separate study will finalize recommendations for additional alignments throughout downtown. The next critical step is to identify funding for implementation of the remaining facilities throughout downtown.

Priority 2: Complete the Grand Round

Completing the Grand Round will impact neighborhoods throughout Saint Paul and encourage longer distance bicycle trips. The Grand Round prioritizes off-street paths and in-street bike lanes to appeal to a wide range of users. The Grand Round is well-positioned to provide significant

transportation opportunities as well as recreational opportunities. Progress will be made on completing portions of the Grand Round throughout 2015 and 2016, however some sections of the Grand Round will remain unfinished. The next critical step is to identify funding for implementation of the remaining sections of the Grand Round.

Prioritizing Other Bikeways

Prioritization of the remaining bikeways throughout the city is a complex process with many variables and is not easily quantified. At this stage in the development of the bicycle network, opportunities that offer swift and cost effective implementation may rise to the top of the list. Opportunities to improve existing bikeways should be prioritized alongside opportunities to expand the bicycle network. The following principles are provided to aid in the decision making process:

Connectivity

- Prioritize projects that address a gap in the existing bikeway network.
- Prioritize projects that extend the network to a significant destination that is not currently served.
- Prioritize the major bikeway network over the minor bikeway network to establish a basic network citywide.

Safety

- Prioritize projects that address locations with a significant history of crashes or reported near misses involving bicycles.
- Prioritize projects that address conflicts with other modes, including pedestrians.
- Prioritize projects where the current condition or configuration of existing facilities discourages usage.

Usage

- Prioritize projects that connect to significant destinations or destination clusters.
- Prioritize projects that connect to large numbers of current riders.
- Prioritize projects that connect to areas of high population or employment density.
- Prioritize projects with substantial community support.
- Prioritize projects anticipated to serve both transportation and recreational purposes.

Equity

- Prioritize projects in areas with a higher percentage of minority populations, low income residents, or households without access to an automobile.
- Prioritize projects that address areas of the city where there has historically been less investment in bikeways.

Cost Effectiveness

- Prioritize projects that offer the most improvement over existing conditions at the lowest cost.
- Prioritize projects that will most effectively leverage external funding.

9.6 Planning Level Cost Estimate

Planning level cost estimates were developed for the recommendations in this plan based on general assumptions about the bicycle facility types outlined in this plan. For each facility, a planning-level cost estimate per linear mile was developed using cost information based on past project implementation experience. The cost of each segment will vary greatly based on a range of

local factors unique to each project. Detailed cost estimates will be developed as part of the Bikeway Development Process for each project.

Implementation Costs Assumptions

Off-Street Path

This cost estimate assumes a 10-foot wide asphalt trail, no right-of-way acquisition required, and no modifications to adjacent roadways. Typical installation includes trail construction, replacement of curb ramps, modification to traffic signals or other intersection controls, utility relocation, and landscaping.

In-street Separated Lane

This cost estimate assumes implementation will be limited only to pavement markings and signage. In some cases, roadway widening will be required, but these facilities are likely to be implemented as part of a larger roadway reconstruction project rather than as an independent bikeway project. Therefore, those costs are not identified here. Typical installation includes striping, pavement markings, and signage.

Bicycle Boulevard

Typical implementation includes installation of identification and wayfinding signage, arterial crossing treatments, and traffic calming elements. The arterial crossing treatments are often the most costly element of bicycle boulevard development, and the details and costs of these crossings are also challenging to anticipate without detailed study. Cost estimates are based on previous local experience developing bicycle boulevards as well as cost estimates from other agencies.

Enhanced Shared Lane

Typical implementation includes adding pavement markings and signage to an existing street.

Implementation Costs

The following planning level cost estimates have been developed based on the above assumptions; however, significant cost savings are anticipated by implementing the proposed work in conjunction with other planned work. For example, in-street separated lanes that are constructed as part of a mill & overlay project will incur little additional cost beyond the amount already budgeted for the mill & overlay. Likewise, the cost of constructing an off-street path adjacent to a roadway is significantly reduced when the adjacent roadway is also being reconstructed compared to the cost of constructing a path without adjacent roadway work. Thus, the costs presented below are likely an overestimate of actual costs.

Table 9.6.1 Planning Level Implementation Cost

Bikeway Facility Type	Existing Facilities	Planned Facilities	Implementation Cost	Planned Facilities Implementation Cost
	(miles)	(miles)	(per mile)	(total)
Off-Street Paths	74	56	\$ 1,500,000	\$ 84,000,233
In-Street Separated Lanes	53	60	\$ 30,000	\$ 1,799,387
Bicycle Boulevards	7	39	\$ 500,000	\$ 19,339,245
Enhanced Shared Lanes	18	40	\$ 21,000	\$ 849,193
TOTAL	153	195		\$ 105,988,057

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Maintenance Costs

This plan estimates annual maintenance costs for existing and planned facilities based on current maintenance costs for similar existing facilities. As the bicycle network expands, so do the ongoing maintenance costs. These estimates assume facilities will continue to be maintained at current levels, including snow removal. If an additional level of maintenance above current levels is desired, it would come with additional costs.

Table 9.6.2 Planning Level Annual Maintenance Cost

Bikeway Facility Type	Existing Facilities	Planned Facilities	Annual Maintenance Cost	Existing Facilities Annual Maintenance Cost	Planned Facilities Annual Maintenance Cost	Full Network Annual Maintenance Cost
	(miles)	(miles)	(per mile)	(total)	(total)	(total)
Off-Street Paths	74	56	\$ 12,000	\$ 886,728	\$ 672,002	\$ 1,558,730
In-Street Separated Lanes	53	60	\$ 8,000	\$ 426,266	\$ 479,836	\$ 906,102
Bicycle Boulevards	7	39	\$ 16,000	\$ 114,710	\$ 618,856	\$ 733,565
Enhanced Shared Lanes	18	40	\$ 6,000	\$ 109,899	\$ 242,627	\$ 352,526
TOTAL	153	195		\$ 1,537,603	\$ 2,013,321	\$ 3,550,923

Bicycle Parking Costs

The cost to install common bike racks in the public right-of-way can vary greatly depending on how much site preparation work needs to be completed. City policy requires that bicycle parking be installed on a concrete pad (rather than in grass boulevards or where pavers are present). Where a concrete pad is already in place, a new bicycle rack can be purchased and installed for approximately \$215 each. If a concrete pad must be installed, the additional costs can range between \$400 and several thousand dollars, depending on local circumstances.

REFERENCES

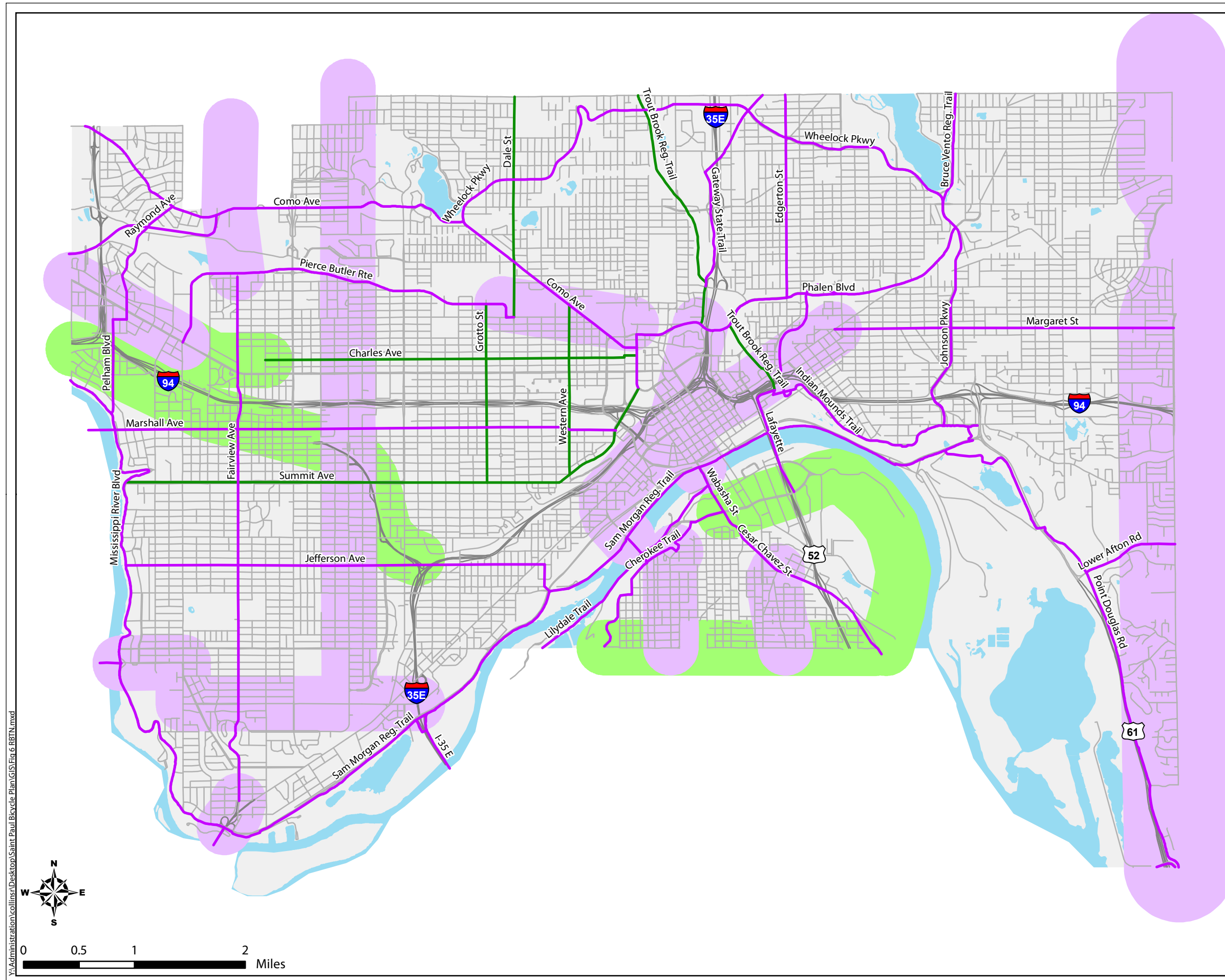
1. U.S. Census Bureau, Decennial Census, "Metropolitan Council Annual Estimates, and Metropolitan Council Forecasts," January 2012.
<http://stats.metc.state.mn.us/profile/detail.aspx?c=02396511>
2. Metropolitan Council, "The 2010 MSP Travel Behavior Inventory Report (TBI)," 2010.
<http://metro council.org/Transportation/Planning/Transportation-Resources/Transportation-Behavior-Inventory/Travel-Behavior.aspx>
3. City of Saint Paul, "Bike Walk Central Corridor Action Plan," May 2010.
<http://www.stpaul.gov/index.aspx?nid=2842>
4. Nice Ride Minnesota, "Our Story," [Niceridemn.org/about](http://www.niceridemn.org/about), retrieved on October 19th, 2013.
<https://www.niceridemn.org/about/>
5. Metropolitan Council, "Public Transit and Human Services Transportation Coordination Action Plan Twin Cities Metropolitan Area," February 2013.
<http://www.metro council.org/Transportation/Publications-And-Resources/Public-Transit-and-Human-Services-Transportation-C.aspx>
6. AAA, "Your Driving Costs, How much are you really paying to drive?," 2013.
<http://exchange.aaa.com/wp-content/uploads/2013/04/Your-Driving-Costs-2013.pdf>
7. Minnesota Department of Health, "Physical Activity and Healthy Eating in Minnesota: Addressing the Root Causes of Obesity," St. Paul, MN: Blue Cross and Blue Shield of Minnesota, May 2010.
<http://www.health.state.mn.us/cdrr/obesity/pdffdocs/summaryBCBSaddressrootcausesobesity.pdf>
8. Minnesota Department of Health, "Active Transportation, Promoting Active Transportation Fact Sheet," March 2012.
<http://www.health.state.mn.us/divs/hpcd/chp/cdrr/physicalactivity/docs/promotingactivecommunitiesfactsheet.pdf>
9. Schoner, Jessica, University of Minnesota Humphrey School of Public Affairs, "Sharing to Grow, Economic Activity associated with Nice Ride Bike Share Stations," May 2012.
<http://www.cts.umn.edu/events/conference/2012/documents/presentations/24-schoner.pdf>
10. Minnesota Pollution Control Agency, "Air Quality in Minnesota: Emerging trends, 2009 Report to the Legislature," 2009.
<http://www.pca.state.mn.us/index.php/view-document.html?gid=5658>
11. Minnesota Department of Transportation, Minnesota Statewide Multimodal Transportation Plan, "Minnesota Statewide Transportation Goals," MN Statutes Chapter 174, Subd. 2. September 2012.
<http://www.dot.state.mn.us/minnesotago/pdf/mn-legislative-goals.pdf>

12. Blenski, Simon, City of Minneapolis, "Understanding Bicyclist-Motorist Crashes in Minneapolis, MN," January 2013.
<http://www.ci.minneapolis.mn.us/bicycles/data/safety>
13. Jacobsen, P.L., "Safety in Numbers: more walkers and bicyclists, safer walking and bicycling," September 2003.
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1731007/pdf/v009p00205.pdf>
14. City of Portland, Portland Bicycle Plan for 2030, "Making the Case for Investing in Bicycling," February 2010.
<http://www.portlandoregon.gov/transportation/article/289122>
15. Geller, Roger, City of Portland, Portland Bureau of Transportation, "The Four Types of Cyclists," 2004.
<http://www.portlandoregon.gov/transportation/44597?a=237507>
16. City of Saint Paul, "The City of Saint Paul Comprehensive Plan, " Transportation Plan, Parks and Recreation Plan," February 2010.
<http://www.stpaul.gov/index.aspx?NID=3427>
18. 511.org, "Bike to Work – Commuting by Bike", retrieved October 17th, 2013.
http://bicycling.511.org/bike_work

- Legend**
- Regional Bicycle Transportation Network**
- Tier 1 Alignment
 - Tier 2 Alignment
 - Tier 1 Corridor
 - Tier 2 Corridor

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Date: 12/22/2014

Figure 6
Regional Bicycle Transportation Network

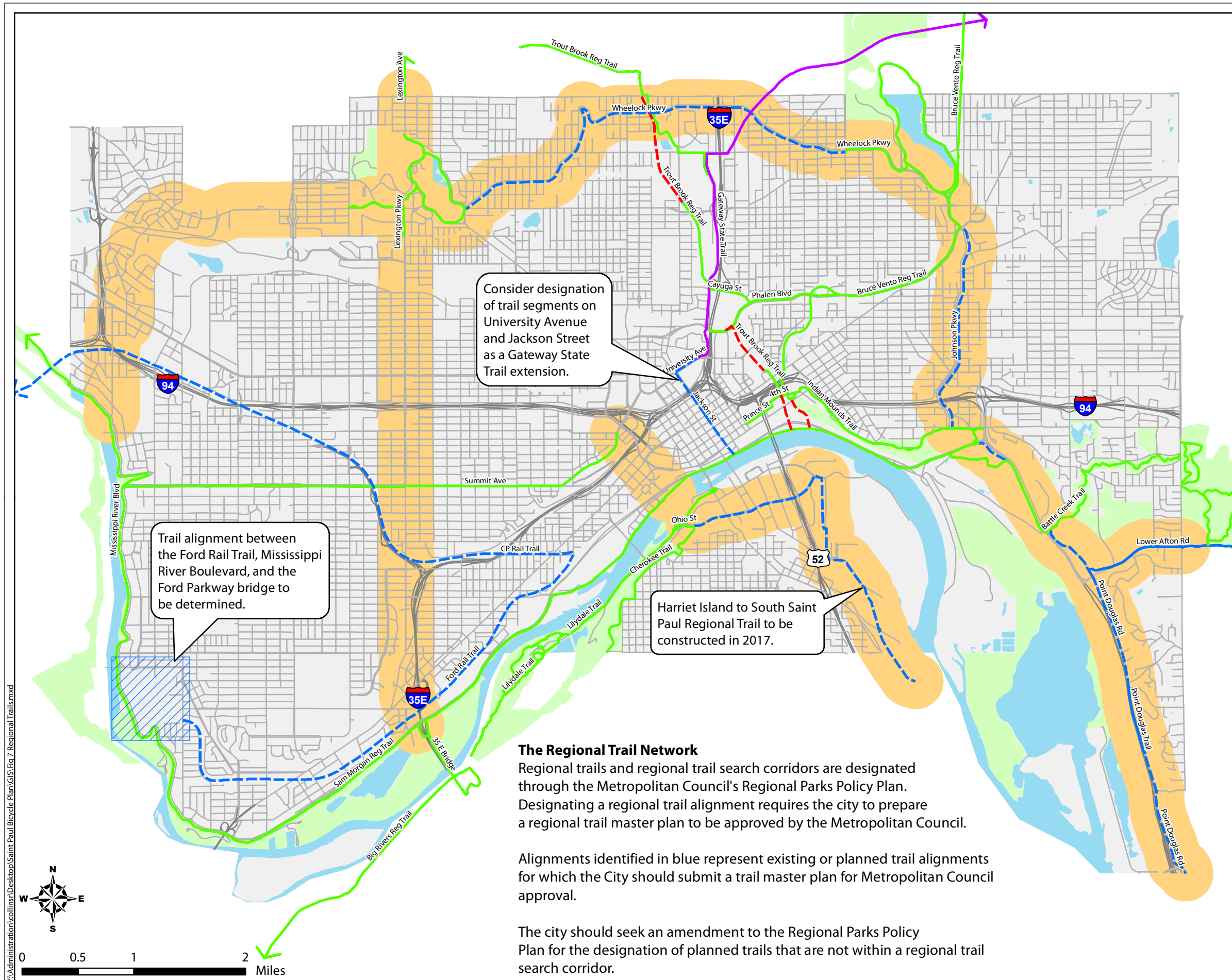


Legend

- Regional Trail Search Corridor
- Regional Park
- Existing Regional Trail or other Linear Trail within a Regional Park
- Planned Regional Trail with an approved Master Plan
- Existing Trail without an approved Master Plan
- Planned Trail without an approved Master Plan
- Gateway State Trail

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Date: 12/22/2014

Figure 7
Existing and Planned
Regional & State Trails



city of saint paul
planning commission resolution
file number _____
date _____

Saint Paul Bicycle Plan

WHEREAS, the City of Saint Paul Comprehensive Plan includes a number of strategies for improving the bicycle network and increasing bicycling in Saint Paul, such as:

Transportation 3.4 Develop and maintain a complete and connected bikeway system.

T3.4 Develop and maintain a complete and connected bikeway system.

T3.5 Support existing off-street shared-use paths and add facilities and amenities supportive of active living principles.

T3.6 Fill gaps in the bikeway system.

T3.8 Promote “bicycle boulevards as a new type of bikeway; and

WHEREAS, staff from the Departments of Public Works, Planning and Economic Development, and Parks and Recreation, contributed to a draft “Saint Paul Bicycle Plan”; and

WHEREAS, from 2011 to 2013, city staff solicited input to help in the drafting of the “Saint Paul Bicycle Plan” through holding open houses, web-based surveys, and through Open Saint Paul; and

WHEREAS, in January 2014, a first draft of the “Saint Paul Bicycle Plan” was released; and

WHEREAS, between January and April, 2014, a series of open houses were held and presentations made to various District Councils and other interested community groups; and

WHEREAS, comments from the open houses and other community meetings were overwhelmingly positive regarding the “Saint Paul Bicycle Plan,” with specific requests to enlarge the scope of the Plan, change certain bikeway alignments in the Plan, and clarify certain components in the Plan; and

WHEREAS, the Transportation Committee considered the Plan and the comments received on 5/19/2014 and provided recommendations for revisions to the Plan; and

WHEREAS, revisions were made to the draft “Saint Paul Bicycle Plan” to reflect and address the input of the community and the Transportation Committee; and

WHEREAS, a second draft of the “Saint Paul Bicycle Plan” was released in October 2014; and

WHEREAS, the Planning Commission, on 10/17/2014, released the draft of the “Saint Paul Bicycle Plan” for formal public review, and set a public hearing for 12/5/2014; and

WHEREAS, a public hearing notice was published pursuant to Minnesota Statute § 462.357, Subd. 5, and sent to the early notification list and other interested parties; and

WHEREAS, a public hearing on the draft “Saint Paul Bicycle Plan” was conducted by the Planning Commission on 12/5/2014, at which all persons present were allowed to testify; and

WHEREAS, the written record was left open until 4:30 PM on 12/8/2014; and

WHEREAS, the public hearing comments generally supported the draft “Saint Paul Bicycle Plan” with specific comments on impacts to parking, bikeway maintenance, ordinance revisions regarding bicycle parking, and education and enforcement efforts; and

WHEREAS, the Planning Commission referred the draft “Saint Paul Bicycle Plan” to the Transportation Committee for consideration of the public testimony and possible revisions to the draft Plan; and

WHEREAS, the Transportation Committee discussed the comments, draft Plan, and proposed changes on 1/12/2015 and 2/9/2015; recommended revisions to the Plan and Figures; and forwarded its recommendation to the Planning Commission; and

WHEREAS, the Planning Commission considered the public testimony and the recommendations of the Transportation Committee on the “Saint Paul Bicycle Plan”; and

WHEREAS, the “Saint Paul Bicycle Plan” is found to be consistent with the Saint Paul Comprehensive Plan and other addenda;

NOW, THEREFORE, BE IT RESOLVED, that the Planning Commission recommends that the City Council adopt the “Saint Paul Bicycle Plan” as an addendum to the “City of Saint Paul Comprehensive Plan.”