



# CITY OF SAINT PAUL GRAND ROUND DESIGN & IMPLEMENTATION PLAN



The Most Livable  
City in America



DECEMBER 2016

# ACKNOWLEDGEMENTS

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# A NOTE FROM THE MAYOR



*Photo: National Park Service*

Since Saint Paul was founded more than 150 years ago, our parks and parkways have served as special spaces for recreation, contemplation and relaxation for our residents and visitors. More than 2 million people visit Saint Paul every year to experience our parks and our neighborhoods. But we know that there are better ways to ensure our green spaces are more accessible, connected and welcoming. Fifteen years ago, the Grand Round Master Plan was created to resurrect an idea first discussed in the late 1880s – a path encircling Saint Paul that would connect neighborhoods to parks. The southern portion along the Mississippi River was completed long ago, but the idea to finish the northern 13 miles of the Grand Round has lain dormant until now.

Promoting projects which create vibrant places and spaces is a top priority as we work to connect people of all ages, backgrounds and abilities with city amenities. These efforts – including the Grand Round – will promote economic development and attract people to Saint Paul for generations to come.

As is true with all community projects, it takes collaboration to realize a vision which benefits many. Our partners, including the Community Advisory Committee and members of the public, have thoughtfully crafted an exceptional set of design guidelines for the Grand Round. I am thankful for their hard work, and I appreciate the City Council's support as they recognize this project's importance to the future of Saint Paul. Thank you for providing your comments, ideas and vision for the Grand Round. Your passion and support for Saint Paul are what make this city the unique, vibrant community it is.

Sincerely,

A handwritten signature in black ink, reading "Chris Coleman".

Mayor Chris Coleman

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All photos courtesy of the SEH Design team unless otherwise noted.



# 1 | INTRODUCTION

## ORIGINS OF THIS PLANNING PROCESS

### Vibrant Places and Spaces

This effort is funded in part by the City's 8 80 Vitality Initiative to promote economic development through investments that enliven the public realm by connecting residents and visitors with the city, promoting walking and bicycling, and creating great public spaces. The results will attract residents, employees, businesses and visitors to Saint Paul for years to come. The initiative is inspired by the work of 8 80 Cities, which promotes livable cities where an eight-year-old and eighty-year-old would feel safe, invigorated, and welcomed by their surroundings. The 8 80 Vitality Initiative includes the implementation of the city's \$42.5 million 8 80 Vitality Fund, an investment focused on significant improvements in infrastructure and public spaces.

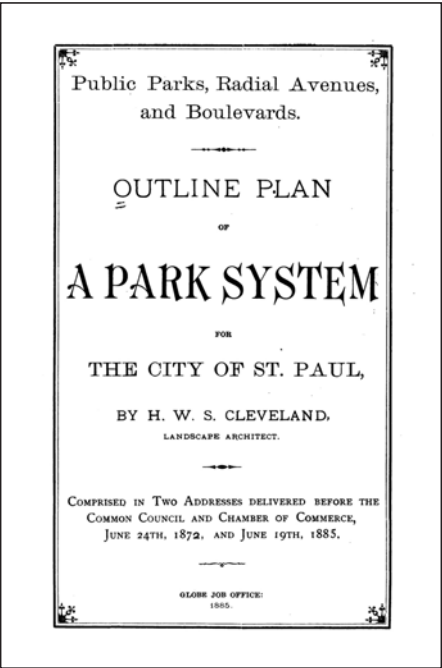




# ORIGINAL VISION FOR THE GRAND ROUND

As Saint Paul’s population increases, the Grand Round will increasingly become a key component connecting neighbors to neighbors as well as people to nature. Population growth and extension of light rail service also necessitates the need for safe and functional connections that will serve residents of all ages. With the constant expansion of the city’s bike and trail network comes an opportunity to deliver a quality recreation experience that provides the community with opportunities to easily visit all Saint Paul’s attractive urban public spaces as well as the green nature of the City’s parks, lakes, and Mississippi River.

This vision was first imagined by renowned landscape architect H.W.S. Cleveland in 1872 and further implemented in the early 20th century by Park Superintendent Frederick Nussbaumer. Planning for the parkways waned until a Master Plan was completed in 2000.



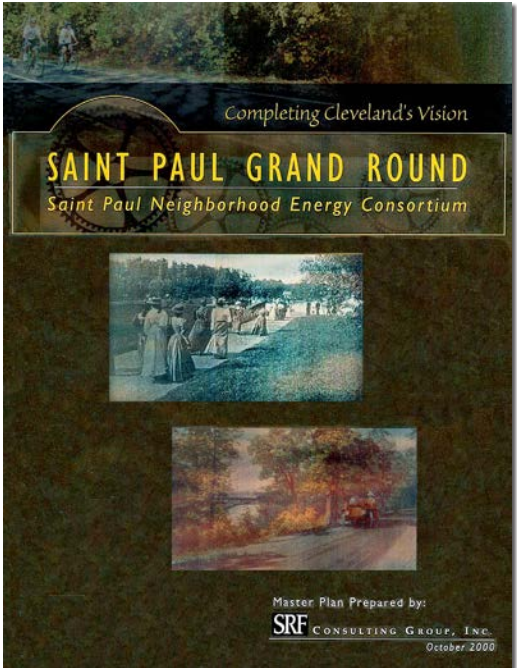
1872 Park System Outline Plan for City of Saint Paul by H.W. S. Cleveland



Horace Cleveland photo: minneapolisparkhistory.com

The Master Plan built on the parkway system and started laying the groundwork to complete an approximately 26-mile recreational greenway that connects Lakes Como and Phalen to the Mississippi River and the open spaces in between. This route, refined by the Saint Paul Bicycle Plan approved in 2015, serves as the basis for this design manual. This document presents the continued development and refinement of those plans.

The implementation of the Grand Round will assist in enhancing the urban forest and improve transportation within Saint Paul. Saint Paul community members, through a series of workshops and outreach opportunities, identified a vision and four guiding principles to assist the design team in developing the desired character of the Grand Round.



Saint Paul Grand Round Master Plan, 2000

# 2016 VISION

*The Saint Paul Grand Round connects people to parks, nature, neighborhoods and businesses with scenic parkway facilities for pedestrians, bicyclists, and motorists.*

## GUIDING PRINCIPLES

Guiding Principles define the key criteria for making design decisions. The four principles, noted below, provided the Grand Round Design Team with the basis to test and confirm that the designs, practices, products, and materials listed within this Manual meet the these principles.

The Guiding Principles for the Grand Round are:

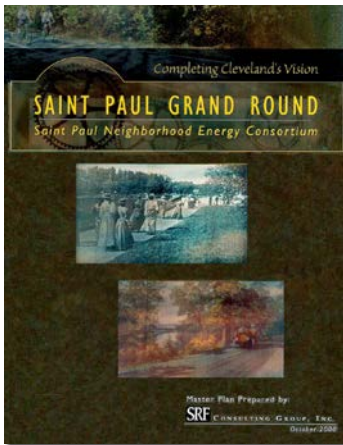
- Promote health, safety, and comfort of all users
- Create a key visual element and recreation feature that places high value on neighborhoods, history, and the natural environment
- Maximize sustainable practices
- Designed as a contiguous system of public open space that improves quality of life and strengthens our economy

# 2 | PLANNING PROCESS

## How We Got to This Point

The following documents highlight various planning efforts started in 2000 that are currently relevant to the development of the Grand Round Design and Implementation Plan. These plans, studies, policies, and guidelines contain the basis for this effort. The latest versions of each of these reports should be consulted during the design and implementation of Grand Round.

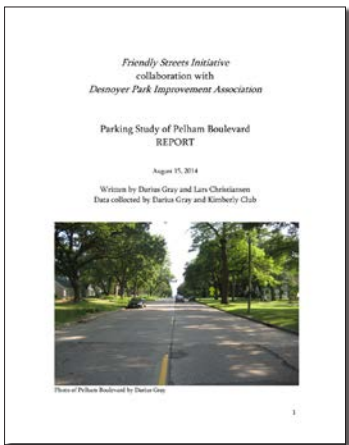
## PLANS, STUDIES, POLICIES, AND GUIDELINES



Saint Paul Grand Round Master Plan, 2000



Friendly Streets Initiative: DPIZ- FSI Collaboration Report, 2013



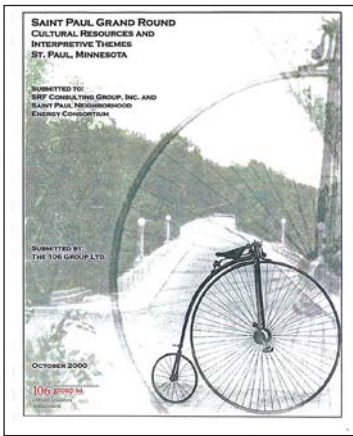
Friendly Streets Initiative: Pelham Boulevard Parking Study, 2014



Friendly Streets Initiative: Raymond Station Area, 2015



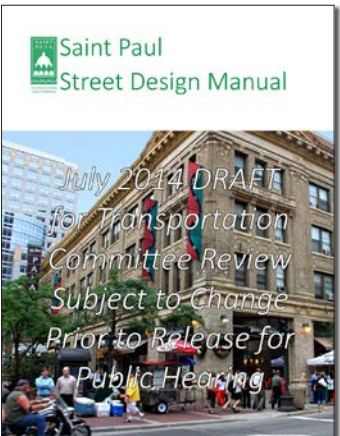
Saint Paul Street and Park Tree Master Plan, 2010



Grand Round Cultural Resources, 2000



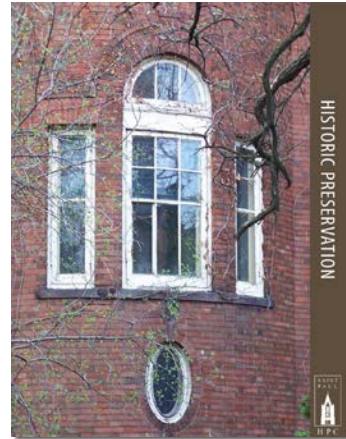
Saint Paul Parks & Recreation Plan, 2010



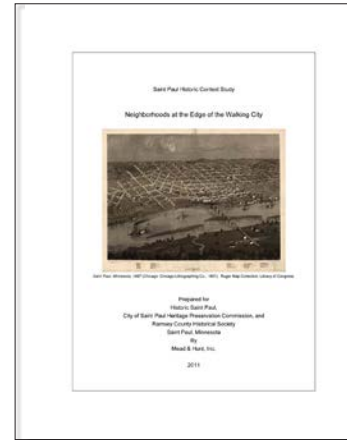
Saint Paul DRAFT Complete Street Design Manual, 2015



## PLANS, STUDIES, POLICIES, AND GUIDELINES



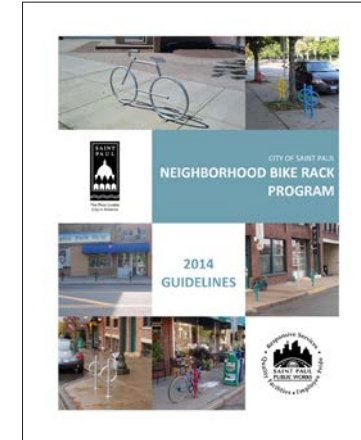
Saint Paul Historic Preservation, 2010



Saint Paul Historic Context Study, 2011



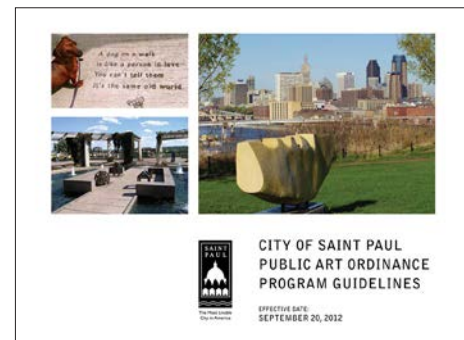
Saint Paul Transportation Plan, 2010



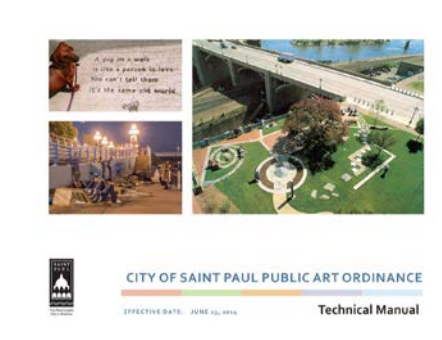
Saint Paul Neighborhood Bike Rack Program, 2014



Saint Paul Bicycle Plan, 2015



Saint Paul Public Art Ordinance Program Guidelines, 2012



Saint Paul Public Art Ordinance Technical Manual, 2014



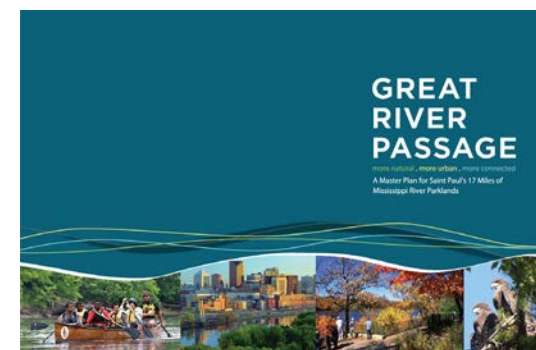
Raymond Station Area Plan, 2008



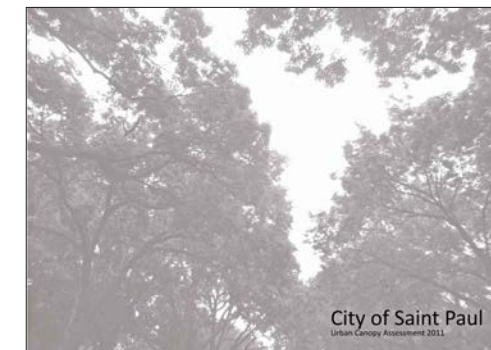
Saint Paul Parks and Recreation System Plan, 2010



Saint Paul Landmark Trees, 2012



Great River Passage Master Plan, 2013



Saint Paul Urban Tree Atlas, 2011



## COMMUNITY ENGAGEMENT

### Importance of community engagement

Saint Paul is home to a great diversity of ethnic and cultural communities and to populations experiencing a variety of socioeconomic conditions. These communities and populations are often underrepresented in planning processes. The project team made proactive efforts to expand opportunities for members of underrepresented communities to contribute meaningfully to the planning process. These efforts contribute to a project that better serves the needs of a wider range of Saint Paul populations and improves active living outcomes.

### TAKE THE MEETING TO THE PEOPLE

One of the keys for building public engagement was to make it easier and more convenient for more people to participate. The project team took engagement to places where people were already congregating, setting up workshops at community events and popular destinations. This made it easier for community members to provide their comments and guidance without having to attend a separate meeting.

The City of Saint Paul and the design team reached out and engaged the public using many different tools and approaches. Seventeen neighborhood outreach sessions and three multi-day workshops, conducted in the Spring and Summer 2015, included:

- Pop-Up events along the Grand Round route
- Listening sessions with community organizations
- Engagement events held in coordination with larger community events
- Presentations at District Council meetings

- Design Workshop open houses and meetings
- Online engagement including comments and an online survey
- Open House meetings
- Hosting and convening the Community Advisory Committee made up of citizen representatives

### USER-FRIENDLY MATERIALS

The Grand Round project will shape Saint Paul residents' connections to and enjoyment of their city for generations to come. To guide the project to respond to residents' needs and aspirations we developed welcoming, user-friendly, jargon-free project materials. The materials were oriented to residents who may not be familiar with city planning processes and projects. The appendix provides an in-depth description of the community engagement process.

### THEME TRENDS

We categorized comments received during Pop-Up and Listening Sessions to better identify and group similar recommendations. The majority of comments fell into one of four categories:

- Amenities
- Infrastructure recommendations
- Connections
- Wayfinding or safety

Comments on desired amenities were the most prevalent, with nearly one third of comments recommending additional amenities along the route, such as water fountains, restrooms and benches. More than a quarter of the responses received focused on infrastructure recommendations, such as better crossing treatments and improved bicycle facilities with the most attention focused on facilities separated from motor vehicles. Participants recommended implementing either off-street trails, buffered bicycle lanes, or separated bicycle lanes and indicated a slight preference for buffered bicycle lanes. Safety was a key concern for many participants, as well as improving connections to existing trails and adding wayfinding options, such as maps, mile markers and technology-based route-finding tools.





# COMMUNITY ENGAGEMENT

## What We've Learned

The summary below was refined through in-person Pop-Up and Listening Session engagement opportunities.

- Support for the plan was prevalent
- Users of the Grand Round route include both pedestrians and bicyclists. The needs of each user group must be considered
- Participants expressed a preference for facilities separated from motor vehicles.
- Safety was a key concern for many participants
- Amenities such as restrooms, water fountains, and benches are desired
- Consistent walk/bike facilities throughout the route are strongly desired. Where possible the same kind of facility should be provided for long stretches of the route
- Several intersections and/or roadways were identified as challenging for pedestrians and bicyclists
- Connections and better wayfinding to existing trails are desired









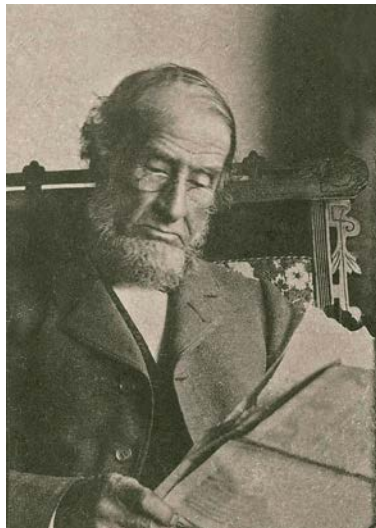
# 3 | DEVELOPMENT OF THE SAINT PAUL PARKWAY SYSTEM, 1872-1965

## Introduction

Landscape architect Horace W. S. Cleveland established the early vision of a system of parks and parkways linking the Mississippi River to Lake Como and Phalen Park. His influence in Saint Paul began in 1872 and extended sporadically until about 1890. Saint Paul's park-making efforts were similar to those in many other American cities during the late nineteenth and early twentieth centuries, and by the turn of the twentieth century intersected with efforts to create a modern city according to principles of the City Beautiful Movement. The City Beautiful Movement was a urban planning philosophy with its roots in George Haussmann's renovation of the Paris boulevard system as well as the Columbian World's Fair in Chicago in 1893. The movement flourished into the early 1910s intent on introducing beautification and monumental grandeur in cities. The movement promoted beauty as a means to create moral and civic virtue among city populations.

### CLEVELAND AND SAINT PAUL: 1872-1894

In February 1872 Cleveland was invited to speak at the "People's Course of Lectures" held at the Pence Opera House. His topic,



Horace Cleveland  
photo: minneapolisparkhistory.com

"The Application of Landscape Architecture to the Wants of the West," was repeated the next night in Saint Paul for the Chamber of Commerce. He urged the acquisition of valuable parkland, especially the bluffs along the Mississippi River gorge.

Cleveland was immediately hired by the Saint Paul Common Council to make a "general outline report, upon the proper location of Parks, Wide Avenues, Public Squares, and other improvements, on a scale suitable to the wants of a crowded city." Cleveland's report, "A Park System for the City of Saint Paul," cited the success of older cities such as New York and Chicago in creating park systems. He urged Saint Paul to preserve what "nature had furnished without cost." He noted:

The steep and densely wooded bluffs comprise one of the most important objects in the general outlook. They can possess but little intrinsic value, but if suffered to be marred by quarries, and their picturesque features destroyed, as they are liable to be if left in private hands, they will present a most unsightly aspect, in conspicuous view from all parts of the city . . . a park, or least a fine driveway along the bluff, should by all means be secured, and the bluffs themselves preserved from desecration.

*H.W.S. Cleveland, A Park System for the City of Saint Paul, June 24, 1872*

In the same report, Cleveland defined the boulevard as:

simply a grand avenue, of sufficient width to admit of two or three roads for different purposes; as, one for the heavy traffic of teams and business wagons, one for pleasure and driving, and one for equestrians, and also paths of sufficient width to accommodate throngs of pedestrians. The roadways are

separated from each other by rows of trees with intervening grass plots, and sometimes by a broad central mall adorned with fountains, and the paths for pedestrians at the sides or between the roads, are like garden paths, the sides being ornamented with trees, grass, shrubbery and flowers.

Such a boulevard provided fresh air, fire protection, and would be within easy access of "all classes of citizens." His scheme was envisioned to include creation of a Riverside Park and several linkages to Minneapolis. He observed, "Saint Paul and Minneapolis eventually, and at no distant day, will become virtually one city."

### "PRESERVE ABOVE ALL THE WILD AND PICTURESQUE CHARACTER OF THE RIVER BANKS"

On June 19, 1885, Cleveland addressed the Saint Paul Common Council and Chamber of Commerce on "Park Ways and Ornamental Parks: the Best System for Saint Paul." This lecture was combined with his 1872 report and published as *Public Parks, Radial Avenues and Boulevards: Outline Plan for a Park System for the City of Saint Paul in 1885*.

He reiterated his approval of boulevards, relieved at intervals by small parks. A boulevard was not a dreary roadway, 200 feet wide, he noted, "but an extended park, immediately accessible from the adjacent streets, enlivened by all the features of busy life which render the streets themselves attractive. Architectural features needed the graceful drapery of nature." He foresaw that such boulevards would receive increasing amounts of traffic.

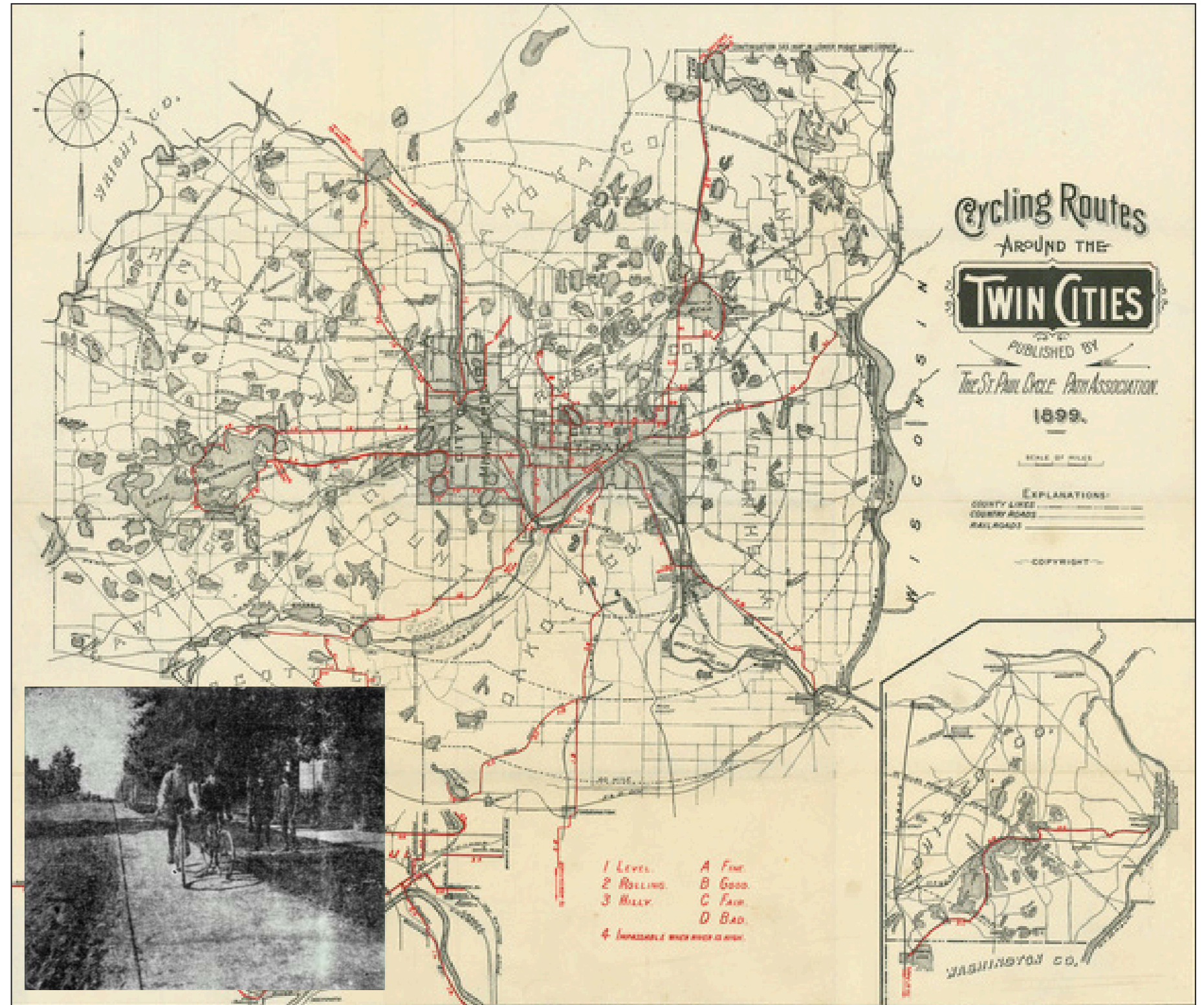
In 1890 Cleveland and Park Superintendent John D. Estabrook supervised improvement of Summit Avenue between Lexington and the Mississippi River, and extensive work on Como Avenue. By the end of 1890, Cleveland's role in Saint Paul had ended.

## SAINT PAUL AND THE BICYCLE

By the mid-1890s, bicycling enjoyed great popularity across the United States. The Twin Cities Cycle Association and Saint Paul Cycle Path Association campaigned for cycle paths, which were primarily paved sidepaths to existing unpaved roadways. The Saint Paul park commissioners addressed the needs of the bicyclists in 1896:

The extraordinary growth and rapid increase of bicycle riding makes necessary a revision of the ordinary system of road-making. These light, swift vehicles, driven by man power, are entitled to their right of way equally with the horse-driven carriage. Good, smooth, hard, paths for the former have become as indispensable as good roads for the latter, and should be carefully provided for in all boulevards and parkways. *It furnishes a new reason for narrowing the roadways in such parkways and widening the lawn so as to admit of the establishment of bicycle paths through them. The bicycle path will form a feature of all boulevards of parkways which shall come under the jurisdiction of the board.*

The Saint Paul Cycle Path Association self-funded and built 30 miles of bike paths between 1896 and 1898. In 1898 it was noted that the park commissioners had not “been backward in recognizing the rapidly growing claims of the bicycle to liberal treatment and hospitable accommodation in our system of parks and parkways” as they had budgeted \$5,000 for construction of side paths. The number of riders, both men and women, was a “large and rapidly increasing proportion of visitors to Como Park.” By 1902 Saint Paul had 115 miles of cycle paths financed in part by cyclists and overseen by a county commission. Cycle paths lined Lake Como and both sides of Como Avenue Parkway. Enthusiasm for bicycles waned with the introduction of the automobile, and road building for the needs of cars rather than horse carriages and bicycles became the primary transportation focus of the city.



Grotto street path  
Source: Page 12, St. Paul Globe, June 8th, 1902

Cycling Routes Around the Twin Cities, 1899 (Saint Paul Cycle Path Association)



## PARKWAY PRINCIPLES

Eleven miles of parkway connecting the Mississippi River, Como, Phalen and Indian Mounds parks were contemplated in 1909, “encircling the north half of the city” and ranged from 120 to 400 feet in width. “Ornamentation, seats and fountains” were recommended for intersections about one mile apart. By 1910, the city had about 35 miles of parkways planned, with only thirteen and one-half miles constructed. One mile was planted with 404 elm trees.

Park Superintendent Frederick Nussbaumer noted in his 1911 Parks Annual Report, “Parkways, although having the character of a street, should be of extraordinary width. They should present verdant features and objects of interest. They should be laid out with an idea of convenience and to reach principal places of interest and the most frequented large parks and public buildings” (*Twentieth Annual Report* 1911)

He listed the principles and accomplishments of the Saint Paul parkway system, some echoing Cleveland’s recommendations in 1872 and 1885:

“the parkway system practically encircling the entire city;”

“the numerous small squares and street intersections”

“small inside parks adapted to serve the purpose of recreation for the people in the several neighborhoods;”

“a large and extensive driveway of unequalled beauty, leading along the river bluff and commanding enchanting glimpses of river scenery through an old forest growth; a distance of over five miles long” (*Twentieth Annual Report* 1911)

Nussbaumer laid out principles of his design aesthetic in the July 1919 issue of Parks and Recreation:

*The most restful park scenery, and therefore the best, can be obtained by using judiciously, a small number of varieties of the hardiest trees and shrubs, and the wise park maker will confine his choice to those species which nature helps him to select, and which, therefore, stand the best chance of permanent success.*

*The sum of the matter of park construction, is to make the parks less pretentious, less artificial in design and construct them so that the cost of maintenance will be reduced to a minimum. This*

*would save money and lessen the danger of competitive exhibition of bad taste and encourage that simplicity which should be the controlling motive of sincere art in our American cities.*

Nussbaumer warned however that Saint Paul was falling behind other cities. He noted the “absurdly inadequate provisions of funds made by the City Council for parkway system . . . has delayed so many important improvements.” The *Twenty-first Annual Report* 1912 was one of the last to be illustrated and included a set of drawings of parkway segments, perhaps to emphasize all the work done to date but awaiting funding.



Mississippi River Boulevard, 1918 (Minnesota Historical Society)



## Grand Round Parkway Historic Features

The historic character of the Grand Round is founded on its broad boulevards and parkways, sometimes supplied with a central landscaped median. Much of the parkway route has rolling topography which the roadway and medians carefully accommodated. Only moderate grading and filling appears to have been required along much of the route, except in low-lying or exceptionally steep areas. The parkway primarily provides a spacious setting for house lots except at Phalen and Como, where roadway vistas continue into the park, and at smaller parks such as Hampden. The parkway width ranges from forty feet to more than 200 feet.

Concrete curbs line most parkway segments and there are few other roadside details within the immediate viewshed. No historic lighting or other hardware was noted along the route. Kasota stone entry gates and limestone retaining walls at the west sides of Lakes Como and Phalen are among character defining features. These materials are also utilized at some railroad bridge abutments.

The consistent tree canopy, grass turf, and limited understory planting are key character-defining features of the parkway. The parkway forest ranges from century-old large oak and elms to plantations of spruce and fir and many types of young deciduous trees. The tree groupings within the medians and along the boulevards are distinctive for their abundance, natural distribution, and the expansive area that typically surrounds them. There is little record of historic planting plans; park planners apparently worked with existing, often native vegetation and added freely from the city's own diverse nursery stock.

During this period, the park board's nursery furnished stock for parks and parkways as well as street tree plantings. In 1912, the plant list included more than 4,000 seedlings of Elms, Sugar and Red Maple, as well as natives such as White Oak, Horse Chestnut, Butternut, Black Walnut, Basswood, Shellbark Hickory and the exotic Tree of Heaven.

The architectural character of the houses lining the parkways varies greatly. Parkway creation, or its prospect, encouraged real estate additions and subdivisions, although none bear picturesque names evoking the adjacent parkway landscape.

*The symmetry of our park system, when completed as planned, owing to the diversified elements of natural beauty and of the topographical advantages offered within the city and its immediate environments, will be most unique in its detail. It can never be approached by any other city in its picturesque splendor.*

*Twenty-first Annual Report of the Board of Park Commissioners*  
(1911)

## Recommendations

This study of the Grand Round's history was conducted for the City of Saint Paul to provide a foundation for planning new public use amenities along Pelham Boulevard, Raymond Avenue, Como Avenue and Wheelock and Johnson Parkways. The approximately 13-mile route crosses many historic Saint Paul neighborhoods that have been shaped by parkway development. This preliminary study suggests that the primary parkway segments (ca. 1900-1930) are possibly significant as major components of Saint Paul's historic park and parkway system. This system, proposed by landscape architect H.W.S. Cleveland and executed during the park superintendency of Frederick Nussbaumer (1891-1922), appears to retain good historic integrity. While the majority of the parkways were completed, it should be noted that Raymond and Como Avenues, while planned as parkways, were never constructed as such and are likely to be considered non-contributory to Saint Paul's parkway system. Minnesota Architecture Historic Inventory Forms were completed, including expanded historic contexts, for the following parkway segments:

- Wheelock Parkway
- Wheelock Parkway Median: Edgerton Street to Gateway Bridge
- Soo Line Railway Bridge (Gateway Trail-Wheelock Parkway Overpass)

These inventory forms will allow determination of eligibility for individual segments within the Grand Round by the State Historic Preservation Officer. Potential archaeological resources were not included in this study and should be considered as part of any future planning.

# 4 | DESIGN GUIDELINES

## Overview

The Grand Round unifies a network of community and regional parks, parkways, neighborhood landmarks and destinations, scenic viewpoints, public art and a host of stories that unfold as one traverses the entire loop. Its “Grandness” is evidenced by the sum of its many parks linked seamlessly together by a consistent thread of color, art, branding, and site furnishings and the use of consistent materials and site furniture contributes to a level of branding and placemaking.

Unifying the Grand Round’s historic nature and varied neighborhood character is completed using a standardized palette of elements used over the length of the 26-mile system.

## USING THESE GUIDELINES

These guidelines illustrate holistic standards to create the site-specific elements necessary for the design and implementation of the Grand Round project. Grand Round designers and planners can interpret these guidelines based on site conditions, project funding, and continuing neighborhood input over the course of multiple phases.

The Design Guidelines are divided into three parts:

### Identity and Branding

- Grand Round Identity
- Logo

### Green Infrastructure

- Landscaping
- Water Resources

### Placemaking

- Placemaking and Interpretation
- Site Furnishings
- Public Art
- Trails, Sidewalks, and Roadways
- Materials
- Gateway Nodes
- Wayfinding

Each part provides greater detail into the individual elements proposed for Grand Round gateway nodes, interpretive nodes, and corridor markers.

## GRAND ROUND LOGO

The Grand Round is a 26-mile linear greenway bringing together Saint Paul’s parks and parkways, verdant open spaces, vibrant and historic neighborhoods, and the majestic Mississippi River. With such a large and diverse route, the objective was to create a distinct and instantly recognizable identity that connects the entire route. The identity needed to be simple and intuitive to serve as a quick, consistent reassurance to the Grand Round user that they are on the right path. With that in mind it also needed to be flexible enough to be able to integrate across the City’s other wayfinding systems. Finally, the mark needed to distinctly reflect Saint Paul’s character as defined by community input (grounded, proud and friendly) as well as the history and vision for the Grand Round.

## GRAND ROUND LOGO USAGE

The Grand Round Identity serves as an emblem of Saint Paul’s unique, proud history. The logo system honors the historic character of the parkway and its vision to encircle the whole of Saint Paul and connect to its neighborhoods and parks. The logo also captures the friendliness of Saint Paul, while the filigree and type treatment nod both to the city’s pride and the historic nature of the Grand Round.

The logo will be used along the route on location and directional signs, as well as site furnishings, utility covers, and other elements to reinforce the Grand Round brand. The Grand Round logo and colors can be used in print and online media such as the City’s Grand Round webpage and Facebook which further strengthen the Grand Round identity. It can be used in social media settings, such as on Twitter and Instagram, to alert followers to events, facts, and other features that invite visitors to explore the Grand Round.



## IDENTITY AND BRANDING



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THE GRAND ROUND IDENTITY SERVES AS AN EMBLEM OF ST. PAUL'S UNIQUE, PROUD HISTORY.  
THE FLEXIBLE LOGO SYSTEM REFLECTS THE HISTORICAL CHARACTER OF THE PARKWAY AND ITS VISION  
TO ENCIRCLE THE WHOLE OF ST. PAUL AND CONNECT TO ITS NEIGHBORHOODS AND PARKS.

---

HISTORICAL   GROUNDED   PROUD   FRIENDLY

---

PRIMARY LOGO

FOR USE IN PRIMARY BRAND & DECORATIVE APPLICATIONS:  
ANNOUNCEMENTS, POSTERS, MAIN KIOSKS, LARGE SIGNS, BRONZE TRAIL MARKERS, MANHOLE COVERS, ETC.



PRIMARY LOGO - B/W



PRIMARY LOGO - B/W - REVERSED



PRIMARY BRAND COLOR  
PMS#5415



PRIMARY BRAND COLOR - REVERSED  
PMS#5415

ALTERNATE LOGO

FOR USE IN ALTERNATE BRAND, SMALL SPACE & SIGNAGE/WAYFINDING APPLICATIONS:  
TRAIL SIGNS, WAYFINDING SIGNAGE, MAP MARKERS, ETC.



ALT. LOGO - B/W



ALT. LOGO - B/W - REVERSED



ALT. LOGO - BRAND COLOR  
PMS#5415



ALT. LOGO - BRAND COLOR - REVERSED  
PMS#5415

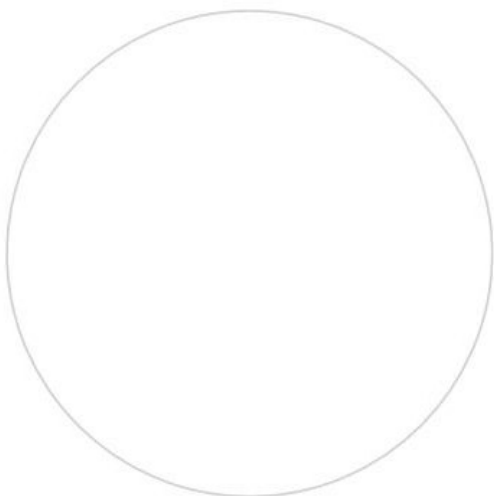


PRIMARY COLORS

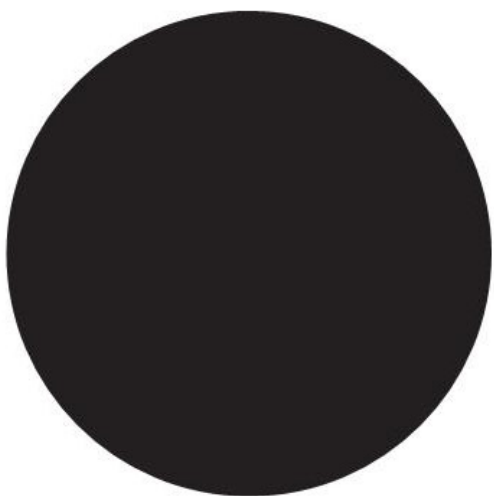
FOR USE IN PRIMARY BRAND & DECORATIVE APPLICATIONS:  
ANNOUNCEMENTS, POSTERS, MAIN KIOSKS, LARGE SIGNS, BRONZE TRAIL MARKERS, MANHOLE COVERS, ETC.



PRIMARY BRAND COLOR  
PMS#5415 - BLUE



PROCESS WHITE



PROCESS BLACK

BRAND FONTS

PRIMARY FONT:  
FOR MAIN HEADLINE USE

CLARENDON - ROMAN (TRACKED OUT AT 350)

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SECONDARY FONT:  
FOR USE IN BODY COPY, WAYFINDING SIGNAGE, MAP INFO, ETC.

DIN NEXT LT PRO - CONDENSED (HEADLINES - TRACKED OUT AT 100)

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a b c d e f g h i j k l m n o p q r s t u v w x y z  
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# GREEN INFRASTRUCTURE- LANDSCAPING

## INTRODUCTION

One of the Grand Round’s truly unique features are its mature trees and historic green spaces. Reinforcing this verdant environment is paramount to building an appreciative audience for the Grand Round. The landscape objectives for the Grand Round are drawn from the historical vision and the City of Saint Paul’s 2010 *Street and Park Tree Master Plan*:

- Outline the guiding principles, design standards, and methods that promote a healthy and diverse urban forest (growing conditions)
- Provide a list of appropriate canopy tree species for the urban environment with information on selecting the proper tree
- Illustrate the goals and alternative planting patterns that create a diverse urban canopy (design elements)

One of the guiding principles focuses on creating a Grand Round that places high value on neighborhoods, history, and the natural environment. This is achieved through a philosophy of increasing the City’s urban canopy where ever possible in a manner that is safe, benefits both people and wildlife, and promotes sustainability throughout the Grand Round.

This section of the Manual will provide further information on the design intent for the following elements:

- Landscaping
- Water Resources
- Project Applications

## A NOTE ON SUSTAINABILITY

Design means, methods, and materials for the Grand Round should positively contribute to the health and well-being of human and natural systems, and serve as a template for urban habitat restoration. Landscape and stormwater elements noted in the following pages were selected based on their overall environmental and economic sustainability, historic character, as well as their natural and social benefits.

## LIMITATIONS IN THE URBAN ENVIRONMENT

The built environment impacts the growing conditions for trees through increased levels of soil compaction, impervious surface and pollution. This results in reduced rainwater infiltration to rooting zones, increased stormwater runoff, increased salt levels from winter deicing, higher temperatures, and increased incidence of accidental damage to tree trunks.

Factors in tree selection should accommodate the following elements:

- Overhead and underground utilities: Mature tree size both above and below ground level must be considered where there are utilities located close to the trunk and roots of the tree.
- Buildings and flatwork: Mature tree size both above and below ground level must be considered where there are buildings within close proximity, or where flatwork such as sidewalks and curbs are located close to the trunk and roots of the tree.
- Safety and clear sight lines: Vehicles, bicyclists, and pedestrians must have unobstructed views at driveways, street crossings, and trail connections. Selecting trees that will not block sight lines with low foliage is key to the safety of all users. This includes sight lines to signage.

- Crime Prevention through Environmental Design is another key to providing all users a safe and enjoyable experience. A well-maintained space or trail with high visibility, good lighting, and attractive landscaping communicates a feeling of safety.
- Maintenance: Excessive leaf and fruit drop and brittle branching should be a factor in tree selection where trees overhang the trail and sidewalks.
- Diseases and invasive pests: In the mid to late 20th century, Dutch Elm disease ravaged the City’s elms, effectively eliminating them from parks and parkways. Hybridized Dutch Elm-resistant trees now allow for elms to be replanted into the City’s canopy. Today the Emerald Ash Borer is posing a similar threat to the City’s Ash trees. Currently, there is no viable treatment other than removal. Nearly 450 of the canopy trees along the Grand Round route are Ash trees. The City Forester has developed a protocol for monitoring and removing Ash trees. Accordingly, Ash trees along the Grand Round are being monitored and may be removed in the future pending the development of a treatment option.



Adult Emerald Ash Borer, less than 1/4” long.  
Photo: [www.EmeraldAshBorer.info](http://www.EmeraldAshBorer.info)

## GREEN INFRASTRUCTURE- LANDSCAPING



*Median trees, stone wall, and lighting at Phalen Boulevard*

There are three characteristic landscape corridor types observed along the route and should be applied to the Grand Round. The proposed landscaping types match the current landscape character as closely as possible, with modifications based on a number of criteria, such as traffic and pedestrian safety, visual sight distances, adjacent uses, soil types, soil moisture, shade requirements, neighborhood character, history, adjoining green space design, tree species, as well as native vegetation adapted to the needs of stormwater management, and habitat restoration.

The landscape corridor types, noted below, focus on the linear character of the existing parkway system and will vary as the width of the right-of-way changes along the length of the Grand Round. The three landscape corridor types are:

**Formal Corridor** - represented by evenly spaced rows of the same species of trees on one or both sides of the right-of-way.

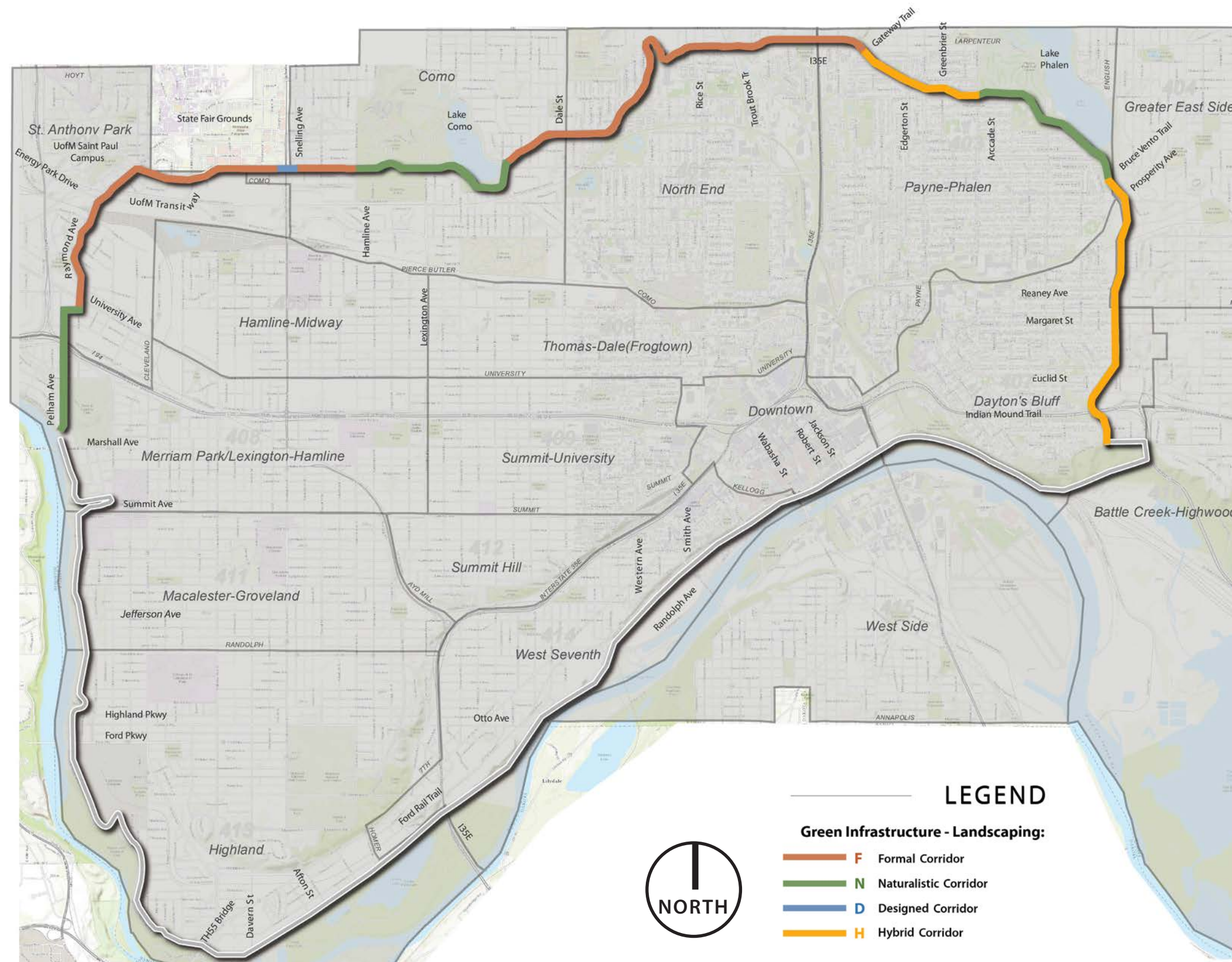
**Naturalistic Corridor** - represented by plantings of multiple species of trees in a natural pattern on one or both sides of the right-of-way.

**Designed Corridor** - represented by plantings of trees in available spaces due to the narrow width of the right-of-way as well as the amount of paving, utilities, compacted soils, etc. These urban trees are typically planted where there is sufficient room for successful growth.

**Hybrid Corridor** - in certain segments of the Grand Round, landscape corridor types will be a combination of the above to allow for greater flexibility due to site specific conditions.



# GREEN INFRASTRUCTURE - LANDSCAPING



## Formal Corridor

Avenue or boulevard tree planting is the most common and visually prominent positioning of trees. Formal planting generally involves the use of single species with the intent of achieving a consistent tree form and size, complimented by mass planting of a uniform, structured understory. This results in a visually strong, rhythmic outcome.

## Naturalistic Corridor

Informal planting generally involves the grouping of trees and cluster planting, where possible. This arrangement is commonly used in areas where the right-of-way is wider or there is greater opportunity for meandering the multi-use trail, such as within the parkways and parks. Informal plantings usually consist of several tree species grouped to create concentrated planting islands. As such, the landscape has a more informal and naturalistic character.

## Designed Corridor

The clustering of one or several species of trees and understory plantings are positioned to create an artificial dynamic suitable for a more urban location, such as a business district or commercial campus. Trees and shrubs are laid out in patterns and lines to explore and give definition to and along the multi-use trail. They can be used to frame vistas or provide pockets of shade at key locations. The result is a softer, more humane streetscape that provides variety, interest and diversity.



# GREEN INFRASTRUCTURE - LANDSCAPING

## LANDSCAPE CORRIDORS TYPES



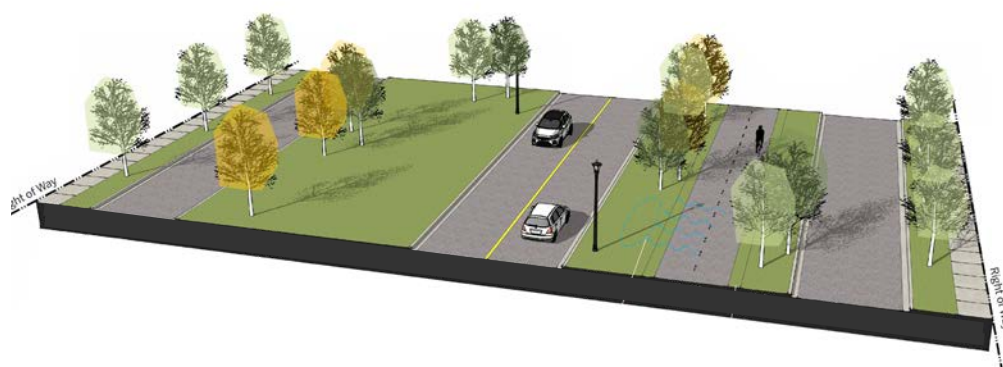
**TPOLOGY 1:** OFF-STREET TRAIL IN BOULEVARD  
Naturalistic Corridor



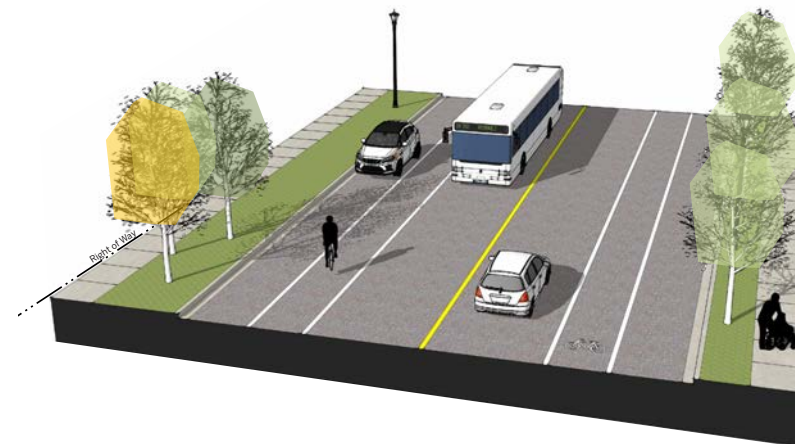
**TPOLOGY 2:** OFF-STREET TRAIL IN BOULEVARD  
Formal Corridor



**TPOLOGY 3:** OFF-STREET TRAIL IN MEDIAN  
Hybrid of Naturalistic & Formal



**TPOLOGY 4:** OFF-STREET TRAIL BETWEEN  
FRONTAGE ROAD & BOULEVARD  
Hybrid of Naturalistic & Formal

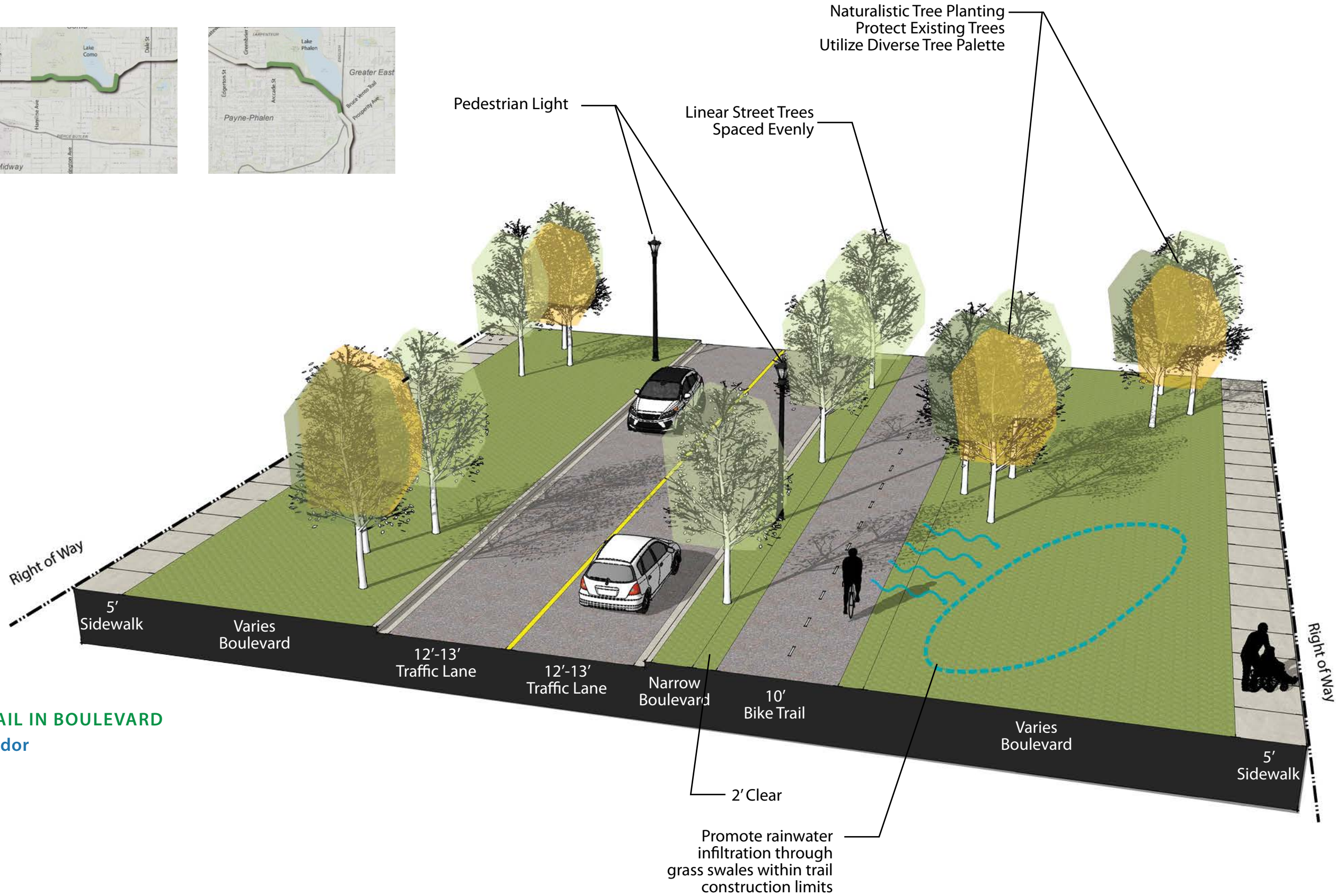


**TPOLOGY 5:** ON-STREET BIKE LANE  
Formal Corridor



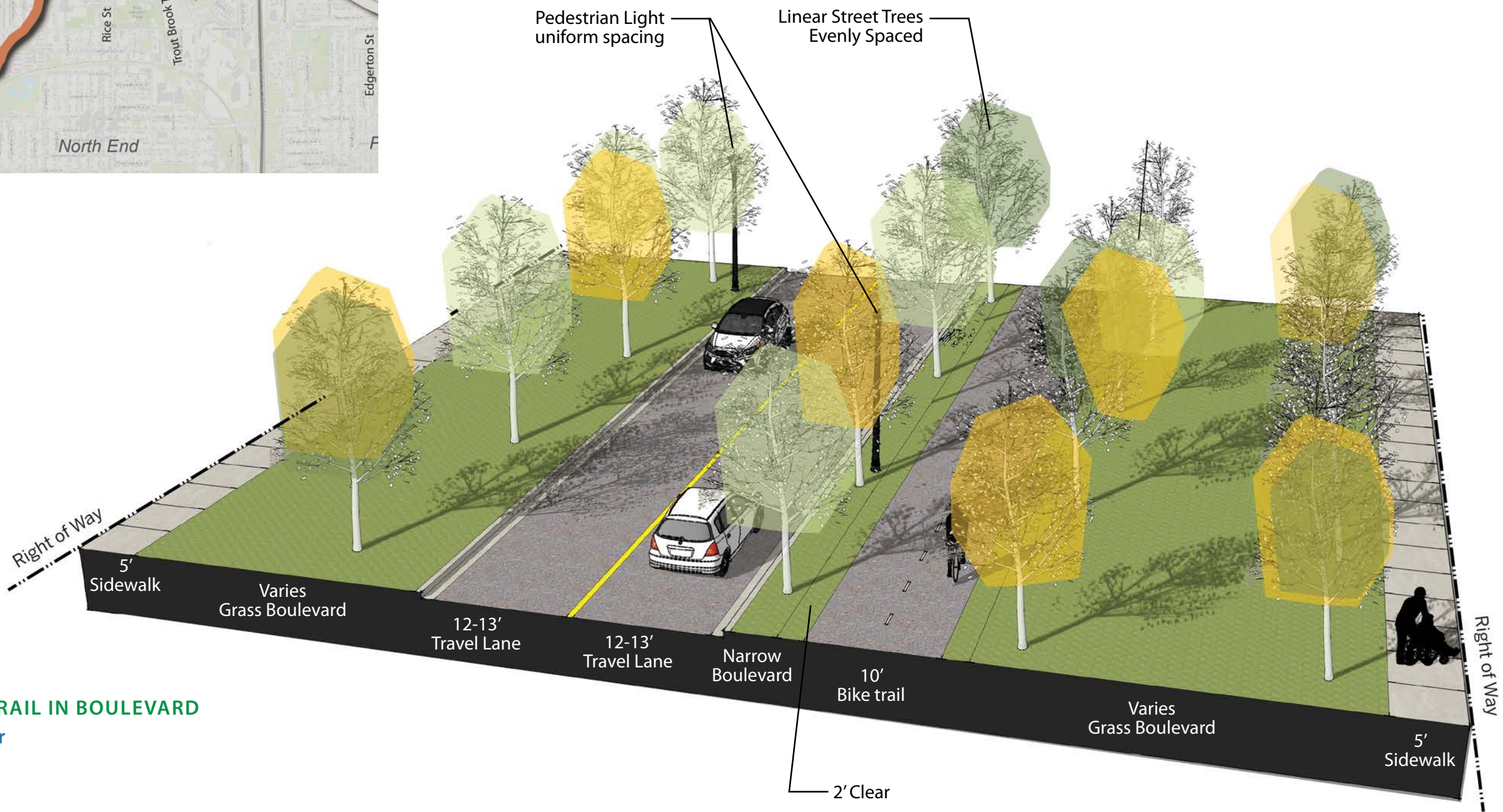
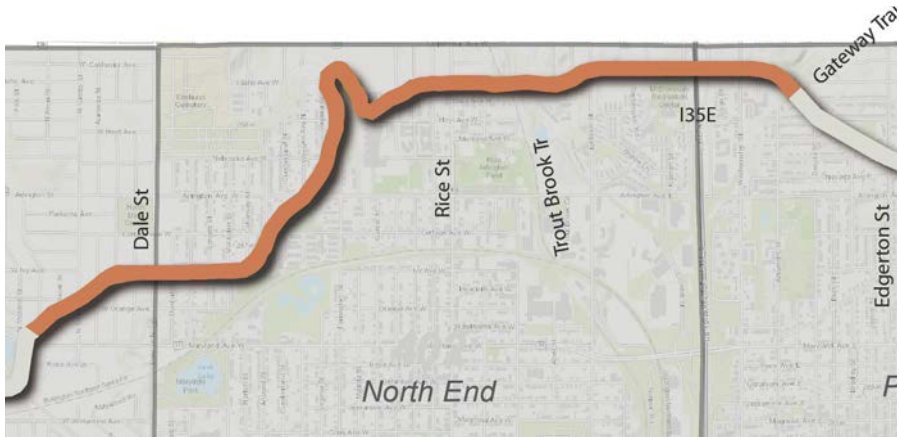
**TPOLOGY 6:** URBAN OFF-STREET BIKE LANE  
Designed Corridor





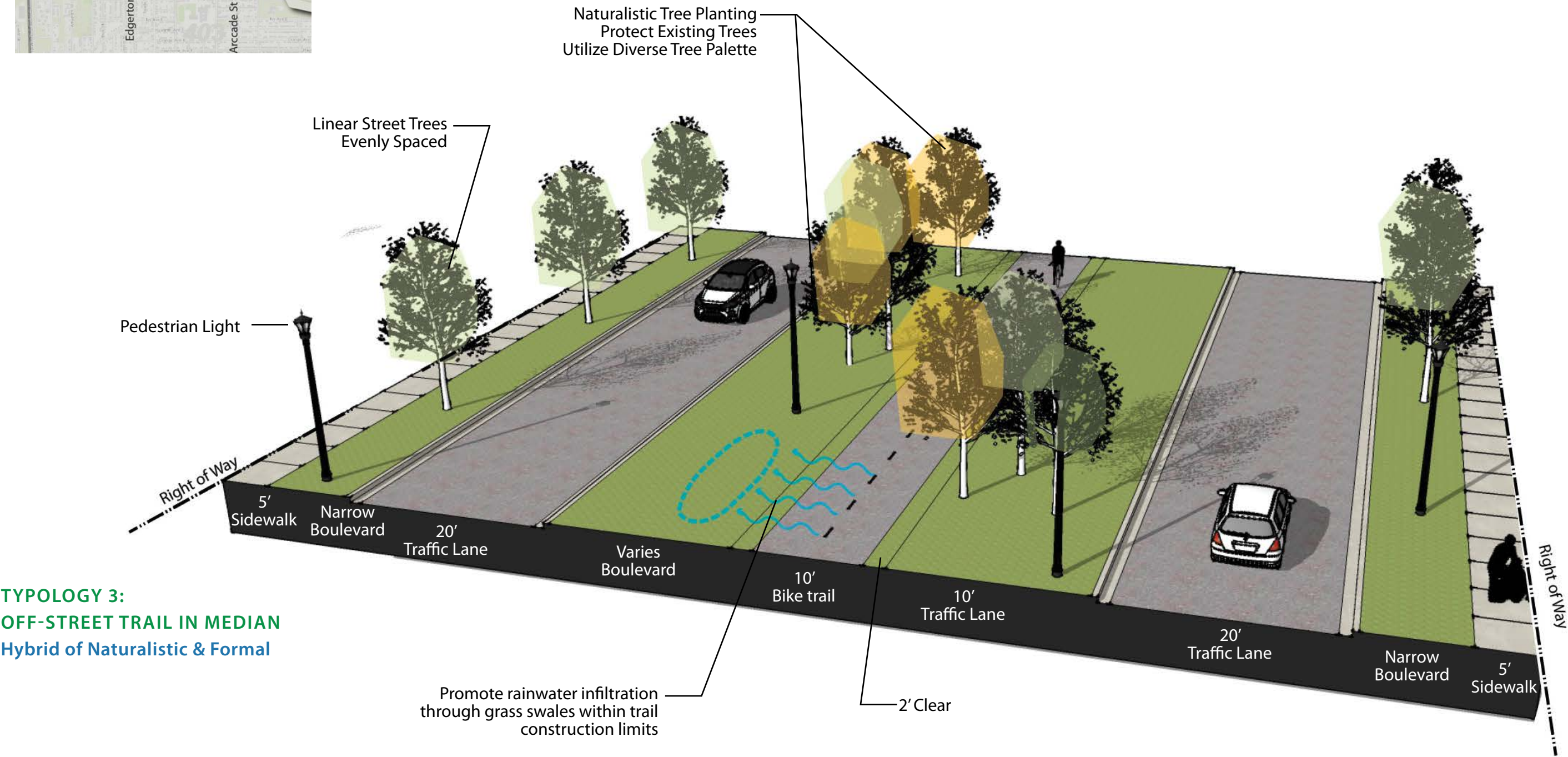
**TPOLOGY 1:**  
**OFF-STREET TRAIL IN BOULEVARD**  
Naturalistic Corridor





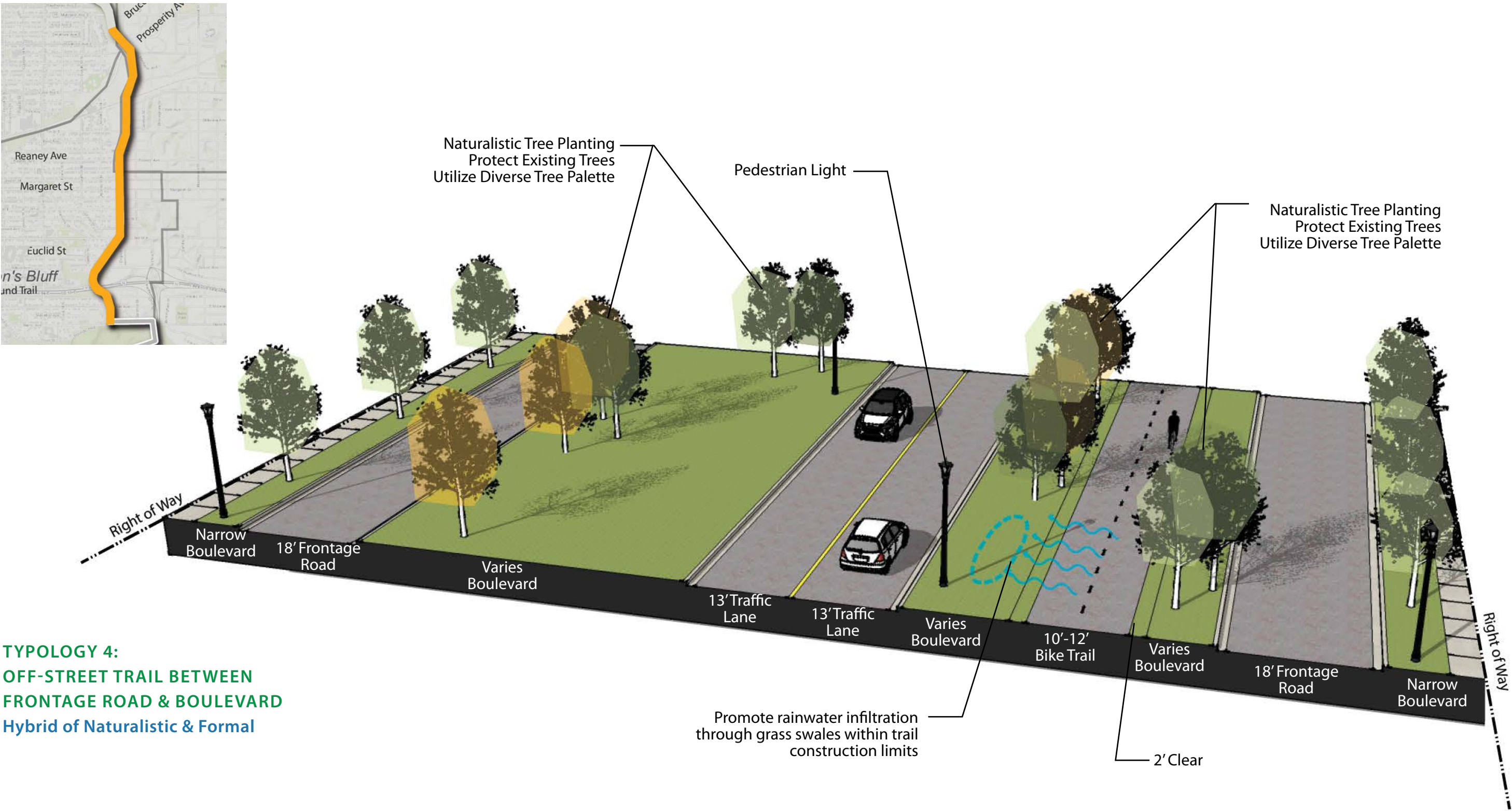
**TPOLOGY 2:**  
**OFF-STREET TRAIL IN BOULEVARD**  
Formal Corridor



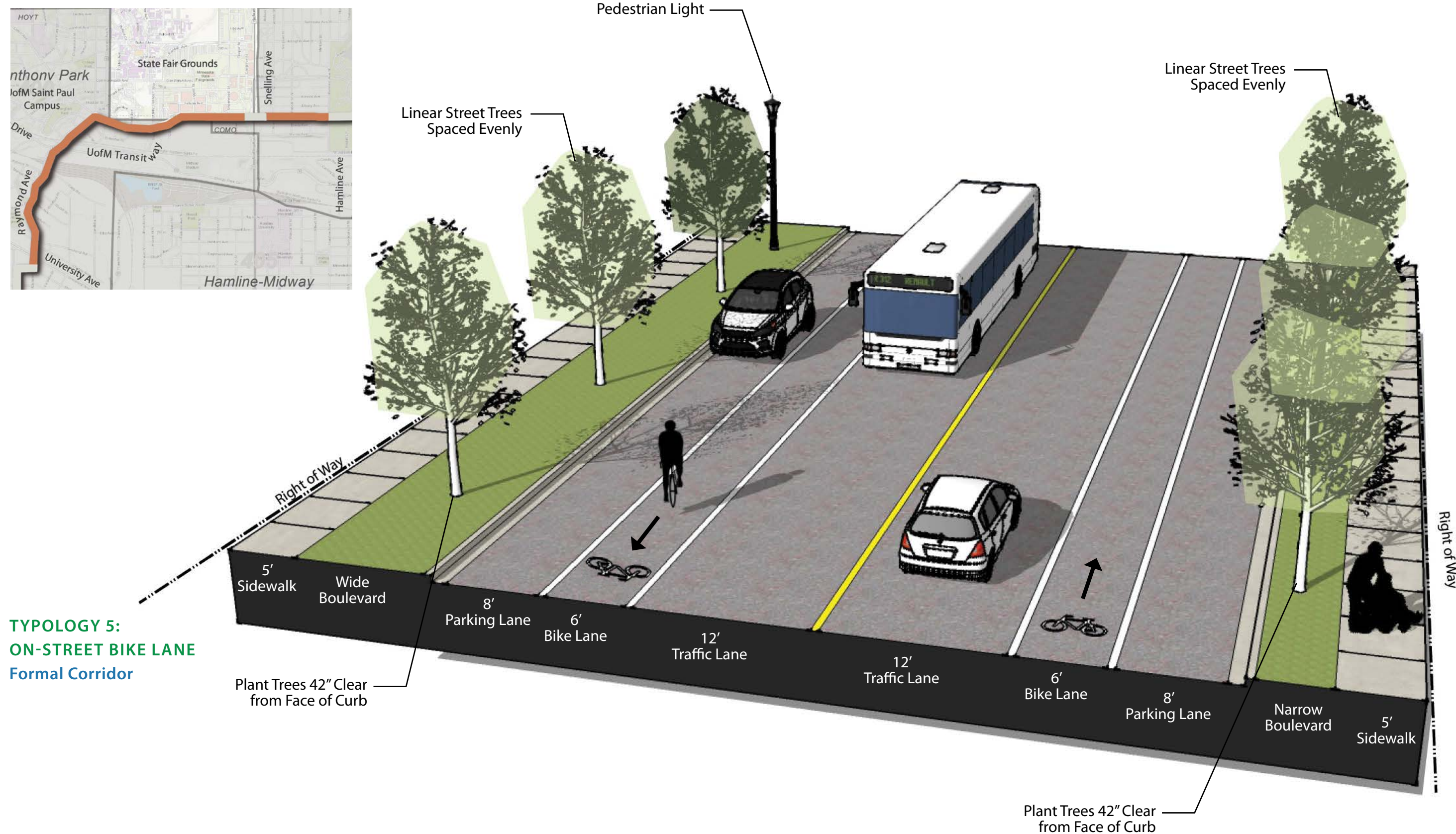


**TPOLOGY 3:**  
**OFF-STREET TRAIL IN MEDIAN**  
Hybrid of Naturalistic & Formal

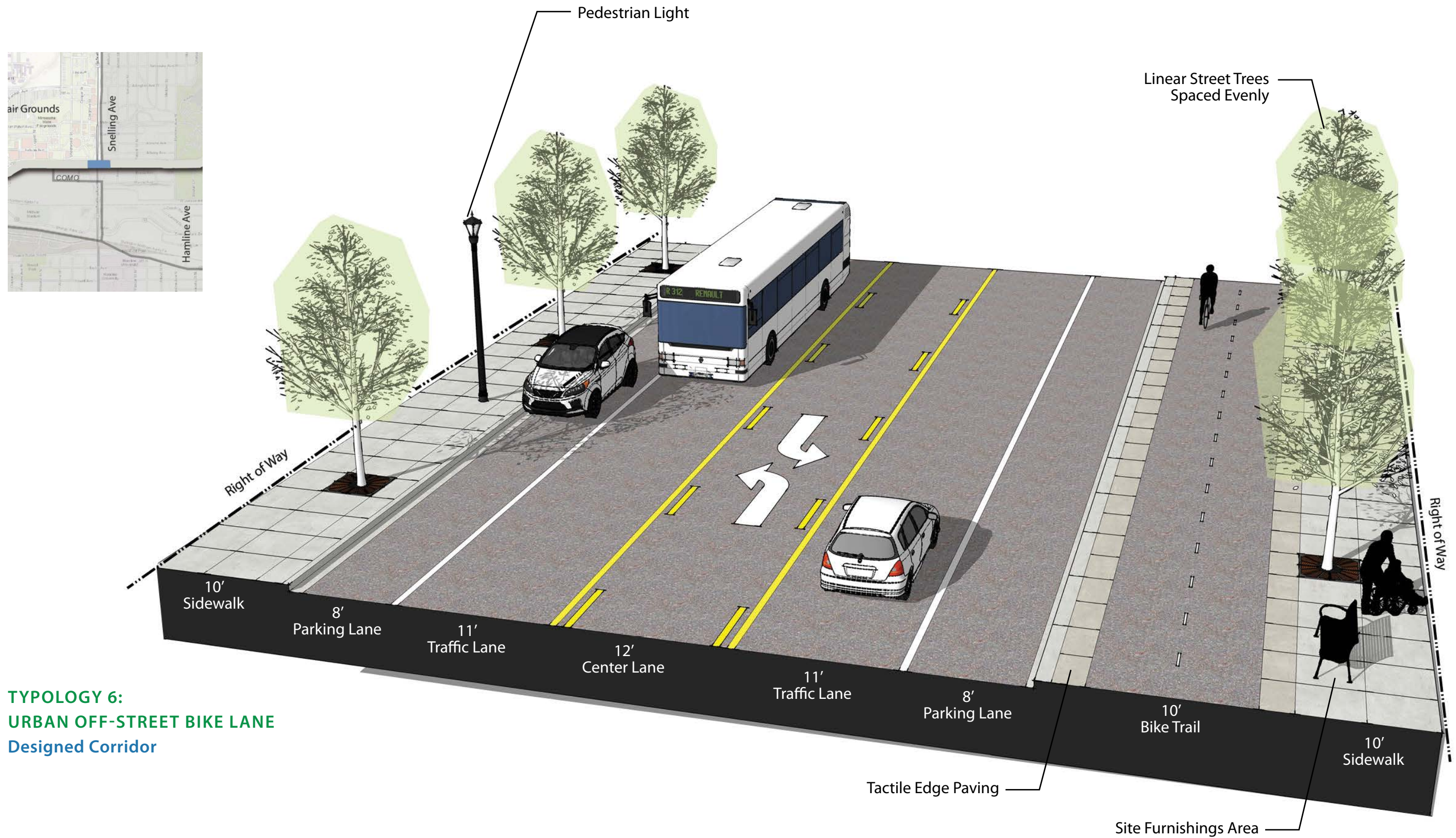












**TPOLOGY 6:**  
**URBAN OFF-STREET BIKE LANE**  
Designed Corridor







# GREEN INFRASTRUCTURE - LANDSCAPING

## PREFERRED CANOPY TREES FOR THE GRAND ROUND

The following tree species are drawn from the City's *Street and Park Tree Master Plan* (2010) and should be considered for use in the Grand Round with approval of the City Forester. Minimum caliper size is 2" adjacent to streets and walks, 1.5" caliper in open spaces.

*Velvet Pillar Flowering Crab	Malus 'Velvet Pillar'
Austrian Pine	Pinus nigra
Red Pine	Pinus resinosa
White Pine	Pinus strobus
Scotch Pine	Pinus sylvestris
Sycamore	Platanus occidentalis
White Oak	Quercus alba
Swamp White/ Bicolor Oak	Quercus bicolor
Regal Prince Oak	Quercus x warei 'Long'
Northern Pin Oak	Quercus ellipsoidalis
Bur Oak	Quercus macrocarpa
Fastigate English Oak	Quercus robur 'Fastigiata'
Red Oak	Quercus rubra
*Korean Mountain Ash	Sorbus alnifolia
American Sentry Linden	Tilia americana 'McKsentry'
Boulevard Linden	Tilia americana 'Boulevard'
Redmond Linden	Tilia americana 'Redmond'
Accolade Elm	Ulmus 'Accolade'
Cathedral Elm	Ulmus x 'Cathedral'
Discovery Elm	Ulmus davidiana japonica
Homestead Elm	Ulmus carpinifolia 'Homestead'
New Horizon Elm	Ulmus x 'New Horizon'
Princeton Elm	Ulmus americana 'Princeton'
Red Elm	Ulmus rubra
Triumph Elm	Ulmus 'Morton Glossy'
Valley Forge Elm	Ulmus americana 'Valley Forge'

\* Flowering tree

## PREFERRED LANDSCAPE DETAILS

3" DEPTH OF SHREDDED HARDWOOD BARK MULCH

FORM WATERING SAUCER AROUND TREE

FINISHED GRADE

BACKFILL SOIL

REMOVE ALL BINDINGS AND BURLAP FROM TOP 2/3 OF ROOT BALL

5'-0" DIAMETER

NOTES:

1. WATER PLANT THOROUGHLY WITHIN 2 HOURS OF PLANTING.
2. REMOVE ALL DISEASED, BROKEN & WEAKENED BRANCHES AT TIME OF PLANTING.
3. ON 2:1 SLOPES OR GREATER DO NOT FORM THE UPHILL SAUCER.
4. SCARIFY SIDES AND BOTTOM OF HOLE.
5. SET PLANT ON UNDISTURBED SOIL OR WELL COMPACTED BACKFILL SOIL AT THE SAME DEPTH IT WAS GROWN AT PREVIOUSLY.

B&B DECIDUOUS TREE PLANTING DETAIL

SCALE: NOT TO SCALE

3" DEPTH OF SHREDDED HARDWOOD BARK MULCH

FORM WATERING SAUCER AROUND SHRUB

FINISHED GRADE

MIN. 18" BACKFILL OF PLANTING OR NATIVE SOIL

HAND-LOOSEN ROOTS OF CONTAINERIZED MATERIAL OR, IF NECESSARY, SCORE SIDES OF SOIL MASS TO REDIRECT CIRCLING FIBROUS ROOTS.

NOTES:

1. WATER PLANT THOROUGHLY AT TIME OF PLANTING.
2. REMOVE ALL DISEASED, BROKEN & WEAKENED BRANCHES AT TIME OF PLANTING. TO RETAIN NATURAL FORM OF SHRUB OR TREE. DO NOT CUT THE LEADER.
3. MULCH ALL PLANT GROUPINGS OR MASS PLANTINGS WITH A CONTINUOUS 3" DEEP LAYER.
4. NO MULCH SHOULD BE IN DIRECT CONTACT WITH THE SHRUB STEM.
5. SET PLANT ON UNDISTURBED SOIL OR SLIGHTLY TAMPED SOIL AT THE SAME DEPTH IT WAS GROWN AT THE NURSERY. BURY ROOT FLARE WITHIN 2" OF SOIL.

SHRUB PLANTING DETAIL

SCALE: NOT TO SCALE



# GREEN INFRASTRUCTURE - WATER RESOURCES

## OVERVIEW

The Grand Round project is within two watershed districts that define the stormwater requirements for any portion of the project: Capitol Region Watershed District (CRWD) and Ramsey-Washington Metro Watershed District (RWMWD). The Minnesota Pollution Control Agency (MPCA) NPDES General Permit would likely apply to any project on the Grand Round given that any phase would disturb more than one acre of land and possibly add one acre or more acres of new impervious surface. However, the requirements of the two watershed districts are more stringent than the MPCA requirements and were the basis of the stormwater management design for the Grand Round. The majority of the Johnson Parkway, Phalen Park, and portions of the Wheelock Parkway trail segments are located within the RWMWD, while the remaining segments are within the CRWD. The stormwater requirements for the two districts are essentially identical and the main requirements are listed below:

## METHODOLOGY FOR SELECTING BEST MANAGEMENT PRACTICES (BMPS)

The Grand Round will consist of multiple phases in the coming years to complete the overall route. Stormwater requirements will be met for each phase and the final stormwater BMPs will be based on the proposed roadway/trail alignment and geometry, proposed storm sewer design and the underlying soils. For this design guide, the most logical way to present the stormwater requirements is to lay out all the higher potential BMP locations to give future designers flexibility based on the specific phase they are constructing. The BMPs shown here are not what is required to meet the watershed requirements but rather all the higher potential locations selected after a review of a more extensive list with project partners. The locations identified provide a much

greater water quality volume than the need currently anticipated for the projects.

The runoff rate requirements are potentially the most difficult to meet for the Grand Round given its linear nature. The rate control will need to be determined on a phase by phase basis as it is not possible to analyze a part of the overall route in isolation given that proposed storm sewer designs, road geometry layouts, and selected water quality BMPs will impact the results. For each phase of the Grand Round, appropriate hydrograph and reservoir routing methods will be utilized to analyze proposed rates. The linear nature of the Grand Round may make construction of rate control BMPs extremely expensive and impractical, at which point additional discussion regarding requirements versus feasibility will need to take place with the watershed districts. Additionally, existing ponds could be expanded or underground storage could be incorporated for rate control.

The runoff volume requirement was the primary driver for the BMP layout for this manual. Water quality volume is dependent upon the treatment selected. Infiltration is the preferred method for retention but will not be possible in all areas given the variability of soils, bedrock elevations and groundwater levels. Filtration can be utilized to obtain partial water quality volume credit in areas where infiltration is not possible. Both districts count the stormwater volume treated by filtration with typical porous media as 55% credit towards the water quality volume. If iron-enhanced sand is used as the filtration media, the districts count the volume treated as 80% credit towards the water quality volume.

The level of volume control credit for the three primary BMP types is summarized in the following table.

Type of BMP	Volume Control Credit
Infiltration	100%
Filtration	55%
Iron-Enhanced Sand Filtration	80%

Table 1: CRWD and RWMWD Volume Control Credits by BMP

The water quality requirements by both districts are met in full if the runoff volume requirements are achieved. However, if alternative compliance is required because the volume requirement cannot be achieved, the water quality requirements must be met by alternative practices such as wet detention ponds or in-line manhole treatments such as baffle plates within sumped manholes.

There are a few important details when looking at the watershed district rules. The impervious area used to calculate the water quality volume refers to new impervious or existing impervious that is reconstructed, meaning the subgrade is disturbed. Pavement rehabilitations and maintenance that do not expose the subgrade do not trigger the water quality volume requirements. Additionally, the watershed districts have a cost cap of \$30,000 per impervious acre for stormwater BMPs, which prevents projects that are not ideal for BMPs from increasing their budgets unrealistically.

## Water Resources



## GREEN INFRASTRUCTURE - WATER RESOURCES

### Water Resources

#### BIO-FILTRATION / FILTRATION BASINS

There are several basins proposed along the Grand Round corridor (shown in the appendix maps). These basins are large-scale depressions that allow stormwater to either infiltrate into underlying soil or filter through porous media via an underdrain system. There are few areas through the Grand Round that have the available footprint for these basins given the large amount of trees through the parkway and the future trail expansion. The areas where these basins are proposed are also areas where underground infiltration could be utilized based on preferences of the stakeholders. Additionally, dependent on the final trail alignment, there are also opportunities to have these basins in large median areas. An example photo of a typical bio-filtration basin is shown in Figure 3.



Figure 3: Typical bio-filtration basin

#### IRON-ENHANCED SAND FILTER BENCH

Currently, there are stormwater BMPs along the Grand Round, so retrofitting some of these structures may be a cost-effective solution to obtaining better water quality. There are four existing wet ponds in Phalen Park and portions of Wheelock Parkway that have potential to be retrofitted with an iron-enhanced sand filter bench. These BMPs are linear sand filters with iron filings that help remove dissolved pollutants from stormwater. The watershed districts count 80% of the water routed through the filter benches towards the water quality volume. The installation of these benches would require further coordination with the property owners of the ponds, especially those near the golf course west of Lake Phalen. Figure 4 shows an iron-enhanced sand filter bench at Prior Lake, Minnesota.



Figure 4: Iron-enhanced sand filter bench at Prior Lake, Minnesota

#### TREE TRENCHES / URBAN PLANTERS

There are areas along Como Avenue and Raymond Avenue that are very urbanized, having little green space and many utilities under the roadway, particularly along Raymond Ave and Como Ave, west of Snelling Ave. These areas would be ideal for tree trenches and/or urban planters in the boulevard areas. These types of BMPs can be used for infiltration or filtration dependent on the underlying soils. The tree trenches would be preferred if the existing trees along the street could be transplanted for the BMP. These BMPs are smaller than most, but given that there is little area for any other BMPs, they would be necessary and aesthetically pleasing in these areas. Figure 5 shows a typical tree trench.

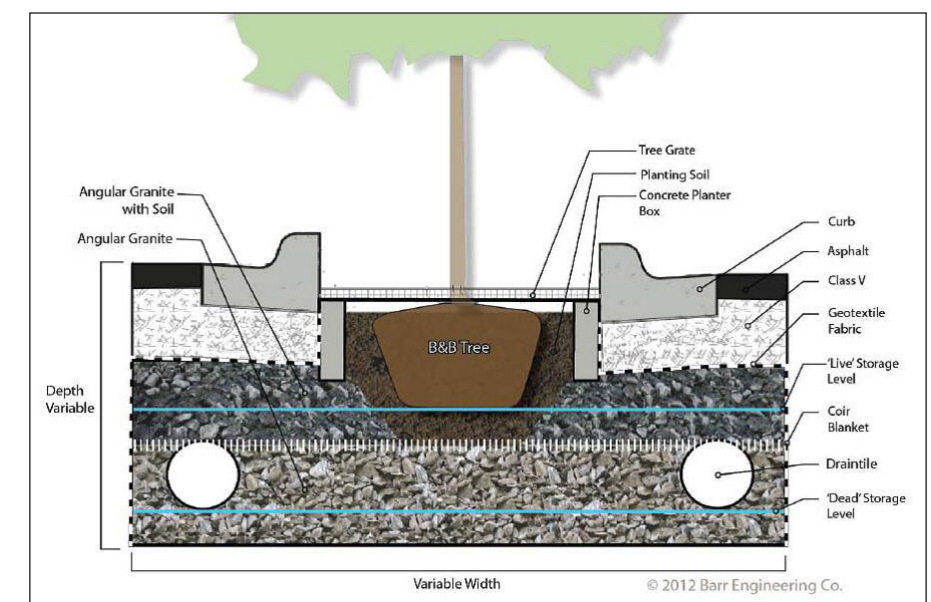
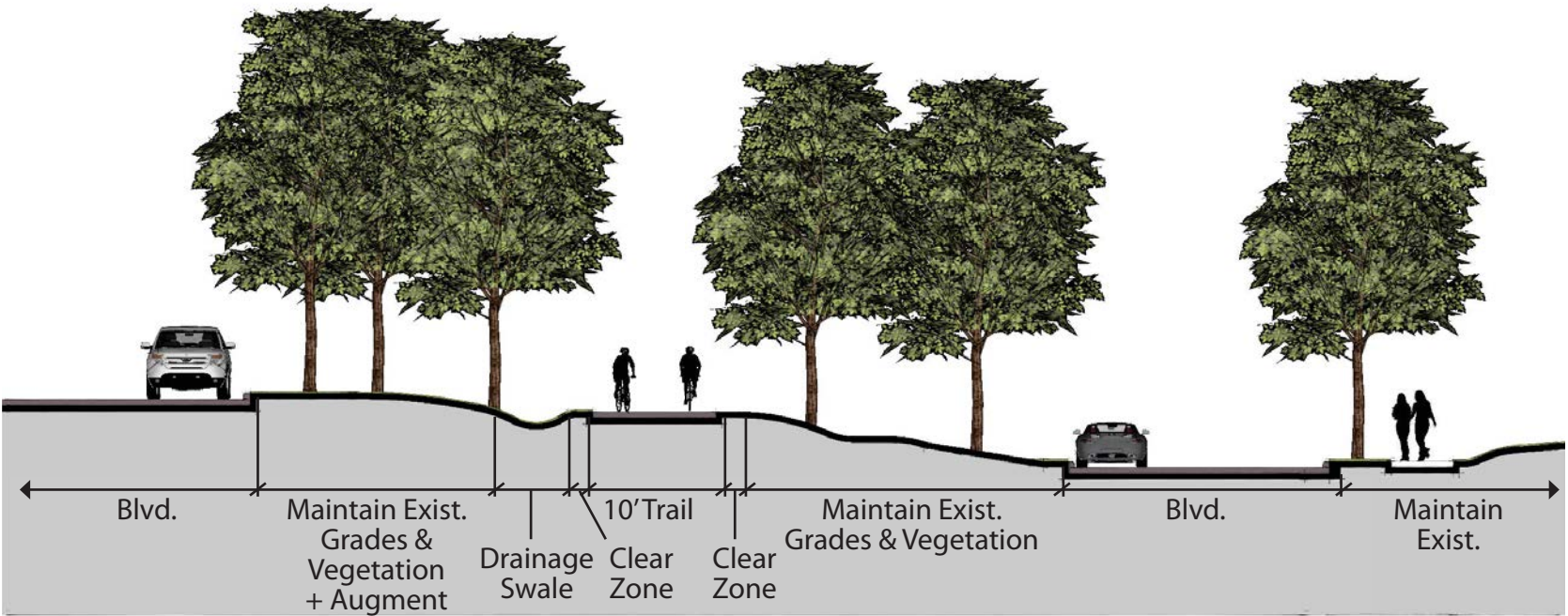


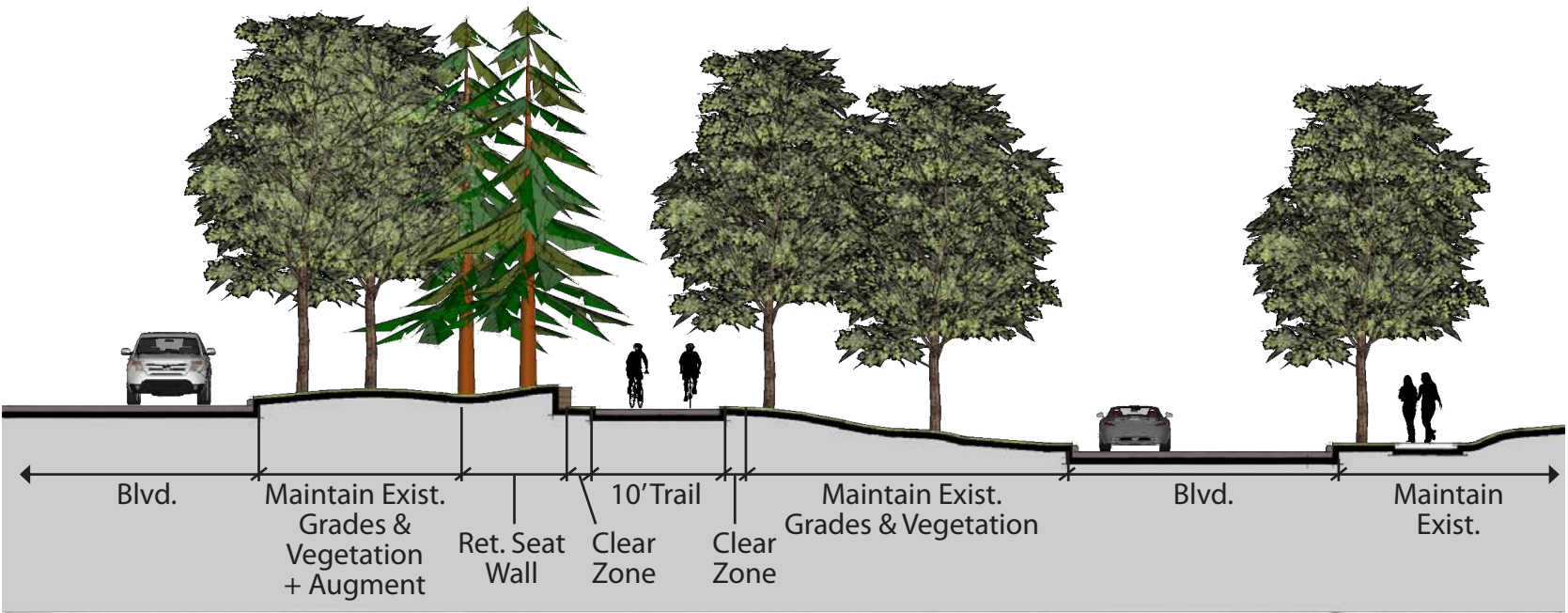
Figure 5: Typical design of tree trench



# GREEN INFRASTRUCTURE - WATER RESOURCES



CONCEPT STUDY: SWALE AT MEDIAN TRAIL



CONCEPT STUDY: WALL AT MEDIAN TRAIL

## CONCEPT STUDIES

The two studies shown to the left represent two different approaches to dealing with storm water. Where possible, infiltration is the preferred method of handling runoff. Where runoff needs to be guided away from the trail, small swales can direct water to a stormwater facility. These small swales provide both treatment and habitat for wildlife.

Sometimes the topography and narrow right-of-way exceed the ability to provide for swales, trails, and other amenities. Small retaining walls can be fit into the slopes and provide adjacent resting areas for Grand Round users.





*Pelham Avenue looking north*



## PLACEMAKING

### PLACEMAKING

Placemaking is simply described as creating a “sense of place.” It is a concept first raised in the 1960’s that focused on designing cities for people and to get away from the auto-centric emphasis that had dominated city planning since the 1950’s. Placemaking’s principle is that people choose to settle where amenities, natural and cultural resources, and recreational opportunities exist to support their lifestyles and thus their community.

Placemaking in Saint Paul is about discovering and highlighting the common ground where people gather – from sidewalks to plazas; from parks and trails, from the riverfront to the bluffs; from urban apartments and condos to single-family residential neighborhoods. Each of Saint Paul’s seventeen neighborhoods has a unique architectural, cultural, and ecological character. The Grand Round, through its linear connective quality, offers unique placemaking opportunities as the route winds through each neighborhood, reflecting its character, and then reflects it in the selection of placemaking design elements such as landscape character, paving types, gateway nodes, wayfinding signage, interpretive panels, mile markers, lighting, public art, and site furnishings as outlined in the section.

Unifying the Grand Round’s historic nature and varied neighborhood character is completed using a standardized palette of elements used over the length of the 26-mile system. This has identified three prototypical approaches to the “Gateway Nodes” on the Design Recommendation Maps. These three designs include the menu of amenities envisioned for the Grand Round:

1. Plaza with seat wall, open access to adjacent public space and complementary landscape. This application is envisioned for locations without significant topography where it is desired to provide ease of access to adjacent public spaces such as the Pelham/Mississippi River Blvd. intersection.
2. Overlook Plaza with seat wall and ornamental railings. This application is envisioned at locations with significant adjacent drops in elevation, sensitive adjacent landscapes and/or significant viewsheds for interpretation.
3. Backdrop plaza with seat walls. This application is envisioned where adjacent topography creates a retaining wall condition such as the Johnson/Burns intersection or the junction with the Gateway Trail.


These Gateway nodes are designed to be further customized and animated with infused branding, public art and lighting applications as outlined in the Public Art section and based on community input at the time of implementation. Paving, stone walls, columns and railings have all been identified as “canvasses” for integrated art applications.

In addition, smaller features, such as stone signage walls and markers are envisioned at prominent intersections such as Johnson/Burns and Pelham/Mississippi River Blvd., highlighting the Grand Round to both motorists as well as trail users.



LEGEND


Typical Key:




P.1.2

Type – Placemaking (P)  
Hierarchy designation  
Location designation— see detailed map and location schedule


WAYFINDING




P.1.x



P.2.x



P.3.x



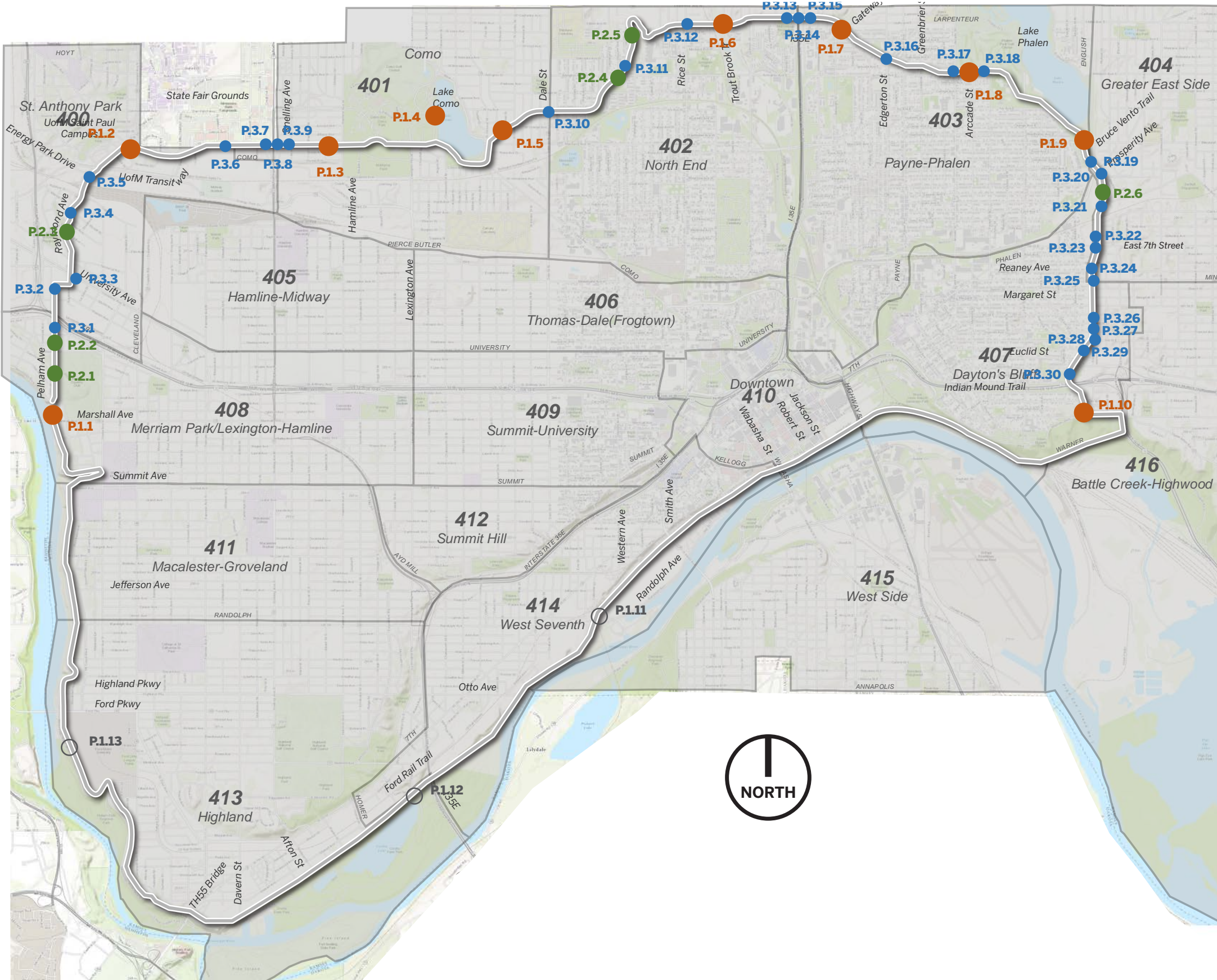
P.1.x

Gateway Node  
Interpretive Node  
Art/Corridor Marker  
Existing Signage

Grand Round signs will be installed at all intersections along the corridor.  
(Typically on street lights and other Grand Round amenities)








See Placemaking & Wayfinding matrix on page 116 for more information.

PLACEMAKING





PLACEMAKING - STANDARD SIGN TYPES

PLACEMAKING			WAYFINDING			
4-SIDE KIOSK	2-SIDE KIOSK	CORRIDOR MARKER	BLADE SIGN	DIRECTION SIGN	OPERATIONAL SIGN	LIGHT W/LOGO
						
● P.1.x	● P.2.x	● P.3.x	● W.1.x	● W.2.x	● W.3.x	● W.3.x
PLACEMAKING W/WAYFINDING ELEMENTS *Maps *Logo *Interpretive	INTERPRETATIVE NODE *Maps *Interpretive	REINFORCEMENT TRAILBLAZING	MAJOR DECISION POINT	MINOR DECISION POINT (SEE MUTCD STANDARDS)	REINFORCEMENT OPERATIONAL	REINFORCEMENT TRAILBLAZING



## PLACEMAKING - SITE FURNISHINGS

### Overview

Site furnishings provide amenities for Grand Round users by adding functionality and vitality to the pedestrian realm. Site furnishings help to reinforce the Grand Round brand and other placemaking efforts by providing a level of visual detail, color, and use of complementary materials. The following furnishings and materials were chosen for the durability, materials, and colors that honor the history of the Grand Round parkways.

### LIGHTING

The majority of 'historic' light fixtures seen around many of Saint Paul's roads are single fixture lanterns. The system consists of an octagonal glass-enclosed light mounted on a warm-brown colored decorative pole and stand. The other predominate light fixture along the Grand Round is the standard roadway cobra heads. The City is currently testing LED lights in a number of locations to determine energy savings over the existing high pressure sodium bulbs.

In Saint Paul, almost all the lights are mounted on fluted poles and decorative base sleeves set into a below-ground concrete base. There is also an example of lighting installed on stone columns at Mounds Overlook Park which could be repeated at Gateway Nodes.

It is important to recognize that all lighting should consider the goals of the Dark Skies Initiative. The Dark Skies Initiative seeks to minimize light pollution's four components: glare, ground reflection, light trespass, and clutter. Use of shielded lights help preserve the views of the night sky, create energy savings, and reduce impacts on people and wildlife.

### TRASH RECEPTACLE

Laser engraved door front on surface mount aluminum litter receptacle, painted brown with color panel backing. Grand Round color can be easily incorporated into this model.



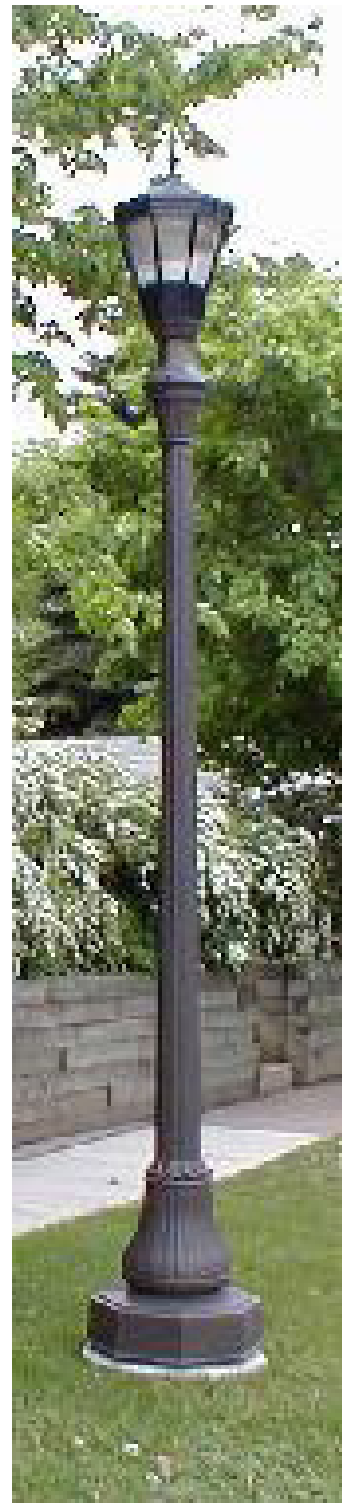
**Belson Trash Receptacle BRKT32**

Size: 42"

Accessories: Rain Bonnet and rigid plastic liner

Mounting: Surface Mount

Color: Black Powdercoat



**Holophane Octagonal Lantern**

Luminarie Style: Arlington

Luminarie Mount: Pole Top

Pole Height: 12 feet

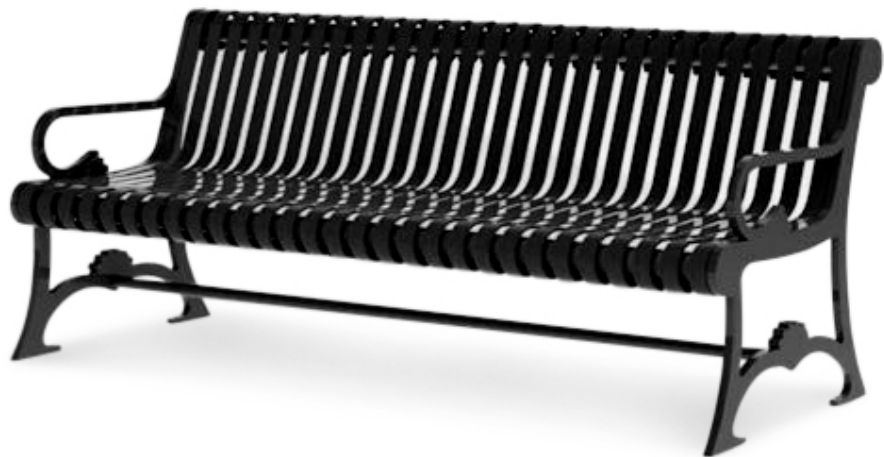
Color: Black Powdercoat



# PLACEMAKING - SITE FURNISHINGS

## SEATING - STOCK

The ability to rest while walking, running, or biking the Grand Round will be essential. This means providing seating opportunities at key locations along the trail, likely at key trail intersections, in conjunction with other site furnishings, and with wayfinding elements. Currently, seating in Saint Paul parks takes three forms: Saint Paul Parks standard manufactured benches constructed of various materials, artist-created benches, and stone. The advantage of the manufactured benches comes from use of standard replacement parts, ease of installation, and flexibility in available bench forms.



**Belson Ribbon Bench LB-72**

Length: 6 feet  
Mounting: Surface Mount  
Color: Black Powdercoat

## SEATING - CUSTOM

This Kasota stone seat wall is an example of a more durable and natural seating opportunity. This seating type should be considered for use in the Gateway Node areas. The advantage of the stone comes from its durability. It does have a higher maintenance cost in terms of repair than manufactured benches. As noted in the Public Art section above, there is also an opportunity to incorporate art within this type of seat wall



*Kasota stone with cast stone cap seat wall and colored concrete pavers at Mounds Park Overlook*

## BIKE RACKS

The Grand Round connects users to a variety of adjacent activities so having secure places to lock a bicycle is important. Grand Round logo and color will be incorporated into the model.



**Dero Bike Hitch Rack with Logo**

Capacity: Two bicycles  
Mounting: Surface Mount  
Color: Black Powdercoat or Galvanized finish



**Dero Bike Hoop Rack with Logo**

Capacity: Two bicycles  
Mounting: Surface Mount  
Color: Black Powdercoat or Galvanized finish



## PLACEMAKING - SITE FURNISHINGS

### BIKE REPAIR STATION

Bike repair stations offer Grand Round users an opportunity to make minor repairs or inflate a tire at various locations along the Grand Round. These stations can also have sponsorship potential.



**Dero Fixit Bike Repair Station**

Mounting: Surface Mount  
Color: Black Powdercoat or  
Galvanized finish

### DRINKING FOUNTAIN



Powder Coat Finish: Black per Manufacturer  
Model: #410 SM w/Pet Fountain and Surface Carrier  
Manufacturer: Most Dependable Fountains  
1.800.552.6331  
[www.mostdependable.com](http://www.mostdependable.com)

### OTHER LANDSCAPE PRODUCTS AND MATERIALS

#### Planting Bed Edging

Ryerson Steel Edging 1/4" x 5", black enamel paint finish, with  
3/16" x 15" stakes

#### Temporary Watering

TreeGator Slow-release 15-gallon watering bags

<http://www.treegator.com>

#### Mulch

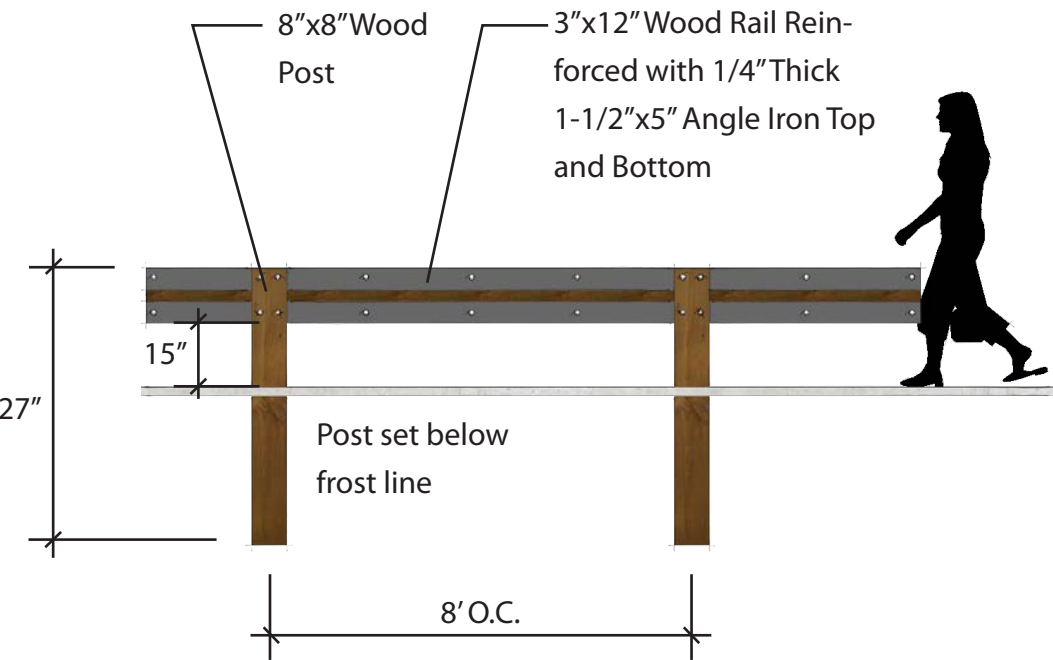
Shredded hardwood bark mulch



# PLACEMAKING - SITE FURNISHINGS

## GUARDRAIL

Typical Grand Round guardrail.

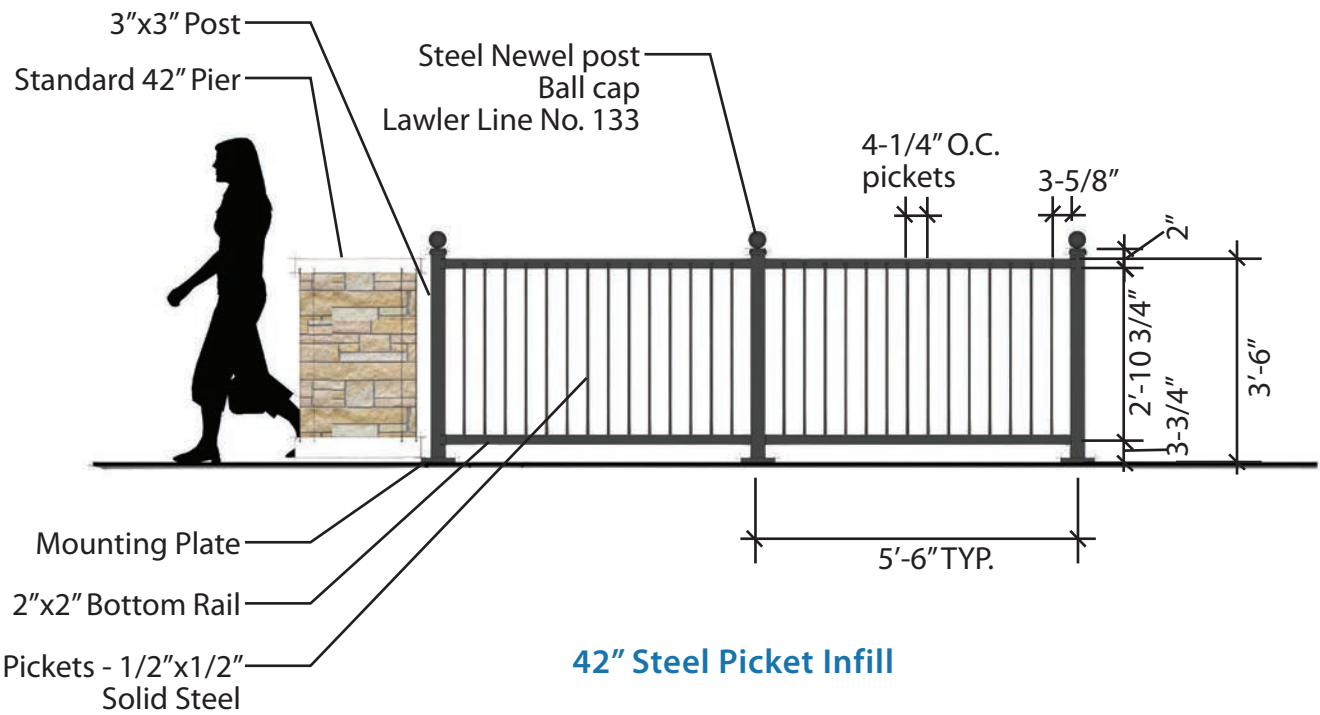


### Guardrail Components

#### Wood Members

ICI Wood Pride Oil Based  
Semi-transparent Exterior Wood Stain  
Color: #A0630 (Italian Ochre)  
Manufacturer: Glidden Professional  
[www.gliddenprofessional.com](http://www.gliddenprofessional.com)

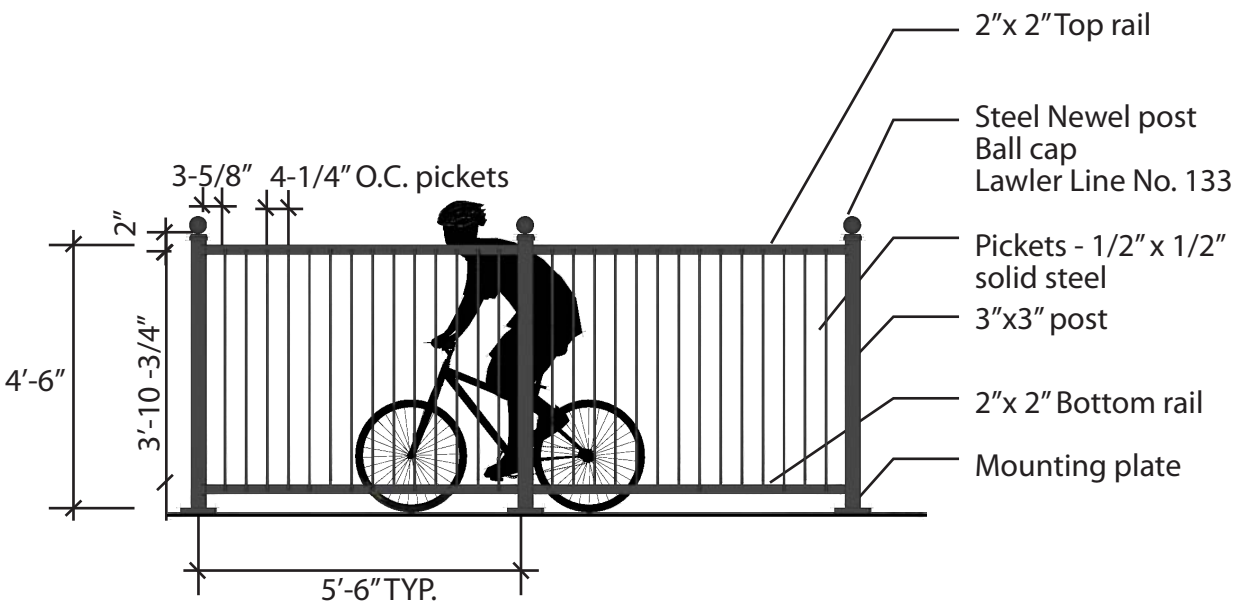
## METAL RAILS



### Metal Rail Components

#### Metal Members

Powder Coat Finish: Plack  
Powdercoat  
Manufacturer: All Powder Paints  
[www.allpowderpaints.com](http://www.allpowderpaints.com)

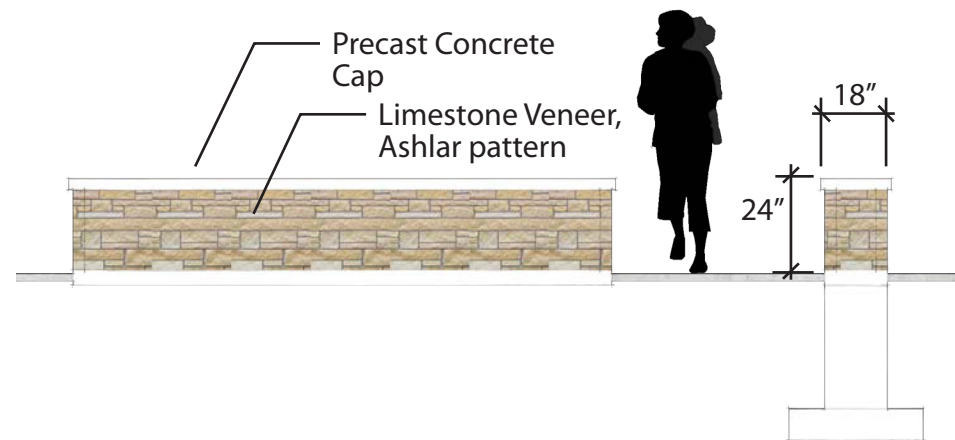


### 54" Steel Picket Guardrail

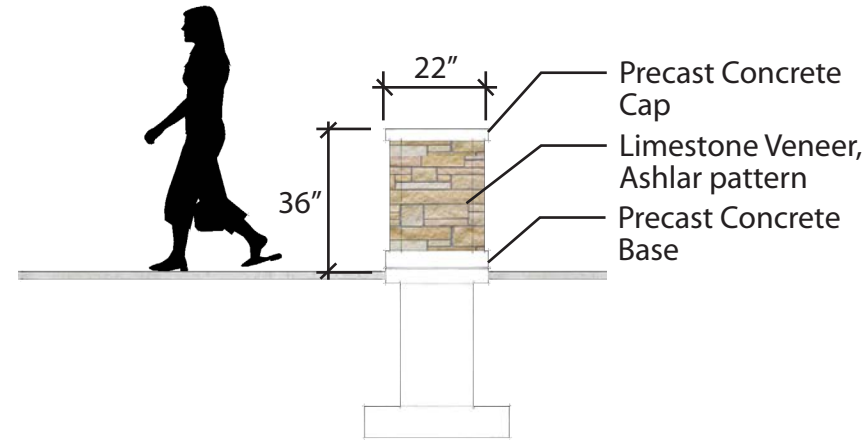


# PLACEMAKING - SITE FURNISHINGS

## SEATWALL



## PIERS



### Precast Pier and Seatwall Caps

Manufacturer: Wausau Tile

(or approved equal)

Style: Custom per Construction Details

Color: To be approved by owner

(should be in the range of natural limestone)

### Stone Wall Cap Lighting

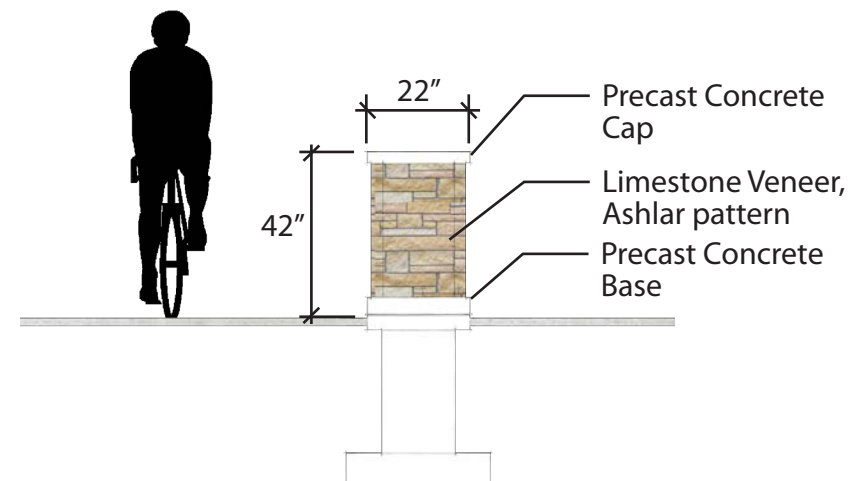
LED Undermount Fixture Model

#15756SD27 (Wattage to be determined per application, verify model reference #)

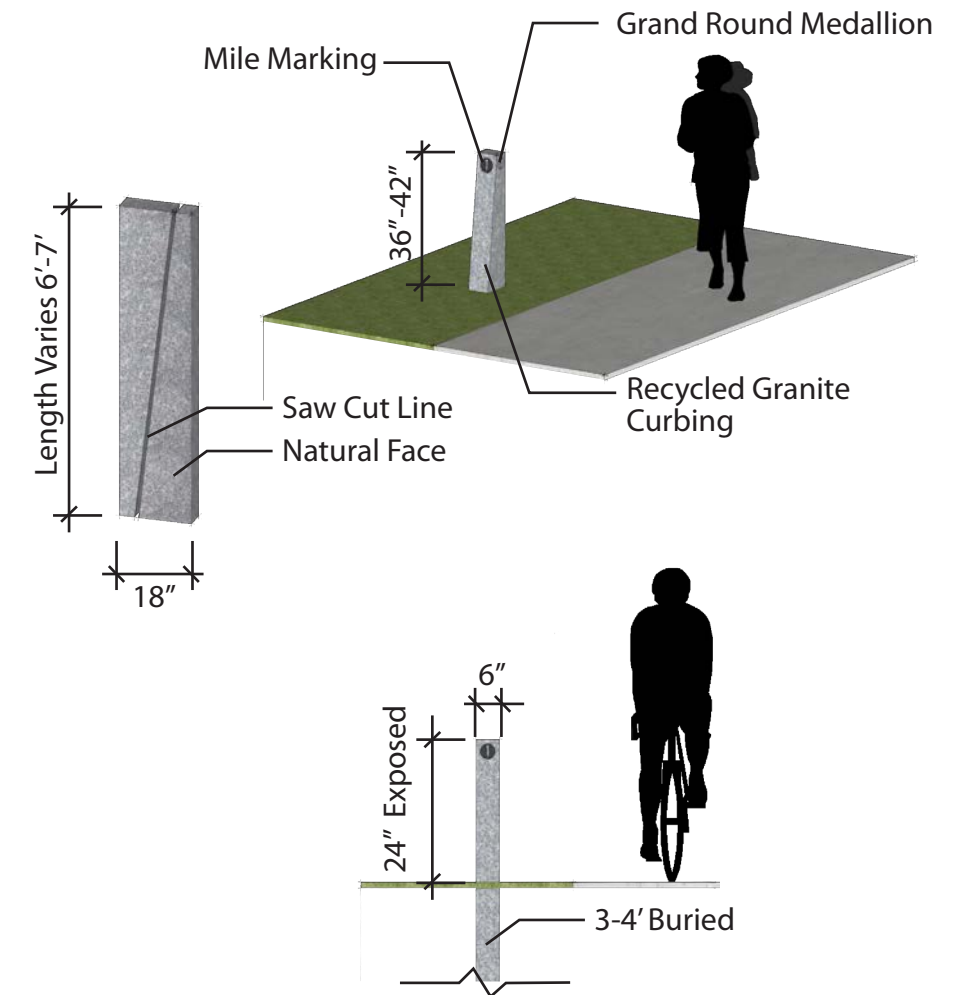
Manufacturer: Kichler

1.866.558.5706

[www.kichler.com](http://www.kichler.com)



## MILE MARKERS





## PLACEMAKING - PUBLIC ART

### Overview

To create a public art plan for the Grand Round with a coherent concept that unites public art across the many neighborhoods through which the route will pass, while also providing an inspirational and experiential metaphor for movement across landscapes, we employ the idea of birds in flight and flyways. The beautiful ease of movement of flying birds inspires all people. That concept will provide some consistent imagery and approaches to public art throughout the Grand Round and inspire an elevated feeling of mobility to our earth-bound species, whether people are walking, biking, rollerblading, driving, or traversing this space using other modes of movement.

Through the use of birds and migration as overarching themes, artwork created for the Grand Round should help create a sense of the Grand Round as a special path within the City, while also helping to illuminate the character of the different neighborhoods the trail traverses. It will provide a distinctive concept and experience to St. Paul's Grand Round. Other cities have bikeways and pedestrian paths. We will have an inspirational, soaring experience re-enforced by the public art created for our Grand Round.

### STORYTELLING THROUGH BIRDS AND MIGRATION

The subject of birds and migration offers unique opportunities for the interpretation of cultural and natural history of a site through a specific theme, while allowing for diverse conceptual development. The historic information gathered in the appendix can also inform the design of public art in the Grand Round.

Specifically birds can represent:

- Cultural identity
- Mobility and transportation
- Migration across borders
- Connection to nature in urban spaces

### EXISTING ART IN OR NEAR THE GRAND ROUND

There are very few public art projects located along the northern portion of the Grand Round. At the western end is Lisa Elias' "Forged Roots" bench located on Raymond just north of University Avenue. In Phalen Park, Geri Connelly's "Poetry Post," and "Book Benches" are visible from the Grand Round route. Some public artworks are nearby, such as carved stone sculptures and stainless steel artworks at Raymond Green Line Station by Myklebust & Sears. Lei Yixin's "Meditation" is located north of the Grand Round in Phalen Park.

### Public Art Goals for the Grand Round

Building upon the theme of *Storytelling Through Birds and Migration*, the public art goals for the Grand Round are:

1. Inclusion of larger public artworks at Gateway Nodes.
2. Integrated smaller public artworks with wayfinding and site furnishings as well as smaller art gestures where appropriate.
3. Sites and further possibilities to be defined by the artist.

Functional art elements can be placed at the P.1.x & P.2.x locations as well as at the P.3.x markers. Where possible, art elements should be integrated within seatwalls (including carved, cast metal, and precast concrete elements), railings and paving. These art elements can be repeated along the path to effectively create an identity unique to the Grand Round. Other types of Grand Round signature art could include the following:

### BRIDGE AND UNDERPASS ARTWORKS

There are five bridges the Grand Round passes under and each presents an opportunity for light-based artworks to transform these structures (often perceived by residents and trail users as challenges or problems) into assets which help to create a sense of place along the Grand Round. This can be seen in the Case Study at the end of this section.



## PLACEMAKING - PUBLIC ART

### INCORPORATED INTO SITE FURNISHINGS

Wayfinding art elements may be connected by shared imagery, materials or composition, and are designed to help create a sense of connection between different points on a path, or to identify places to stop, rest, eat, or gather information. Wayfinding art elements can be small elements which repeat along the path.

Public art can also take the form of street furniture or other functional forms such as bike racks, seating, trash/recycling bins, planters and walls, tree protection, shelters/pavilions, mileage markers, or other functional forms with integrated art potential.

### EARTHWORKS AND PLANTINGS

Limited to non-historic locations with sufficient space, there may be potential to incorporate small earthworks such as mounds, berms, and/or swales into the design vocabulary, either as part of the landscape design or as part of the stormwater design. When coupled with massed plantings, allees and groves, these earthworks can effectively create an outdoor room, a place for gathering, a sheltering spot, or frame a linear path.

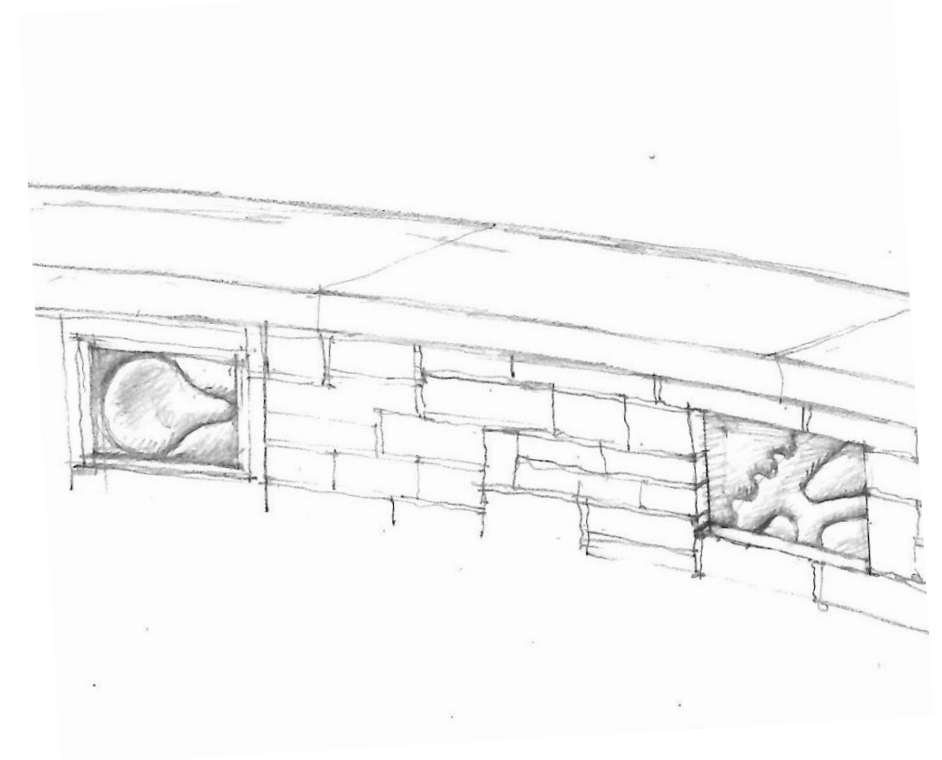


*Storm King Wave Field, New York by Maya Lin*

### SIGNATURE GATEWAY ART

Stone seat walls are comparatively small scale and can be created in multiples for use at sites along the Grand Round. While incorporating neighborhood-specific art, it is also important to reinforce the overall wayfinding and branding by creating continuity along the length of the route to celebrate the Grand Round itself. The character of each neighborhood can be incorporated in the pieces, such as through seatwall art, and help to knit together the Grand Round.

At Gateway nodes, kasota stone seatwalls offer a high potential to incorporate small art elements. For example, inclusions could focus on significant Grand Round story lines, such as natural history, weather, astronomy, geology, transportation, etc. These elements could be cast in bronze, made from precast material such as concrete or clay, hand carved in limestone, or made from cast glass.





## PLACEMAKING - PUBLIC ART

### Suggested Materials for Public Art

#### CONCRETE

Concrete elements, either precast or poured-in-place, can render complex surfaces and textures in a durable and cost-effective way, and is an excellent medium for architecturally-integrated art elements. P.1. Gateway Nodes present opportunities for the inclusion of precast or poured-in-place art elements within seatwalls, retaining walls, monument signs, columns, or other elements. Concrete can render complex surfaces and textures in a durable and cost-effective way, extending the reach of a public art budget by generating forms which can be repeated at multiple sites along a path. Using repeated motifs can also aid in wayfinding and in creating a sense of place.

One Saint Paul art project, Marcus Young's Everyday Poems for City Sidewalks, is expanding the footprint of public art in the city and represent efforts which could be incorporated to good effect in the Grand Round's paved areas.



Cast concrete balustrade with sculptural railing by Myklebust + Sears



Everyday Poems for City Sidewalks



Artist-created decorative paving adds color, texture, and visual interest to an otherwise mundane material



# PLACEMAKING - PUBLIC ART

## Suggested Materials for Public Art

The public art pieces are to be created from durable and long-lasting materials that are easy to maintain. Currently, architectural elements adjacent to the path of the Grand Round in Como Park include remnants of a native limestone gateway at the intersection of Como and Hamline, limestone fire rings, and a restored/re-purposed streetcar bridge near this intersection. Limestone retaining walls in Como and Phalen Parks are additional examples of a regionally-sourced architectural/landscape material which can also be used in art applications. Building upon this legacy, the following materials are suggested for use in public art works in the Grand Round corridor.



Stone Column at Indian Mounds Park overlook

## STONE

Native Minnesota Kasota stone is already in broad use along the Grand Round, in both historic and contemporary retaining walls, monument signs, and other elements in Como and Phalen Parks. Granite from Cold Spring, Minnesota is used at the intersection of Summit Avenue and Mississippi River Boulevard, just south of the project area. Regional sandstone is used in the 1895 streetcar bridge in Como park, and the railroad underpass on Johnson. Carved stone elements can be incorporated within seatwalls and other masonry constructions at P.1.x Gateway Nodes. Salvaged granite curbing stone belonging to the City of Saint Paul may present opportunities for cost-effective inclusion of this material in as artist-designed mile/place markers within the Grand Round.



Carved limestone seat and sculpture, by Myklebust + Sears

## METALS

Appropriately designed and finished metals are recommended for use in the Grand Round. Some P.1.x Gateway Nodes may include opportunities for the creation of art railings as parts of overlooks or custom bike racks. Cast bronze elements could be incorporated within seatwalls at Gateway Nodes, or be embedded within pavement as mile/place markers. Schematic lighting design for underpass locations include options for the creation of metal screen artwork as part of the lighting design.



Cast bronze mile marker set in concrete sidewalk



Metal artwork used on wayfinding signage. by Myklebust + Sears



PLACEMAKING - PUBLIC ART  
Suggested Materials for Public Art

LIGHTING

Contemporary energy efficient lighting technology, in either static or programmable forms, can be used as an art element to improve the aesthetic experience of a location (underpasses, for example), to increase a sense of safety, or to create responsive artworks which change as people interact with them

It is proposed to use contemporary LED lighting technology to bring night-time art into the trail corridor. Light-based artworks can transform an otherwise dark and foreboding space into one that celebrates engineering achievement at each of the five bridges that cross the Grand Round.

LED lighting can also be used to back-light the Grand Round logo at kiosks or incorporated under the seat wall cap or railing to illuminate the paving and provide a warm glow for night-time use.



LED lighting under wall cap



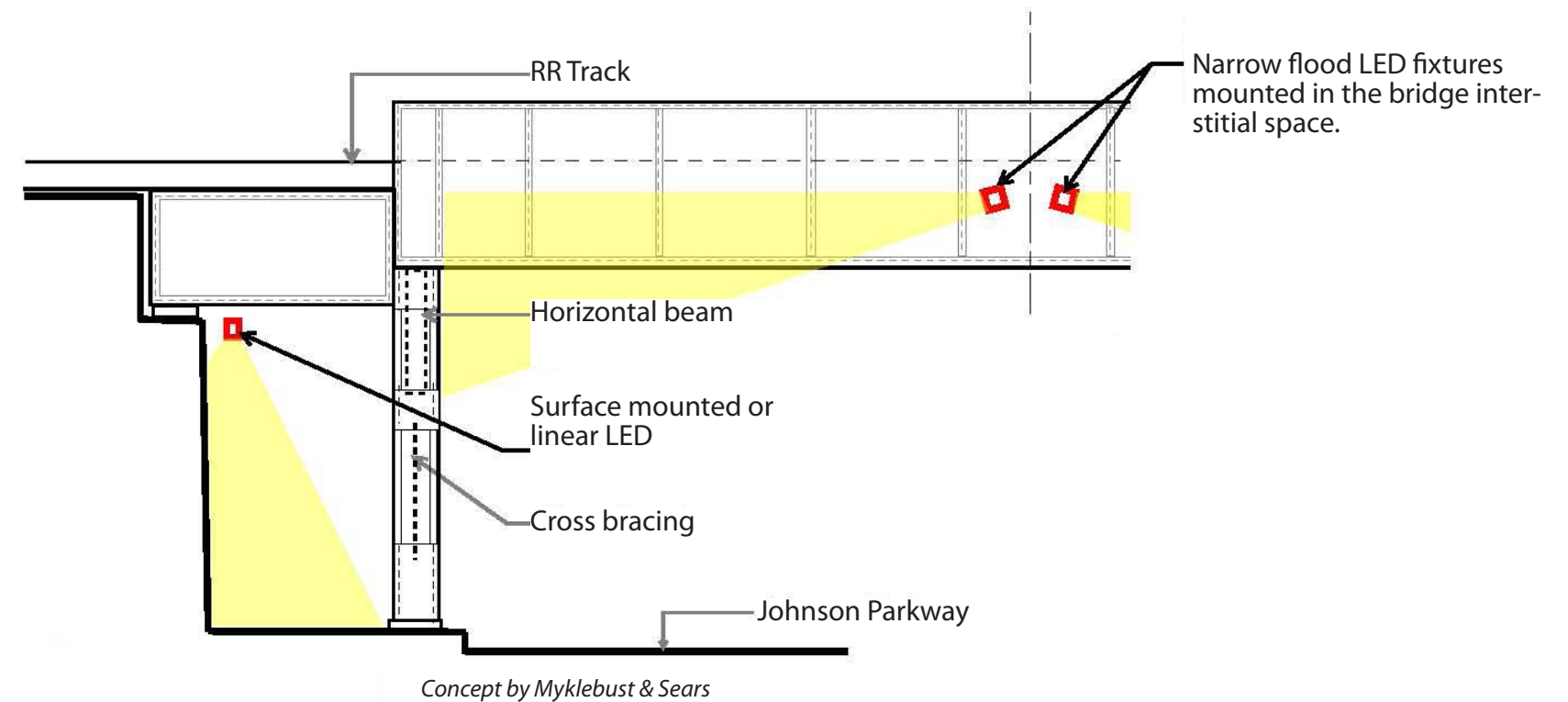
LED backlighting of logo



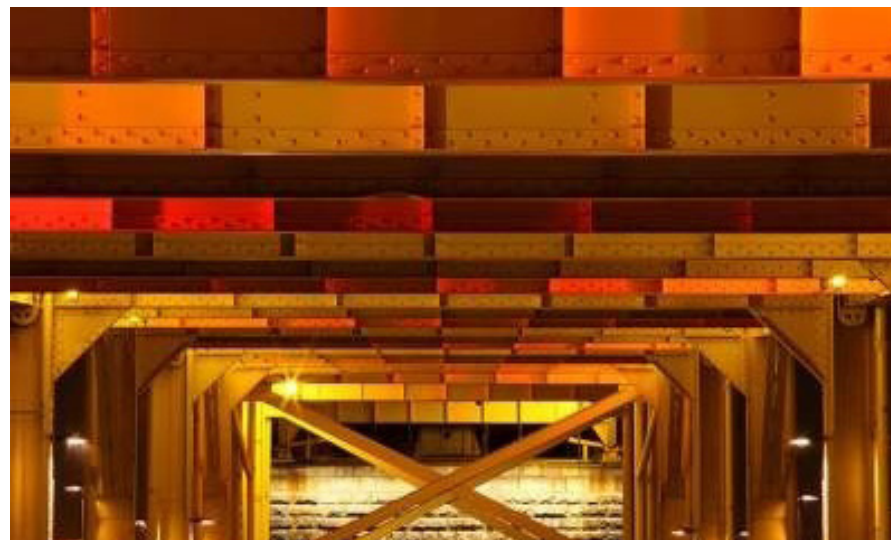
## PLACEMAKING - PUBLIC ART CASE STUDY

### BRIDGE AND UNDERPASS ART WORKS - JOHNSON RR CROSSING

Railroad bridges, long a feature throughout Saint Paul, can be reimagined as art pieces. For example, at the railroad bridge that passes over Johnson Parkway, the design concept proposes to illuminate the bridge structure, the stone wall and pathway. This will require attaching fixtures to the existing bridge structure. Interstitial illumination of the rusted bridge structure could be quite extraordinary and turn what is a dark pass through experience into something more thoughtful as well as delightful.



Johnson Parkway railroad overpass



Conceptual example of an overpass LED lighting project.

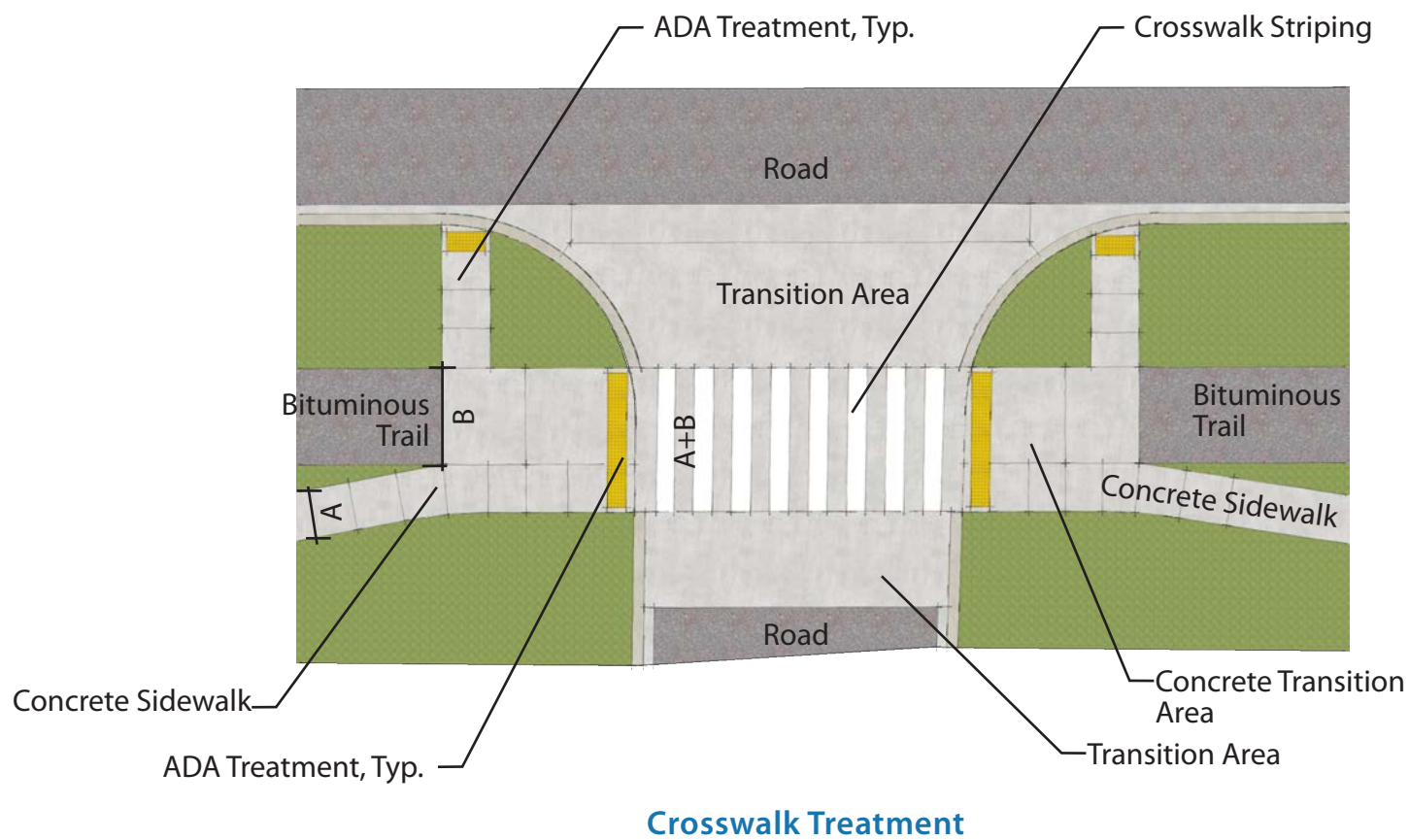


# PLACEMAKING - TRAILS, SIDEWALKS, AND ROADWAYS

## Overview

The Grand Round pavement can vary, depending upon its location. Paving improvements and markings for in-street bike lanes must meet the criteria noted in the Saint Paul Street Design Manual. The majority of the multi-use trails will be asphalt. Locations adjacent to the trail, such as business districts, parks, and trail-to-trail connections, and neighborhood boundaries can benefit from a change in paving type to alert trail users that a wayfinding or decision making opportunity is imminent. Concrete sidewalks are to be provided on both sides of the street to delineate the outer edge of the right-of-way in all residential, commercial and industrial areas.

Pavement treatments vary depending on the type of place function. Grand Round paving options may be selected to create neighborhood-specific identities for gateways, wayfinding kiosks, bike stations, benches, bicycle racks, art, trash cans, and other site furnishings. All paving types must meet ADA-criteria for walking surfaces as well as Saint Paul Street standards for safe winter use and maintenance (i.e. withstand salt and/or deicer).



## TRAIL AND SIDEWALK PAVING MATERIALS

### Asphalt

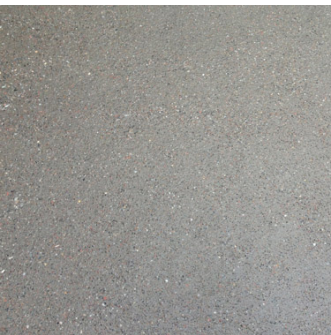
This is the paving material of choice for regional trails in and around Saint Paul. It is a cost-effective and durable material and easy to install.

### Concrete

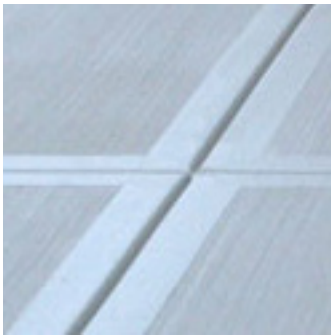
This is the paving material of choice for the City's sidewalks, curb and gutters, and curb cuts. It is a durable building material.

### Concrete Flatwork

Finish: Sand Finish with Tooled Joints  
Color: To be approved by owner  
Solomon Colors, Inc.  
1.800.624.0261  
[www.solomoncolors.com](http://www.solomoncolors.com)



Sand Finish



Tooled Joint

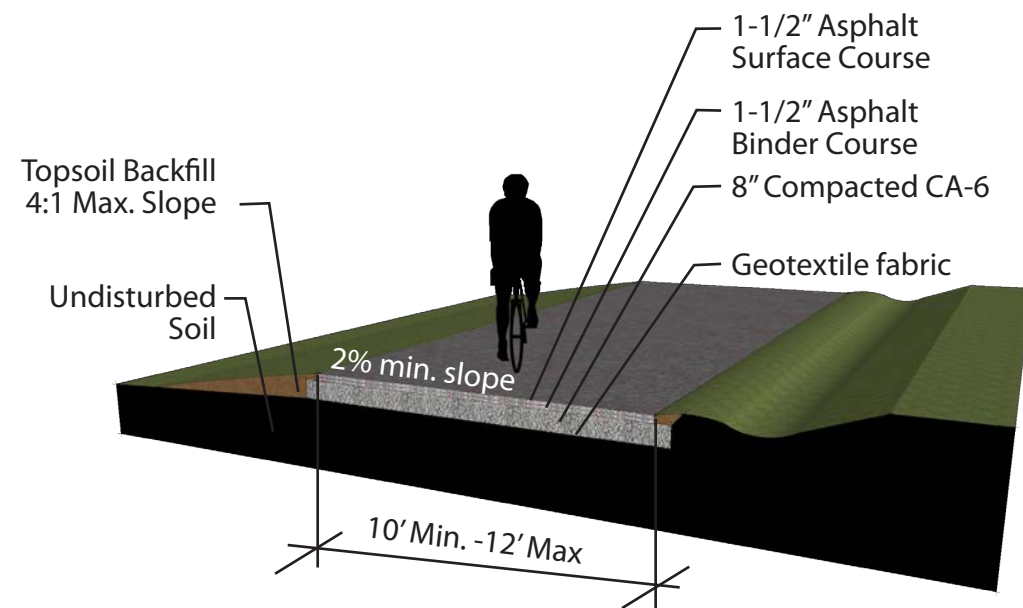


# PLACEMAKING - TRAILS, SIDEWALKS, AND ROADWAYS

## SPECIAL CONDITIONS

### Slopes

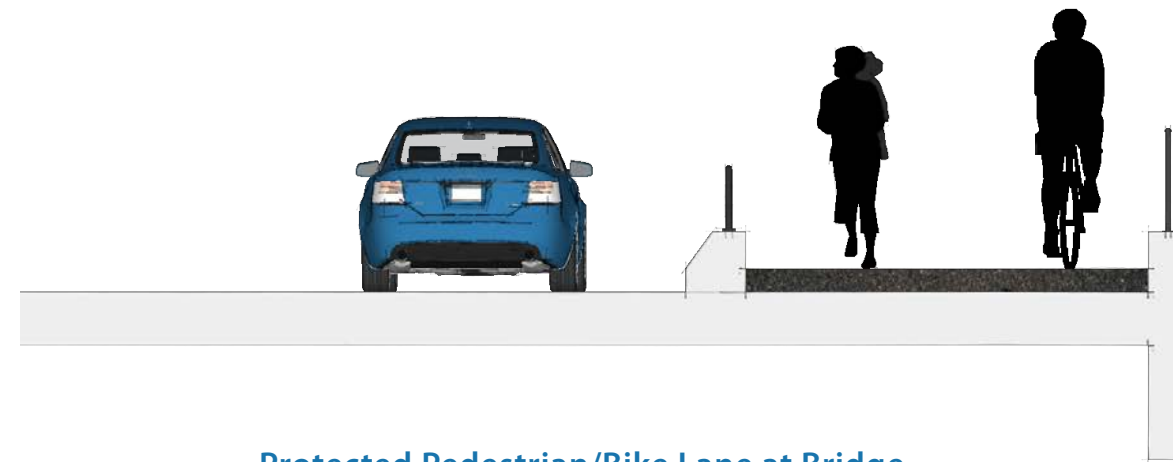
The Grand Round path will pass through sloped areas at several locations. For continuity, the design below allows for installation of the asphalt path that addresses stormwater, path stability, and ADA standards.



Asphalt Path in Slope

### Protected Pedestrian/Bike Lane at Bridge

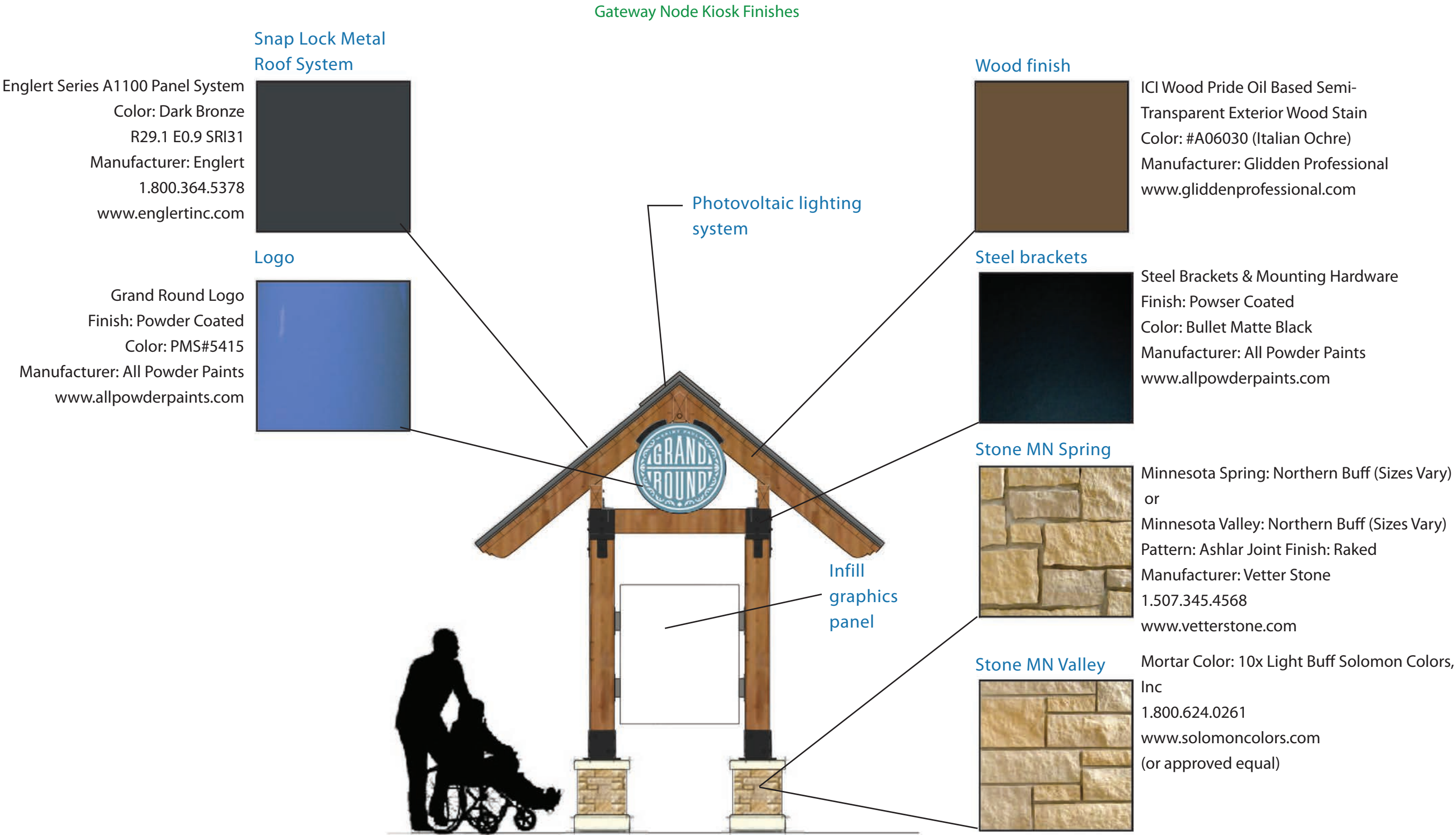
These are proposed for use at bridges with sufficient width to allow for a raised and separated pedestrian/bike lane. This physical separation gives Grand Round users an additional level of comfort and safety.



Protected Pedestrian/Bike Lane at Bridge

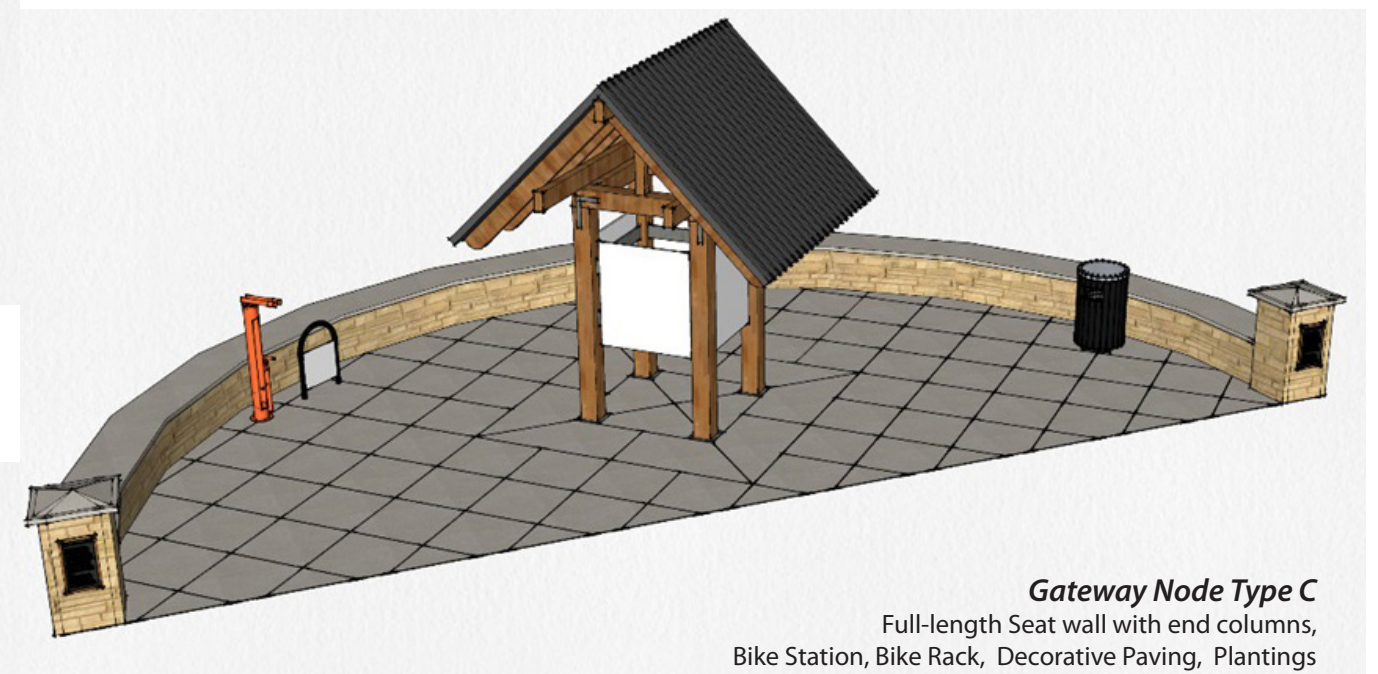
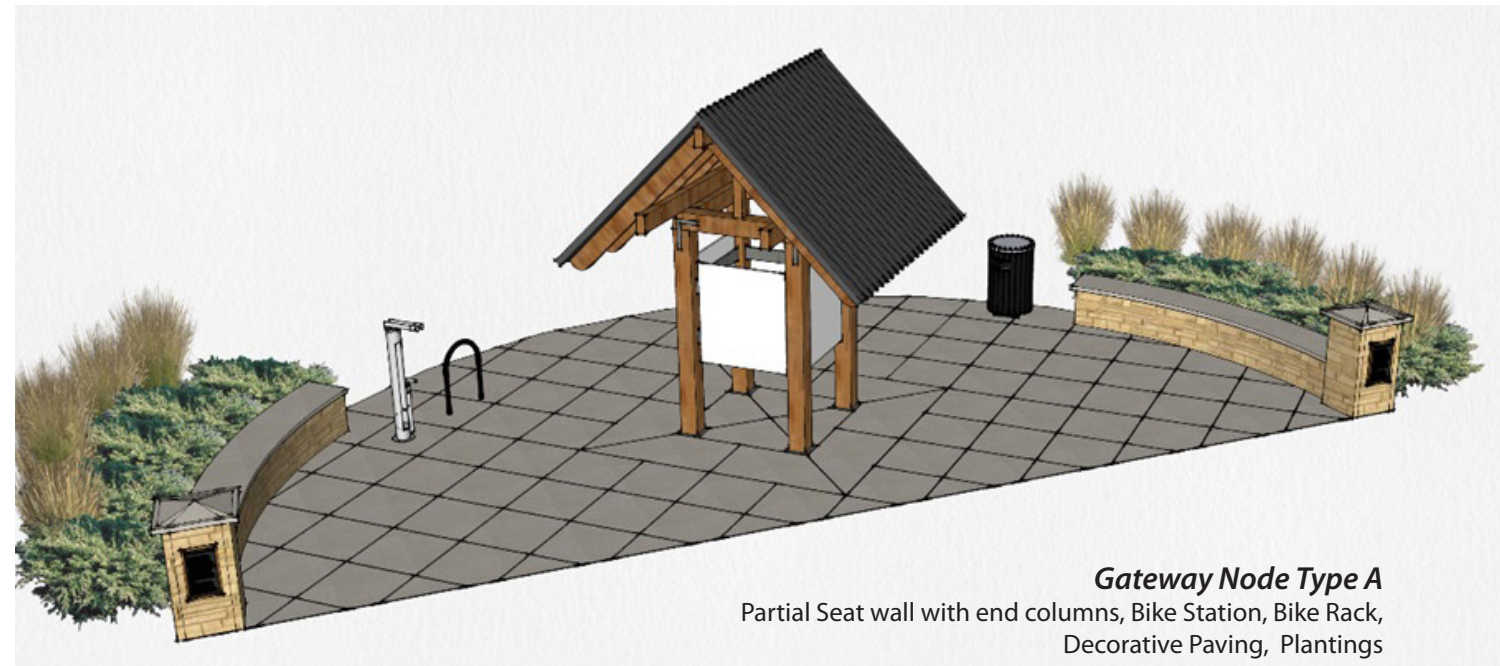


# PLACEMAKING - MATERIALS



# PLACEMAKING - GATEWAY NODES

## CASE STUDY- PELHAM BOULEVARD AND MISSISSIPPI RIVER BOULEVARD



## P.1.X GATEWAY NODES





View of proposed Gateway Node Type 2 looking north at Pelham Boulevard and Mississippi River



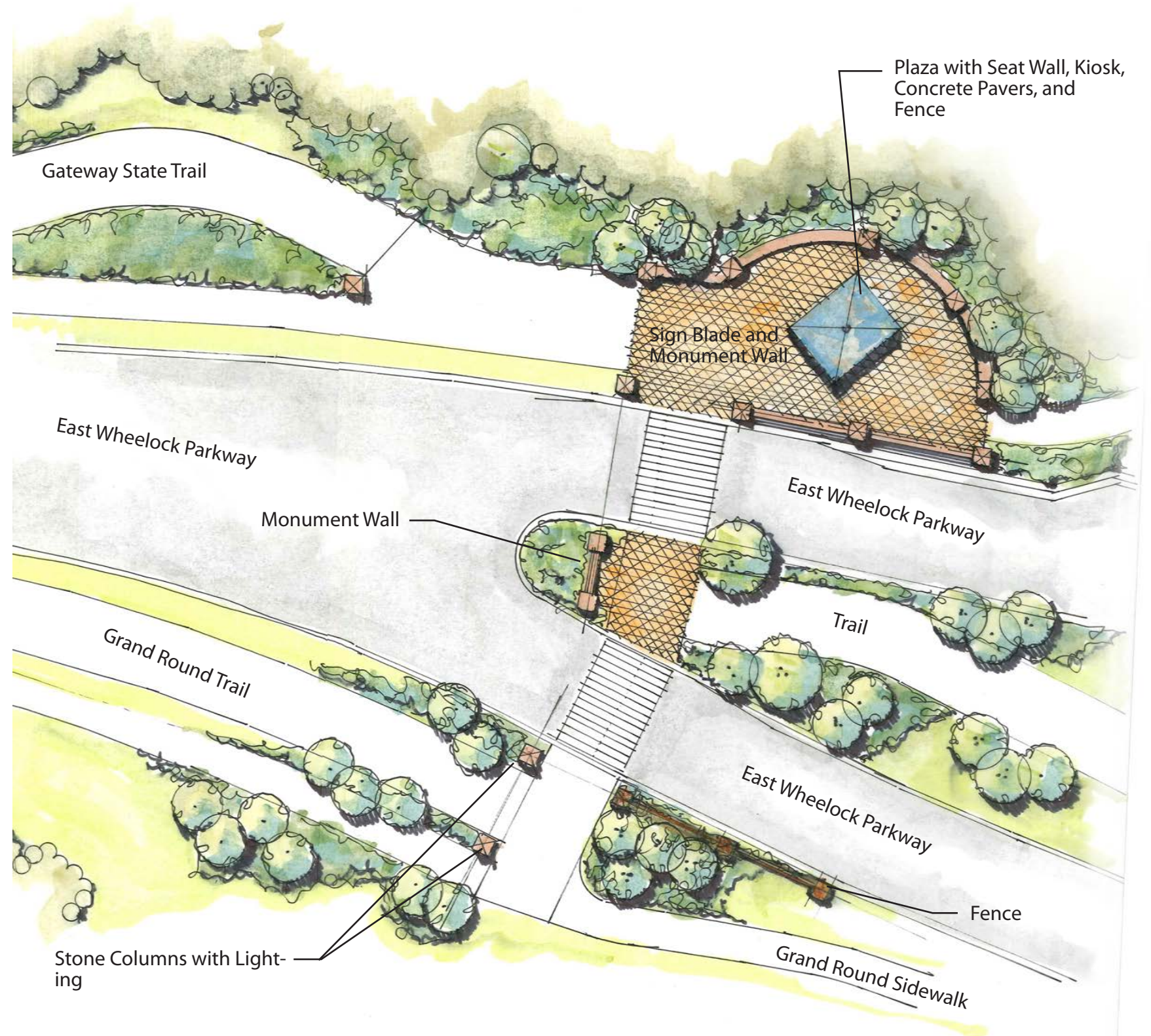
View of proposed Gateway Node Type 2 looking west at Pelham Boulevard and Mississippi River Boulevard



## PLACEMAKING - CASE STUDY

### CASE STUDY: GATEWAY TRAIL INTERSECTION

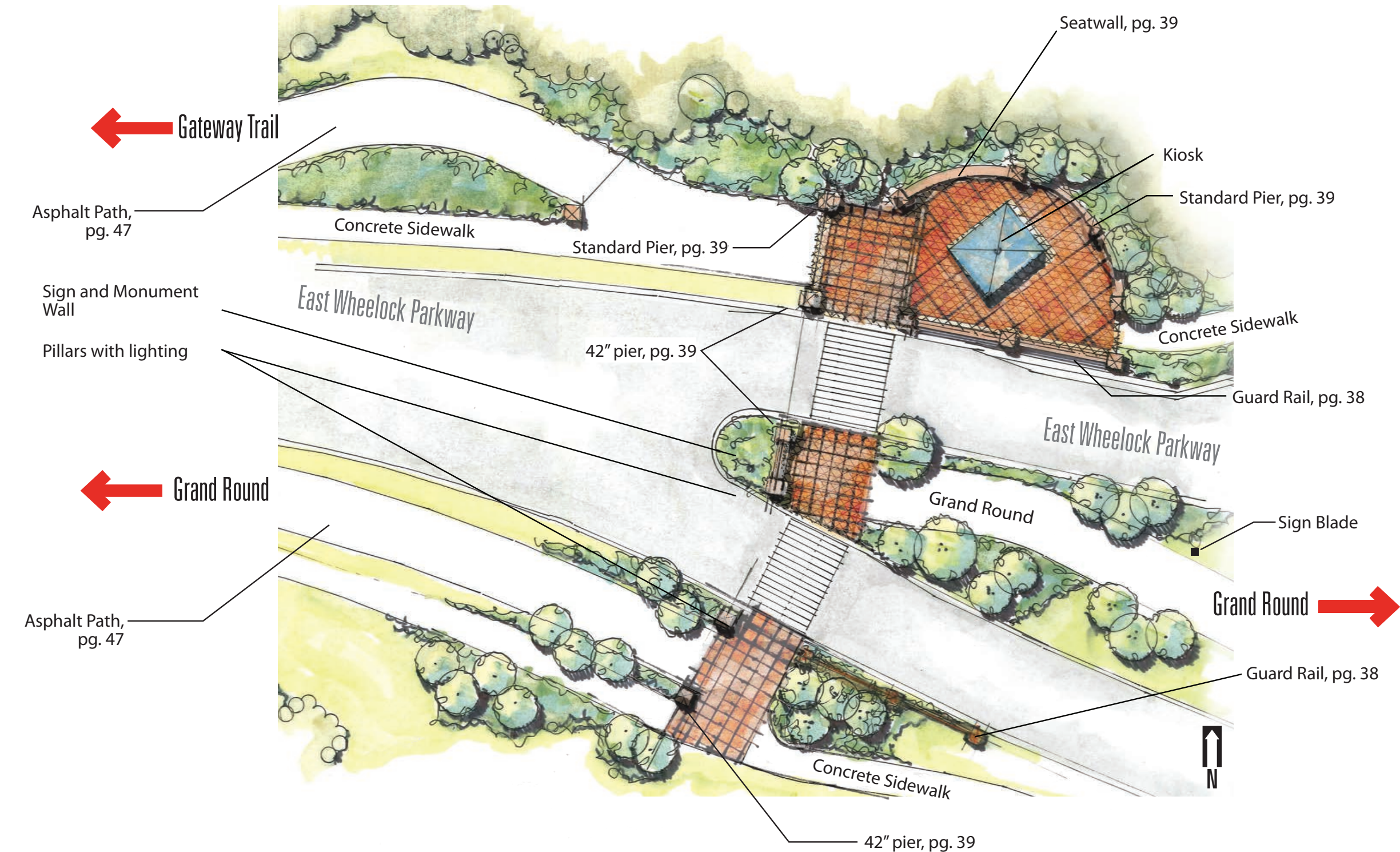
The following case studies, along with materials, site furnishings, and landscaping, illustrates the application of the Grand Round Urban Design material palette.





# PLACEMAKING - CASE STUDY

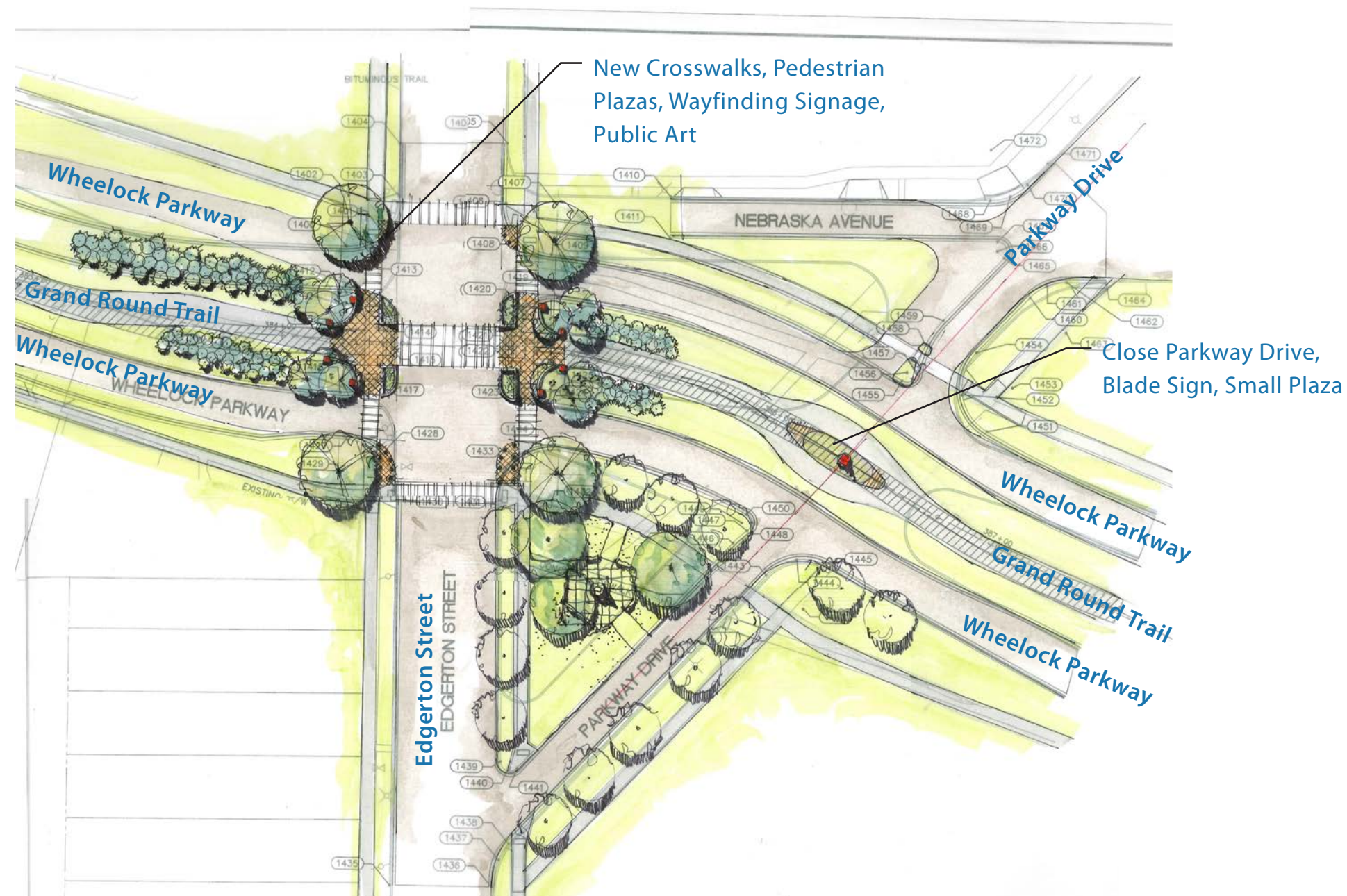
SITE FURNISHINGS KEY MAP - SEE PAGES FOR CORRESPONDING DETAILS





# PLACEMAKING - CASE STUDY

## CASE STUDY: WHELOCK PARKWAY - EDGERTON STREET - PARKWAY





# WAYFINDING

## Overview

Wayfinding consists of signage and other visual cues (logos, colors, shapes) that reassure users they are on the desired route. A successful wayfinding system for the Grand Round will provide visual continuity, convey a better understand of familiar environments, and direct users to new exploration opportunities throughout Saint Paul. A quality wayfinding system is built upon signage type and readability.

### SIGNAGE TYPES:

There are three wayfinding sign categories proposed for the Grand Round. Each category contributes to the overall function of signage on the Grand Round and provides users with key guidance. See page 34 for images of wayfinding sign types.

#### 1. Decision-Making: Major & Minor

Decision-making signs are used to provide directions, locations, or distances to destinations. Some signs will serve vehicular traffic needs with text sized and message content adjusted to be easily readable from a moving vehicle and will be applied along the roadway and at intersections. Pedestrian and cycling directional information text and graphics will be applied along sidewalks and off road trails, offering more detailed posted information descriptions. These signs provide information that directs people to destinations such as businesses, restrooms, parks, etc.

- Maps – Where are we? Where can I find ...?
- Mileage - How far are we from ...?

#### 2. Identity

Identity signs provide specific place names along the Grand Round route. These signs may include favorite destinations, parks, trails, and neighborhoods. The use of the Grand Round logo and color scheme on these signs provides visual continuity and user reassurance that they are on the Grand Round.

#### 3. Interpretive and Rules


Interpretive signs provide desired information about the Grand Round and the neighborhoods it connects. Interpretive signage can vary in form from a single or double-sided stand-alone sign to the larger four-panel kiosk shown on page 49. They should be placed in clear view of the trail users yet not interfere with the other signage. Interpretive signs should cover the historic, cultural and archeological stories of interest to both residents and visitors.

- Interpretative – sharing stories (mostly at the Gateway Kiosks)
- Rules - The do's and don't's of the Grand Round (similar to those at city parks)



LEGEND





Typical Key:



Type – Wayfinding (W)  
Hierarchy designation  
Location designation– see detailed map and location schedule

W.1.2

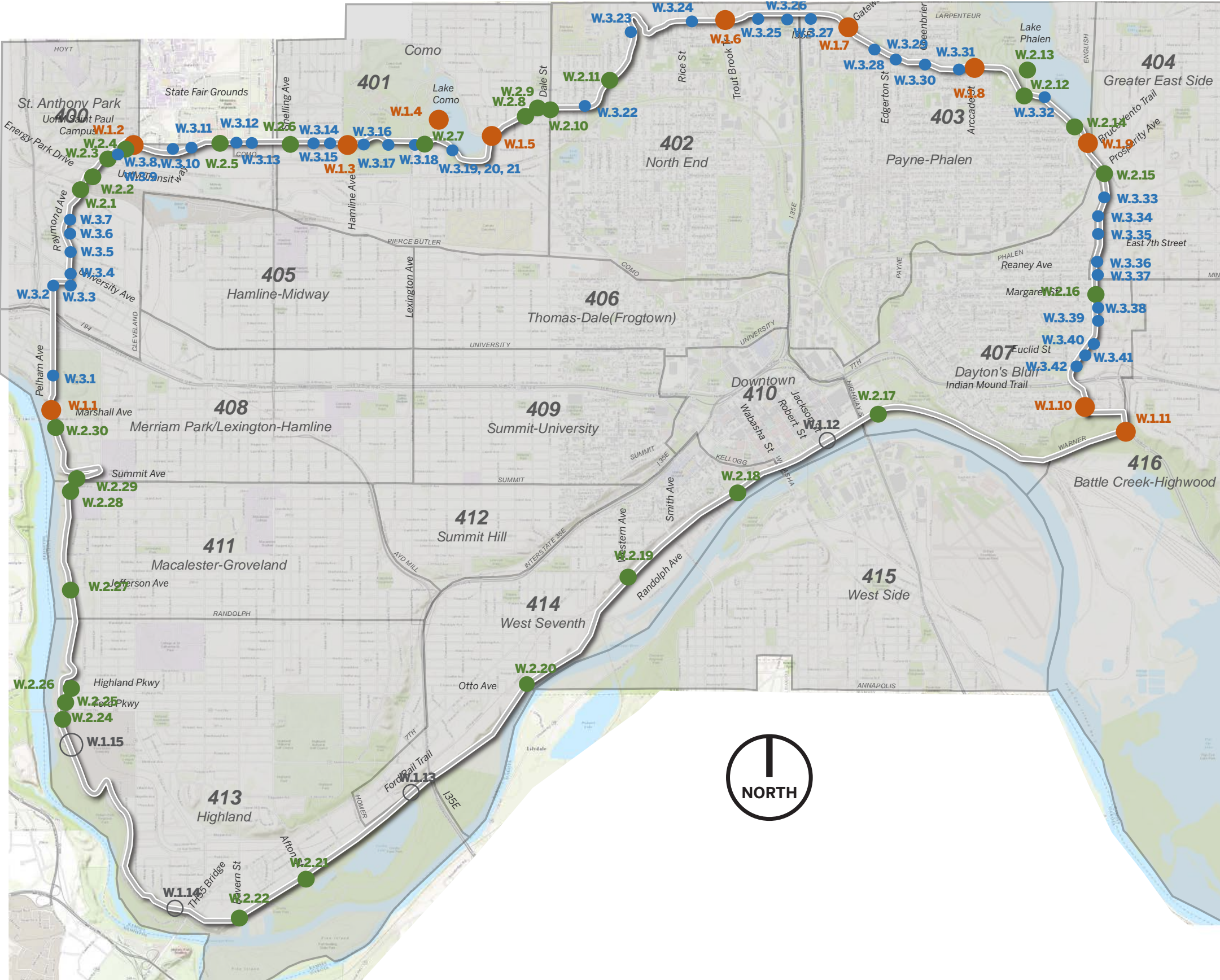
**WAYFINDING**

-  W.1.x Major Decision Point
-  W.2.x Minor Decision Point
-  W.3.x Reinforcement / “Trail Blazing” / Operational
-  W.1.x Existing Signage

Grand Round signs will be installed at all intersections along the corridor.  
(Typically on street lights and other Grand Round amenities)

See Placemaking & Wayfinding matrix on page 116 for more information.

WAYFINDING





# WAYFINDING

READABILITY:

Signage needs to be easily readable from a variety of users moving at a variety of speeds, such as automotive vehicles, bicycles, joggers, pedestrians, and bench sitters. Signage needs to clearly communicate a desired message on a sign template appropriately sized for its surrounding conditions. Readability hinges on five factors:

1. Dimensions

Message length greatly affects the sign size. Message phrasing to minimize the number of characters allows for smaller sized signs and room for logo. Appropriate font type and font size may also reduce the overall dimensions of a sign. The scale, style, and durability of the signs should fit within the context of their location. The following should be considered when planning the design of a sign system:

- Visual continuity (font size and style, contrasts, colors, sign shape)
- Use of Grand Round logo and color palette on all non-regulatory signage
- Use of maps and other orientation and information resources at kiosks

2. Location

Sign locations need to balance the sign size, the number of signs, and the regulatory requirements without overwhelming the Grand Round user. It is important to avoid visual clutter since too much signage overwhelms the intended user and is no longer effective.

- Quantity – signs spaced appropriately to allow for visual connectivity from sign to sign. Grand Round trail signs should be spaced based on visual connectivity. However, a minimum of 300 feet to a maximum of 600 feet apart will allow users to locate, read, comprehend, and react to the signs.
- Surroundings – quick visual identification is important, so avoid placing signs where they may be blocked by vegetation and landforms, built features such as buildings and bridges, and other existing signage, both regulatory and private.

3. Mounting Location

Signs should be mounted at a uniform height by type when possible for consistency and easier recognition by Grand Round users. These signs can be mounted in a variety of ways:

- Free-standing pole-mounted, either using City-standard poles for regulatory signs or larger steel pipe poles painted in the Grand Round color palette for directional blade signage.
- Attached to light poles
- To overpass abutments or spans (both vehicle and train bridges)
- Mounted to walls or fences
- From existing overhead traffic control structures and signage

4. Message

Signs for interpretive stories and messages should be scaled to fit their location and content length. All messaging will be reviewed by the City of Saint Paul for content, accuracy, and appropriateness. Size and location of signs must balance the need to be large enough to be read without being a visual distraction. Message content will vary depending upon intent and location so brand consistency will be conveyed through design features and the use of the Grand Round logo and color palette.

5. Language

While the bulk of the signage will be in English, use of universal pictograms will aid both English and non-English speaking locals and visitors in using the Grand Round. Sports pictograms are currently in use at Saint Paul Park signage and can easily be expanded to include services and directional information throughout the Grand Round.







# GRAND ROUND PLAN RECOMMENDATIONS

## USING THESE MAPS

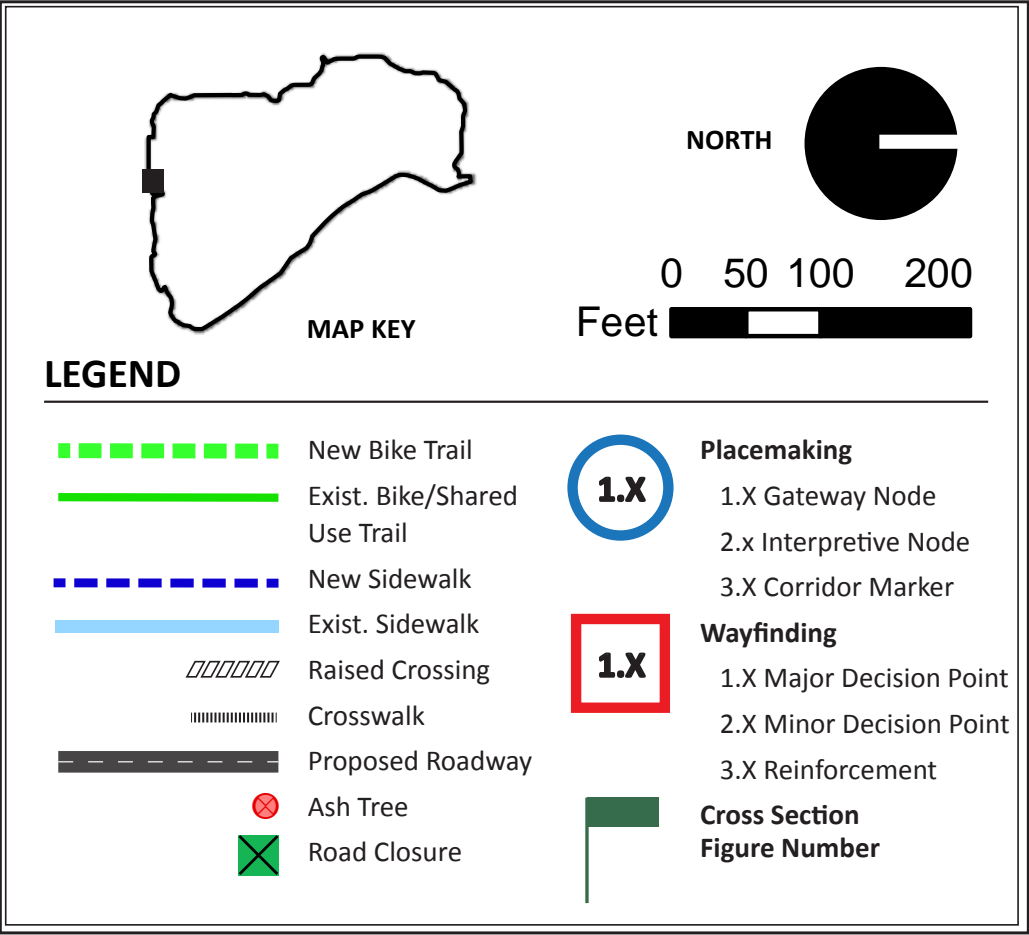
The following pages highlight recommendations for each part of the Grand Round. These maps show the locations of new bike trail alignments, existing and new sidewalks, existing bike/shared use trails, crosswalks, and raised crosswalks.

Roadway improvements are also shown as well as those roads that are proposed to be closed.

Red dots represent Ash Trees in the public right-of-way that have the potential to be removed due to the invasive Emerald Ash Borer.

Each Placemaking (blue circle) and Wayfinding (red square) location is given a number and located on the following maps. The Placemaking and Wayfinding Matrix follows the maps and goes into greater detail what occurs at each location.

Cross-sections give a general representation of the proposed changes, showing the width of the right-of-way, as well as road, trail, and sidewalk dimensions.





# MAP 1 - PELHAM BOULEVARD MISSISSIPPI RIVER BOULEVARD TO WEST BEVERLY ROAD

## EXISTING CONDITIONS

Pelham Boulevard between Mississippi River Boulevard and West Beverly Road is characterized as a naturalistic corridor that is flanked on both sides by tree lined - wide boulevards, sidewalks along the westerly side of Pelham Boulevard and single family homes. The adjacent area between Otis Avenue and West Beverly Road on the easterly side of Pelham Boulevard is a private golf course and currently does not have sidewalk within the boulevard area. The existing street lighting has not been updated to reflect the typical Saint Paul Lantern style lighting.

The roadway is an existing 36 foot wide roadway with a parkway width of 120 feet. Pelham Boulevard is currently designated as a Municipal State Aid roadway. On-street parking exists on both sides of the roadway between Mississippi River Boulevard and Otis Avenue and then only on the west side from Otis Avenue to West Beverly Road.

## PROPOSED IMPROVEMENTS

### Roadway & Corridor Improvements

Planned improvements can be completed in two phases:

Cycle Track Improvements includes placing a cycle track along the easterly side of Pelham Boulevard. This improvement will be completed by restriping the roadway for a two-lane roadway without on-street parking. The cycle track will be buffered by a two foot striped area with flexible delineators.

Future Roadway Improvements includes reconstructing the roadway to 26 feet wide (24 feet wide if the Municipal State Aid designation is removed), creating an off-road trail and adding a sidewalk to the easterly side of Pelham Boulevard. A formally marked crosswalk will also be added across Mississippi River Boulevard. The intersection of Otis Avenue and Pelham Boulevard

will also be analyzed for a potential reconfiguration to improve safety at the intersection.

A tabled crossing for the trail will be installed across Otis Avenue and West Beverly Road. The roadway is planned without parking however, parking will also be reviewed within this phase. Storm water issues will also be addressed, such as providing treatment within the boulevard area between the roadway and bike trail. Lighting will be improved within this area to include the typical Saint Paul Lantern Style lights.

### Wayfinding Improvements

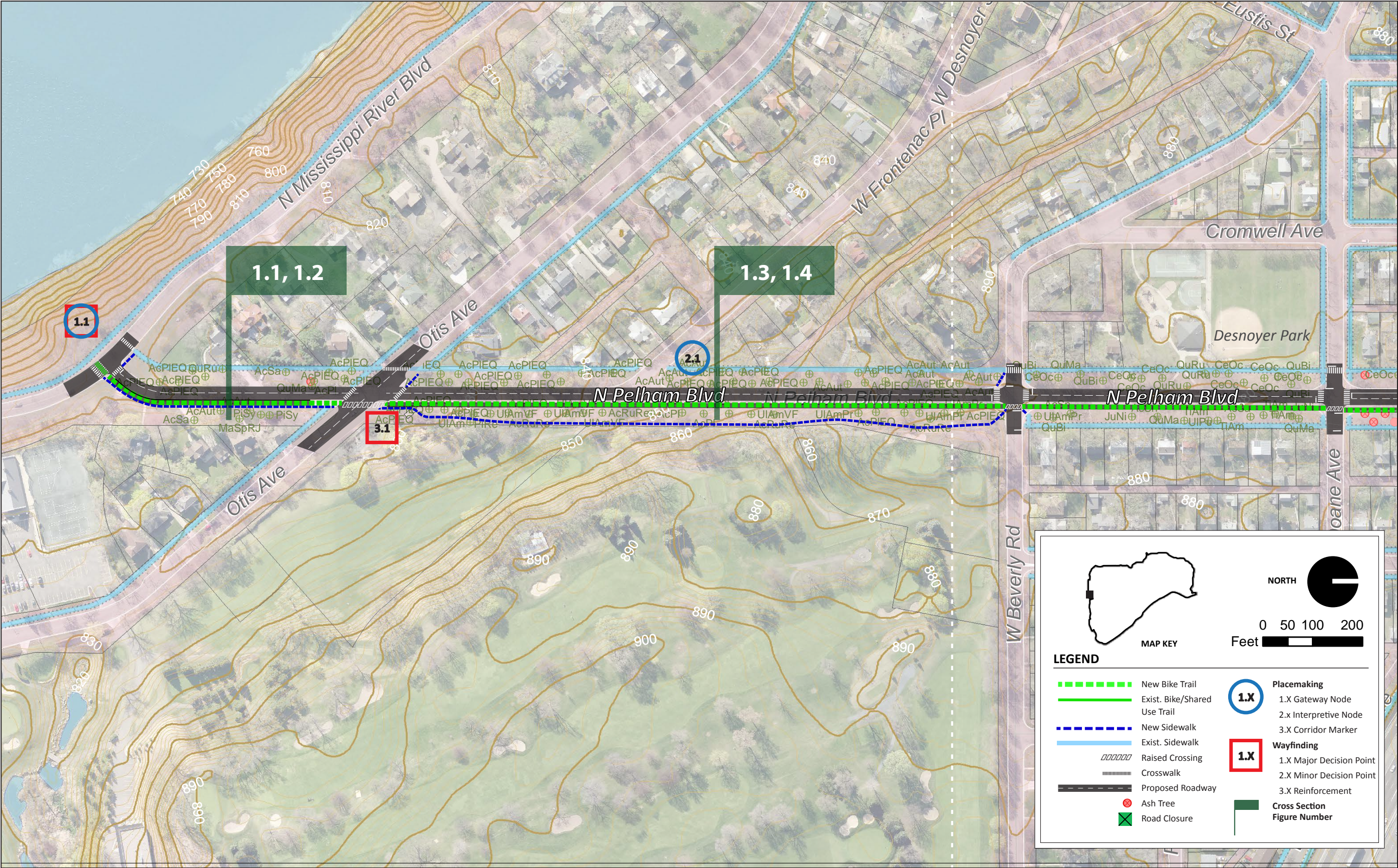
Corridor reinforcement and branding will be placed along Pelham Boulevard.

### Parkway Amenities and Public Art Improvements

A Gateway Node (P.1.1) is programed on the south side of Mississippi River Boulevard at Pelham Avenue. The Gateway Node will include a plaza with kiosk that will have interpretive and map panels, seating, bike repair station, potential drinking fountain, waste receptacles, and public art. A corridor marker is also programed for the northwest corner of this intersection. This node can be constructed independently of any work on Pelham Boulevard.

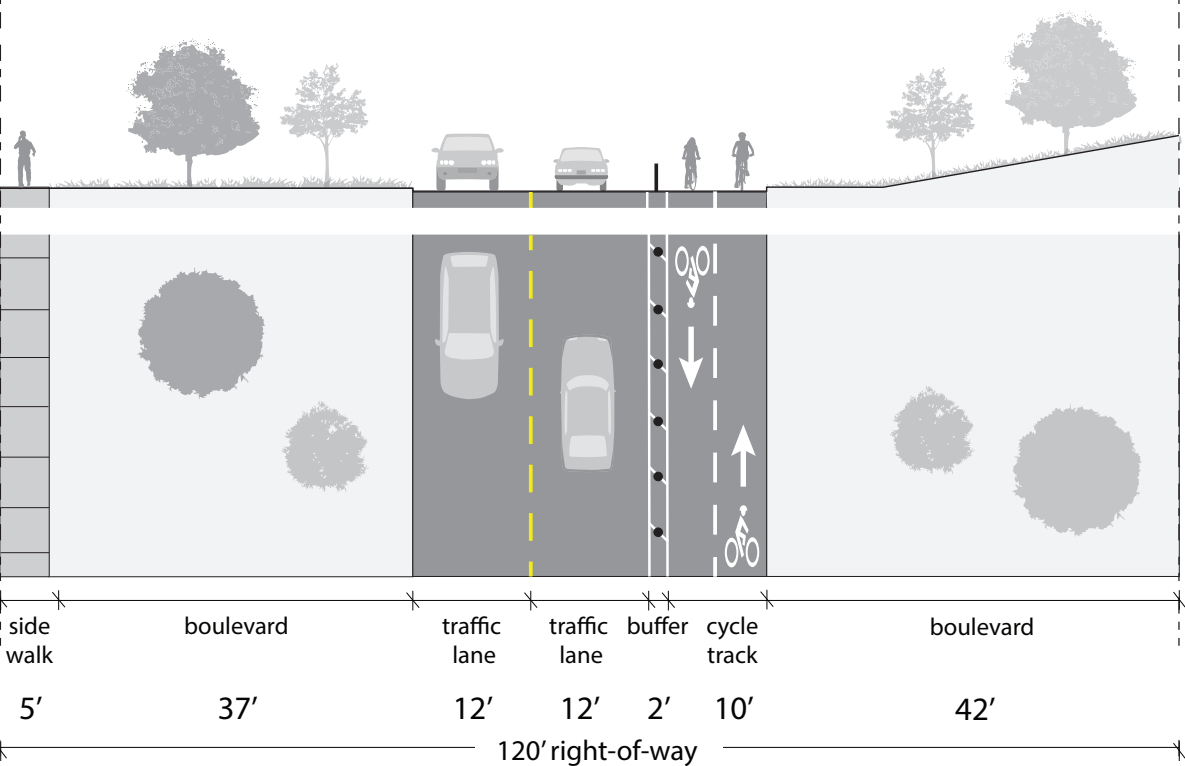
The open area on the northwest corner of North Pelham Boulevard and West Desnoyer Street provides an opportunity for creating a parklet for use as a rest area, community gardens, or for storm water best management practices; this is identified as P.2.1 on the plan.





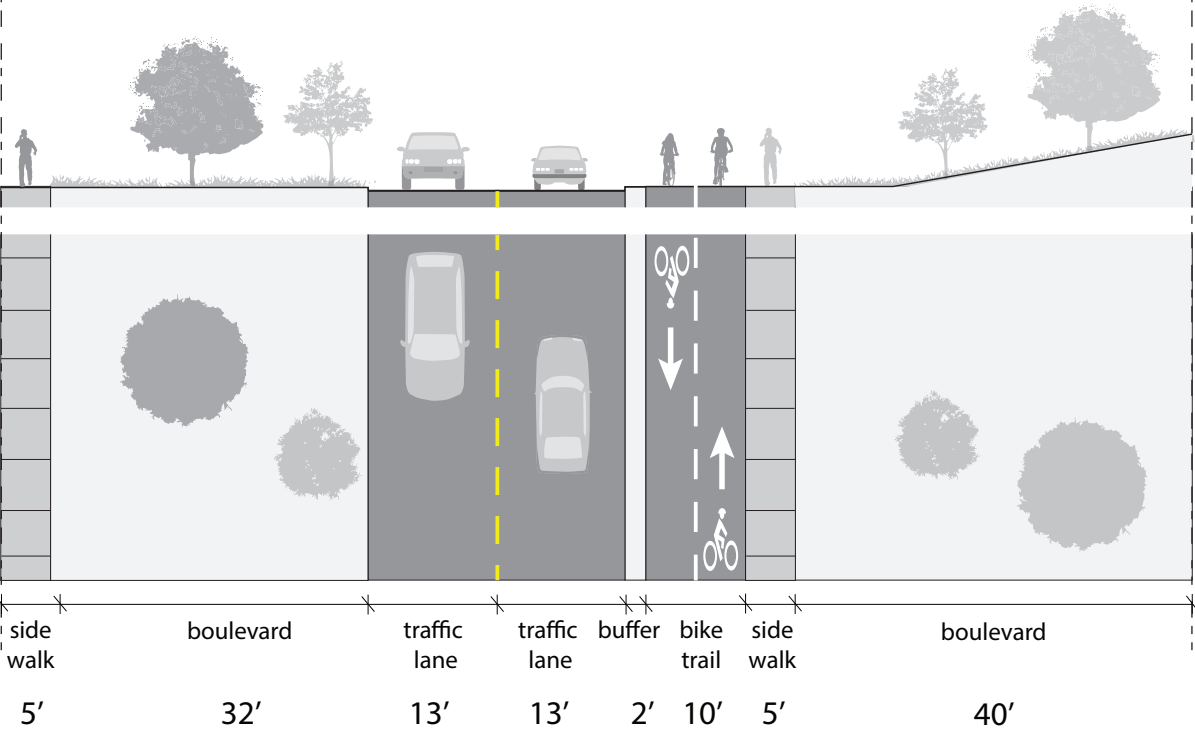


MAP 1 - PELHAM BOULEVARD MISSISSIPPI RIVER BOULEVARD TO WEST BEVERLY ROAD



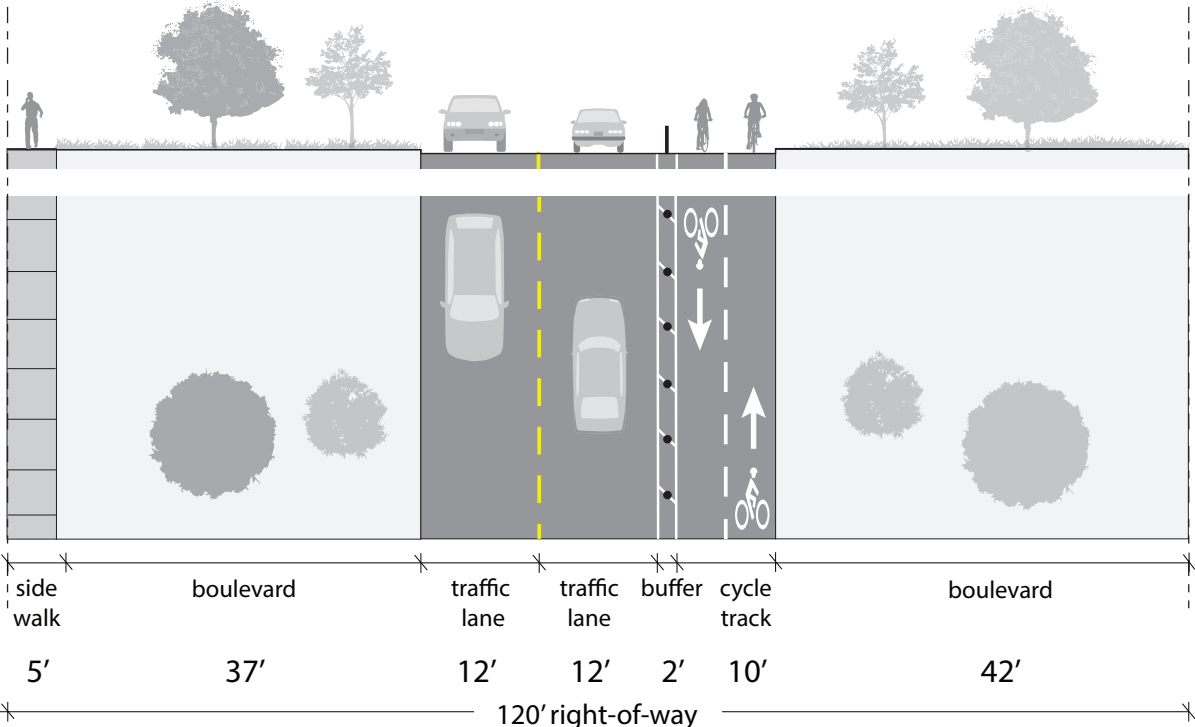
PELHAM BOULEVARD FIGURE 1.1 MISSISSIPPI RIVER BOULEVARD TO OTIS AVENUE

CYCLE TRACK IMPROVEMENTS

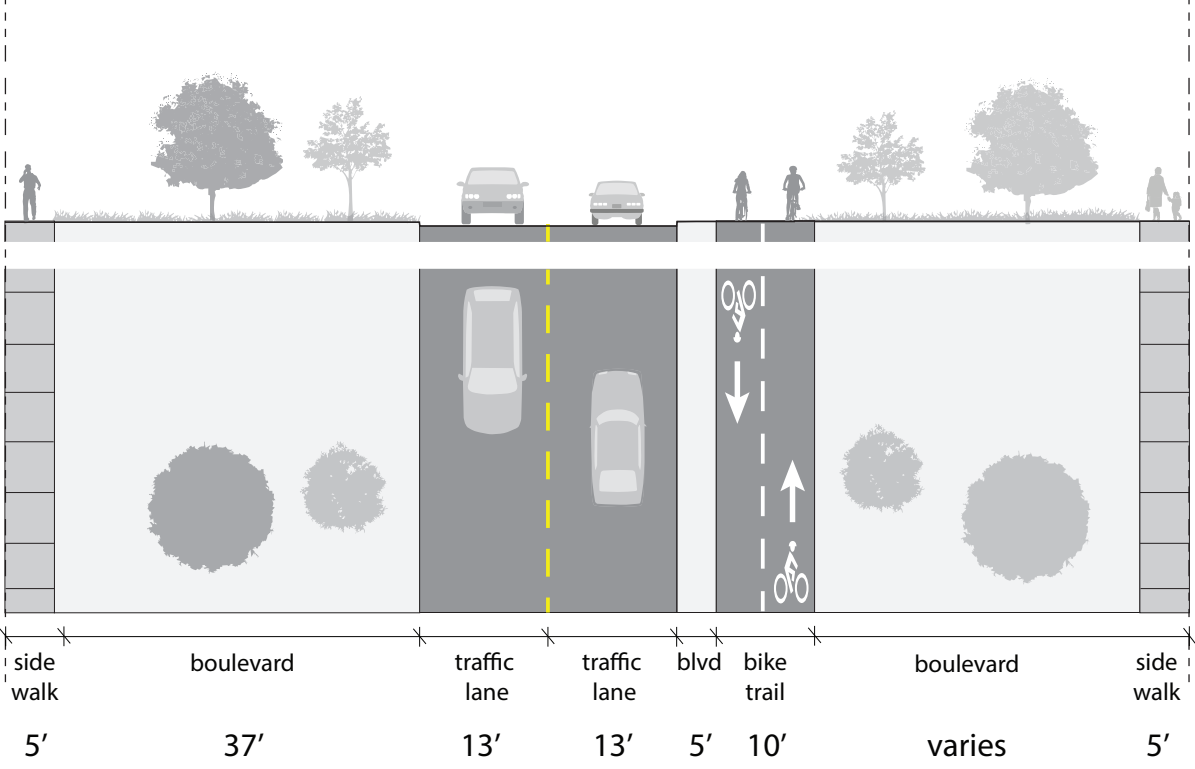


PELHAM BOULEVARD FIGURE 1.2 MISSISSIPPI RIVER BOULEVARD TO OTIS AVENUE

ROADWAY IMPROVEMENTS



PELHAM BOULEVARD FIGURE 1.3 OTIS AVENUE TO DOANE AVENUE - CYCLE TRACK IMPROVEMENTS



PELHAM BOULEVARD FIGURE 1.4 OTIS AVENUE TO DOANE AVENUE - ROADWAY IMPROVEMENTS



# MAP 2 - PELHAM BOULEVARD WEST BEVERLY ROAD TO MYRTLE AVENUE

## EXISTING CONDITIONS

Pelham Boulevard between West Beverly Road and Doane Avenue is characterized as a naturalistic corridor; however the area north of the I94 Bridge changes to the designed corridor as it approached Raymond / University Avenue area. The roadway between West Beverly Road and West Saint Anthony Avenue is flanked on both sides by tree lined - wide boulevards, sidewalks along both sides of Pelham Boulevard and single family homes. A sidewalk exists along the west side of Pelham Boulevard, between West Saint Anthony Avenue and Myrtle Avenue and along the east side for approximately 300 feet south of Myrtle Avenue. The existing street lighting has not been updated to reflect the typical Saint Paul Lantern style lighting.

The roadway between West Beverly Road and Doane Avenue is an existing 36 foot wide roadway with a parkway width of 120 feet. Pelham Boulevard between Doane Avenue and I94 Bridge is a 44 foot wide roadway with a parkway width of 120 feet. The area from the I94 Bridge and Myrtle Avenue is a 44 foot wide roadway with a parkway width of 66 feet. On-street parking within this section exists on both sides between West Beverly Road and Myrtle Avenue, with the exception over the I94 Bridge. Pelham Boulevard is currently designated as a Municipal State Aid roadway.

## PROPOSED IMPROVEMENTS

### Roadway & Corridor Improvements

Planned improvements can be completed in two phases:

Cycle Track Improvements includes placing a cycle track along the easterly side of Pelham Boulevard. This improvement will be completed by restriping the roadway for a two-lane roadway without on-street parking from West Beverly Road to Doane Avenue; on-street parking will remain on the west side from Doane Avenue to the I94 Bridge. The cycle track will be buffered by a two to four foot striped area from West Beverly Road to Myrtle Avenue and will include flexible delineators.

Future Roadway Improvements includes reconstructing the roadway to 26 feet wide (24 feet wide if the Municipal State Aid designation is removed), creating an off-road trail and adding a sidewalk to the easterly side of Pelham Boulevard from West Beverly Road to Doane Avenue and then a 32 foot wide roadway from Doane Avenue to Myrtle Avenue. A tabled crossing for the trail will be installed across Doane Avenue and West Saint Anthony Avenue. This improvement will be completed by restriping the roadway for a two-lane roadway without on-street parking from West Beverly Road to Doane Avenue; on-street parking will remain on the west side from Doane Avenue to the Myrtle Avenue; except over the I94 Bridge. However, parking will also be reviewed during this phase. Storm water issues will also be addressed, such as providing treatment within the boulevard area between the roadway and bike trail. Lighting will be improved within this area to include the typical Saint Paul Lantern Style lights.

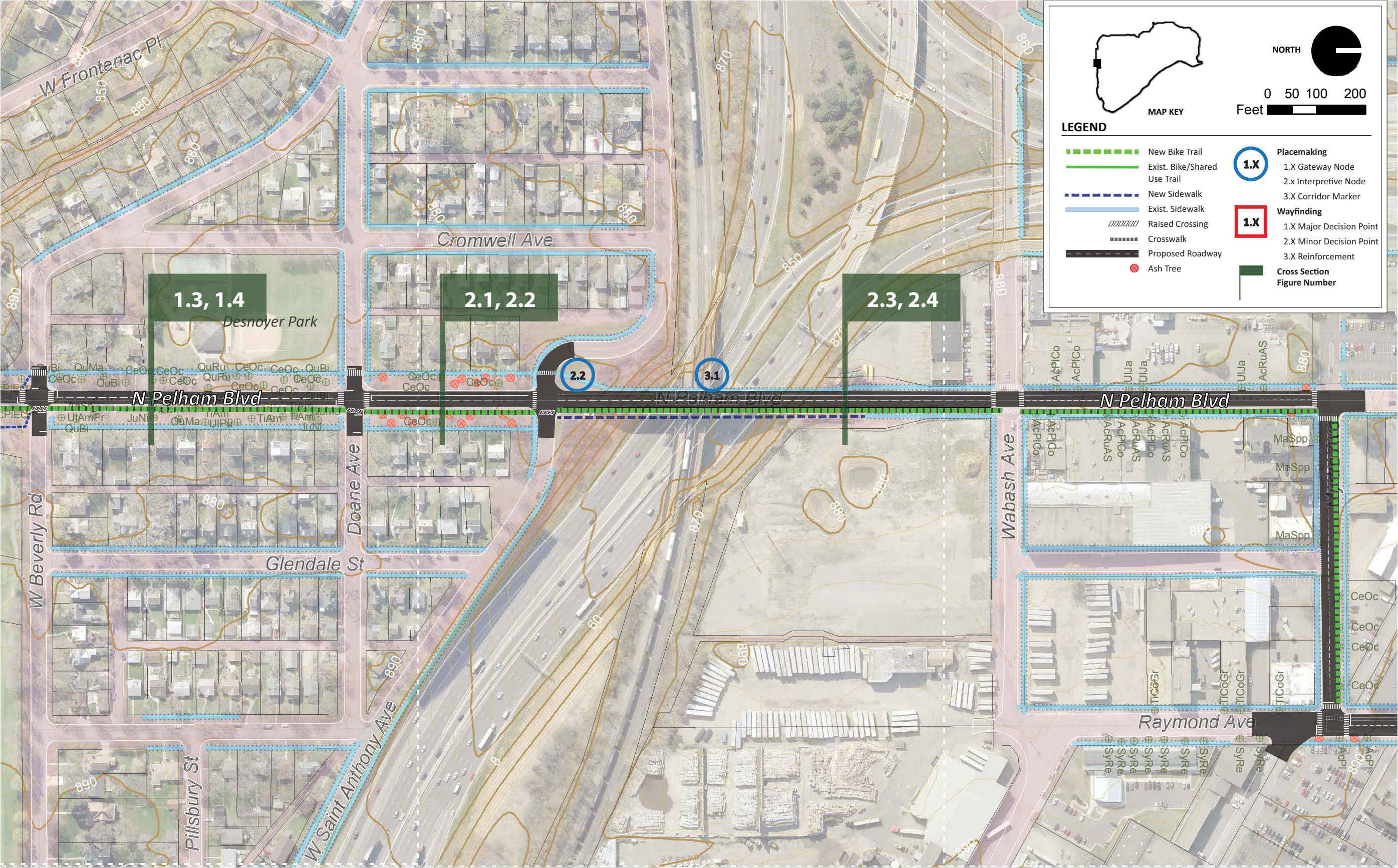
### Wayfinding Improvements

Corridor reinforcement and branding will be placed along Pelham Boulevard.

### Parkway Amenities and Public Art Improvements

An interpretive node (P.2.2) is programmed for the northwest corner of West Saint Anthony Avenue and Pelham Boulevard. Public art and corridor marker (P.3.1) is also suggested to be infused with any future I-94 bridge rehabilitation.

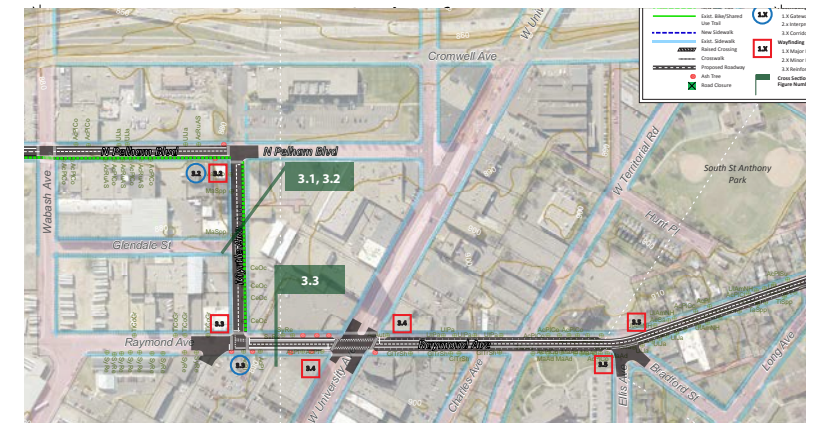
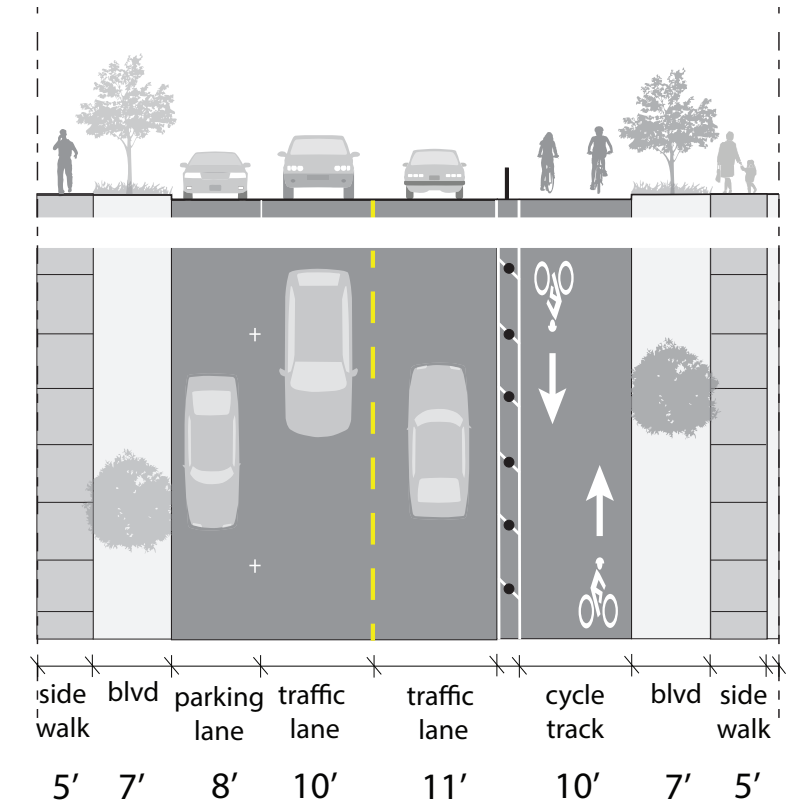
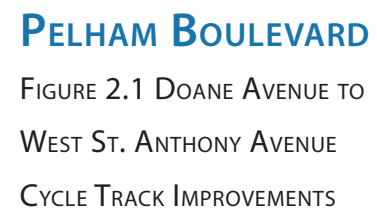




MAP 2 - PELHAM BOULEVARD WEST BEVERLY ROAD TO MYRTLE AVENUE



## Map 2 - Pelham Boulevard West Beverly Road to Myrtle Avenue





## MAP 3 - RAYMOND AVENUE MYRTLE AVENUE TO LONG AVENUE

### EXISTING CONDITIONS

Myrtle Avenue and Raymond Avenue between Pelham Boulevard and West Territorial Road is characterized as a designed corridor. Raymond Avenue between West Territorial Road and Long Avenue is characterized as a formal corridor. Myrtle Avenue and Raymond Avenue is flanked on both sides by sidewalks with boulevards and some over-story trees. The existing street lighting south of University Avenue has not been updated to reflect the typical Saint Paul Lantern style lighting; as the street lighting north of University Avenue was updated with the recent roadway reconstruction.

Myrtle Avenue between Pelham Boulevard and Raymond Avenue is an existing 41 foot wide roadway with a right-of-way width of 66 feet. Raymond Avenue between Myrtle Avenue and University Avenue is a 44 foot wide roadway with a right-of-way width of 66 feet. On-street parking along Myrtle Avenue is allowed along the entire north side and is limited along the south side to the westerly end; parking along Myrtle is not metered. On-street parking exists on both sides of Raymond Avenue and is metered parking.

Raymond Avenue from University Avenue to Long Avenue was reconstructed in the past few years and has an existing roadway width of 44 feet with a right-of-way width of 66 feet. The roadway is a two lane roadway with bike lanes striped on both sides. On-street parking exists on both sides to Elis Avenue and then only on the east side from Elis Avenue to Long Avenue. Metered parking exists along Raymond Avenue from University Avenue to Territorial Road. Un-metered parking exists from Territorial Road to Long Avenue.

### PROPOSED IMPROVEMENTS

#### Roadway & Corridor Improvements

Due to the cost of rehabilitating Myrtle Avenue the planned improvements are proposed to be completed in two phases:

Cycle Track Improvements includes placing a cycle track along the northerly side of Myrtle Avenue. This improvement will be completed by restriping the roadway for a two-lane roadway; parking will be removed from the roadway. The cycle track will be buffered by a two-to-four foot striped area with flexible delineators.

Myrtle Avenue Improvements includes reconstructing the roadway to 31 feet wide, creating an off-road trail along the north side. Sidewalks will remain on both sides of the roadway. Lighting will be improved within this area to include the typical Saint Paul Lantern Style lights.

Raymond Avenue Improvements south of University Avenue include restriping the roadway to include two five foot bike lanes to University Avenue.

No physical improvements are planned north of north of University Avenue due to the narrow right-of-way and recent reconstruction of Raymond Avenue. The recent reconstruction did include both sidewalks and bike lanes.

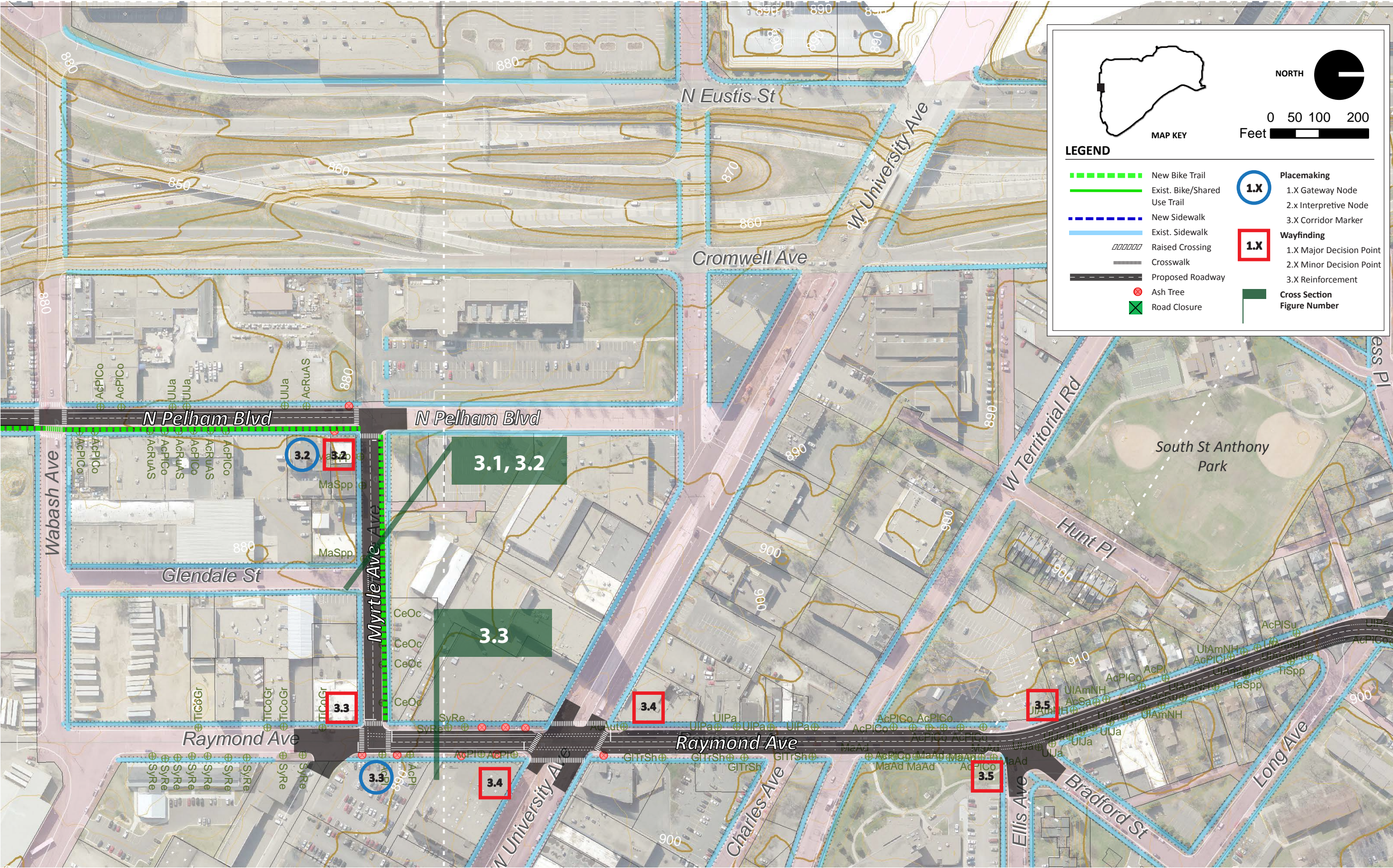
#### Wayfinding Improvements

Corridor reinforcement and branding will be placed along Raymond Avenue from Myrtle Avenue to Como Avenue.

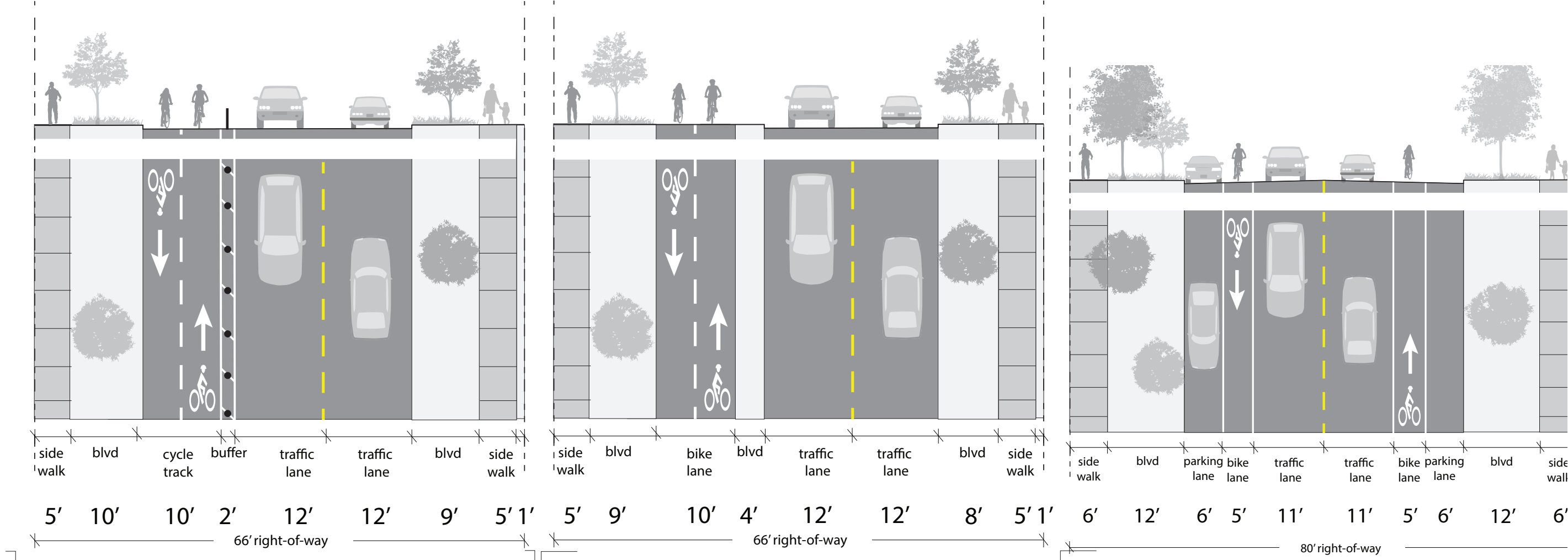
#### Parkway Amenities and Public Art Improvements

A corridor marker sign (P.3.2) will be placed at the southeast corner of Pelham Boulevard and Myrtle Avenue to identify Pelham Boulevard. A corridor marker sign (P.3.3) will also be placed at the southeast corner of Raymond Avenue and Myrtle Avenue to identify Raymond Avenue. These signs might need to be reduced in size due to the space restrictions within the corridor.









**MYRTLE AVENUE** FIGURE 3.1 NORTH PELHAM BOULEVARD TO RAYMOND AVENUE - CYCLE TRACK IMPROVEMENTS

**MYRTLE AVENUE** FIGURE 3.2 NORTH PELHAM BOULEVARD TO RAYMOND AVENUE - ROADWAY IMPROVEMENTS

**RAYMOND AVENUE** FIGURE 3.3 MYRTLE AVENUE TO WEST UNIVERSITY AVENUE



# MAP 4 - RAYMOND AVENUE LONG AVENUE TO ENERGY PARK DRIVE

## EXISTING CONDITIONS

Raymond Avenue between Pelham Boulevard and Como Avenue is characterized as a formal corridor. Raymond Avenue continues to be flanked on both sides with boulevards, trees within the boulevards, and sidewalks. Street lighting has been updated to the typical Saint Paul Lantern style lighting.

Raymond Avenue from Long Avenue to Hampden Avenue was reconstructed in the past few years and has a varying roadway width due to a center median. The roadway within this area is a one-way roadway with existing bike lanes on both sides and no on-street parking.

Raymond Avenue from Hampden Avenue to Robbins Street is a 44 foot wide roadway with a right-of-way width of 66 feet. The roadway is a two lane roadway with bike lanes striped on both sides. On-street parking exists on the west side of Raymond Avenue from Hampden Avenue to Manvel Street. No on-street parking is provided from Manvel Street to Energy Park Drive to the north.

## PROPOSED IMPROVEMENTS

### Roadway & Corridor Improvements

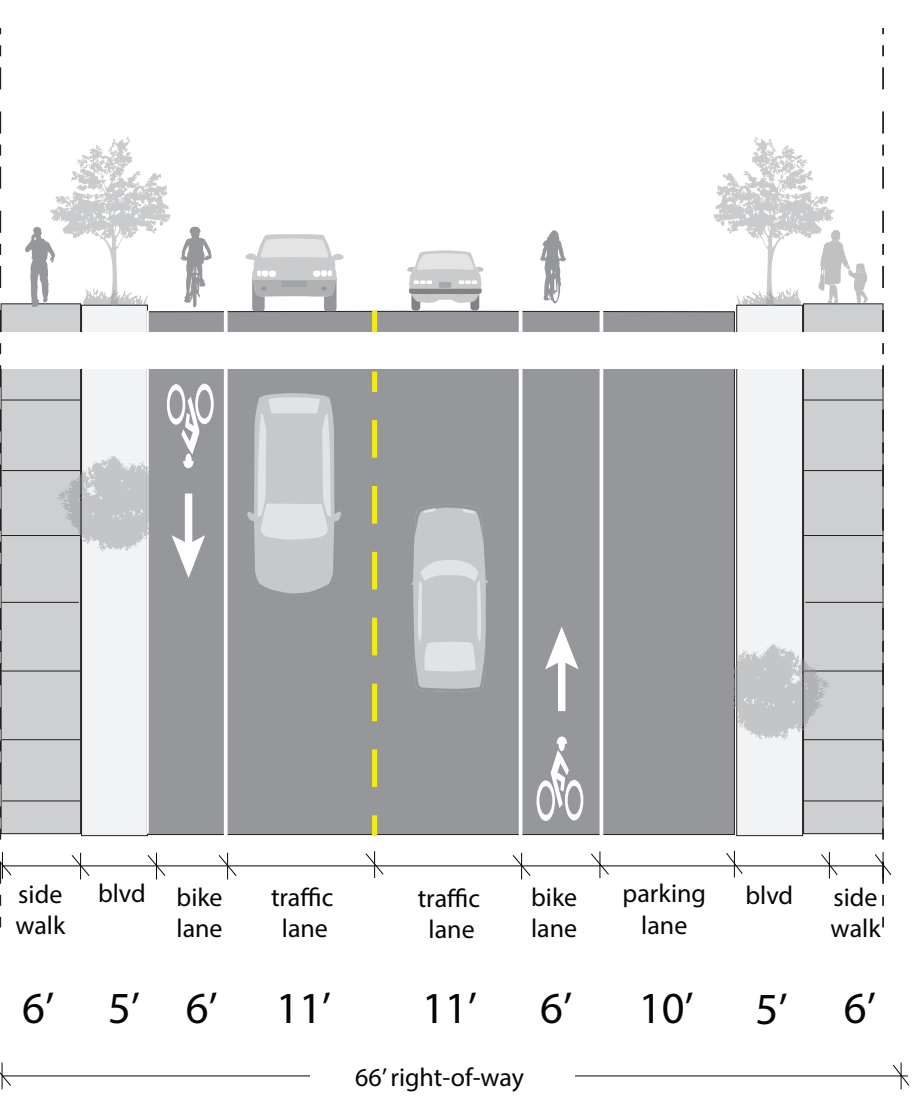
Due to the narrow right-of-way and recent reconstruction of Raymond Avenue, which included both sidewalks and bike lanes, no physical improvements are planned in this study.

### Wayfinding Improvements

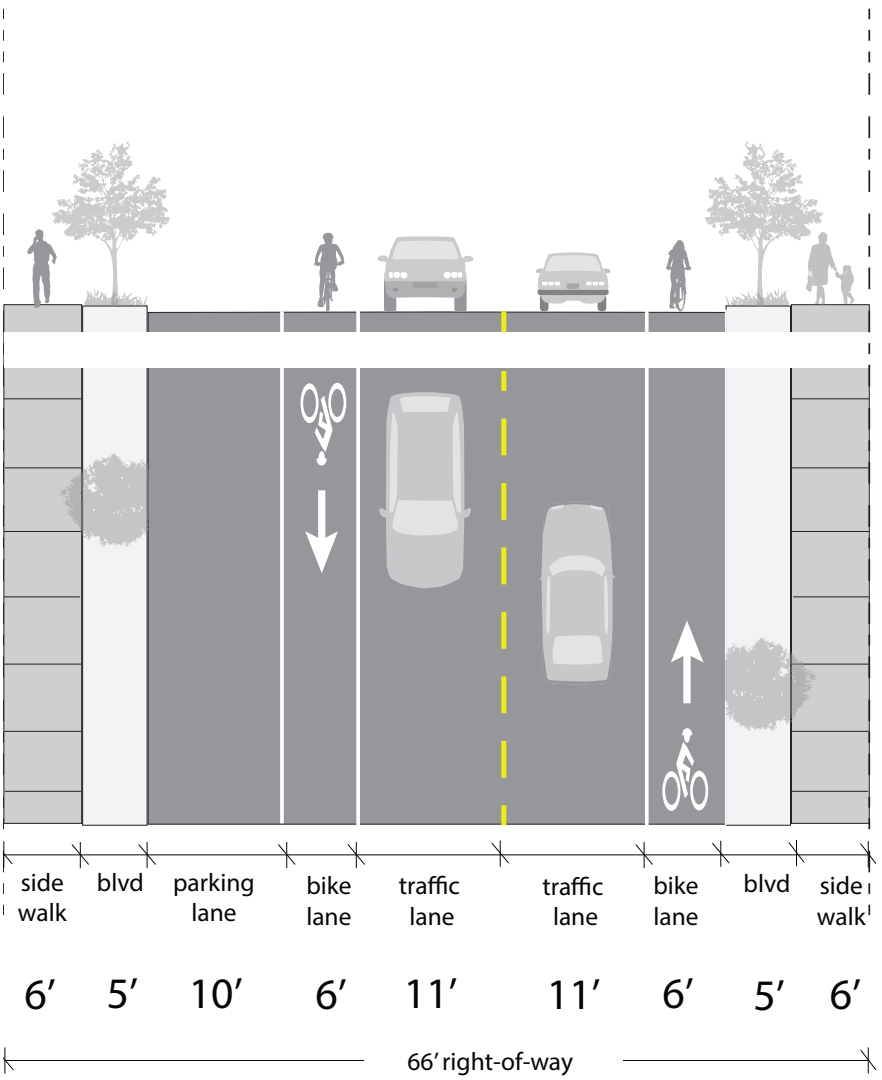
Corridor reinforcement and branding will be placed along Raymond Avenue from Myrtle Avenue to Como Avenue. Directional signs will also be placed for connections to the Inter Campus Transit Way via Robbins Street and also to Hampden Park.

### Parkway Amenities and Public Art Improvements

An interpretive node is programmed for the east end of Hampden Park. This node can be constructed independently of any work on Raymond Avenue. A corridor marker sign (P.3.4) will also be placed on the northeast corner of Raymond Avenue and West Hampden Avenue.

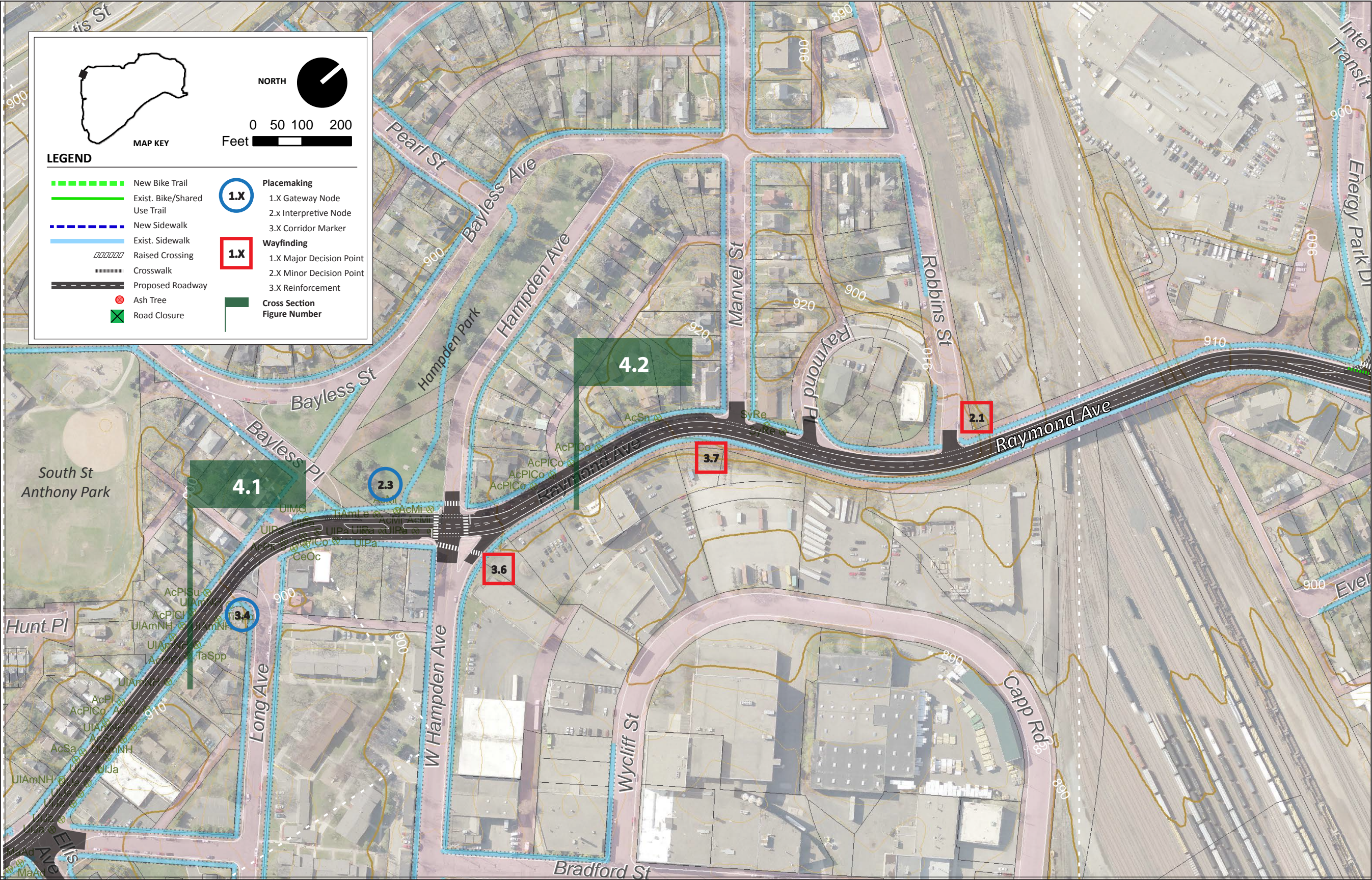


RAYMOND AVENUE FIGURE 4.1 ELLIS AVENUE TO LONG AVENUE



RAYMOND AVENUE FIGURE 4.2 WEST HAMPDEN AVENUE TO ROBBINS STREET





MAP 4 - RAYMOND AVENUE LONG AVENUE TO ENERGY PARK DRIVE



# Map 5 - RAYMOND AVENUE ENERGY PARK DRIVE TO COMO AVENUE

## EXISTING CONDITIONS & PROPOSED IMPROVEMENTS

### Roadway & Corridor Improvements

Raymond Avenue from the Railroad Bridge to Como Avenue is characterized as a formal corridor. The roadway is scheduled for reconstruction in 2016; the planning of this corridor occurred prior to the development of this plan. The proposed roadway reconstruction includes a two-lane roadway with bike lanes on both sides. Boulevards with trees and sidewalks are also planned. Street lighting will be updated to the typical Saint Paul Lantern style lighting.

The proposed roadway width is 42 feet as the right-of-way width is 66 feet wide. On-street parking is proposed on the west side of Raymond Avenue from Blake Avenue to Lanford Park.

### PROPOSED IMPROVEMENTS

#### Wayfinding Improvements

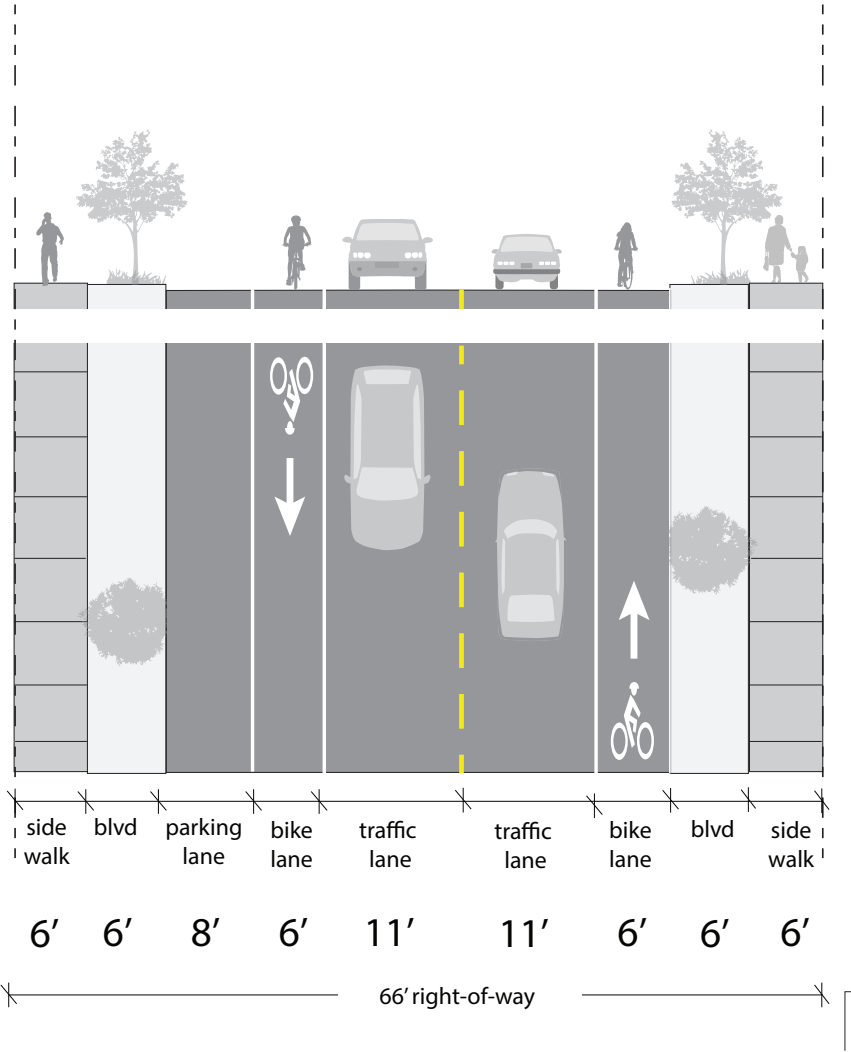
Corridor reinforcement and branding will be placed along Raymond Avenue. A directional sign is programmed at Raymond Avenue and Blake Avenue and also at Raymond Avenue and Langford Park for Langford Park.

#### Parkway Amenities and Public Art Improvements

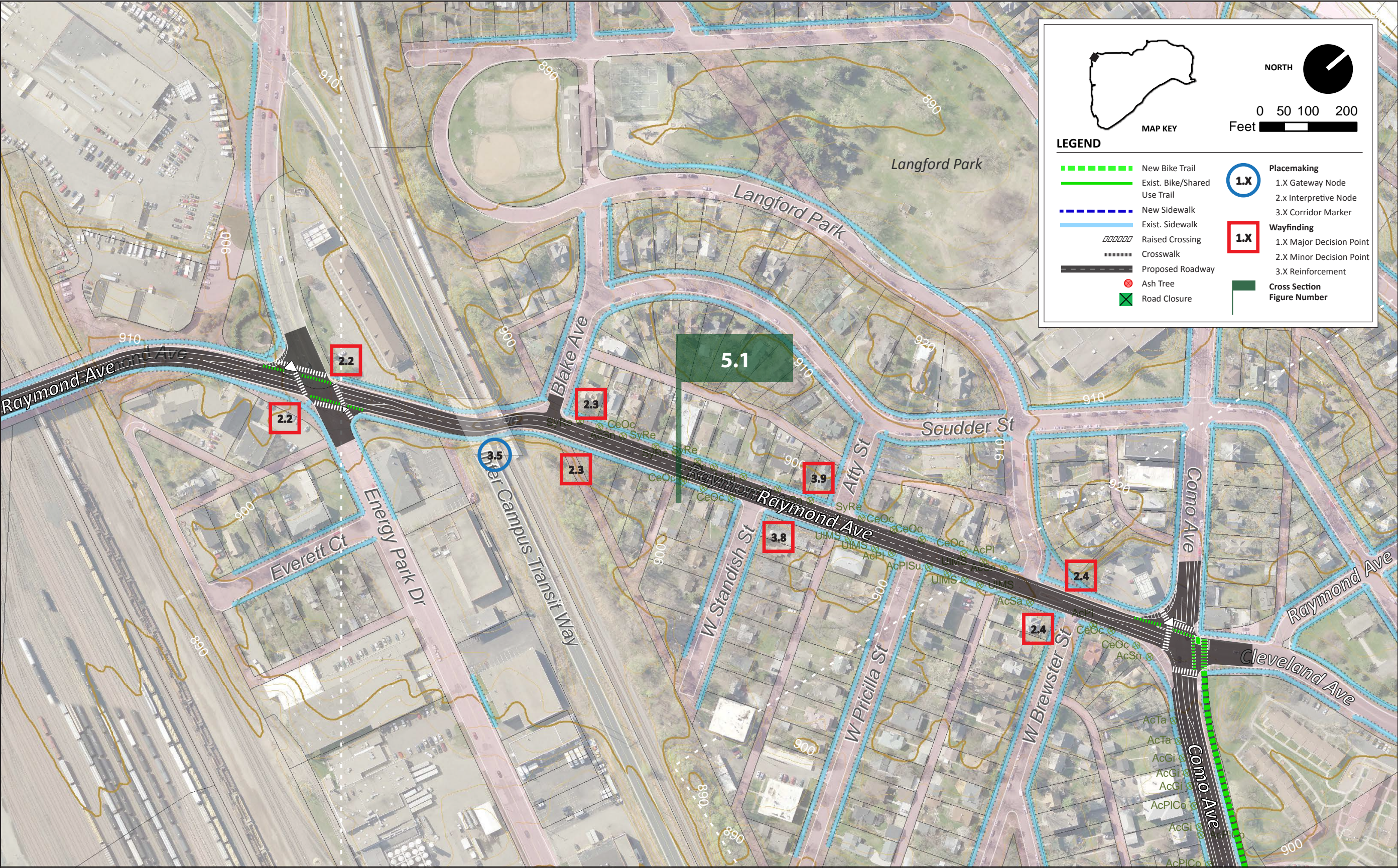
The bridge over the Inter Campus Transit Way provides an opportunity for public art (P.3.5).

### RAYMOND AVENUE

FIGURE 5.1 BLAKE AVENUE TO COMO AVENUE







MAP 5 - RAYMOND AVENUE ENERGY PARK DRIVE TO COMO AVENUE



# MAP 6 - COMO AVENUE RAYMOND AVENUE TO INTER CAMPUS TRANSIT WAY

## EXISTING CONDITIONS

Como Avenue between Raymond Avenue and the Inter Campus Transit Way is characterized as a formal corridor. The roadway is flanked on both sides with boulevards, trees within the boulevards, and sidewalks. Street lighting has not been updated to the typical Saint Paul Lantern style lighting.

Como Avenue is a 50 foot wide roadway with a right-of-way width of 85 feet. The roadway is a two lane roadway with bike lanes striped on both sides. On-street parking exists on both sides.

## PROPOSED IMPROVEMENTS

### Roadway & Corridor Improvements

A conversion of the sidewalk along the north side to a 12 foot wide multi use path is proposed. Como Avenue is also a dedicated County State Aid Roadway, which makes it difficult to propose other configurations for this roadway. No other improvements are planned along this area of Como Avenue.

### Wayfinding Improvements

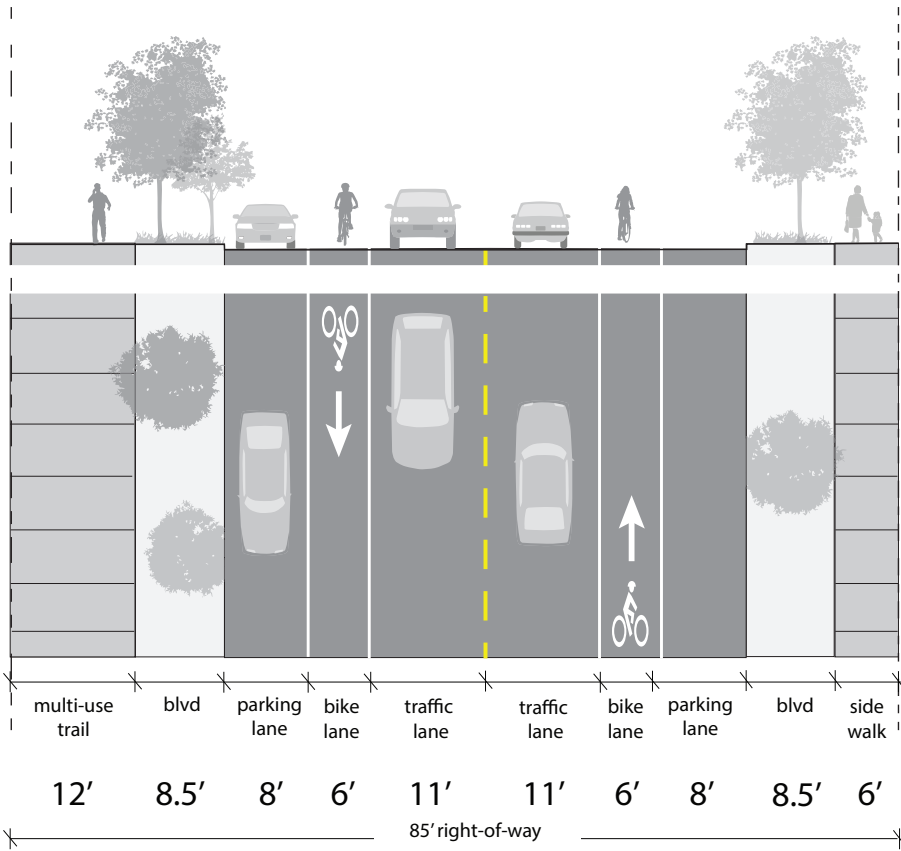
Corridor reinforcement and branding will be placed along Como Avenue.

### Parkway Amenities and Public Art Improvements

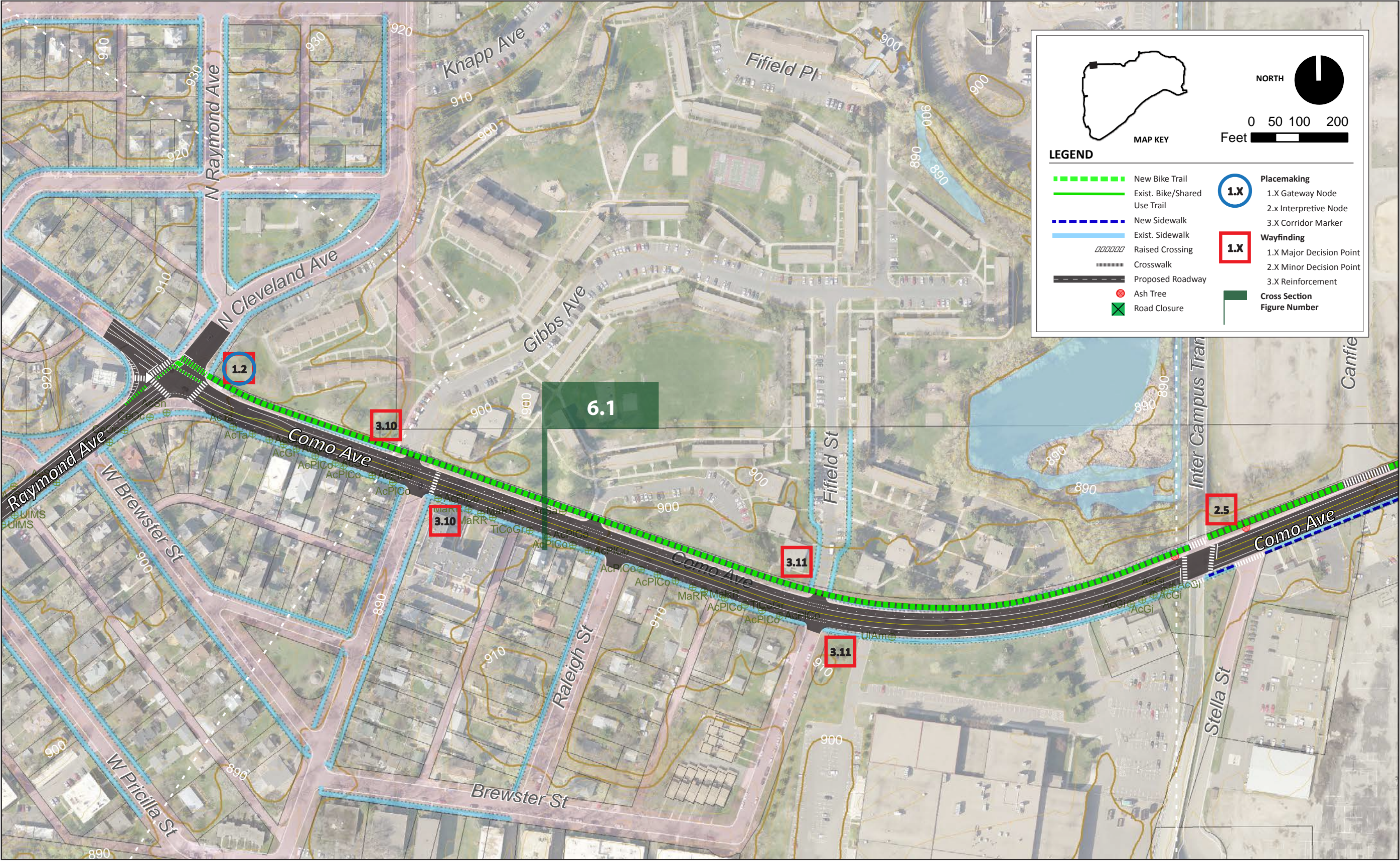
A Gateway Node (P.1.2) is programed for the northeast corner of Raymond Avenue and Como Avenue. The Gateway Node will include a plaza with kiosk that will have interpretive and map panels, seating, bike repair station, potential drinking fountain, waste receptacles, and public art and a corridor marker. Due to the narrow right-of-way agreements with the University of Minnesota will be required for placing this node. This node can be constructed independently of any work on Raymond Avenue or Como Avenue.

## Como Avenue

FIGURE 6.1 RAYMOND AVENUE TO INTER CAMPUS TRANSIT WAY







MAP 6 - COMO AVENUE RAYMOND AVENUE TO INTER CAMPUS TRANSIT WAY



# MAP 7 - COMO AVENUE INTERCAMPUS TRANSIT WAY TO UNDERWOOD STREET

## EXISTING CONDITIONS

Como Avenue between Inter Campus Transit Way and Snelling Avenue is characterized as formal corridor. The roadway is a four lane roadway with a boulevard and sidewalk along the south side of the roadway. The north side is typically an un-maintained turf boulevard with scattered access drives to the State Fair Grounds. A chain linked fence topped with barbed-wire exists along the northerly right-of-way line. Como Avenue within this area is a County State Aid Roadway, therefore any changes will need agreement with the County. The State Fair also plays an important role with this roadway as activities on the State Fair Ground affects traffic operations along Como Avenue.

Como Avenue between Inter Campus Transit Way and Snelling Avenue varies from a 50 to a 58 foot wide roadway with a right-of-way width of 85 feet. Periodic on-street parking exists on the south side of the roadway.

## PROPOSED IMPROVEMENTS

### Roadway & Corridor Improvements

Roadway Improvements includes reconstructing the roadway to 48 feet wide, creating an off-road bike trail and adding a sidewalk to the northerly side of Como Avenue; the sidewalk along the south side will remain. Lighting will be improved within this area to include the typical Saint Paul Lantern Style lights.

During Non-Fair Days the roadway will be striped for two travel lanes, a center turn lane, and wide shoulders on each side. During Fair Days the roadway will be restriped to accommodate four travel lanes.

The reconstruction of the northerly boulevard area could provide areas for public art, barrier type landscaping within the new boulevard areas that are between the sidewalk and bike trail

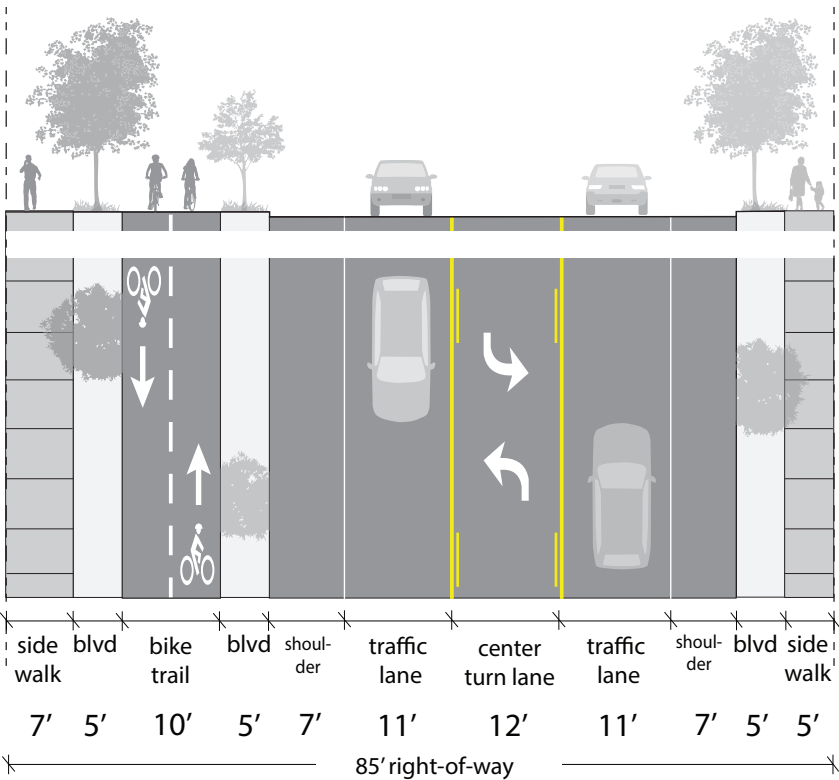
and between the bike trail and roadway. Lighting could also be improved within this area to include the typical Saint Paul Lantern Style lights.

### Wayfinding Improvements

Corridor reinforcement and branding will be placed along Como Avenue. Directional signs will also be placed for connections to the Inter Campus Transit Way and at Snelling Avenue. Corridor markers are also programed to be place at Snelling Avenue.

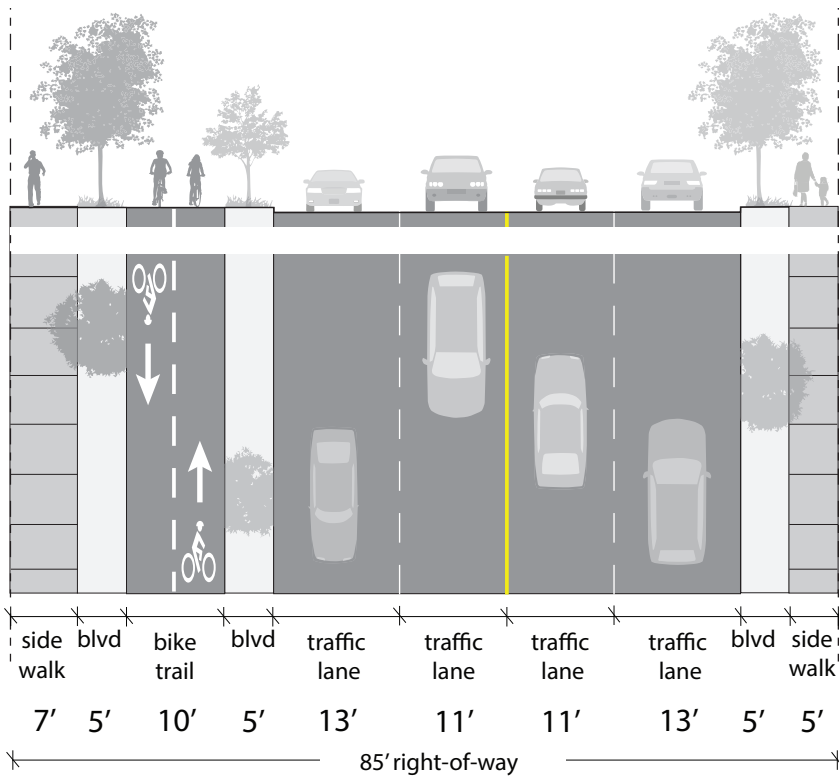
## COMO AVENUE

FIGURE 7.1 INTERCAMPUS TRANSIT WAY TO NORTH SNELLING AVENUE

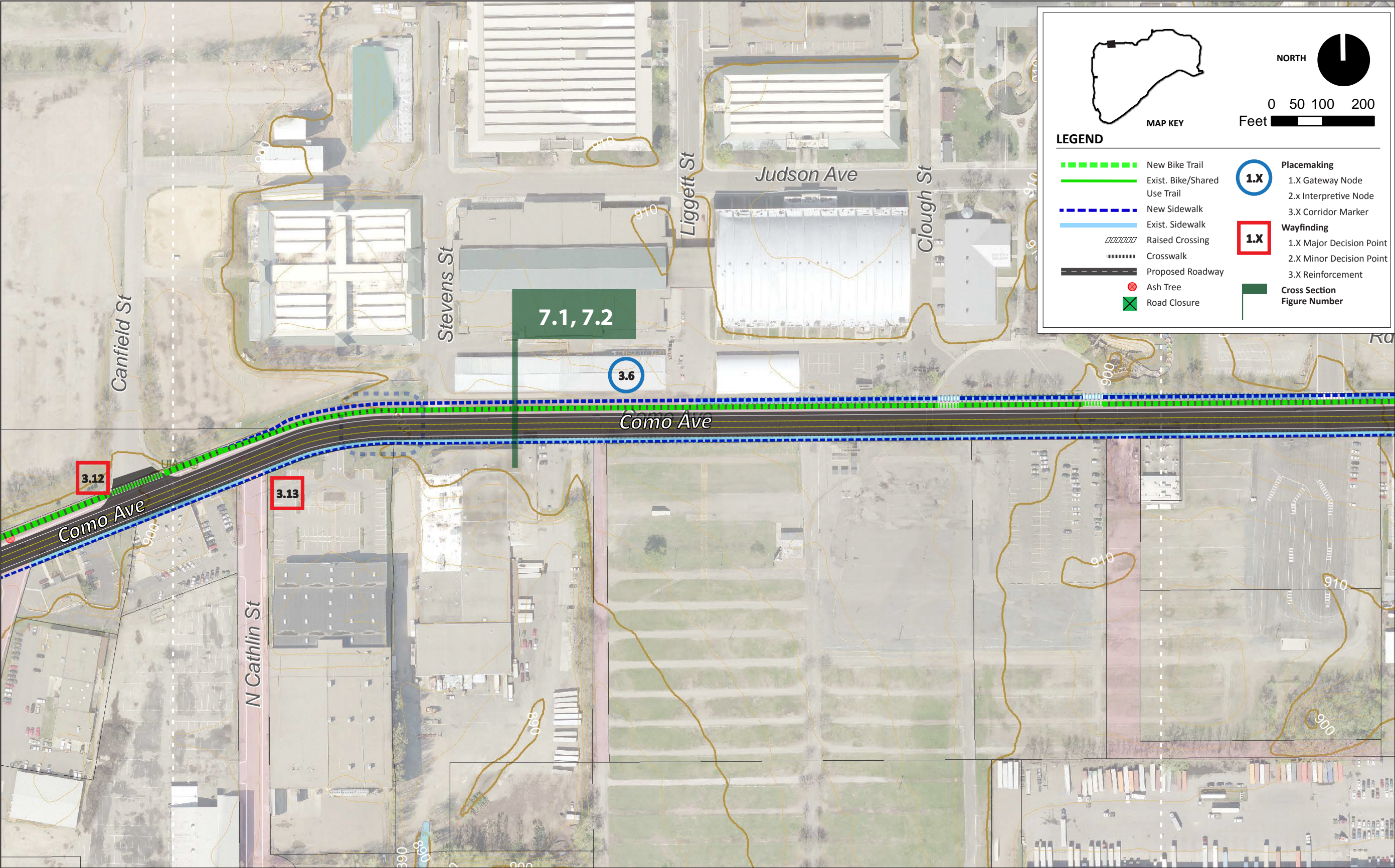


## COMO AVENUE DURING FAIR TIME

FIGURE 7.2 INTERCAMPUS TRANSIT WAY TO NORTH SNELLING AVENUE







MAP 7 - COMO AVENUE INTERCAMPUS TRANSIT WAY TO UNDERWOOD STREET



# Map 8 - Como Avenue UNDERWOOD STREET TO PASCAL STREET

## EXISTING CONDITIONS

See description of Como Avenue on Map 7 for the area west of Snelling Avenue. Como Avenue from Snelling Avenue to North Pascal Street is characterized as a designed corridor thru the business district at the west end and a formal corridor through the residential area. The existing corridor includes a two lane roadway with bike lanes, on-street parking on both sides and sidewalks. A center turf median with turn lanes does exist from Snelling Avenue to Arona Street. Wide, tree planted boulevards exist from Arona Avenue to North Pascal Avenue. The existing street lighting has not been updated to reflect the typical Saint Paul Lantern style lighting. Como Avenue between Snelling Avenue and North Arona Street is a 63 foot roadway with a right-of-way width of 100 feet. Como Avenue between North Arona Street and North Pascal Street is a 51 foot roadway with a right-of-way width of 100 feet.

## PROPOSED IMPROVEMENTS

### Roadway & Corridor Improvements

Como Avenue roadway improvements from Snelling Avenue to North Arona Street includes reconstructing the roadway to 50 feet wide. Roadway improvements on Como Avenue from North Arona Street to North Pascal Street includes reconstructing the roadway to 38 feet wide. Lighting will be improved within this area to include the typical Saint Paul Lantern Style lights. Striping for Como Avenue from Snelling Avenue to North Arona Street will include on-street parking on both sides, two travel lanes and a center turn lane. The bike trail will be placed on the north side of the roadway; the off-road trail could be constructed independently of any major roadway modifications, such that the area between North Arona Street and North Pascal Street could move the northerly curb line to the south to accommodate the

off-road bike trail. There will be adequate space on both sides of the corridor for sidewalks, boulevards with tree planting and other amenities such as benches, public art, etc. Striping for Como Avenue from North Arona Street to North Pascal Avenue will include two travel lanes and on-street parking on both sides. The bike trail will be placed on the north side of the roadway. A raised table crossing is proposed across North Arona Street and North Pascal Street. The bike trail will be placed to allow adequate boulevard area for tree planting between both the sidewalk and bike trail and also between the bike trail and roadway. Sidewalks will also remain along the south side of the corridor. Lighting could also be improved within this area to include the typical Saint Paul Lantern Style lights.

### Wayfinding Improvements

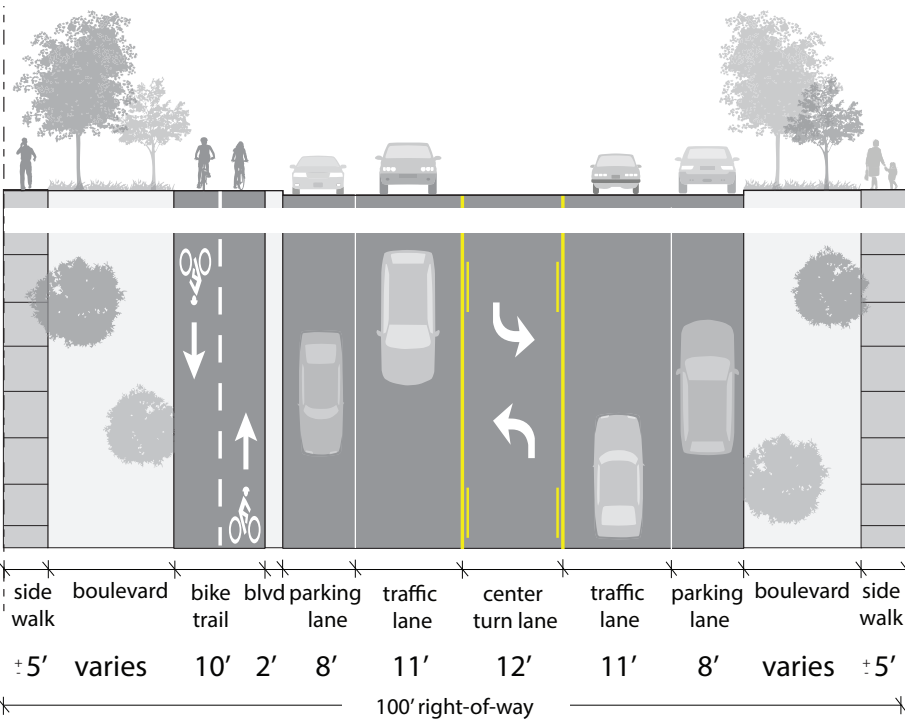
Corridor reinforcement and branding will be placed along Como Avenue. Directional signs will also be placed at North Arona Street for the connections to Tilden Park and Hmong College Prep Academy. Parkway Amenities and Public Art Improvements.

### Trail & Sidewalk Improvements

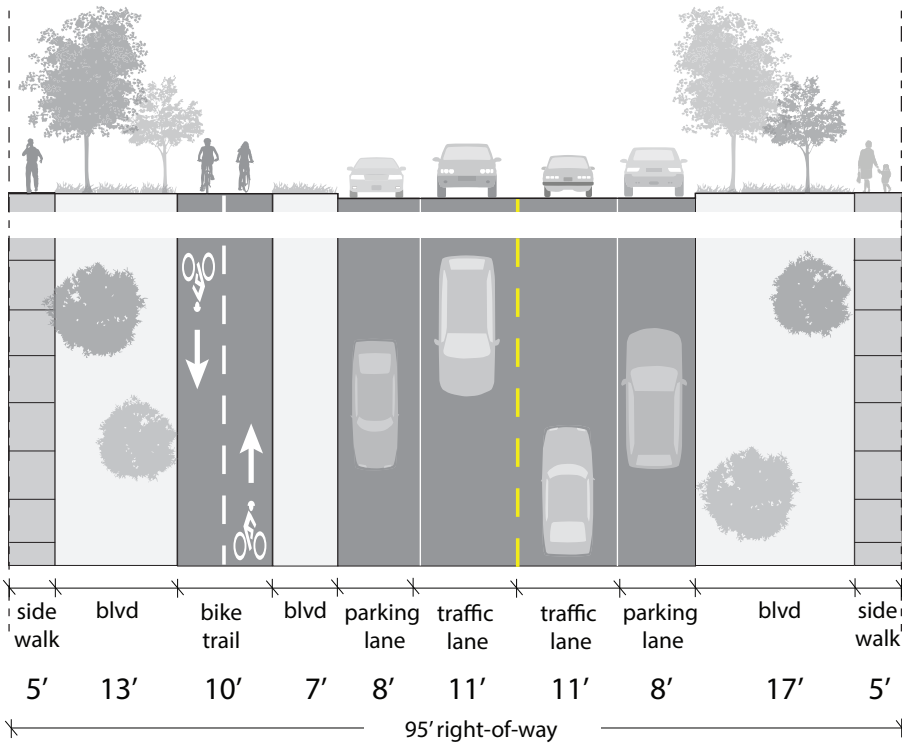
Improvements for both blocks of Como Avenue include creating an off-road bike trail along the northerly boulevard area; sidewalks will remain on both sides of the corridor.

### Parkway Amenities and Public Art Improvements

The area below the Snelling Avenue Bridge provides an opportunity for public art such as decorative lighting (P.3.8). Corridor markers (P.3.7 & P.3.9) are programmed for both the northwest and northeast corners of Como Avenue and Snelling Avenue.

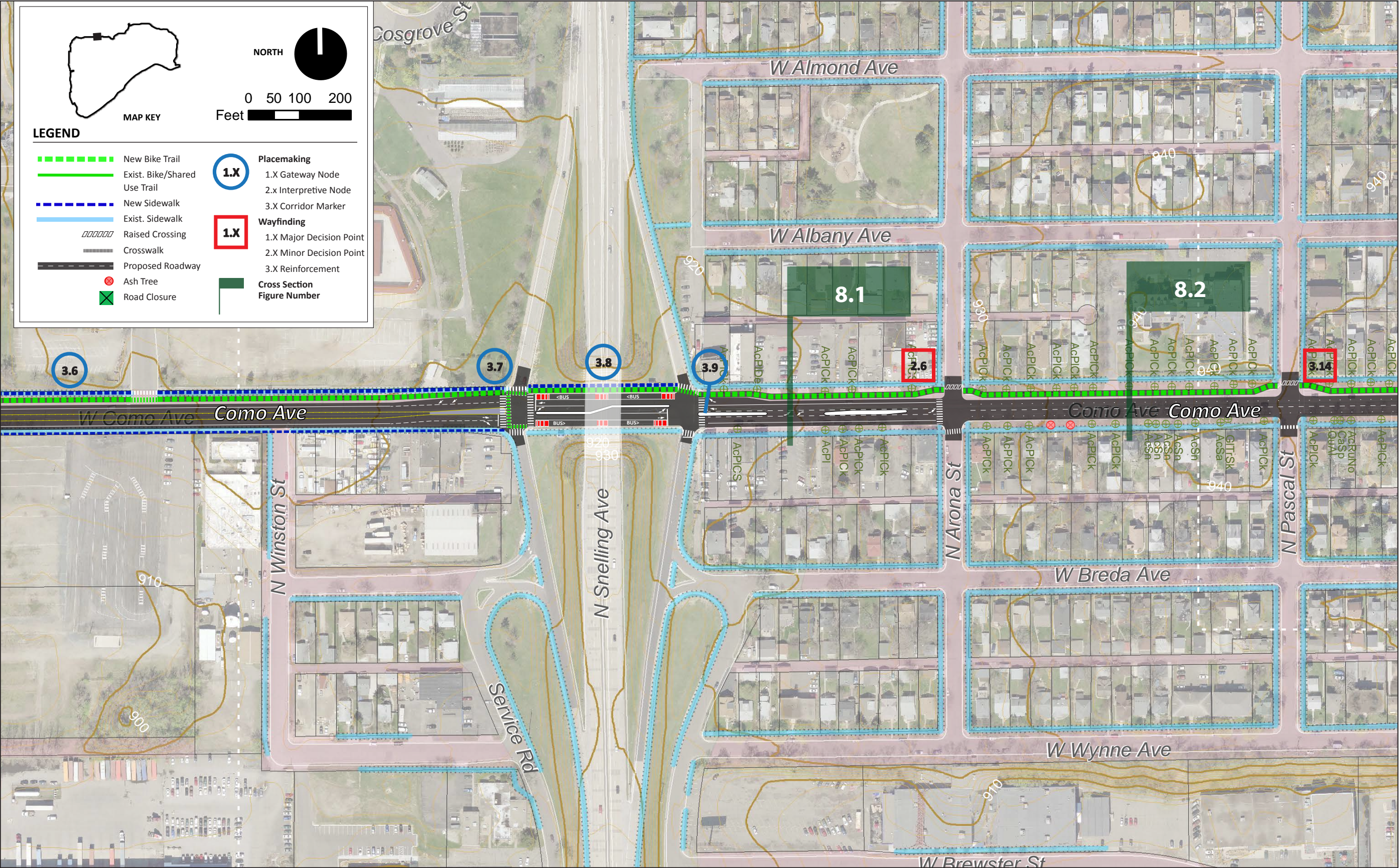


Como Avenue FIGURE 8.1 NORTH SNELLING AVENUE TO NORTH ARONA STREET



Como Avenue FIGURE 8.2 NORTH ARONA STREET TO NORTH HAMLINE AVENUE





MAP 8 - COMO AVENUE UNDERWOOD STREET TO PASCAL STREET



# MAP 9 - COMO AVENUE PASCAL STREET TO MIDWAY PARKWAY

## EXISTING CONDITIONS

Como Avenue from North Pascal Street to North Hamline Avenue is characterized as a formal corridor. The existing corridor includes a two lane roadway with bike lanes, on-street parking on both sides and sidewalks. Wide, tree planted boulevards exist from North Pascal Avenue to North Hamline Avenue. The existing street lighting has not been updated to reflect the typical Saint Paul Lantern style lighting.

Como Avenue between North Arona Street and North Hamline Avenue is a 51 foot roadway with a right-of-way width of 100 feet.

Como Avenue east of North Hamline Avenue winds through Como Regional Park. The corridor is a naturalistic park setting with broad woodlands and pastoral mown lawn areas accommodating picnic facilities. Multi-use trails and parking flank both sides of the roadway.

Como Avenue between North Hamline Avenue to West Midway Parkway is a 44 foot wide street.

## PROPOSED IMPROVEMENTS

### Roadway & Corridor Improvements

Como Avenue roadway improvements from North Pascal Street to Midway Parkway includes reconstructing the roadway to 38 feet wide. Lighting will be improved within this area to include the typical Saint Paul Lantern Style lights.

Striping for Como Avenue from North Pascal Street to Midway Parkway will include two travel lanes and on-street parking on both sides. The bike trail will be placed on the north side of the roadway. The bike trail will be placed to allow adequate boulevard area for tree planting between both the sidewalk and bike trail and also between the bike trail and roadway. Sidewalks will also remain along the south side of the corridor between North Pascal Street

and North Hamline Avenue and the multi-use trail will remain east of North Hamline Avenue. Lighting could also be improved within this area to include the typical Saint Paul Lantern Style lights.

### Wayfinding Improvements

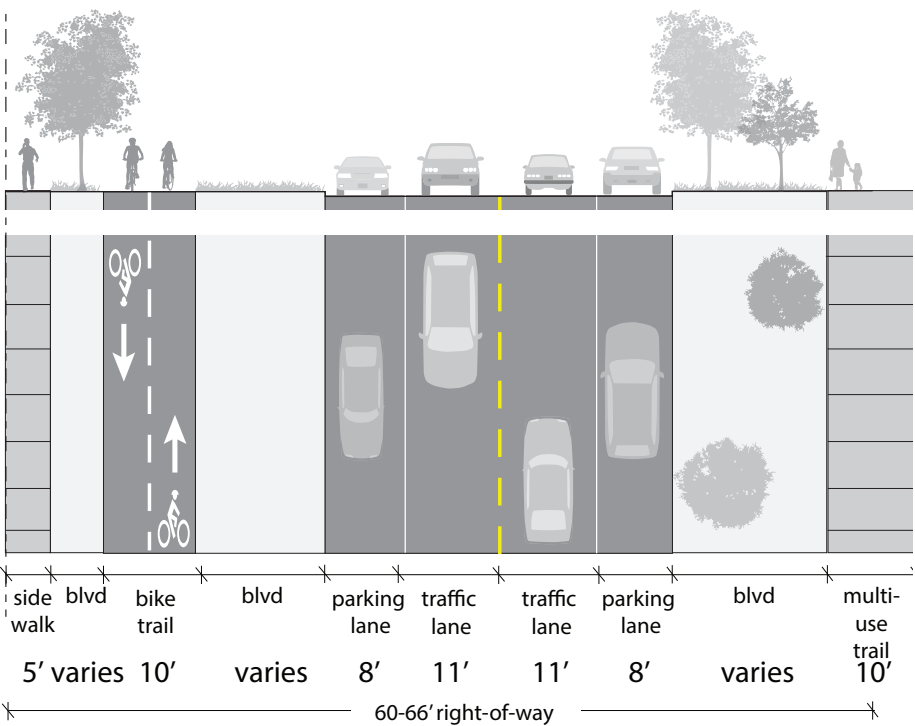
Corridor reinforcement and branding will be placed along Como Avenue. Operational signs will also be placed at the northwest corner of Como Avenue and North Hamline Avenue.

### Trail & Sidewalk Improvements

Improvements include creating an off-road bike trail along the northerly boulevard area from North Pascal Street to North Hamline Avenue. Improvements to the east of North Hamline Avenue include constructing a separate pedestrian trail. The existing multi-use trail could be converted to a bike only trail. The off-road trails could be constructed independently of any major roadway modifications, such that the area between North Pascal Street could move the northerly curb line to the south to accommodate the off-road bike trail and the area east of North Hamline Avenue could construct the separate use trails without affecting the roadway.

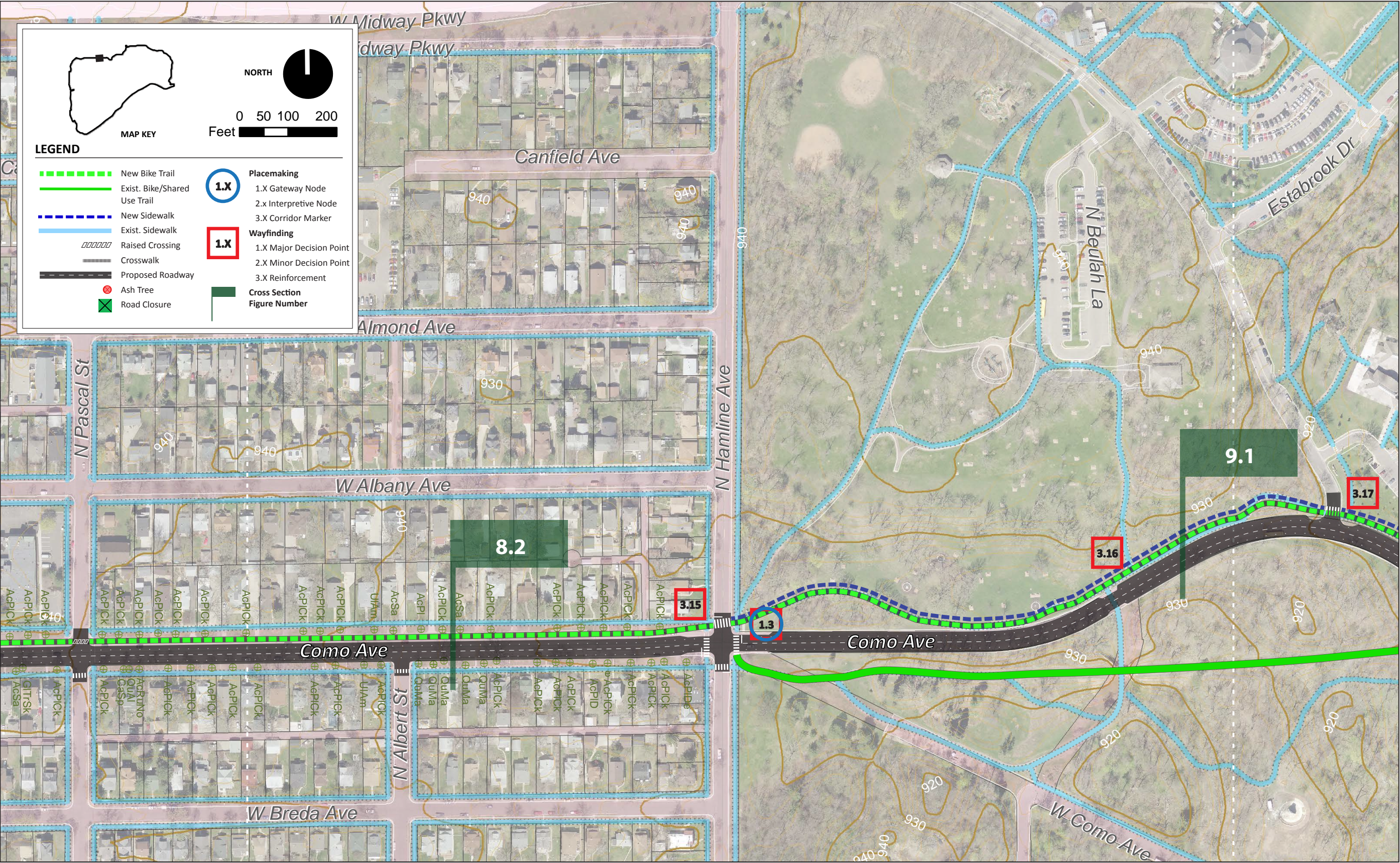
### Parkway Amenities and Public Art Improvements

A Gateway Node (P.1.3) that serves as a welcome to Como Regional Park, is preproposal for the northeast corner of Como Avenue and North Hamline Avenue. The Gateway Node will include a plaza with kiosk that will have interpretive and map panels, seating, bike repair station, potential drinking fountain, waste receptacles, and public art and a corridor marker. This node to be built with respect to Como Park design standards and studies. This node can be constructed independently of any work on Como Avenue or North Hamline Avenue.



Como Avenue FIGURE 9.1 NORTH HAMLINE AVENUE TO WEST MIDWAY PARKWAY





MAP 9 - COMO AVENUE PASCAL STREET TO MIDWAY PARKWAY



# MAP 10 - HORTON AVENUE MIDWAY PARKWAY TO GATEWAY DRIVE

## EXISTING CONDITIONS

Como Avenue east West Midway Parkway continues to wind through Como Regional Park. The corridor is a naturalistic park setting with broad woodlands and pastoral mown lawn areas accommodating picnic facilities. Multi-use trails and parking flank both sides of the roadway. The existing corridor includes a two lane roadway with on-street parking and multi-use trails on both sides. The existing street lighting has not been updated to reflect the typical Saint Paul Lantern style lighting.

Como Avenue between Midway Parkway and North Lexington Avenue is a 44 foot roadway with a right-of-way width of 63 feet. Como Avenue between North Lexington Avenue is a 45 foot roadway with a right-of-way width of 60 feet.

The multi-use trails on the north side of Como Avenue continue northward and crosses below North Lexington Avenue then winds northeasterly towards the Como Park Pavilion. The trails intersect south of the Pavilion parking lot with a one-way bike trail and a two-way pedestrian trial which both circumnavigate Como Lake.

## PROPOSED IMPROVEMENTS

### Roadway & Corridor Improvements

Como Avenue roadway improvements from Midway Parkway to North Lexington Avenue includes reconstructing the roadway to 38 feet wide. Lighting will be improved within this area to include the typical Saint Paul Lantern Style lights.

Striping for Como Avenue from Midway Parkway to North Lexington Avenue will include two travel lanes and on-street parking on both sides. Lighting could also be improved within this area to include the typical Saint Paul Lantern Style lights.

### Wayfinding Improvements

It is the intent to use existing Como Regional Park wayfinding

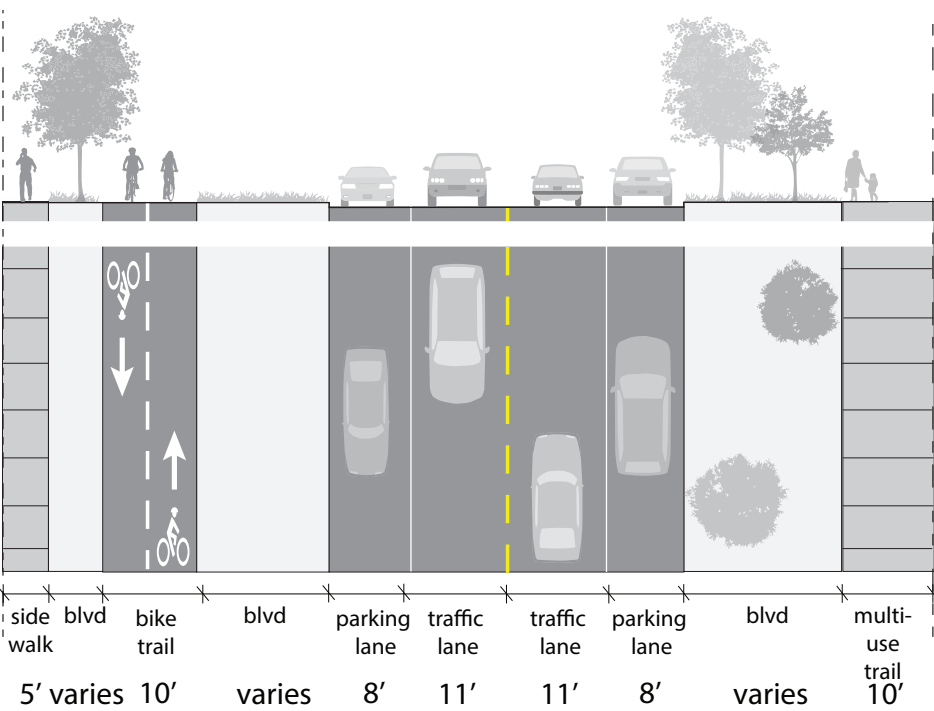
system to accommodate the Grand Round, such as providing Grand Round reinforcement and branding. Proper reinforcement and operational signage through Como Regional Park and around Lake Como is also programmed. A directional sign will also be provided at the northwest corner of Como Avenue and North Lexington Avenue to provide direction through Como Regional Park. Grand Round reinforcement signs will also be placed along Horton Avenue to Nagasaki Road to Como Boulevard for the motoring public.

### Trail & Sidewalk Improvements

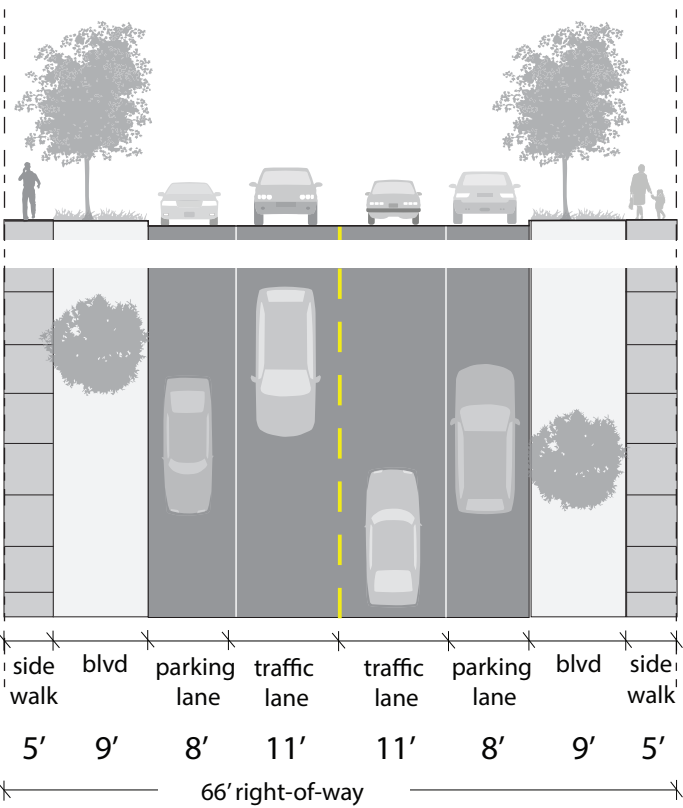
Horton Avenue and Nagasaki Road were also analyzed to see if they could accommodate bike and pedestrian facilities; the narrowness of the 60 foot right-of-way and topography changes create a challenging design for this area. Therefore the improvements for the bike and pedestrian facilities are proposed to take place within Como Regional Park. Improvements include reconstructing the existing multi-use trails along the north side of Como Avenue to include separated bike and pedestrian trails. The separated trails will continue northward and cross below North Lexington Avenue, from there it will continue northeasterly to the existing bike and pedestrian trail on the west side of Como Lake. This intersection provides a great opportunity to place a bike trail round-about to provide a safe transition to the trails around Como Lake. The existing bike trails around Como Lake should be reviewed for both circulation and potential reconstruction to accommodate additional cyclists with the addition of the Grand Round. The off-road separated pedestrian and bike trails could be constructed independently of any roadway modifications.

### Parkway Amenities and Public Art Improvements

A Gateway Node (P.1.4) that will enhance the Como Regional Park placemaking and wayfinding system is also programmed for the major trail intersection on the west side of Como Lake.

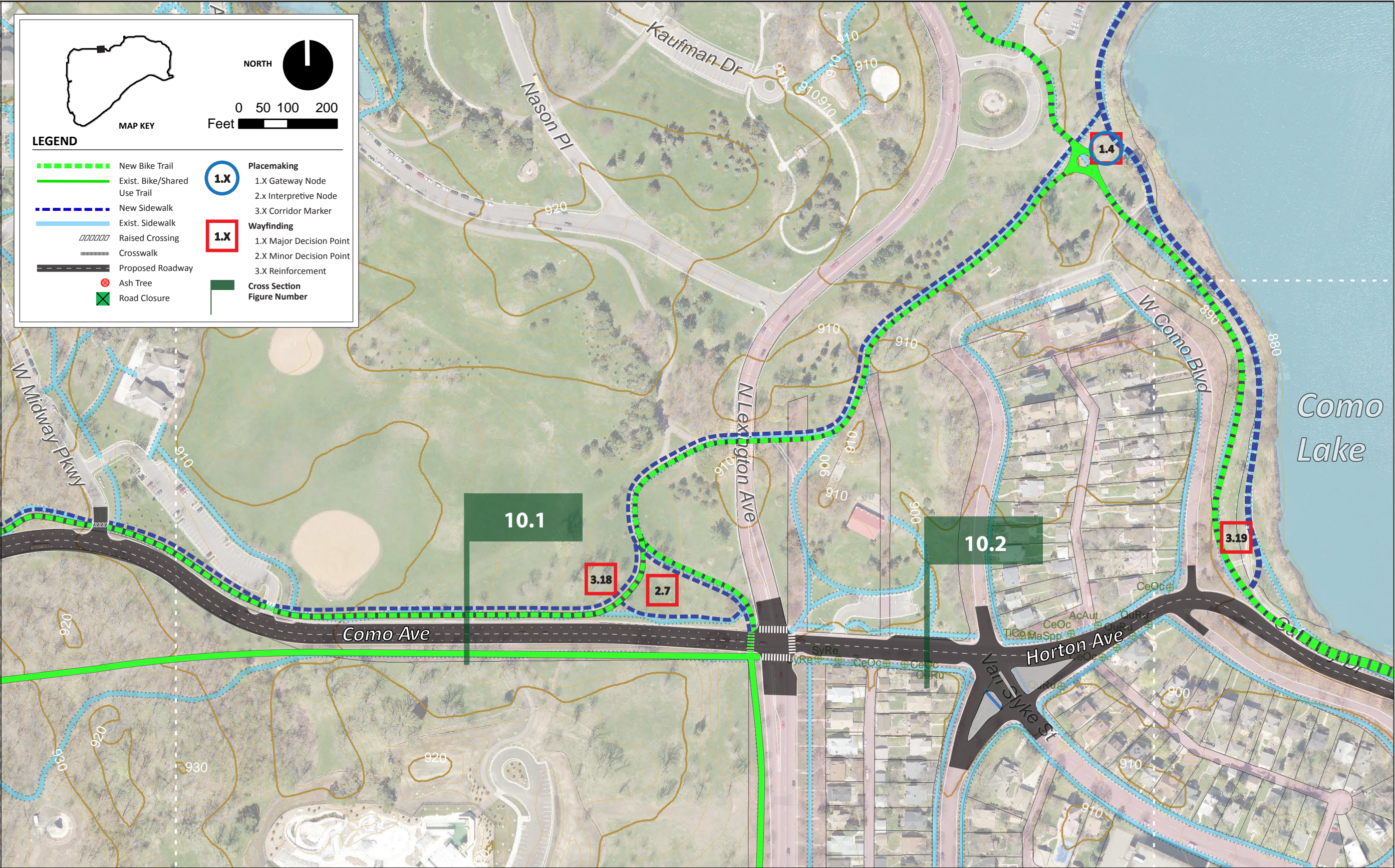


**HORTON AVENUE** FIGURE 10.1 WEST MIDWAY PARKWAY TO NORTH LEXINGTON AVENUE



**HORTON AVENUE** FIGURE 10.2 NORTH LEXINGTON AVENUE TO VAN SLYKE STREET





MAP 10 - HORTON AVENUE MIDWAY PARKWAY TO GATEWAY DRIVE



# MAP 11 - NAGASAKI ROAD WEST COMO BOULEVARD TO COMO BOULEVARD

## EXISTING CONDITIONS

Horton Avenue and Nagasaki Road were analyzed to see if they could accommodate bike and pedestrian facilities. The narrowness of the 60 foot right-of-way and topography changes create a challenging design for this area. Therefore the improvements for the bike and pedestrian facilities are proposed to take place within Como Regional Park.

The intersection of East Como Boulevard, West Maryland Avenue, West Wheelock Parkway, North Victoria Street and East Como Lake Drive requires additional analysis to create a safe route for off-road bike trail and pedestrian facilities through this non-typical intersection. A modified intersection could reduce pavement area and create additional spaces for stormwater best management practices in this location.

## PROPOSED IMPROVEMENTS

### Wayfinding Improvements

It is the intent to use the existing Como Regional Park wayfinding system to accommodate the Grand Round, such as providing Grand Round reinforcement and branding. Proper reinforcement and operational signage through Como Regional Park and around Lake Como is also programmed. A directional sign will also be provided at the northwest corner of Como Avenue and North Lexington Avenue to provide direction through Como Regional Park. Grand Round reinforcement signs will also be placed along Horton Avenue to Nagasaki Road to Como Boulevard for the motoring public.

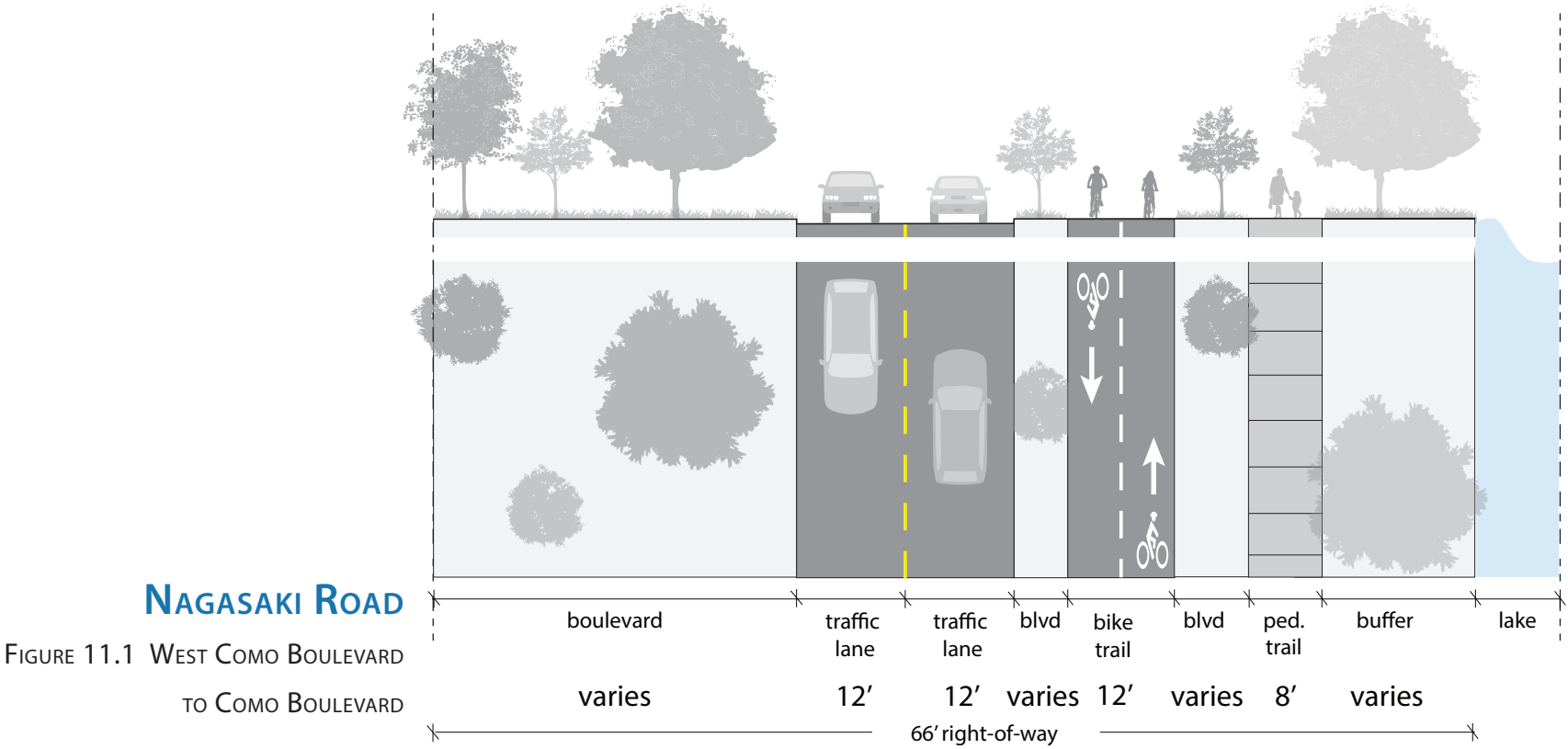
### Trail & Sidewalk Improvements

The existing bike trail through Como Regional Park should be reviewed for potential reconstruction and expansion to accommodate additional cyclists with the addition of the Grand

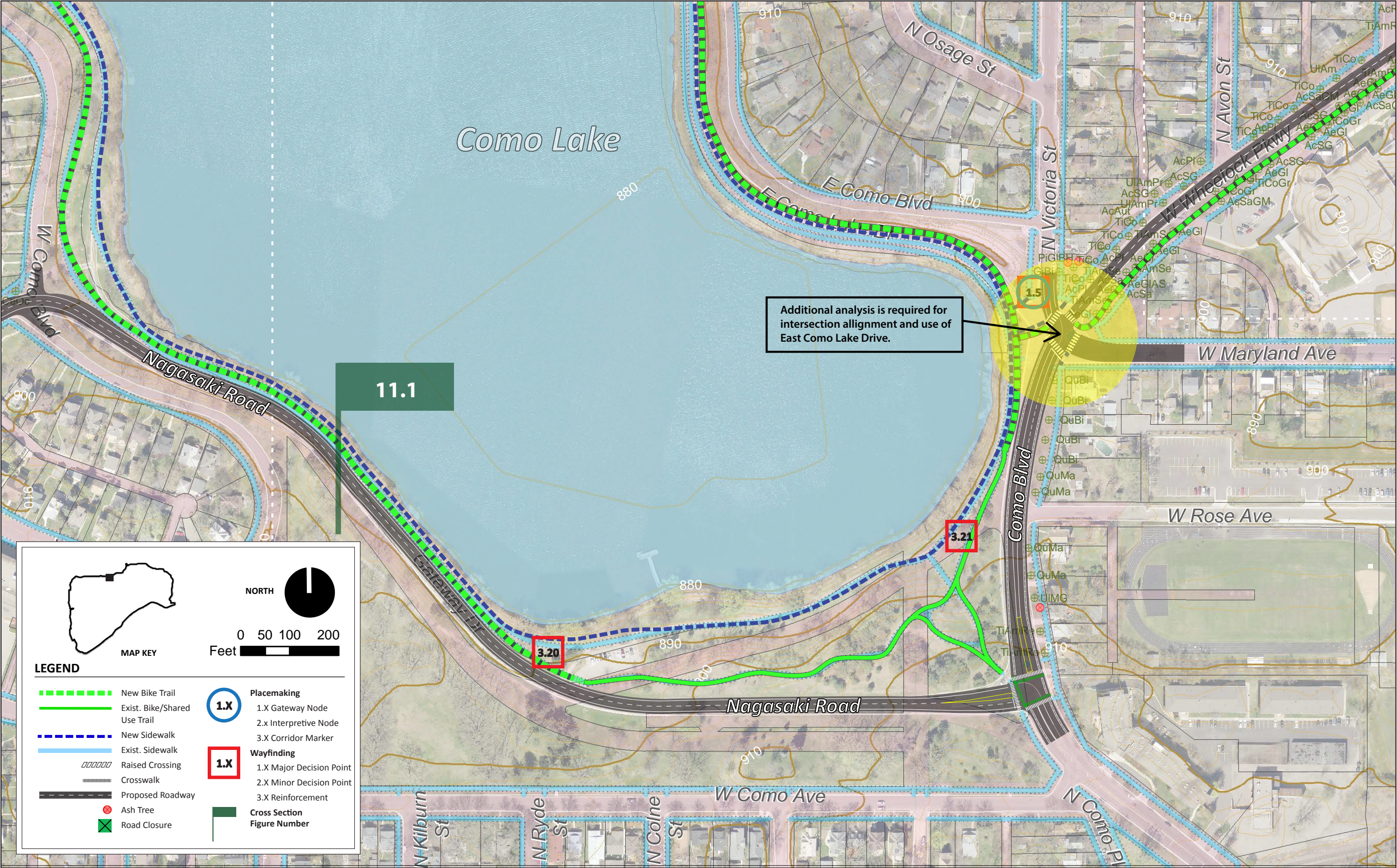
Round. The off-road bike trails and sidewalks could be constructed independently of any roadway modifications.

### Parkway Amenities and Public Art Improvements

A Gateway Node (P.1.5) that will serve as a welcome to Como Regional Park is programmed for the west side of the intersection of East Como Boulevard, West Maryland Avenue, West Wheelock Parkway, North Victoria Street and East Como Lake Drive. The Gateway Node will include a plaza with kiosk that will have interpretive and map panels, seating, bike repair station, potential drinking fountain, waste receptacles, and public art and a corridor marker. This node can be constructed independently of any other work.







MAP 11 - NAGASAKI ROAD WEST COMO BOULEVARD TO COMO BOULEVARD



# MAP 12 - WHEELLOCK PARKWAY AVON STREET TO KENT STREET

## EXISTING CONDITIONS

West Wheelock Parkway from North Victoria Street to North Kent Street is characterized as a naturalistic corridor. The existing corridor includes a two lane roadway with no on-street parking. Sidewalks exist on both sides of West Wheelock Parkway from North Victoria Street to North Kent Street. Wide, tree planted boulevards exist along Wheelock Parkway. The existing street lighting has not been updated to reflect the typical Saint Paul Lantern style lighting.

West Wheelock Parkway from North Victoria Street to North Kent Street is a 30 foot roadway with a 120 foot parkway.

## PROPOSED IMPROVEMENTS

### Roadway & Corridor Improvements

West Wheelock Parkway from North Victoria Street to North Kent Street includes reconstructing the roadway to 24 feet wide. Striping for this corridor will include two travel lanes.

Lighting could will be improved within this area to include the typical Saint Paul Lantern Style lights.

### Wayfinding Improvements

Corridor reinforcement and branding will be placed along Wheelock Parkway. Directional signs will be placed at North Grotto Street for connections to Como Senior High School, and at North Saint Albans Street for connections to Northdale Recreation Center, and at North Dale Street for connections to Marydale Park.

### Trail & Sidewalk Improvements

Improvements include reconstructing the existing sidewalks and adding an off-road bike trail to the south side boulevard area. Sidewalks will be constructed as close to the parkway property lines as possible. The bike trail will be positioned between the

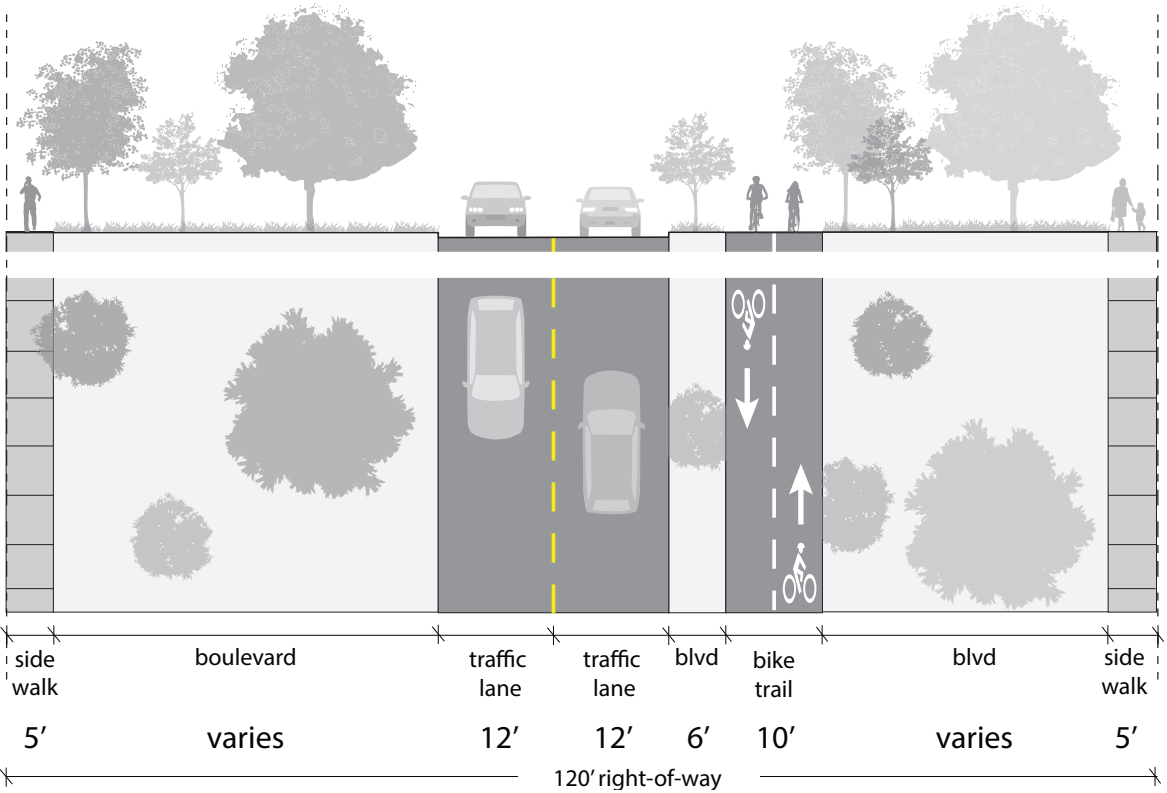
roadway and south side sidewalk. The bike trail will be placed to allow adequate boulevard area for tree planting between both the sidewalk and bike trail and also between the bike trail and roadway. The bike trail will also have raised tabled crossings at North Alameda Street, North Saint Albans Street, North Maywood Street, North Danforth Street, and North Kent Street.

### Parkway Amenities and Public Art Improvements

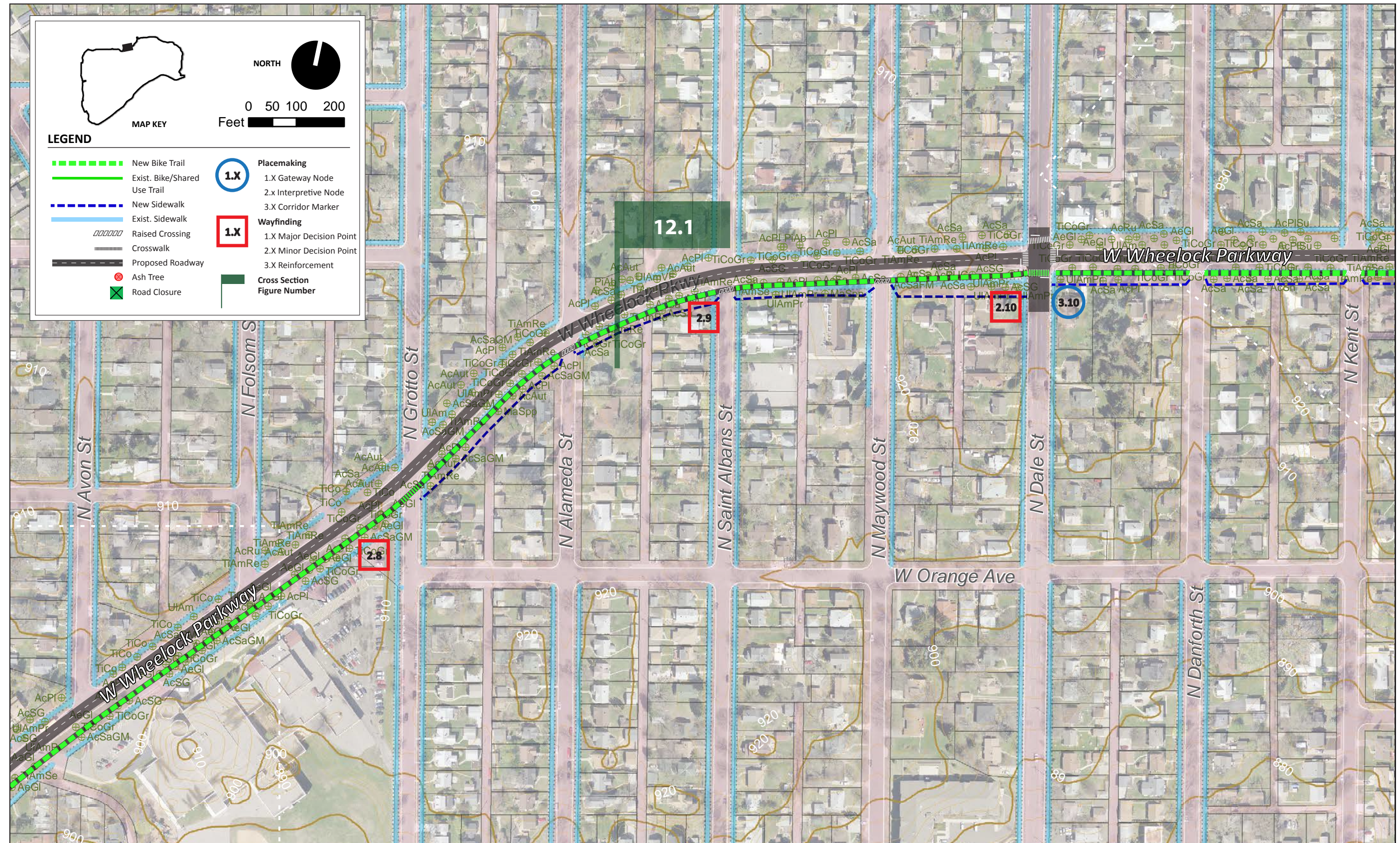
A Gateway Node (P.1.5) that will serve as a welcome to Como Regional Park is programed for the west side of the intersection of East Como Boulevard, West Maryland Avenue, West Wheelock Parkway, North Victoria Street and East Como Lake Drive. The Gateway Node will include a plaza with kiosk that will have interpretive and map panels, seating, bike repair station, potential drinking fountain, waste receptacles, and public art and a corridor marker. This node can be constructed independently of any other work.

## WHEELLOCK PARKWAY

FIGURE 12.1  
NORTH VICTORIA STREET TO WEST NEBRASKA AVENUE









# MAP 13 - WHEELOCK PARKWAY KENT STREET TO WESTERN AVENUE

## EXISTING CONDITIONS

West Wheelock Parkway from North Kent Street to West Arlington Avenue is characterized as a naturalistic corridor. The existing corridor includes a two lane roadway with no on-street parking. Sidewalks exist on both sides of West Wheelock Parkway from North Danforth Street to Mackubin Street. Wide, tree planted boulevards exist along Wheelock Parkway. The existing street lighting has not been updated to reflect the typical Saint Paul Lantern style lighting.

West Wheelock Parkway from North Victoria Street to North Westminster Street is a 30 foot roadway with a 120 foot parkway.

The character of West Wheelock Parkway changes in this areas from a roadway that is lined on both sides with single family homes to housing only on the west side of the parkway. There is a wooded bluff on the easterly side of the parkway, which provides viewpoint opportunities, a place for trail amenities, and birdwatching.

## PROPOSED IMPROVEMENTS

### Roadway & Corridor Improvements

West Wheelock Parkway from North Kent Street to North Western Avenue includes reconstructing the roadway to 24 feet wide. Striping for this corridor will include two travel lanes. Lighting will be improved within this area to include the typical Saint Paul Lantern Style lights.

### Wayfinding Improvements

Corridor reinforcement and branding will be placed along Wheelock Parkway. Directional signs will be placed at N Western Avenue for connections to Washington Technology Magnet School.

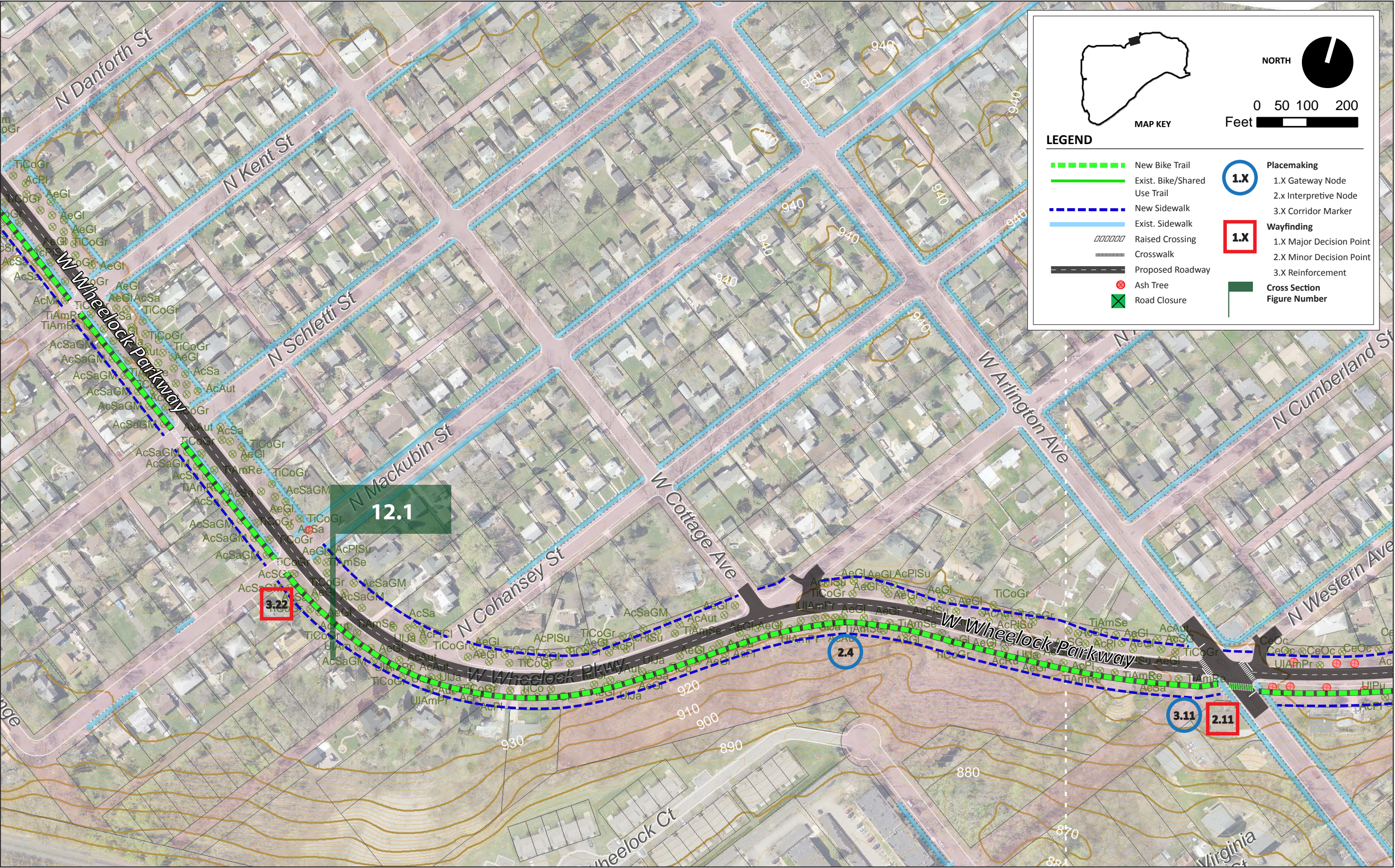
### Trail & Sidewalk Improvements

Improvements include reconstructing the existing sidewalks and adding an off-road bike trail to the south side boulevard area. Sidewalks will be constructed as close to the parkway property lines as possible. The bike trail will be positioned between the roadway and south side sidewalk. The bike trail will be placed to allow adequate boulevard area for tree planting between both the sidewalk and bike trail and also between the bike trail and roadway. The bike trail will also have raised tabled crossings at North Schletti Street, and North Mackubin Street.

### Parkway Amenities and Public Art Improvements

An interpretive node (P.2.4) is programmed for the overlook on the south side of West Wheelock Parkway between West Cottage Avenue and West Arlington Avenue. A corridor marker (P.3.11) will also be placed at the southeast corner of West Wheelock Parkway and West Arlington Avenue.





MAP 13 - WHELOCK PARKWAY KENT STREET TO WESTERN AVENUE



# MAP 14 - WHEELLOCK PARKWAY WESTERN AVENUE TO MARION STREET

## EXISTING CONDITIONS

West Wheelock Parkway from West Arlington Avenue to North Marion Street is characterized as a naturalistic corridor. The existing corridor includes a two lane roadway with no on-street parking. Sidewalks do not exist from West Arlington Avenue to North Rice Street. Wide, tree planted boulevards exist along Wheelock Parkway. The existing street lighting has not been updated to reflect the typical Saint Paul Lantern style lighting.

West Wheelock Parkway from West Arlington Avenue to North Marion Street is a 30 foot roadway with a 120 foot parkway.

The character of West Wheelock Parkway continues to only have single family homes on the west side of the parkway, with the exception of three homes located adjacent to the parkway on the east side of the parkway. This parkway includes a “horseshoe” hairpin turn that drops down about 45 feet along the face of the bluff.

## PROPOSED IMPROVEMENTS

### Roadway & Corridor Improvements

West Wheelock Parkway from West Arlington Avenue to North Marion Street includes reconstructing the roadway to 24 feet wide. Striping for this corridor will include two travel lanes. Lighting will be improved within this area to include the typical Saint Paul Lantern Style lights.

### Wayfinding Improvements

Corridor reinforcement and branding will be placed along Wheelock Parkway.

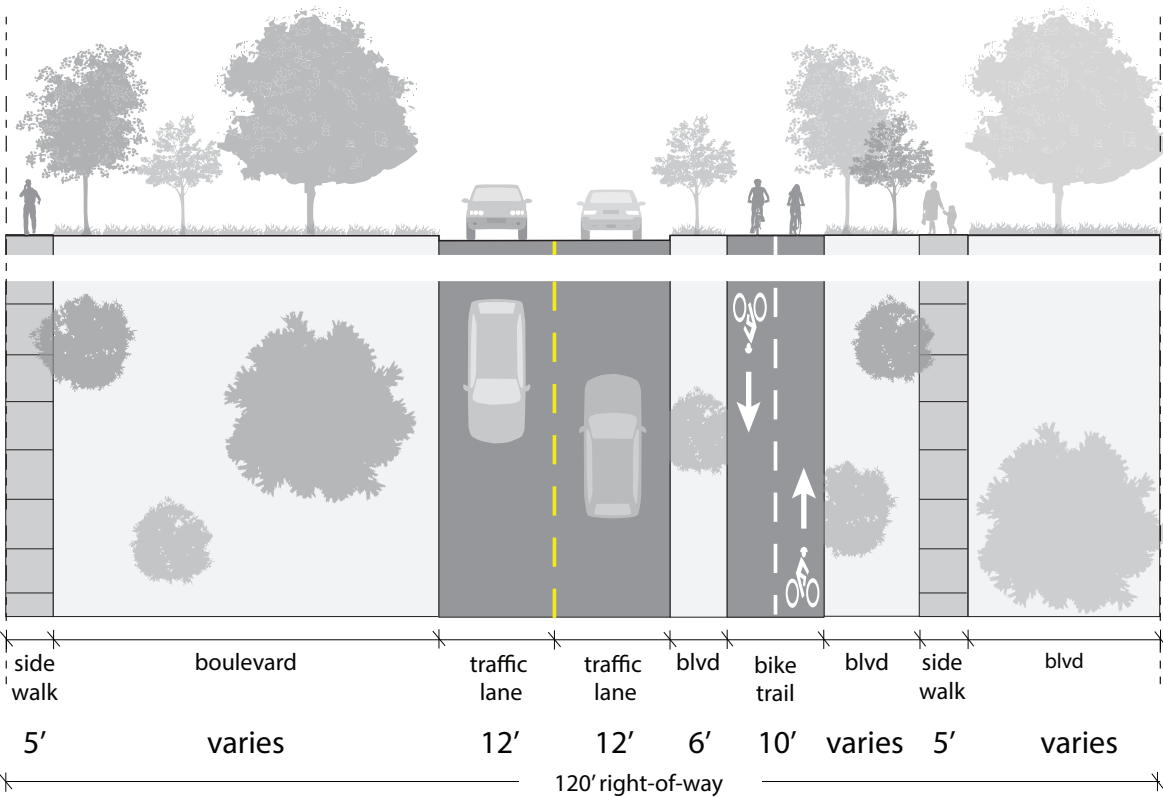
### Trail & Sidewalk Improvements

Improvements include constructing sidewalks along both sides of the parkway and adding an off-road bike trail to the south and east

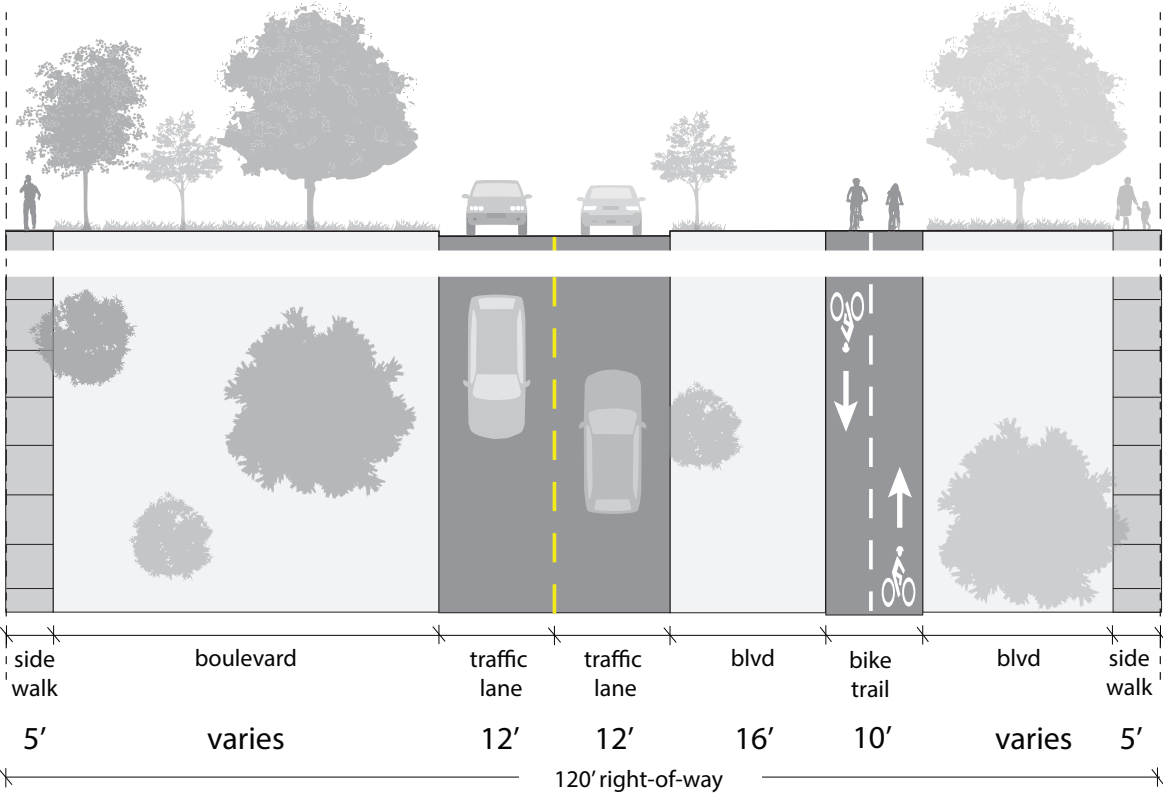
side. The bike trail will be positioned between the roadway and south / east side sidewalk. The bike trail will be placed to allow adequate boulevard area for tree planting between both the sidewalk and bike trail and also between the bike trail and roadway. The sidewalk and bike trail will be aligned to veer away from the existing homes to provide ample set-backs.

### Parkway Amenities and Public Art Improvements

An interpretive node (P.2.5) is programed for an area within the “horseshoe” bend; this area also provides an opportunity for public art. This area, historically known as Memorial Park, provides an excellent area for an interpretive node, public art, and a pull off area that could serve as a “mini trailhead” or parklet for the Grand Round.

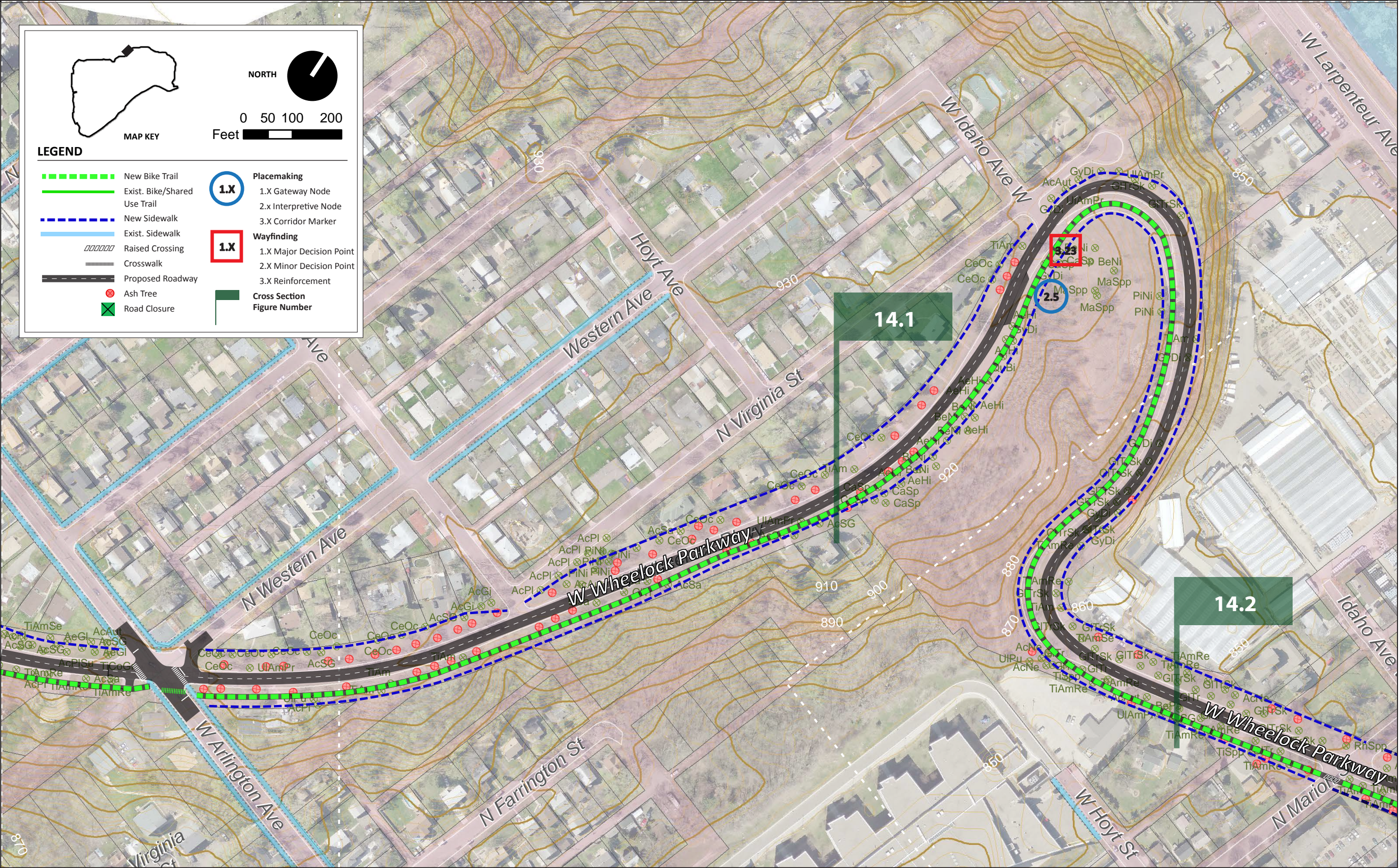


WHEELLOCK PARKWAY FIGURE 14.1 NEAR HOYT AVENUE



WHEELLOCK PARKWAY FIGURE 14.2 WEST IDAHO AVENUE TO NORTH RICE STREET





MAP 14 - WHELOCK PARKWAY WESTERN AVENUE TO MARION STREET



# MAP 15 - WHEELOCK PARKWAY MARION STREET TO TROUT BROOK TRAIL

## EXISTING CONDITIONS

West Wheelock Parkway from North Marion Street to North Rice Street is characterized as a naturalistic corridor. The existing corridor includes a two lane roadway with no on-street parking. No sidewalks exist along West Wheelock Parkway from the “horseshoe” bend to North Rice Street; from North Rice Street to the east a sidewalk along the south side exists. Wide, tree planted boulevards exist along Wheelock Parkway. The existing street lighting has not been updated to reflect the typical Saint Paul Lantern style lighting.

West Wheelock Parkway from North Marion Street to North Rice Street is a 30 foot roadway with a 120 foot parkway.

## PROPOSED IMPROVEMENTS

### Roadway & Corridor Improvements

West Wheelock Parkway from North Victoria Street to North Westminster Street includes reconstructing the roadway to 24 feet wide. Striping for this corridor will include two travel lanes.

Lighting will be improved within this area to include the typical Saint Paul Lantern Style lights.

### Wayfinding Improvements

Corridor reinforcement and branding will be placed along Wheelock Parkway. Operational signage will be placed on the south east corner of West Wheelock Parkway and North Rice Street.

### Trail & Sidewalk Improvements

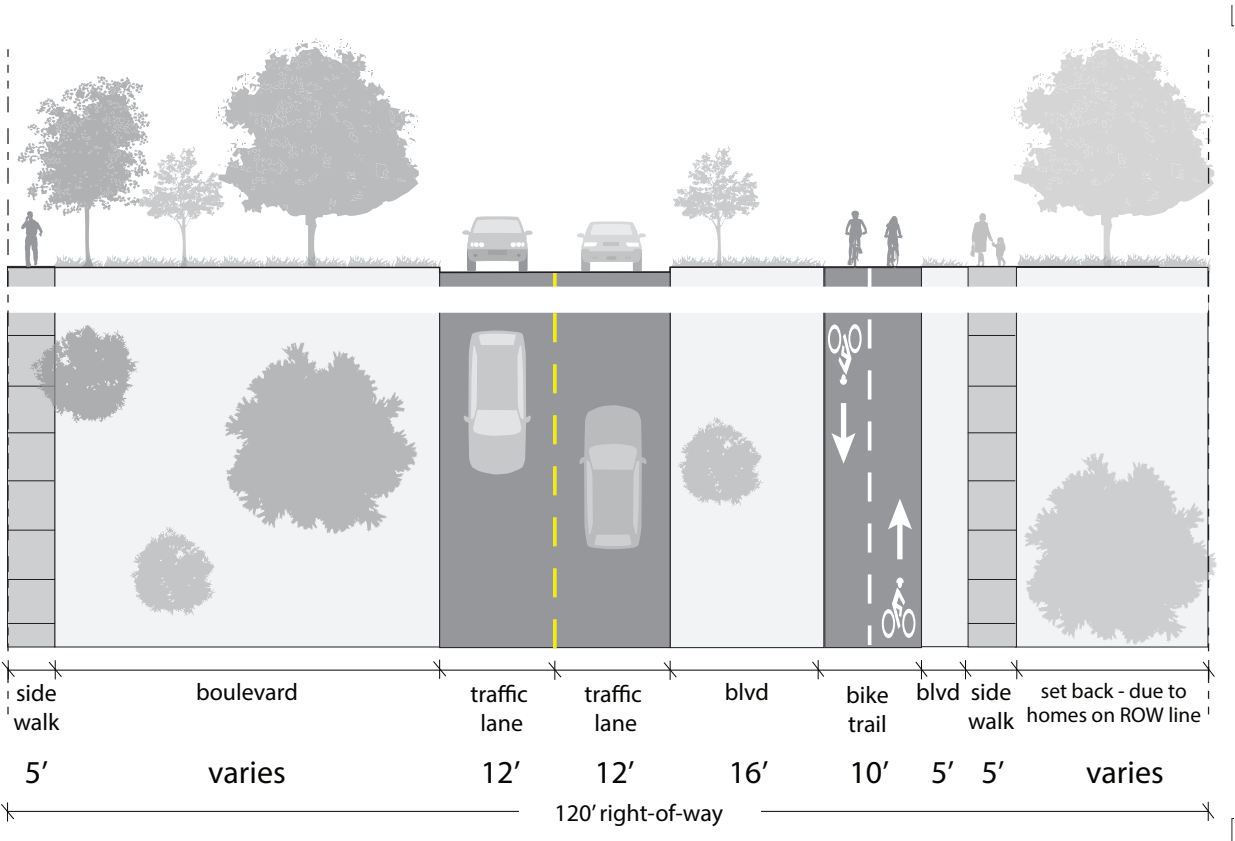
Improvements include reconstructing and adding sidewalks and adding an off-road bike trail to the south side boulevard area. Sidewalks will be constructed as close to the parkway property lines as possible. The bike trail will be positioned between the roadway and south side sidewalk. The bike trail will be placed to allow adequate boulevard area for tree planting between both the

sidewalk and bike trail and also between the bike trail and roadway. The bike trail will also have raised tabled crossings at North Marion Street, North Woodbridge Street, North Albemarle Street, and North Park Street.

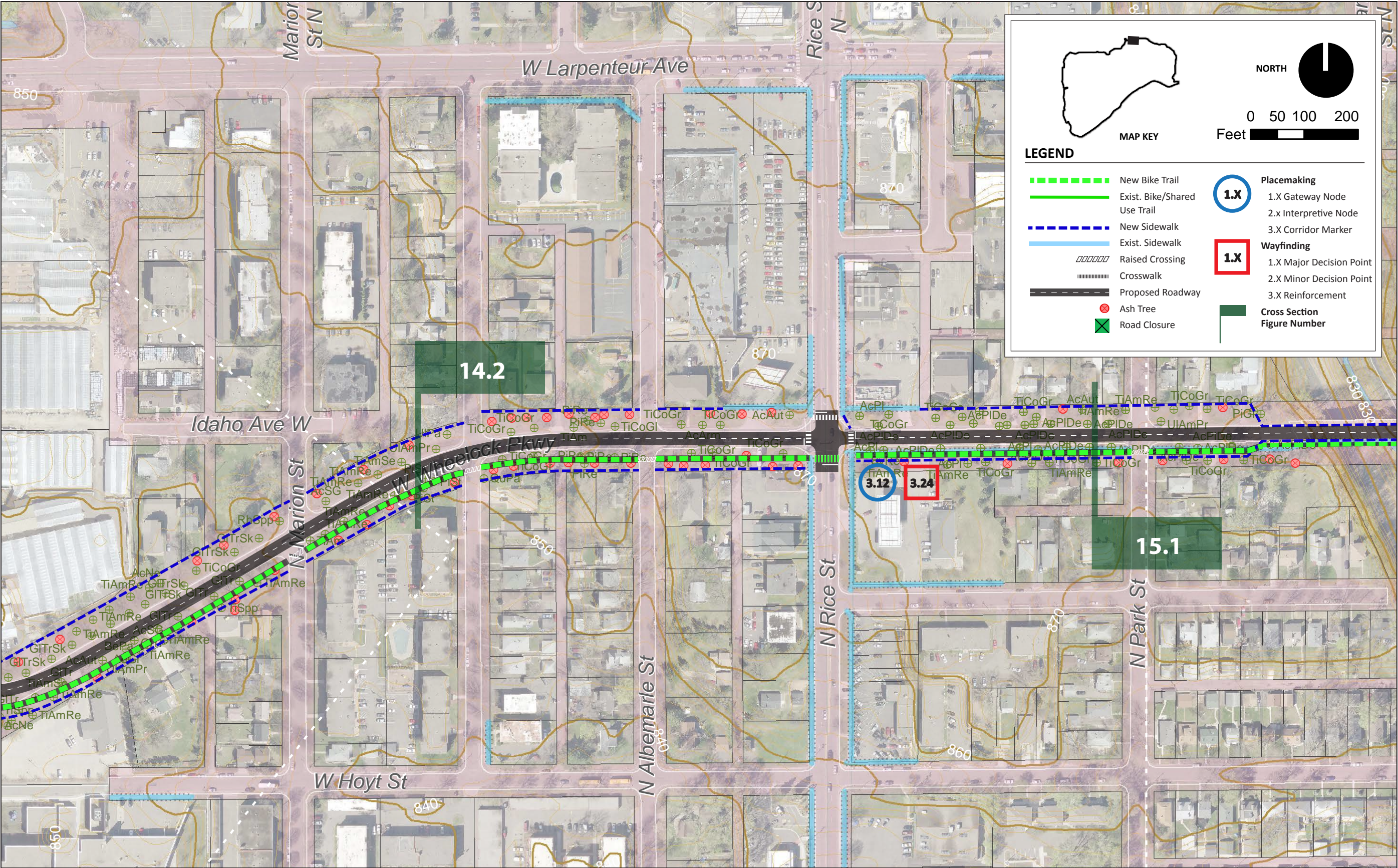
### Parkway Amenities and Public Art Improvements

A corridor marker (P.3.12) will also be placed at the southeast corner of West Wheelock Parkway and North Rice Street.

WHEELOCK PARKWAY  
FIGURE 15.1 NORTH RICE STREET TO  
TROUT BROOK BRIDGE







MAP 15 - WHELOCK PARKWAY MARION STREET TO TROUT BROOK TRAIL



# MAP 16 - WHEELLOCK PARKWAY TROUT BROOK TRAIL TO I-35

## EXISTING CONDITIONS

West Wheelock Parkway from North Rice Street to I35E is a formal corridor. The existing corridor includes a two lane roadway with no on-street parking. Sidewalks exist along the south side of West Wheelock Parkway from North Rice Street to I35E. Wide, tree planted boulevards exist along Wheelock Parkway. The existing street lighting has not been updated to reflect the typical Saint Paul Lantern style lighting.

West Wheelock Parkway also crosses Trout Brook Trail. This intersection provides an opportunity to connect two regional trails. However there is 32 feet of elevation change between the two trails; this presents a design challenge to connect the trails and stay within the existing parkway and right-of-ways.

West Wheelock Parkway from North Victoria Street to North Westminster Street is a 30 foot roadway with a 120 foot parkway.

## PROPOSED IMPROVEMENTS

### Roadway & Corridor Improvements

West Wheelock Parkway from North Rice Street to I35E includes reconstructing the roadway to 24 feet wide. Striping for this corridor will include two travel lanes. Lighting will be improved within this area to include the typical Saint Paul Lantern Style lights.

### Wayfinding Improvements

Corridor reinforcement and branding will be placed along Wheelock Parkway. Operational signage will be placed on the south east corner of West Wheelock Parkway and North Jackson Street.

### Trail & Sidewalk Improvements

Improvements include reconstructing and adding sidewalks and adding an off-road bike trail to the south side boulevard area. Sidewalks will be constructed as close to the parkway property

lines as possible. The bike trail will be positioned between the roadway and south side sidewalk. The bike trail will be placed to allow adequate boulevard area for tree planting between both the sidewalk and bike trail and also between the bike trail and roadway. The bike trail will also have raised tabled crossings at Wheelock Drive.

A bike-able connection to Trout Brook Trail would need to follow the un-improved right-of-way of North Sylvan Street to West Larpenteur Avenue then connect with the Trout Brook Trail. This alternative is not economical, therefore a stairway from the easterly abutment of Trout Brook Bridge to Trout Brook Trail is proposed. The stairway will include a u-shape bike channel to assist cyclists that push their bikes up and down the stairway. Other routes to access Trout Brook Trail would be south on North Jackson Street to Arlington Avenue East.

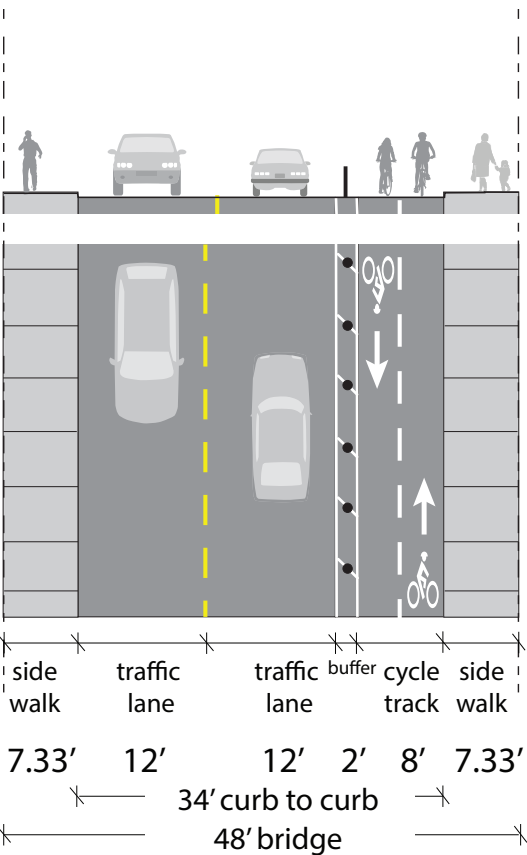
### Parkway Amenities and Public Art Improvements

A corridor marker (P.3.13) will also be placed at the southeast corner of West Wheelock Parkway and North Rice Street. A future Gateway Node (P.1.6) is also programmed for the intersection of Grand Round and Trout Brook Trail, once a navigable connection is made.

## WHEELLOCK PARKWAY

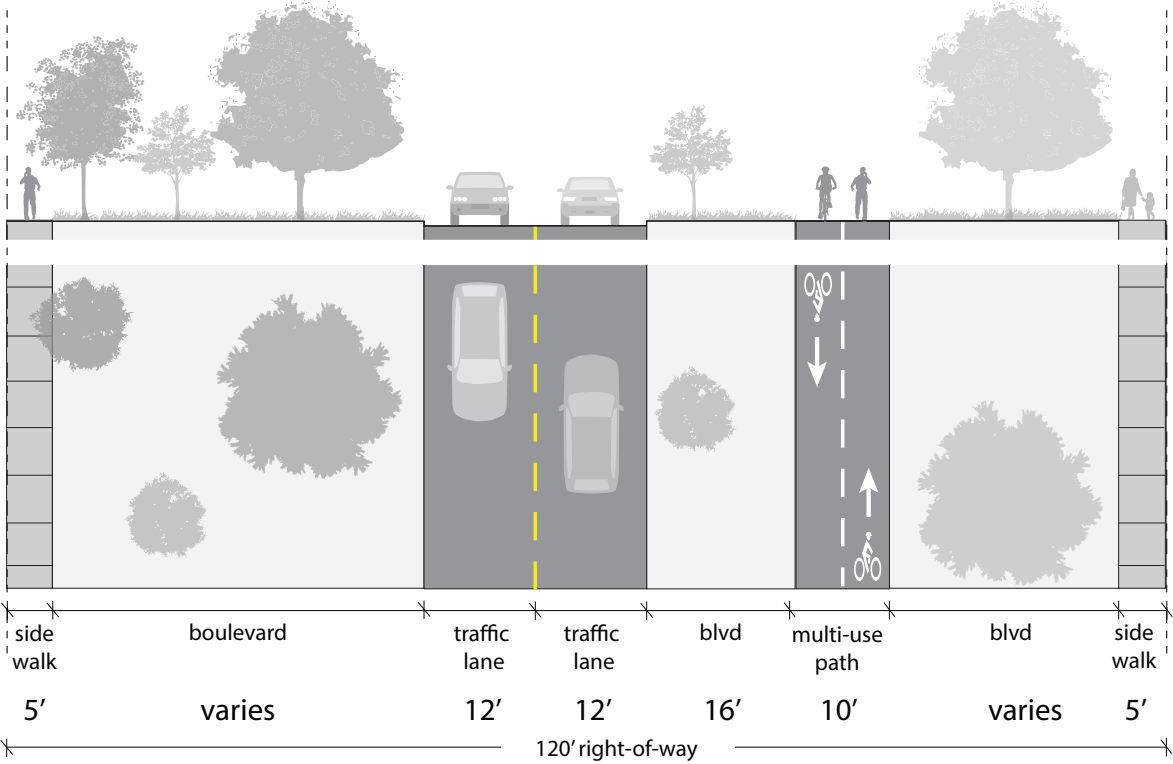
FIGURE 16.2

TROUT BROOK TRAIL BRIDGE TO I35E

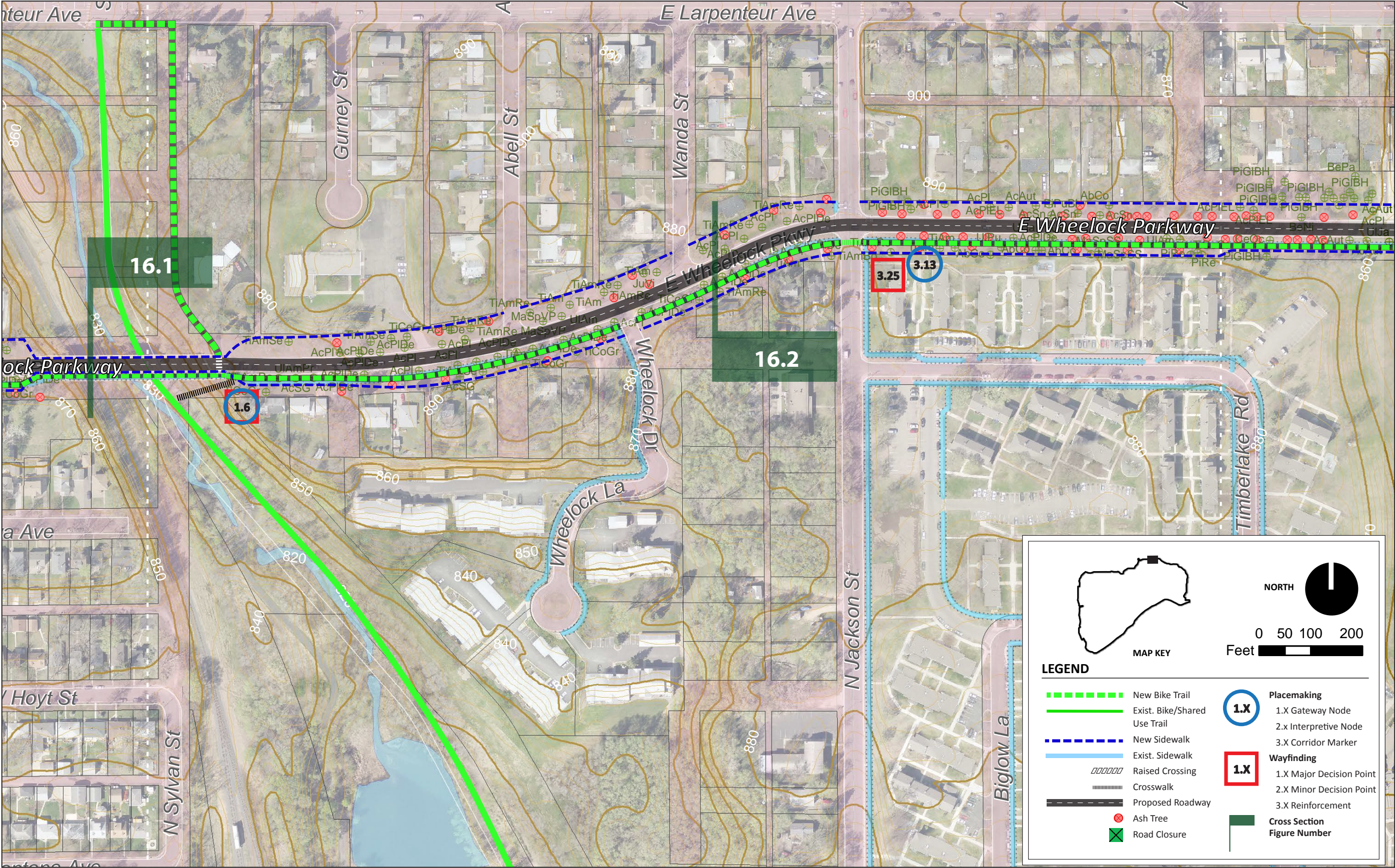


## WHEELLOCK PARKWAY

FIGURE 16.1 TROUT BROOK TRAIL BRIDGE







MAP 16 - WHELOCK PARKWAY TROUT BROOK TRAIL TO I-35



# MAP 17 - WHEELOCK PARKWAY I-35 TO GATEWAY TRAIL

## EXISTING CONDITIONS

West Wheelock Parkway from North Jackson Street to I35E is characterized as a formal corridor; East Wheelock Parkway from I35E to the Gateway Trail is characterized as a naturalistic corridor. The existing corridor includes a two lane roadway with no on-street parking from North Rice Street to I35E Bridge. The prohibition of on-street parking is intermittently signed from I35E Bridge to North Arcade Street; very few on-street parking has been noted during the preparation of this plan. Sidewalks only exist along the south side of West Wheelock Parkway from North Rice Street to I35E. Wide, tree planted boulevards exist along Wheelock Parkway. The existing street lighting has not been updated to reflect the typical Saint Paul Lantern style lighting.

West / East Wheelock Parkway also crosses I35E on a new Bridge. The bridge was designed with only a sidewalk along the south side. However, travel lanes were designed extra wide and a future sidewalk could be placed along the north side without jeopardizing the functionality of the travel lanes. An agreement with the Minnesota Department of Transportation would need to be executed prior to this change.

West / East Wheelock Parkway from North Jackson Street to the Gateway Trail is a 30 foot roadway with a 120 foot parkway.

## PROPOSED IMPROVEMENTS

### Roadway & Corridor Improvements

West / East Wheelock Parkway from North Jackson Street to the Gateway Trail includes reconstructing the roadway to 24 feet wide. Striping for this corridor will include two travel lanes. No on-street parking will be allowed. Lighting will be improved within this area to include the typical Saint Paul Lantern Style lights

### Wayfinding Improvements

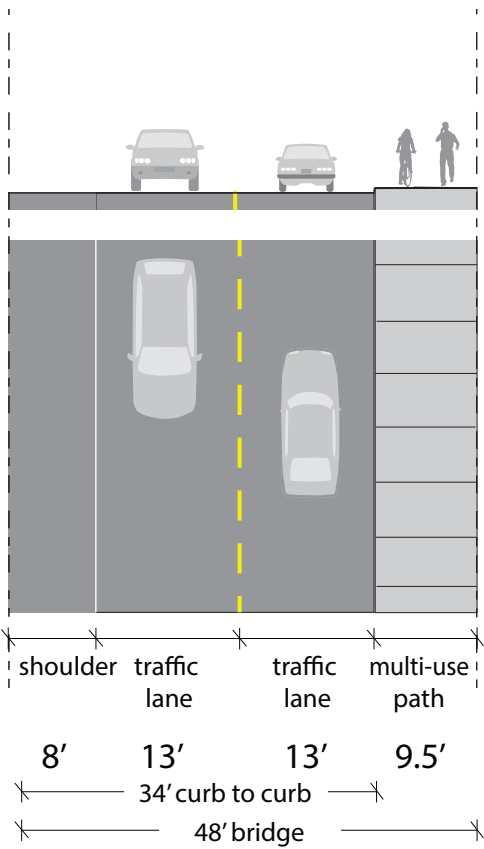
Corridor reinforcement and branding will be placed along Wheelock Parkway. Operational signage will be placed on the south east corner of West / East Wheelock Parkway and I-35E.

### Trail & Sidewalk Improvements

Improvements include reconstructing and adding sidewalks and adding an off-road bike trail to the south side boulevard area. Sidewalks will be constructed as close to the parkway property lines as possible. The bike trail will be positioned between the roadway and south side sidewalk. The bike trail will be placed to allow adequate boulevard area for tree planting between both the sidewalk and bike trail and also between the bike trail and roadway. The bike trail will also have raised tabled crossing at North Edgemont Street.

### Parkway Amenities and Public Art Improvements

A corridor marker (P.3.14 & P.3.15) will be placed at the southwest corner of West Wheelock Parkway and I-35E and one at the northeast corner of East Wheelock Parkway and I-35E.



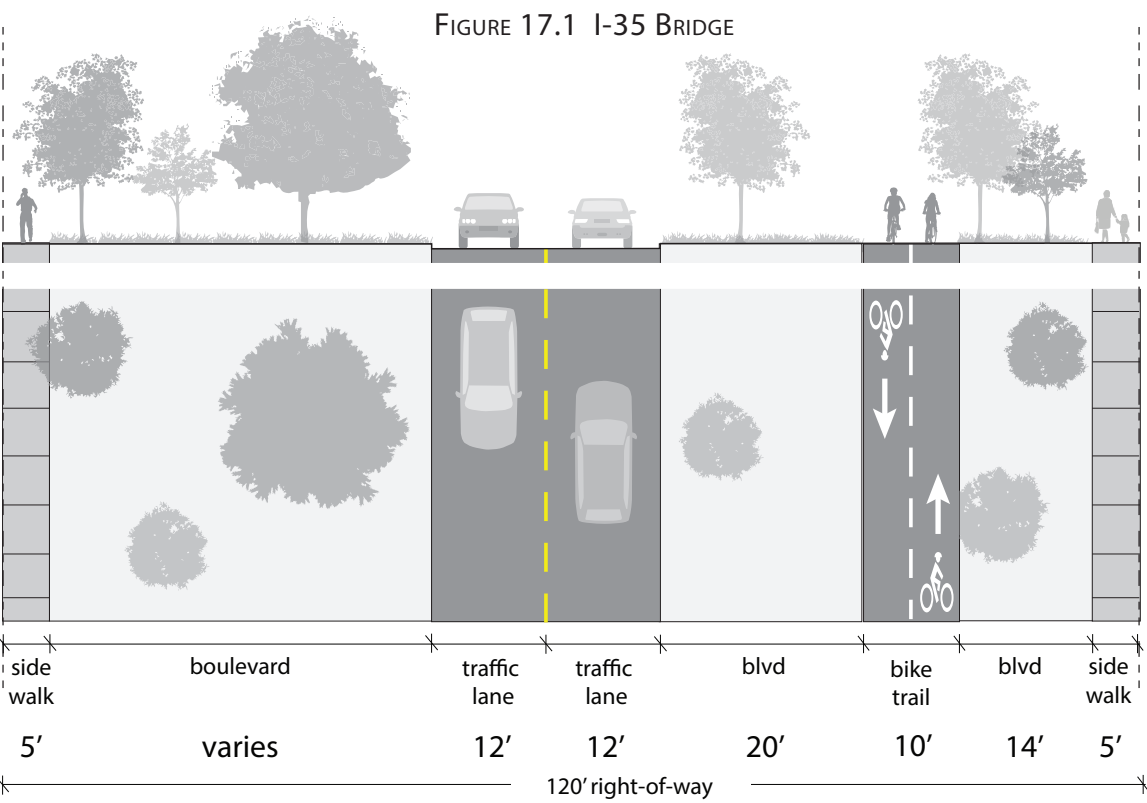
## WHEELOCK PARKWAY

FIGURE 17.1 I-35 BRIDGE

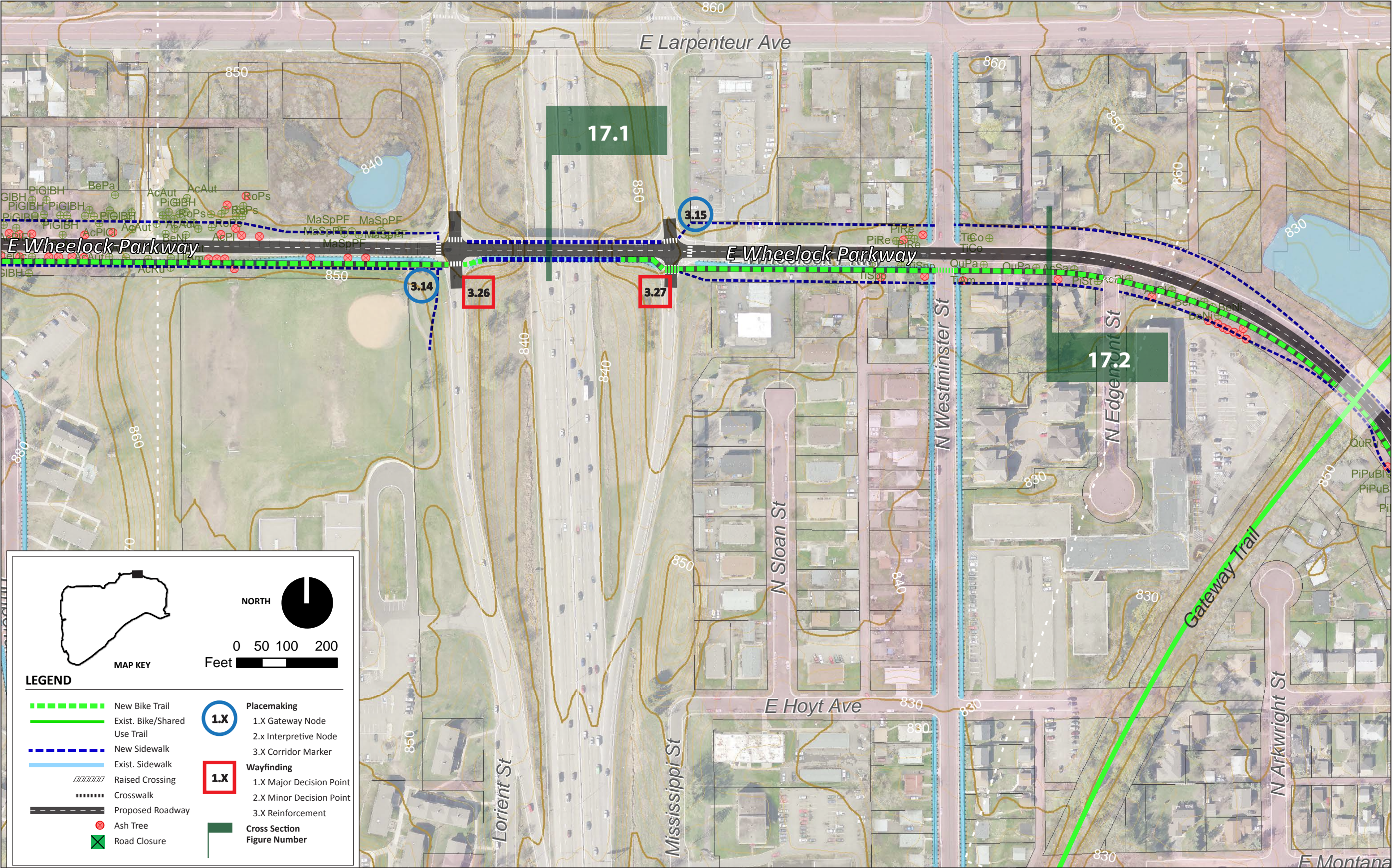
## WHEELOCK PARKWAY

FIGURE 17.2 I-35 BRIDGE TO

GATEWAY TRAIL







MAP 17 - WHELOCK PARKWAY I-35 TO GATEWAY TRAIL



# MAP 18 - WHEELOCK PARKWAY GATEWAY TRAIL TO EDGERTON STREET

## EXISTING CONDITIONS

East Wheelock Parkway from the Gateway Trail to North Edgerton Street is characterized as a hybrid of a naturalistic corridor within the center median and formal corridor within the boulevards. The existing corridor includes a two lane roadway west of the Gateway Trail; east of the Gateway Trail the corridor separates to one-way travel systems. The prohibition of on-street parking is not signed from Gateway Trail to North Edgerton Street; very few on-street parking has been noted during the preparation of this plan. No sidewalks exists along East Wheelock Parkway from west of the Gateway Trail to just west of North Edgerton Street, where sidewalks exist on the south side for approximately seven homes. The existing street lighting has not been updated to reflect the typical Saint Paul Lantern style lighting.

The Gateway Trail is a Minnesota Department of Natural Resource Regional Trail and passes over East Wheelock Parkway on a previous used railroad bridge.

East Wheelock Parkway, westward from the Gateway Trail is a 30 foot roadway within a 120 foot parkway. East Wheelock Parkway, east of the Gateway Trail separates into two one-way systems separated by a large median. The one-way roadways are 20 feet wide within a total 120 foot wide parkway.

## PROPOSED IMPROVEMENTS

### Roadway & Corridor Improvements

East Wheelock Parkway west of the Gateway Trail Bridge includes reconstructing the roadway to 24 feet wide. Striping for this corridor will include two travel lanes. No on-street parking will be allowed. Lighting will be improved within this area to include the typical Saint Paul Lantern Style lights.

East Wheelock Parkway east of the Gateway Trail Bridge will maintain the one-way system by reconstructing two one-way roadways. The roadways will typically be 16 foot wide roadways; areas will be designed to allow pull-off areas for emergency vehicles or disabled vehicles, these areas will be designed to 20 feet wide. Roadway closures for pedestrian and bicyclist safety are recommended at East Wheelock Parkway and Parkway Drive.

### Wayfinding Improvements

Corridor reinforcement and branding will be placed along Wheelock Parkway. Mapping and Directional signage will be placed at the connection to the Gateway Trail. Operational signs will also be placed at the Gateway Trail intersection and also at the intersection of East Wheelock Parkway and North Edgerton Street.

### Trail & Sidewalk Improvements

Improvements include reconstructing and adding sidewalks and adding a 10 foot off-road bike trail. The off-road bike trail will be located within the south boulevard area west of the Gateway Trail and within the median area east of the Gateway Trail. Sidewalks will be constructed as close to the parkway property lines as possible. A raised tabled crossing for the trail will be installed across the median opening between the Gateway Trail and North Edgerton Street.

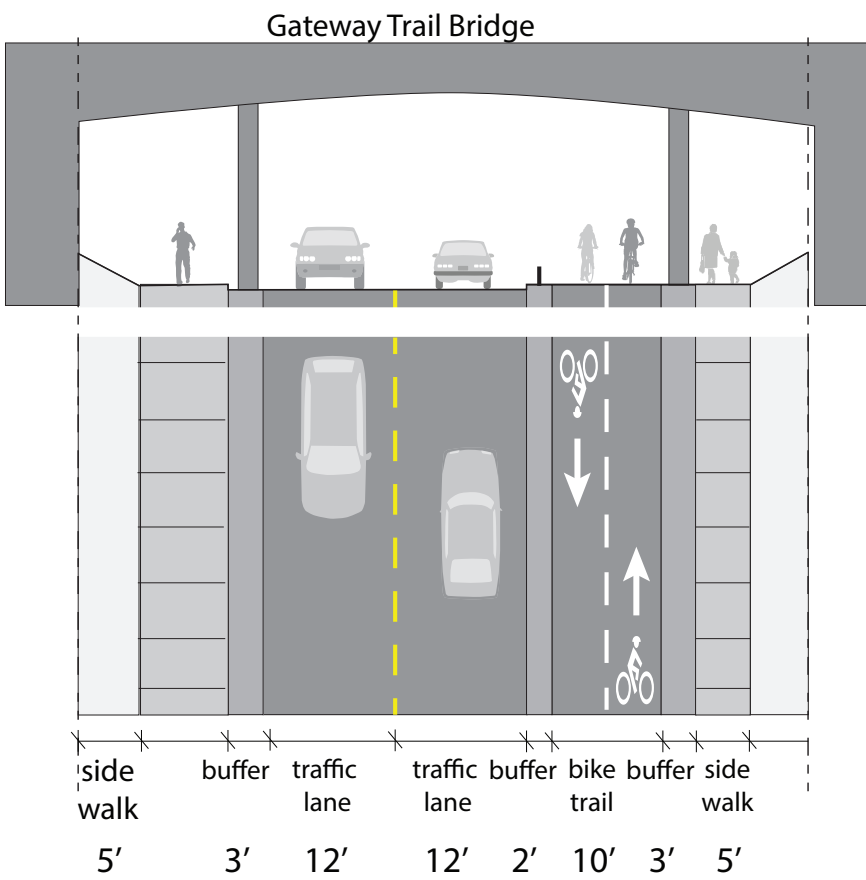
An improved connection to the Gateway Trail is also planned along the northeasterly side of the Gateway Trail and East Wheelock Parkway.

### Parkway Amenities and Public Art Improvements

A Gateway Node (P.1.7) is programed for the northeast corner of East Wheelock Parkway and Gateway Trail. The Gateway Node will include a plaza with kiosk that will have interpretive and map

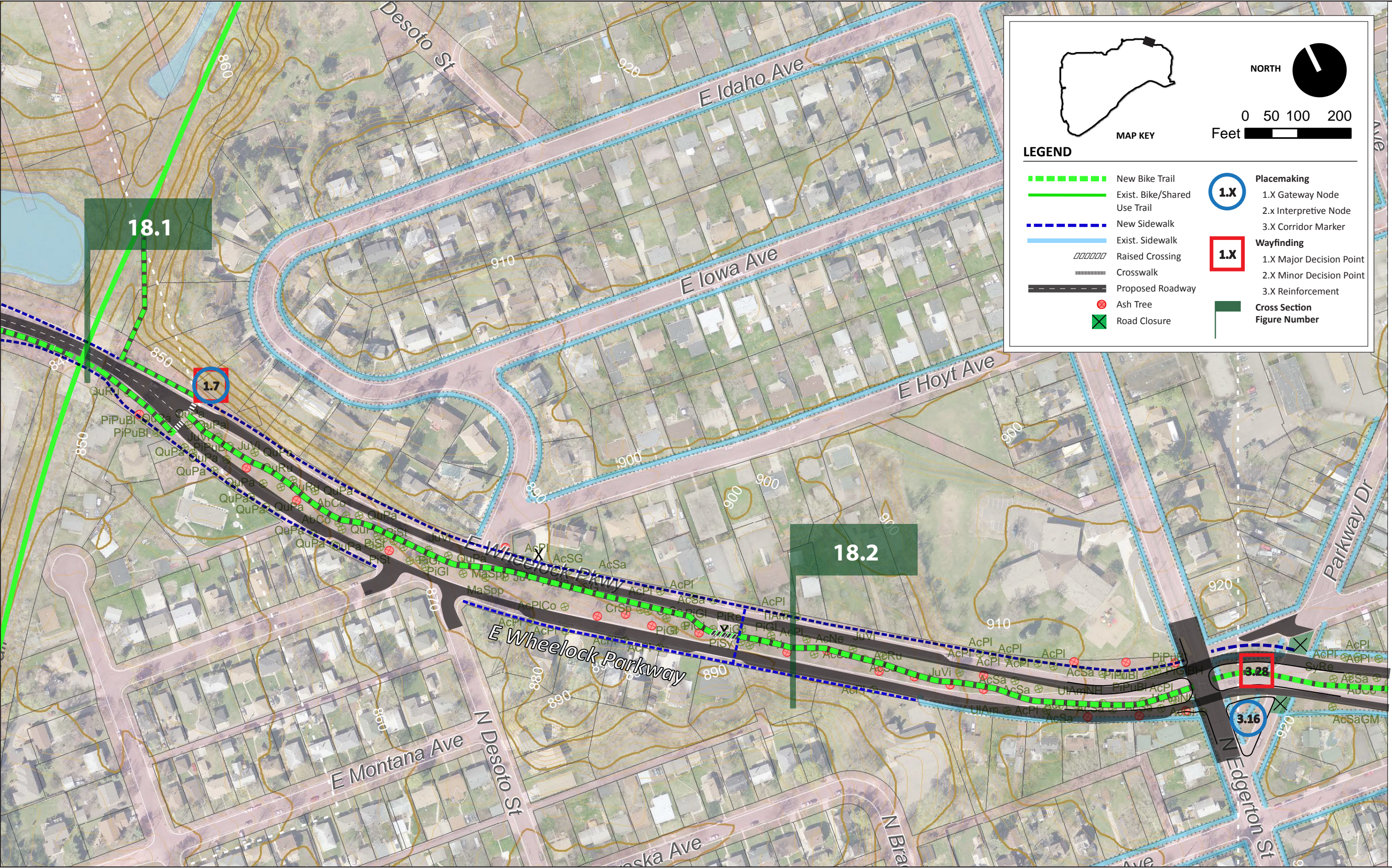
panels, seating, bike repair station, and a potential public art component.

A corridor marker (P.3.16) and a drinking fountain will be placed at the intersection of East Wheelock Parkway and North Edgerton Street.



WHEELOCK PARKWAY FIGURE 18.1 GATEWAY TRAIL BRIDGE





MAP 18 - WHELOCK PARKWAY GATEWAY TRAIL TO EDGERTON STREET



# MAP 19 - WHEELLOCK PARKWAY PAYNE AVENUE TO ARCADE STREET

## EXISTING CONDITIONS

East Wheelock Parkway from North Edgerton Street to North Arcade Street is characterized as a hybrid of a naturalistic corridor within the center median and formal corridor within the boulevards. The existing corridor includes a separated one-way system. The prohibition of on-street parking is not signed from North Edgerton Street to North Arcade Street; very few on-street parking has been noted during the preparation of this plan. Sidewalks exist on both sides of the corridor from North Edgerton Street to North Arcade Street. The existing street lighting has not been updated to reflect the typical Saint Paul Lantern style lighting. East Wheelock Parkway one-way roadways are 20 feet wide within a 120 foot parkway. North Arcade Street is also US Highway 61.

## PROPOSED IMPROVEMENTS

### Roadway & Corridor Improvements

East Wheelock Parkway from North Edgerton Street to North Arcade Street includes reconstructing the roadways to west of the Gateway Trail Bridge includes reconstructing the roadway to 24 feet wide. Striping for this corridor will include two travel lanes. No on-street parking will be posted. Lighting will be improved within this area to include the typical Saint Paul Lantern Style lights. East Wheelock Parkway from North Edgerton Street to North Arcade Street will maintain the one-way system by reconstructing two one-way roadways. The roadways will typically be 16 foot wide roadways; areas will be designed to allow pull-off areas for emergency vehicles or disabled vehicles, these areas will be designed to 20 feet wide. The pull-off areas will need to be identified during final design of the roadway. Roadway closures for the safety of the off-road bike trail are recommended through the median areas for East Wheelock

Parkway and North Walsh Street, Walsh Street, and North Weide Street. The intersection configuration at East Wheelock Parkway and North Arcade Street will require further study and any modifications will require discussions with the Minnesota Department of Transportation.

### Wayfinding Improvements

Corridor reinforcement, branding, and operational signs will be placed along East Wheelock Parkway.

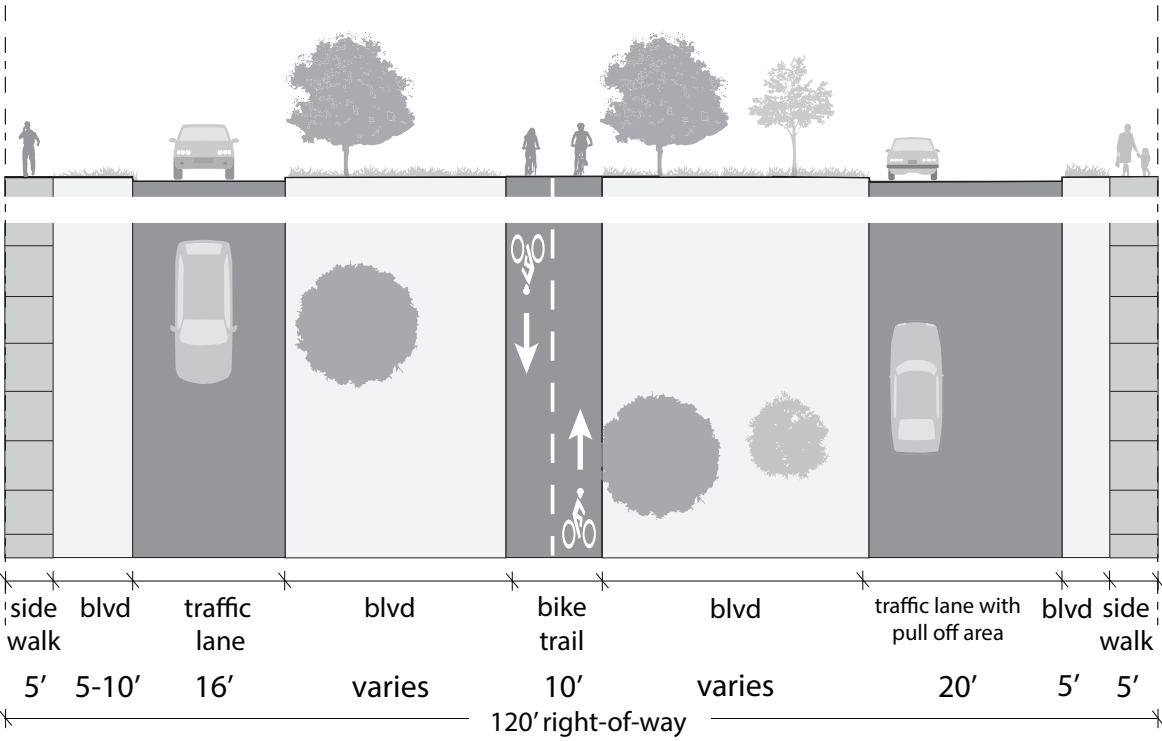
### Trail & Sidewalk Improvements

Improvements include adding a 10 foot off-road bike trail to the median area between North Edgerton Street and North Arcade Street. The reconstruction of sidewalks will need to be analyzed during the final design as some sidewalk panels have settled; the sidewalks will remain along the parkway property lines. The bike trail will also have raised tabled crossings at North Greenbrier St.

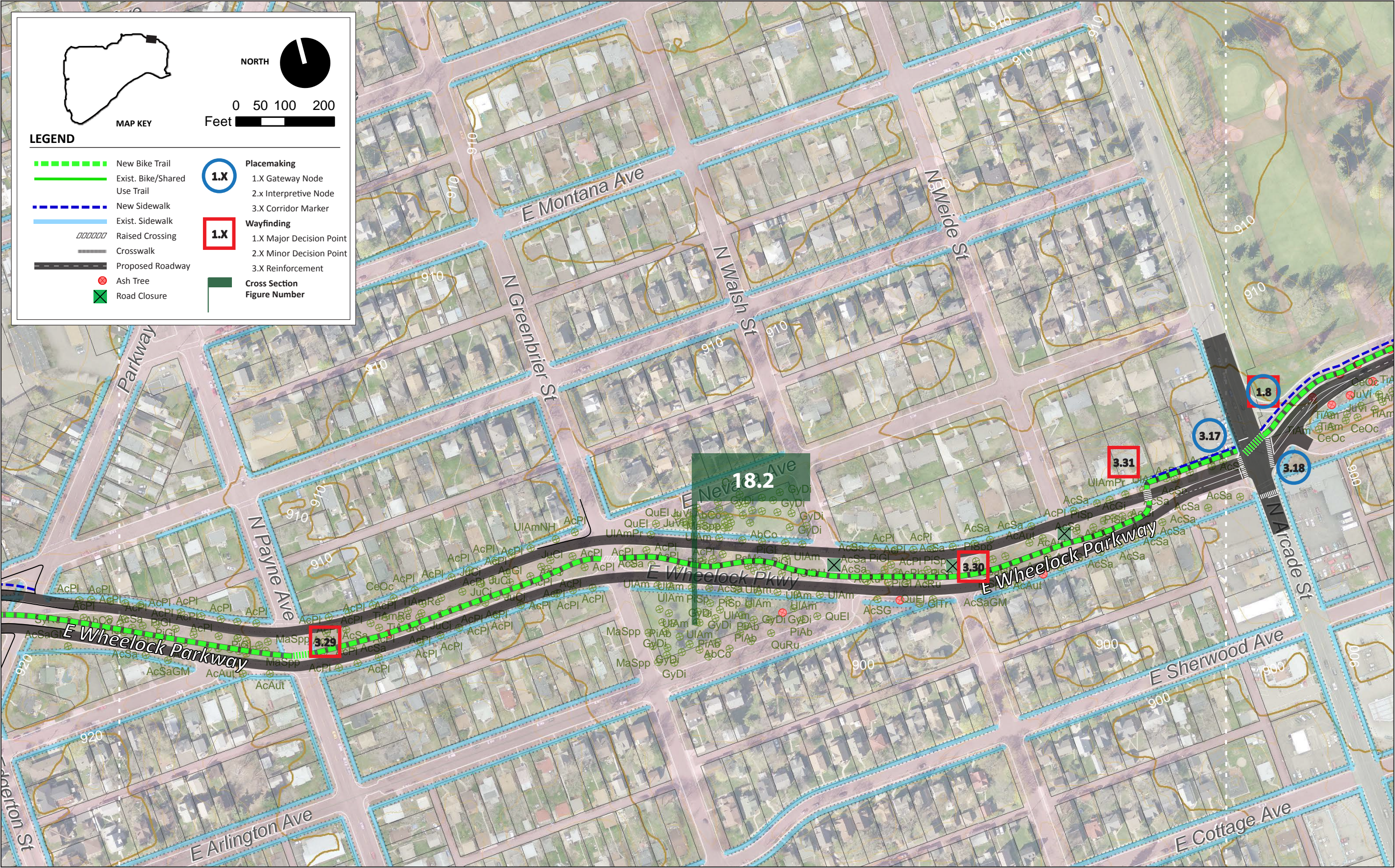
## Parkway Amenities and Public Art Improvements

A Gateway Node (P.1.8) that serves as a welcome to Phalen Regional Park is programed for the northeast corner of East Wheelock Parkway and North Arcade Street. The Gateway Node will include a plaza with kiosk that will have interpretive and map panels, seating, bike repair station, a potential drinking fountain, waste receptacles, and potential public art component. The node will take into account any Phalen Regional Park design standards and studies. This node can be constructed independently of any work on East Wheelock Parkway. Due to the size of the intersection at East Wheelock Parkway and North Arcade Street corridor markers are programmed for both the northwest and southeast corners.

WHEELLOCK PARKWAY  
FIGURE 18.2 I-35 GATEWAY TRAIL BRIDGE TO NORTH  
ARCADE STREET







MAP 19 - WHELOCK PARKWAY PAYNE AVENUE TO ARCADE STREET



# MAP 20 - WHEELLOCK PARKWAY

ARCADE STREET TO LAKE PHALEN

## EXISTING CONDITIONS

East Wheelock Parkway from North Arcade Street to Phalen Drive is characterized as a naturalistic corridor. This area transects Phalen Regional Park with Phalen Golf Course on the north side and green open spaces and Phalen Recreation Center ballfields along the south side. The existing corridor includes a separated one-way system. No on-street parking is allowed through this area. The shoulders are identified with a white stripe. City staff has indicated the difficulties of maintaining median trees due to winter accidents. The existing street lighting, shoebox style lighting for the roadway, has not been updated to reflect the typical Saint Paul Lantern style lighting.

A multi-use trail exists within the south boulevard area and continues to Phalen Drive where it crosses East Wheelock Parkway and then winds northeasterly towards Lake Phalen. The trail intersects with a one-way bike trail and a pedestrian trail which both circumnavigate Lake Phalen.

East Wheelock Parkway one-way roadways are 22 feet wide.

## PROPOSED IMPROVEMENTS

### Roadway & Corridor Improvements

Expansion to the north or south is difficult due the proximity of Phalen Golf Course and the topography along the southerly boulevard area. The proposed roadway for East Wheelock Parkway from North Arcade Street to Phalen Drive includes reconstructing the roadway to a 24 foot wide roadway. This will also include separated off-road bike and pedestrian trails to be constructed on the north side between the proposed roadway and Phalen Golf Course. No on-street parking will be allowed. Lighting will be improved within this area to include the typical Saint Paul Lantern Style lights.

### Wayfinding Improvements

Corridor reinforcement, branding, and operational signs will be placed along East Wheelock Parkway.

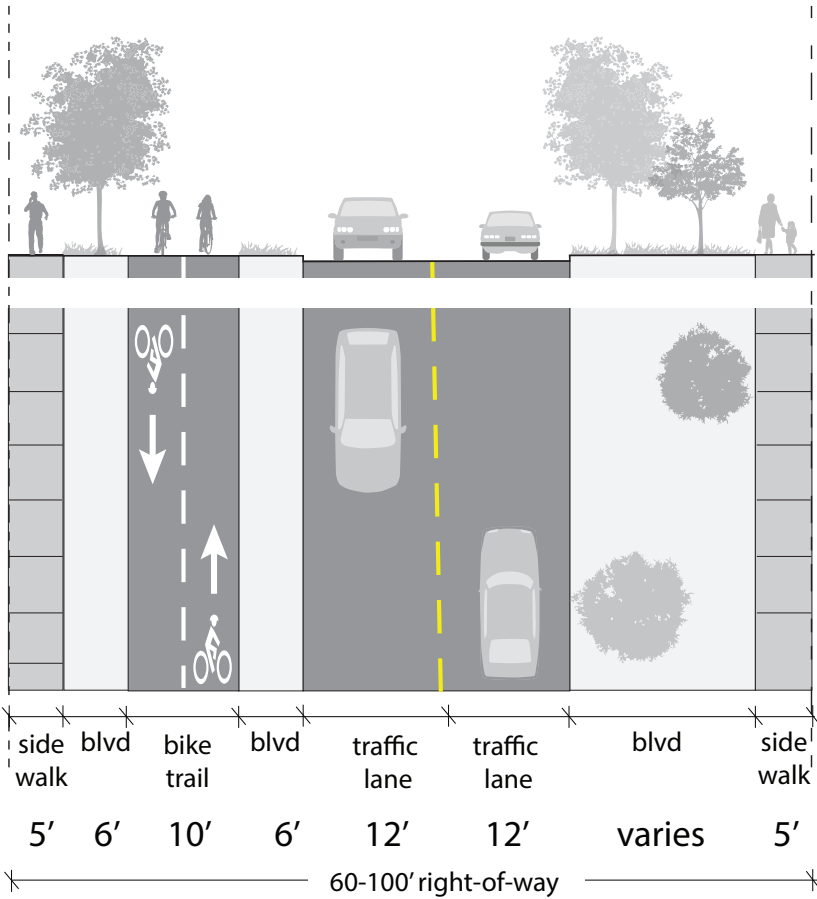
### Trail & Sidewalk Improvements

Improvements include adding a 10 foot off-road bike trail to the northerly boulevard area along with a 5 foot wide sidewalk. The sidewalk along the southerly boulevard area will remain in place. The two boulevard areas between the proposed sidewalk and bike trail and roadway will have ample width to plant grass and trees.

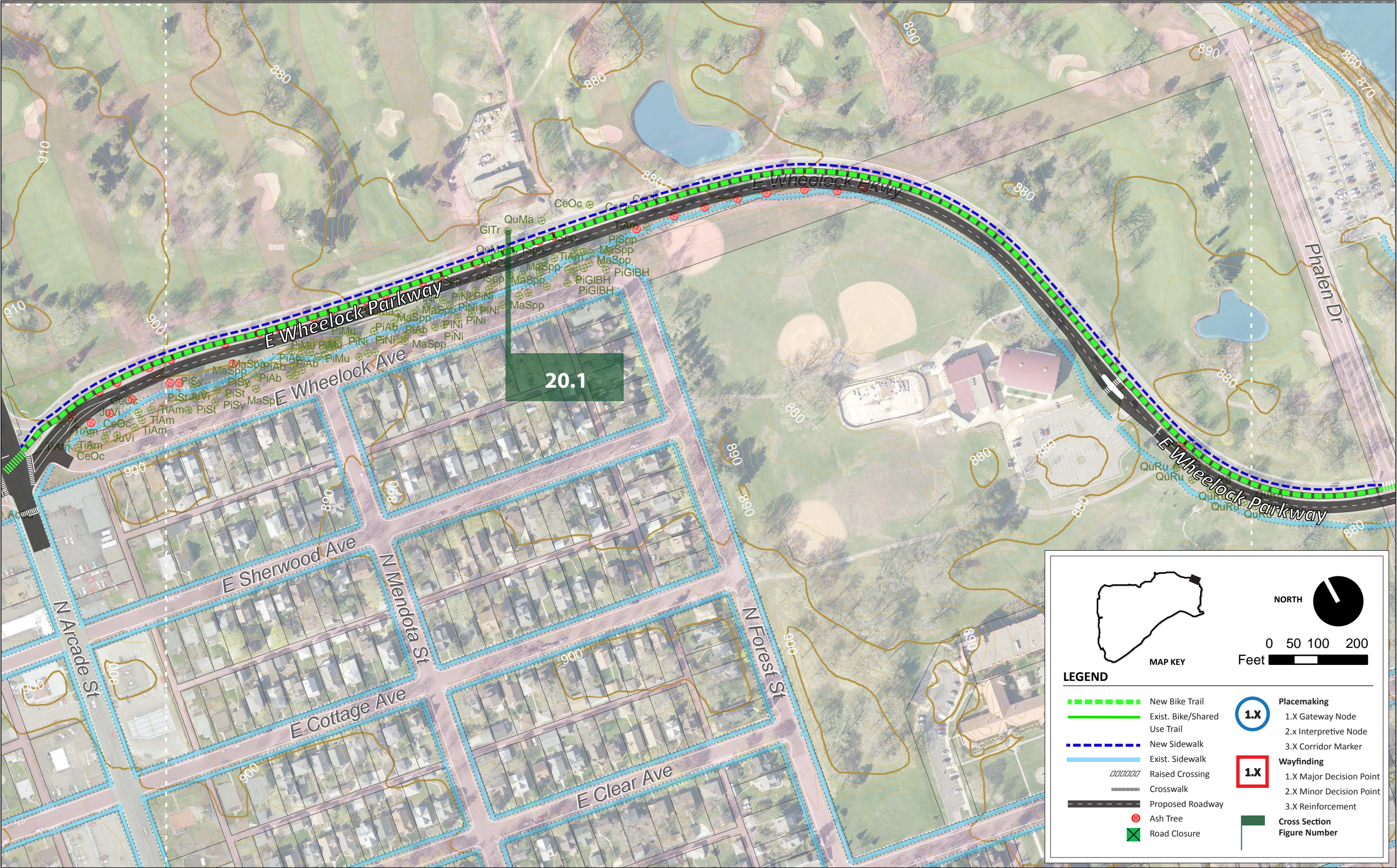
A crosswalk is programmed to connect the two sidewalks at the entrance to Phalen Recreation Center.

## WHEELLOCK PARKWAY

FIGURE 20.1 NORTH ARCADE STREET TO PHALEN DRIVE







MAP 20 - WHELOCK PARKWAY ARCADE STREET TO LAKE PHALEN



# MAP 21 - WHEELLOCK PARKWAY AT LAKE PHALEN

## EXISTING CONDITIONS

East Wheelock Parkway from Phalen Drive to East Shore Drive is characterized as a naturalistic corridor. This area transects Phalen Regional Park with Lake Phalen on the north side and green open spaces along the south side. The corridor does become very narrow between East Ivy Avenue and Lake Phalen. The existing corridor includes a separated one-way system for the westerly half and on the easterly half two travel lanes. No on-street parking is allowed through this area. No sidewalks exist on the south side of the corridor. A pedestrian path along with a one-way bike trail exist between East Wheelock Parkway and Lake Phalen. The existing street lighting, shoebox style lighting for the roadway, has not been updated to reflect the typical Saint Paul Lantern style lighting.

A multi-use trail exists within the south boulevard area, west of Phalen Drive, at Phalen Drive the trail crosses East Wheelock Parkway and then winds northeasterly towards Lake Phalen. The trail intersects with a one-way bike trail and a pedestrian trail which both circumnavigate Lake Phalen.

East Wheelock Parkway one-way roadways are 22 feet wide and the two lane area is 37 feet wide.

## PROPOSED IMPROVEMENTS

### Roadway & Corridor Improvements

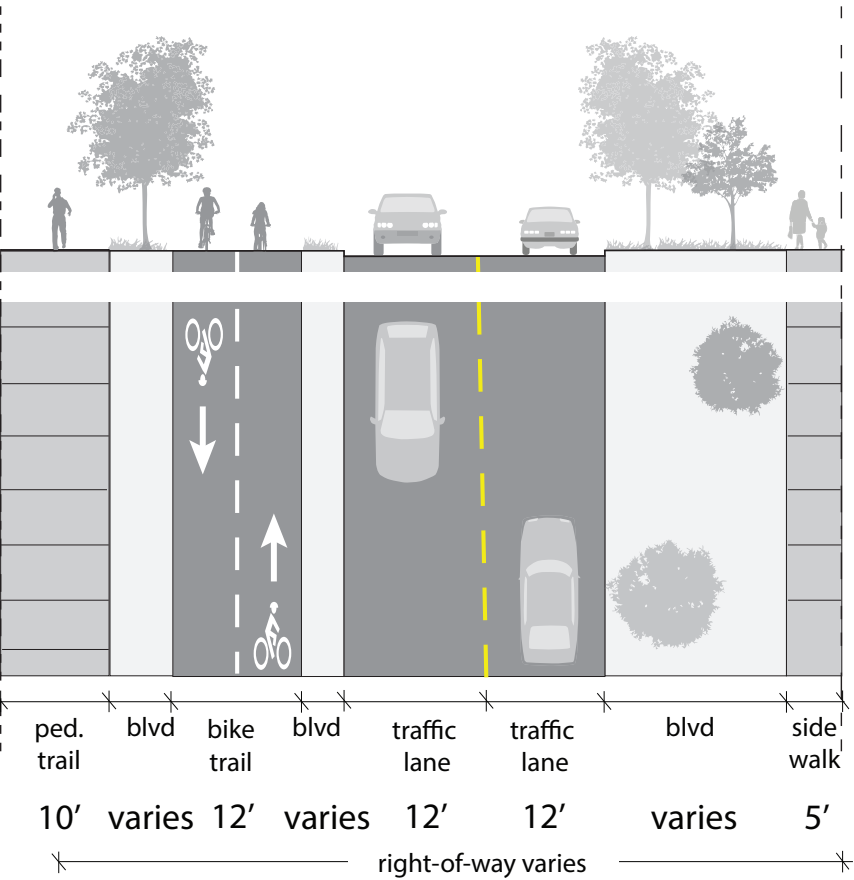
Expansion to the north or south is difficult due the proximity of trails on the west side of Lake Phalen and the limited parkway on the south side. The proposed roadway for East Wheelock Parkway from Phalen Drive to Johnson Parkway includes reconstructing the roadway to a 24 foot wide roadway. No on-street parking will be allowed. Lighting will be improved within this area to include the typical Saint Paul Lantern Style lights.

### Wayfinding Improvements

Corridor reinforcement, branding, and operational signs will be placed along East Wheelock Parkway and also within Phalen Regional Park. Directional signs will be placed at East Wheelock Parkway and Phalen Drive and also within the park for destinations within and around Phalen Regional Park. Any signage proposed within Phalen Regional Park will require coordination with Phalen Regional Park sign standards.

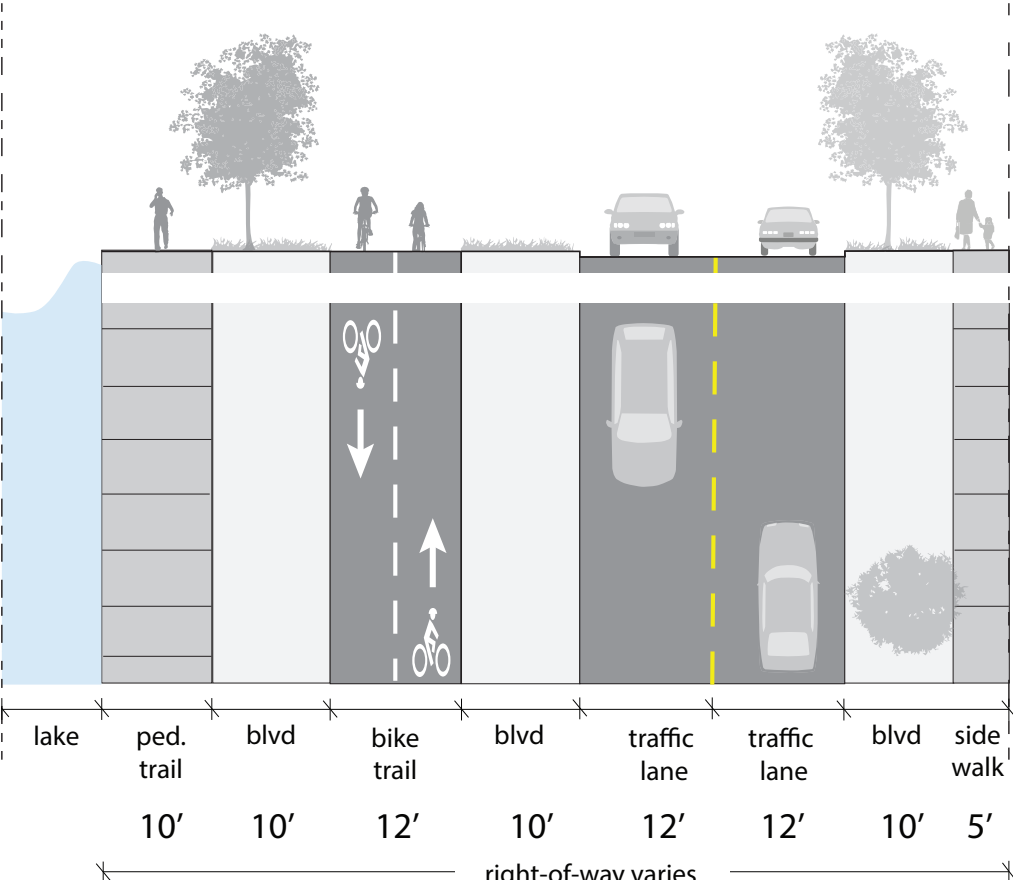
### Trail & Sidewalk Improvements

Improvements include adding a 5 foot wide sidewalk to the south side of East Wheelock Parkway from Phalen Drive to East Maryland Avenue. The existing pedestrian trail and bike trail from Phalen Drive to East Shore Drive will be modified to 10 foot wide pedestrian trail and a 12 foot wide two-way bike trail. The remaining trail system around Lake Phalen requires additional study for the potential of future expansion. The two boulevard areas between the proposed pedestrian path and bike trail and roadway will have ample width to plant grass and trees.



### EAST WHEELOCK PARKWAY

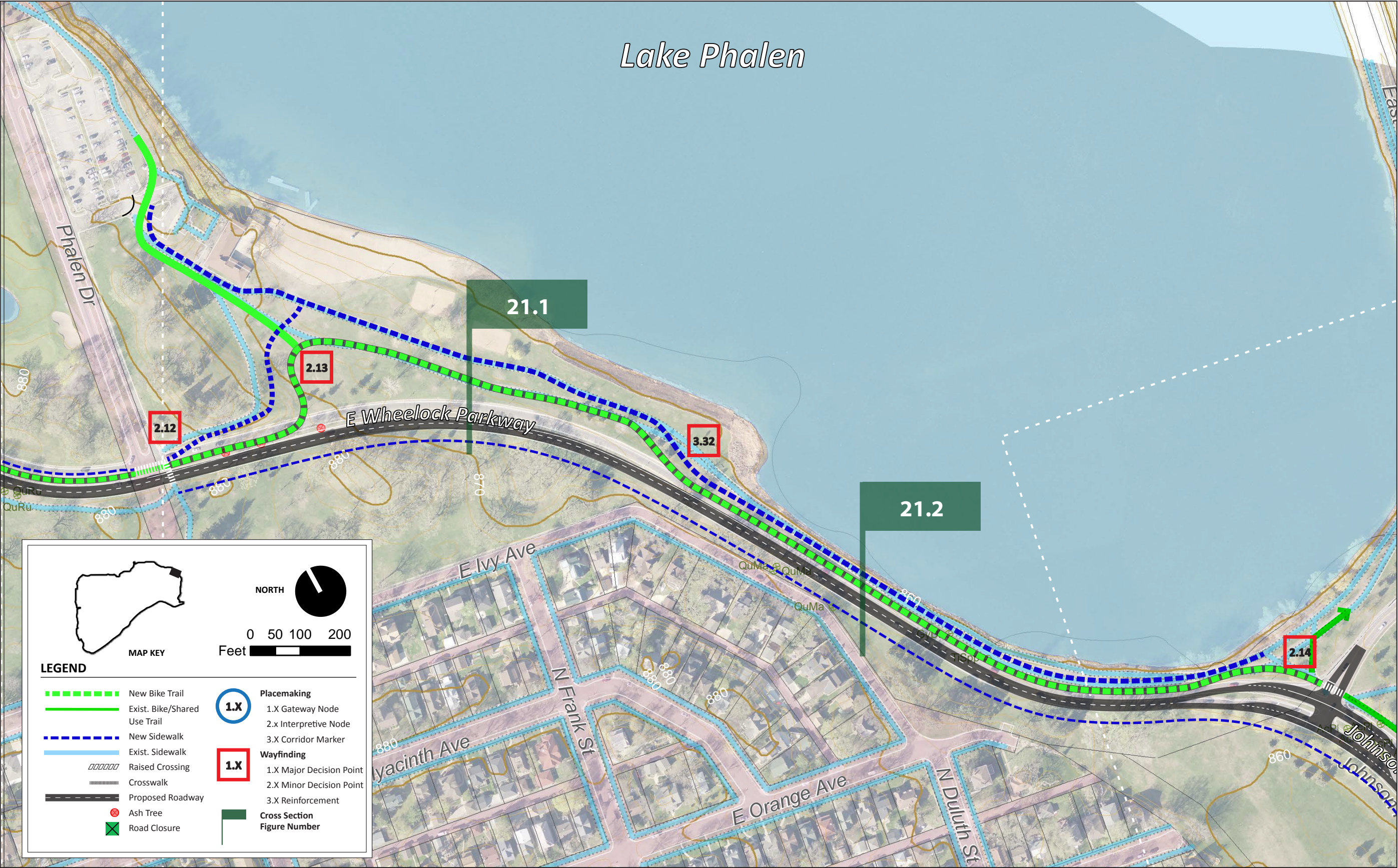
FIGURE 21.1 PHALEN DRIVE TO APPROXIMATELY EAST IVY AVENUE



### EAST WHEELOCK PARKWAY

FIGURE 21.2 SOUTHWEST SIDE OF LAKE PHALEN





MAP 21 - WHELOCK PARKWAY AT LAKE PHALEN



# MAP 22 - WHEELOCK PARKWAY LAKE PHALEN TO PHALEN BOULEVARD

## EXISTING CONDITIONS

The roadways of East Wheelock Parkway and Johnson Parkway north of East Maryland Avenue are separated one-ways with tree and grass planted medians; these roadway corridors are characterized as naturalistic corridors. Dedicated left and right turn lanes exist for traffic at both East Shore Drive and also at East Maryland Avenue. Southbound Johnson Parkway from East Shore Drive to East Maryland Avenue is a two lane roadway which reduces to a one lane roadway between East Maryland Avenue and Phalen Boulevard. Northbound Johnson Parkway from North Prosperity Avenue / Phalen Boulevard to East Maryland Avenue increases from a one lane to a two lane roadway. Shoulders are striped for both directions.

Sidewalks do not exist along the west side of this corridor. The Bruce Vento Trail intersects between East Shore Drive and East Maryland Avenue and provides a multi-use trail to Lake Phalen to the north and Johnson Parkway to the south. The existing street lighting, shoebox style lighting for the roadway, has not been updated to reflect the typical Saint Paul Lantern style lighting.

East Wheelock Parkway one-way roadways are 22 feet wide and the two lane area is 37 feet wide.

## PROPOSED IMPROVEMENTS

### Roadway & Corridor Improvements

No major improvements are planned for this area. To be consistent with the Grand Round it is recommended that when improvements are complete to remove the shoulders. The remaining roadway configuration should remain as is. No on-street parking will continue. Lighting should be improved within this area to include the typical Saint Paul Lantern Style lights.

### Wayfinding Improvements

Corridor reinforcement, branding, and operational signs will be placed along East Wheelock Parkway and Johnson Parkway. A directional sign will be placed at the southeast corner of Johnson Parkway and North Prosperity Avenue / Phalen Boulevard for Ames Lake Park.

### Trail & Sidewalk Improvements

Improvements include adding a 5 foot wide sidewalk to the west side of East Wheelock Parkway and Johnson Drive to from Phalen Drive to Magnolia Lane. The multi-sue Bruce Vento Trail will remain as is.

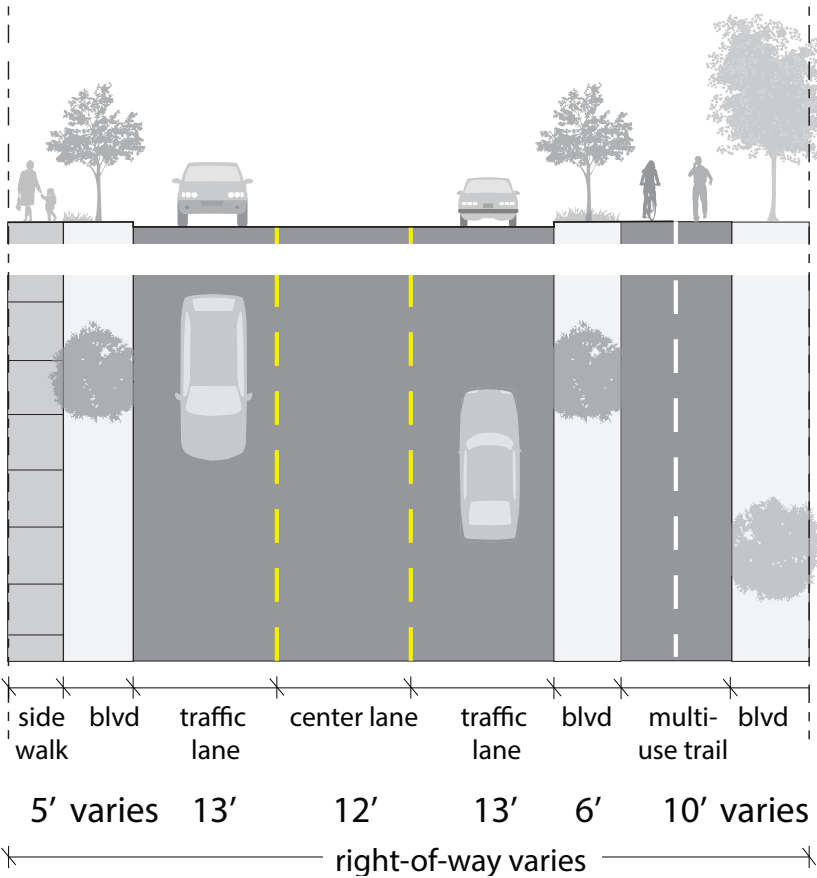
### Parkway Amenities and Public Art Improvements

A Gateway Node (P.1.9) that will serve as a welcome to Phalen Regional Park is programed on the south side of Lake Phalen between East Shore Drive and East Maryland Avenue. The Gateway Node will include a plaza with kiosk that will have interpretive and map panels, seating, bike repair station, potential drinking fountain, waste receptacles, and public art. The node will take into account any Phalen Regional Park design standards and studies. This node can be constructed independently of any work on East Wheelock Parkway or Johnson Parkway.

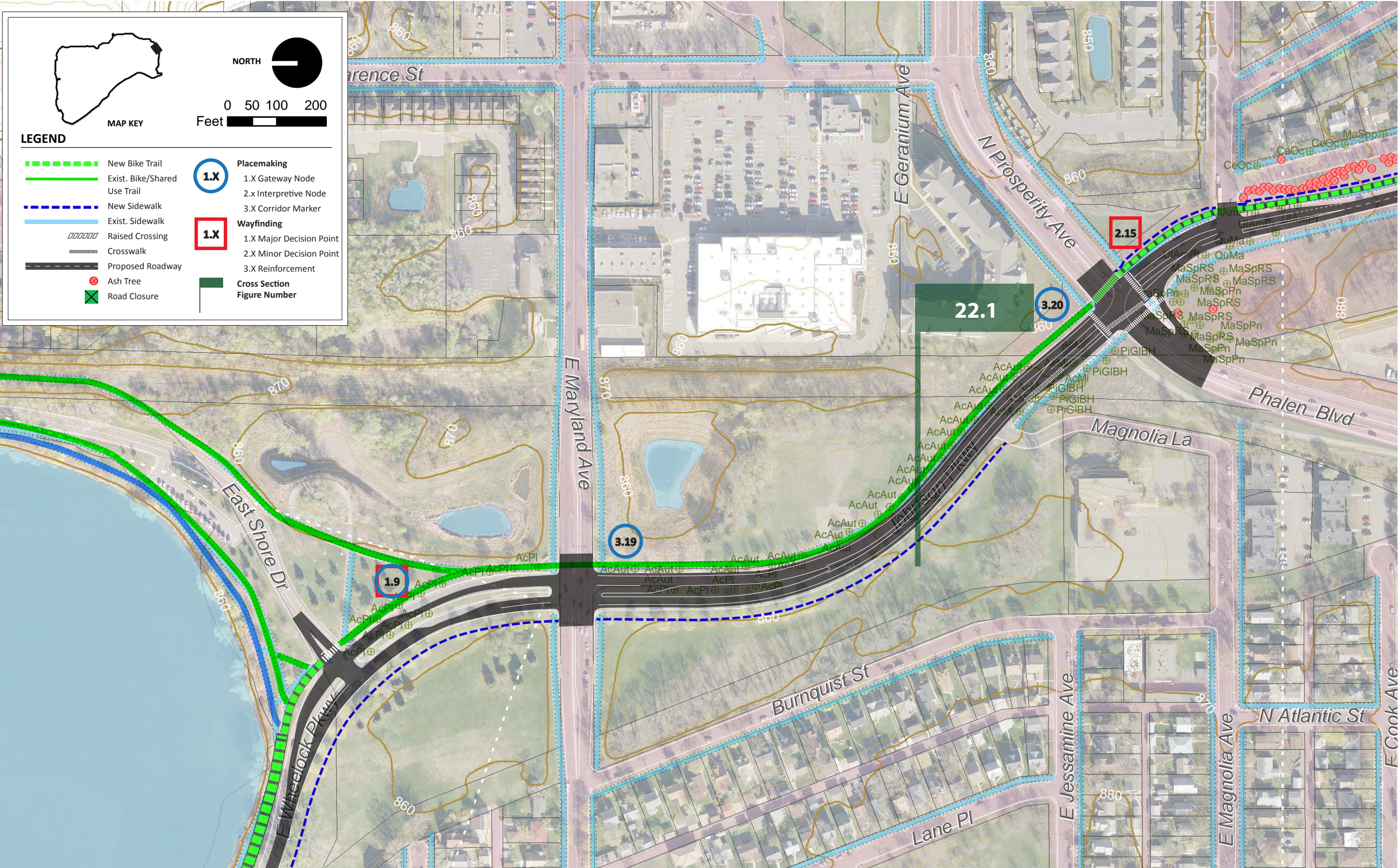
Corridor markers (P.3.19 & P.3.20) are also programmed for southeast corner of Johnson Parkway and East Maryland Avenue and for the northeast corner of Johnson Parkway and North Prosperity Avenue / Phalen Boulevard.

## WHEELOCK PARKWAY

FIGURE 22.1 EAST MARYLAND AVENUE TO PHALEN BOULEVARD







MAP 22 - JOHNSON PARKWAY LAKE PHALEN TO PHALEN BOULEVARD



# MAP 23 - JOHNSON PARKWAY PHALEN BOULEVARD TO EAST 7TH STREET

## EXISTING CONDITIONS

Johnson Parkway from North Prosperity Avenue / Phalen Boulevard to East 7th Street is characterized as a hybrid of a designed corridor through the business district and a naturalistic corridor in the remaining area. The roadway is flanked on both sides by sidewalks; a wider sidewalk exists on the west side of the roadway. The parkway width through this areas varies; most of the parkway is planted with grass and trees. No on-street parking is allowed through this area. The existing street lighting has been updated to reflect the typical Saint Paul Lantern style lighting.

Johnson Parkway from North Prosperity Avenue / Phalen Boulevard to East 7th Street is an existing 38 foot wide roadway within a 180 foot parkway. The roadway is a two lane roadway with bike lanes striped on both sides. The parkway or right-of-way narrows to 60 feet wide from the Railroad Bridge to East 7th Street; the roadway in this area is 44 feet wide and is striped for two travel lanes, a center turn lane and bike lanes.

## PROPOSED IMPROVEMENTS

### Roadway & Corridor Improvements

To be consistent with the Grand Round it is recommended that when improvements are completed along Johnson Parkway is to reconstruct the two travel lanes to 26 feet wide and provide center turn lanes at East Ames Avenue and at East 7th Street.

### Wayfinding Improvements

Corridor reinforcement, branding, and operational signs will be placed along Johnson Parkway.

### Trail & Sidewalk Improvements

Improvements along the east side of Johnson Parkway from North Prosperity Avenue / Phalen Boulevard to the Railroad Bridge include reconstructing the existing sidewalk to a 10 foot

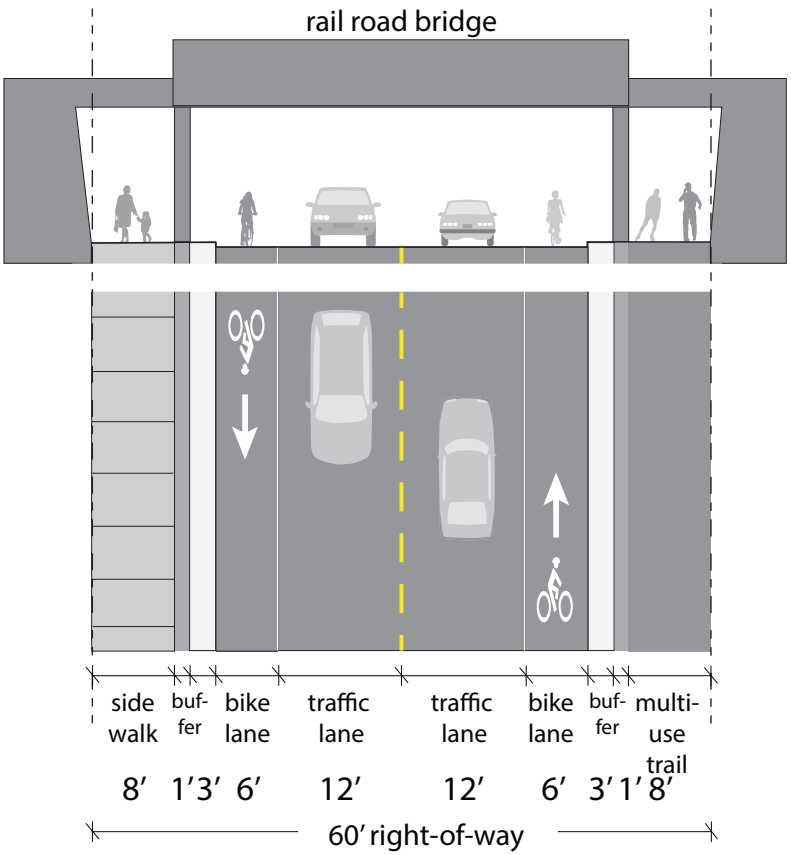
wide bike trail and a 5 foot wide sidewalk; this can be completed independently of any roadway reconstruction. Boulevard areas north of the railroad bridge will be ample sized to accommodate grass and tree plantings.

Improvements from the Railroad Bridge to East 7th Street include converting the sidewalk to a multi-use trail until the roadway is reconstructed. When the roadway is reconstructed bike trail and sidewalk improvements will include converting the multi-use trail to an off-road bike trail and sidewalk with smaller buffers between each facility. The crosswalk at Johnson Parkway and East Ames Avenue and the entrance to Hmong Village Shopping Center will

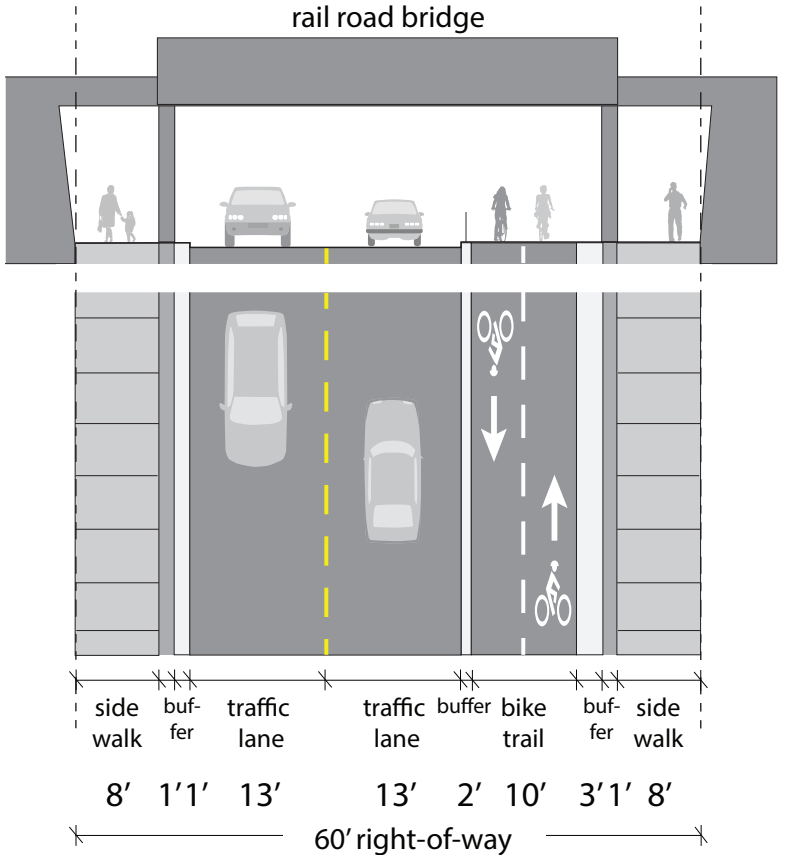
remain. Additional study of this intersection maybe required due to the high use into and out of the Hmong Village Shopping Center.

### Parkway Amenities and Public Art Improvements

An interpretive node (P.2.6) that might include picnic amenities, bike racks, and public art could be placed on the west side of Johnson Parkway. This will provide both Grand Round and Hmong Village Shopping Center users a place to stop and shop and enjoy refreshments in a park setting. An opportunity for public art (P.3.21) also exists below the railroad bridge. Corridor markers (P.3.22 & P.3.23) are programed for the southwest and northeast corners of Johnson Parkway and East 7th Street.

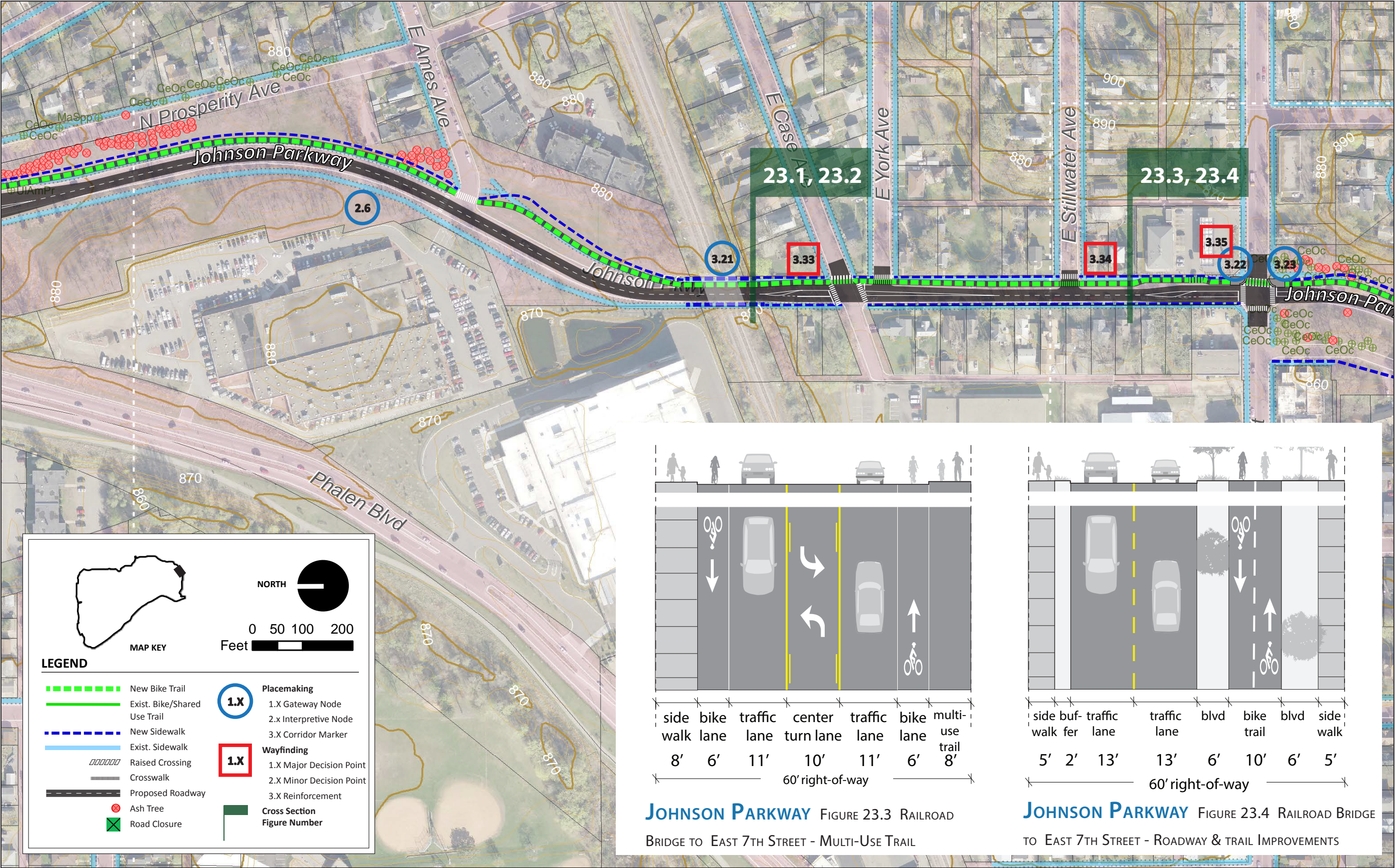


JOHNSON PARKWAY FIGURE 23.1 RAILROAD BRIDGE - MUTLI-USE TRAIL IMPROVEMENTS



JOHNSON PARKWAY FIGURE 23.2 RAILROAD BRIDGE - ROADWAY & TRAIL IMPROVEMENTS







# Map 24 - JOHNSON PARKWAY EAST 7TH STREET TO MARGARET STREET

## EXISTING CONDITIONS

Johnson Parkway from East 7th Street to East Margaret Street is characterized as a hybrid of a naturalistic corridor within the medians and formal corridor within the boulevard along the frontage roads. A sidewalks does exist along the east side of Johnson Parkway from East 7th Street to Bush Avenue; they do not exist along the rest of the corridor. The roadway is typically flanked on both sides by wide medians and frontage roads, with the exception from East 7th Street to Bush Avenue where the frontage road only exists on the west side. No on-street parking is along the mainline of Johnson Parkway; parking is allowed along the frontage roads. The existing street lighting has not been updated to reflect the typical Saint Paul Lantern style lighting.

Johnson Parkway, mainline, from East 7th Street to East Margaret Street is an existing 38 foot wide roadway within a 180 foot parkway. The roadway is a two lane roadway with bike lanes striped on both sides.

## PROPOSED IMPROVEMENTS

### Roadway & Corridor Improvements

To be consistent with the Grand Round when road reconstruction of Johnson Parkway is planned, it is recommended to reconstruct the two travel lanes to 26 feet wide.

### Wayfinding Improvements

Corridor reinforcement, branding, and operational signs will be placed along Johnson Parkway. Directional signage is programmed for Johnson Parkway and East Margaret Street for destinations along East Margaret Street Bike Boulevard.

### Trail & Sidewalk Improvements

Improvements along Johnson Parkway can be completed in different stages and they are:

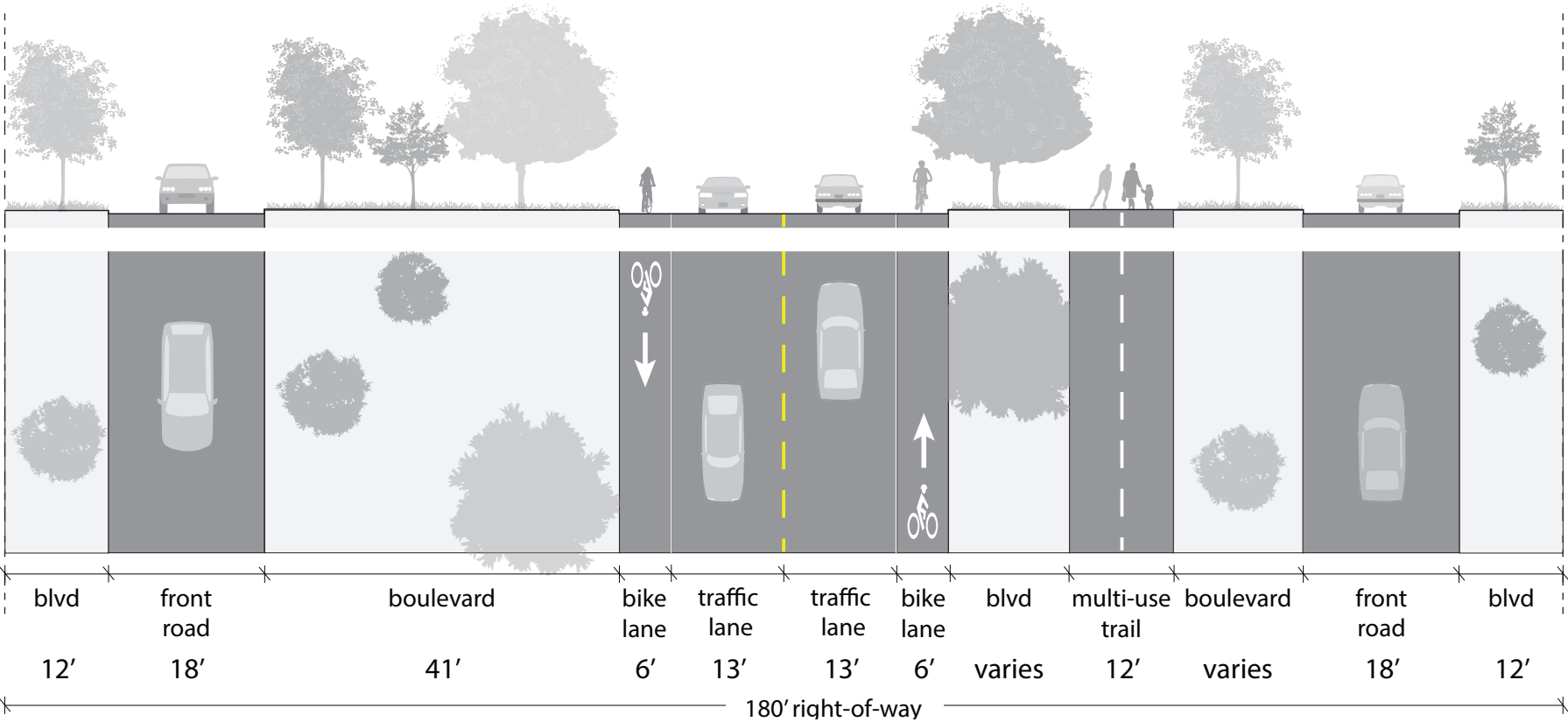
Trail Improvements will provide a 12 foot wide multi-use trail along the east side of Johnson Parkway from East 7th Street to East Margaret Street. Roadway closures for the safety of pedestrians and bicyclists are recommended for East Ross Avenue, East Bush Avenue, East Reaney Avenue, and East Margaret Street. However, it is recommended that a study of any road closure be completed prior to final design of the trail improvements.

5 foot wide sidewalks can be added along the outer side of the frontage roads, more than likely completed at the time of roadway

reconstruction. At the time of adding sidewalks the multi-use trail should be converted to a bike only trail.

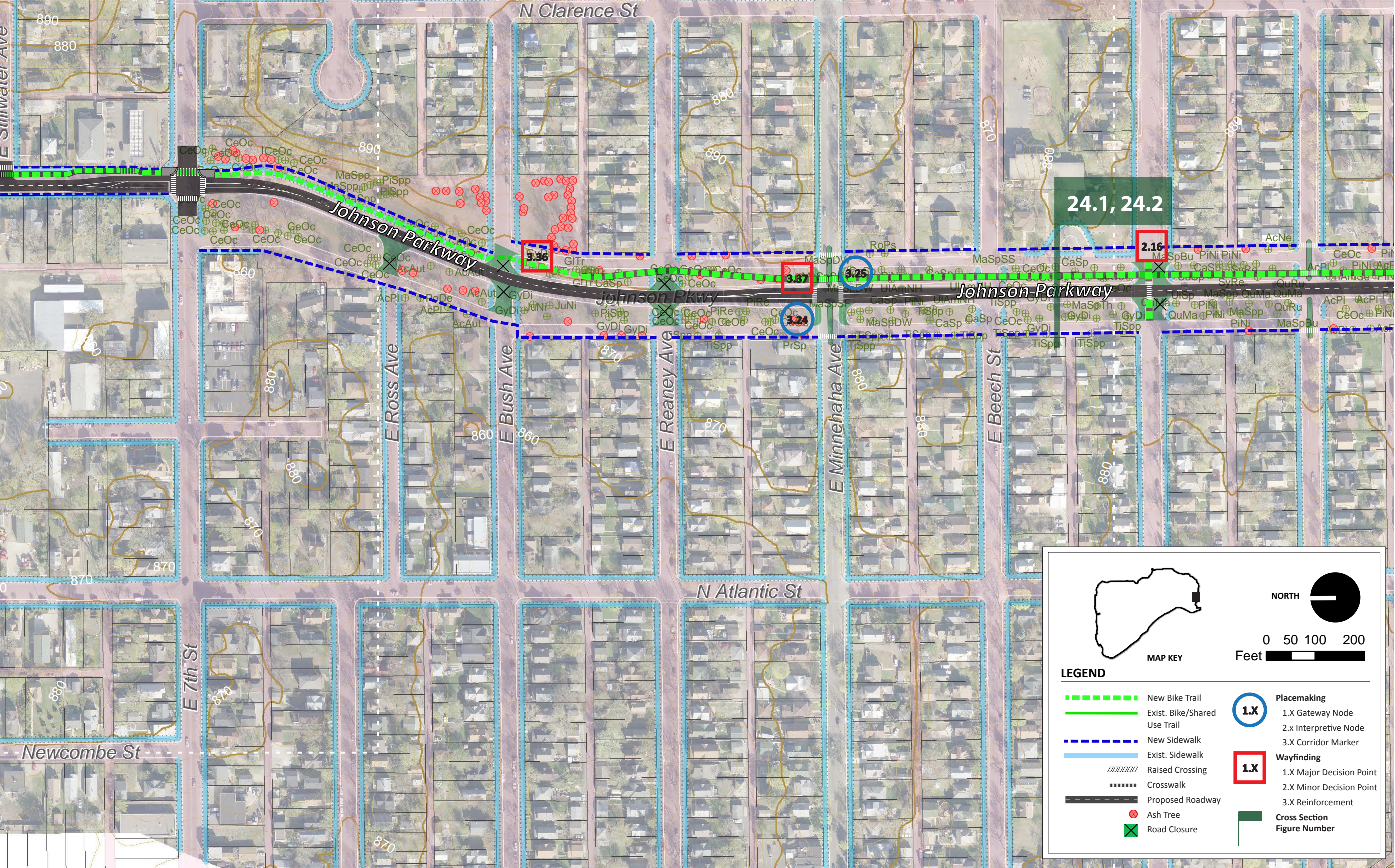
**Parkway Amenities and Public Art Improvements**

Corridor markers (P.3.24 & P.3.25) are programed for the southeast and northwest corners of Johnson Parkway and East Minnehaha Avenue.



JOHNSON PARKWAY FIGURE 24.1 EAST 7TH STREET TO WAKEFEILD AVENUE - TRAIL IMPROVEMENTS





MAP 24 - JOHNSON PARKWAY EAST 7TH STREET TO MARGARET STREET



# MAP 25 - JOHNSON PARKWAY MARGARET STREET TO EUCLID STREET

## EXISTING CONDITIONS

Johnson Parkway from East Margaret Street to East Euclid Street is characterized as a hybrid of a naturalistic corridor within the medians and formal corridor within the boulevard along the frontage roads. Sidewalks do not exist along the corridor. The roadway is flanked on both sides by wide medians and frontage roads. No on-street parking is along the mainline of Johnson Parkway; parking is allowed along the frontage roads. The existing street lighting has not been updated to reflect the typical Saint Paul Lantern style lighting.

Johnson Parkway, mainline, from East Margaret Street to East Euclid Street is an existing 38 foot wide roadway within a 180 foot parkway. The roadway is a two lane roadway with bike lanes striped on both sides.

## PROPOSED IMPROVEMENTS

### Roadway & Corridor Improvements

To be consistent with the Grand Round when road reconstruction of Johnson Parkway is planned, it is recommended to reconstruct the two travel lanes to 26 feet wide.

### Wayfinding Improvements

Corridor reinforcement, branding, and operational signs will be placed along Johnson Parkway.

### Trail & Sidewalk Improvements

Improvements along Johnson Parkway can be completed in different stages and they are:

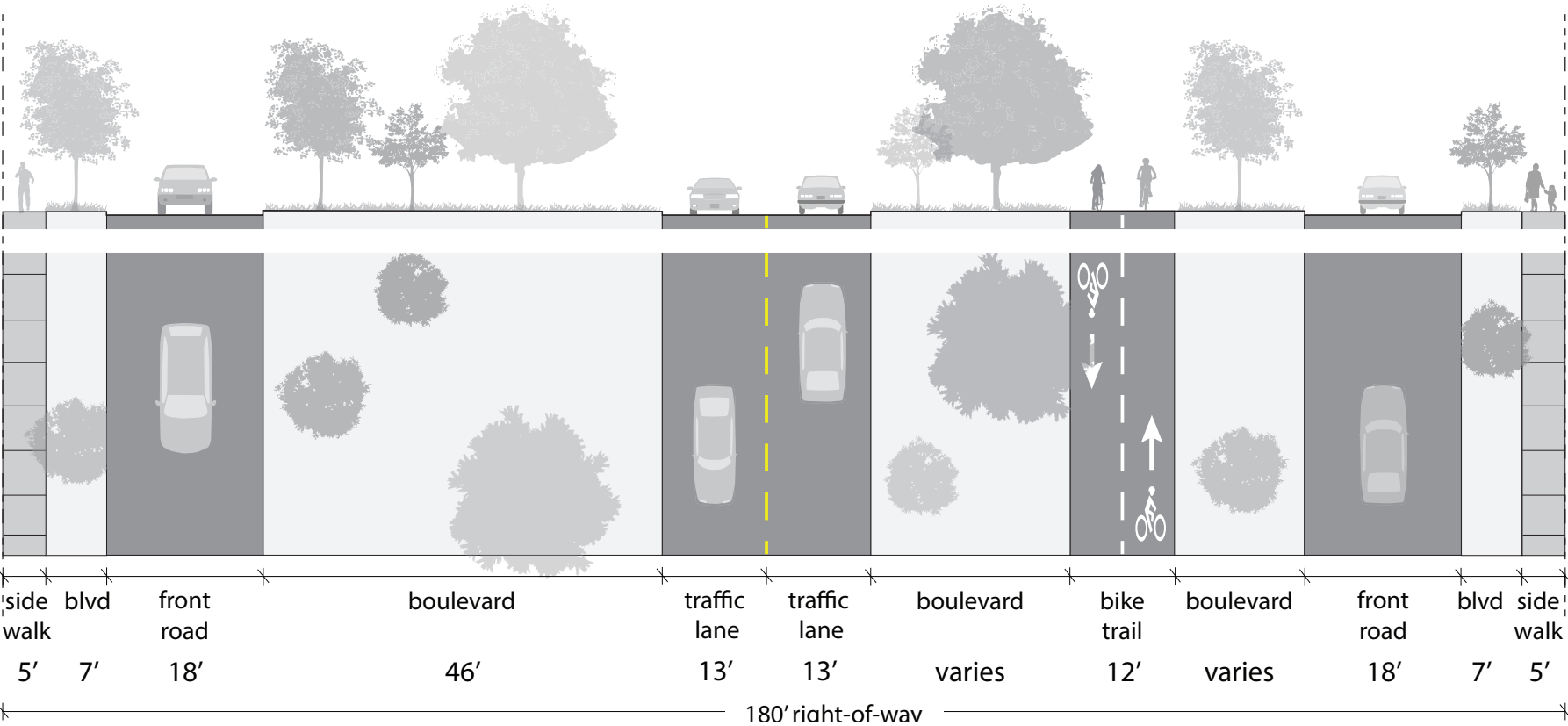
Trail Improvements will provide a 12 foot wide multi-use trail along the east side of Johnson Parkway from East Margaret Street to East Euclid Street. Roadway closures for the safety of pedestrians and bicyclists are recommended for East 5th Street, East Fremont

Avenue, East Conway Street. However, it is recommended that a study of any road closure be completed prior to final design of the trail improvements.

5 foot wide sidewalks will be added along the outer side of the frontage roads. The use of the multi-use trail should be analyzed at the time of adding sidewalk to consider converting the multi-use trail to a bike only trail.

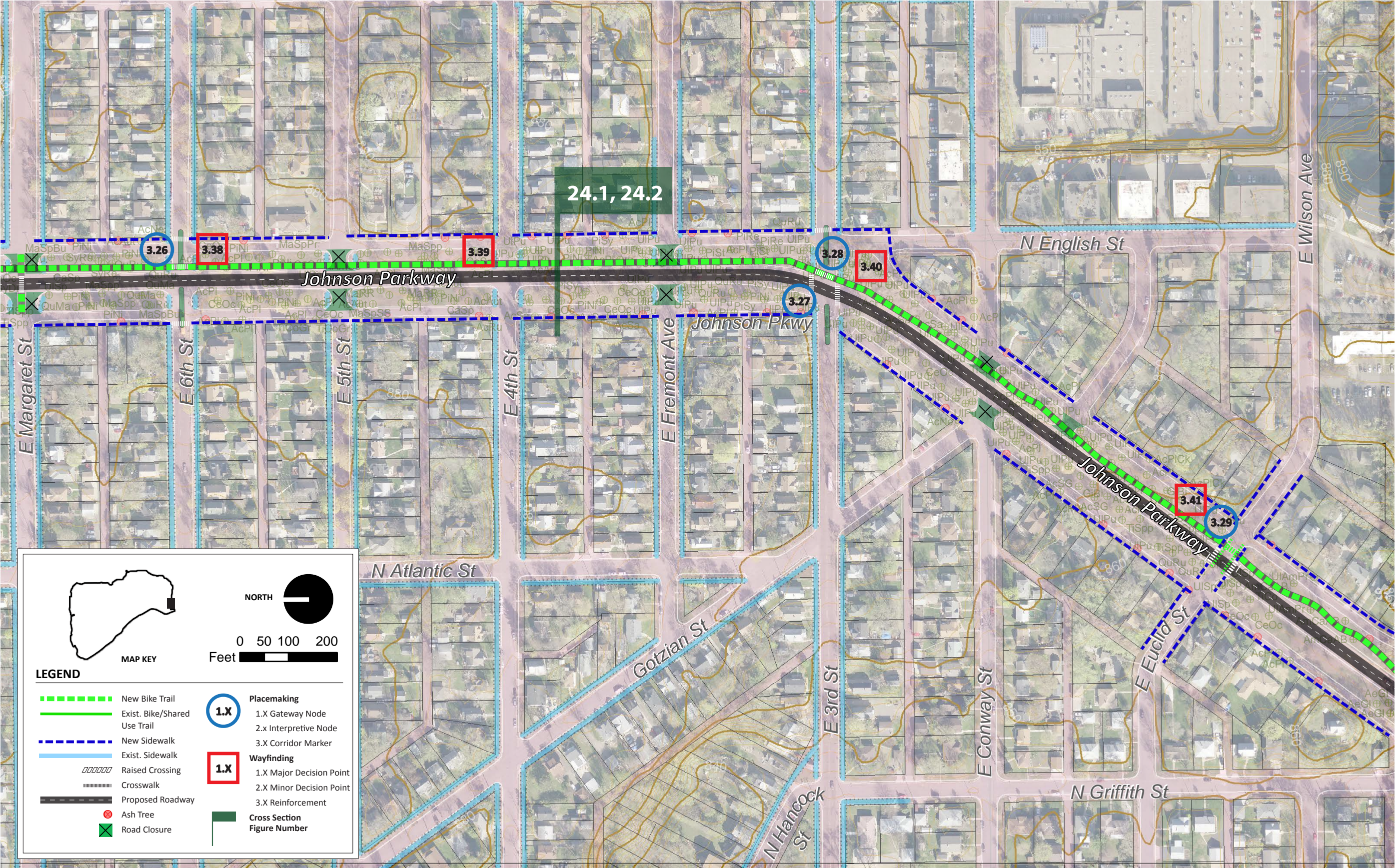
## Parkway Amenities and Public Art Improvements

A corridor marker is programed for the northeast corner of Johnson Parkway and East 6th Street, the southeast and northwest corners of Johnson Parkway and East 3rd Street, and the northeast corner of Johnson Parkway and East Wilson Avenue. The intersections of Johnson Parkway and East 6th Street, and East Fremont Avenue and Euclid Street are intersections recommended to be closed, thereby allowing additional parkland for parkway amenities and public art.



JOHNSON PARKWAY FIGURE 24.2 EAST 7TH STREET TO WAKEFEILD AVENUE - ROAD IMPROVEMENTS





MAP 25 - JOHNSON PARKWAY MARGARET STREET TO EUCLID STREET



# MAP 26 - JOHNSON PARKWAY EUCLID STREET TO BURNS STREET

## EXISTING CONDITIONS

Johnson Parkway from East Euclid Street to East Burns Street is characterized as a hybrid of a naturalistic corridor within the medians and formal corridor within the boulevard along the frontage roads. Sidewalks only exist on both sides of Johnson Parkway, below the I94 Bridge, between Wakefield Avenue and Hudson Road. Johnson Parkway on both sides of the I94 Bridge is flanked on both sides by wide medians and frontage roads. No on-street parking is along the mainline of Johnson Parkway; parking is allowed along the frontage roads. The existing street lighting has not been updated to reflect the typical Saint Paul Lantern style lighting.

Johnson Parkway, mainline, from East Euclid Street to East Burns Street is an existing 38 foot wide roadway within a 180 foot parkway. The roadway is a two lane roadway with bike lanes striped on both sides.

## PROPOSED IMPROVEMENTS

### Roadway & Corridor Improvements

To be consistent with the Grand Round when road reconstruction of Johnson Parkway is planned, it is recommended to reconstruct the two travel lanes to 26 feet wide.

### Wayfinding Improvements

Corridor reinforcement, branding, and operational signs will be placed along Johnson Parkway.

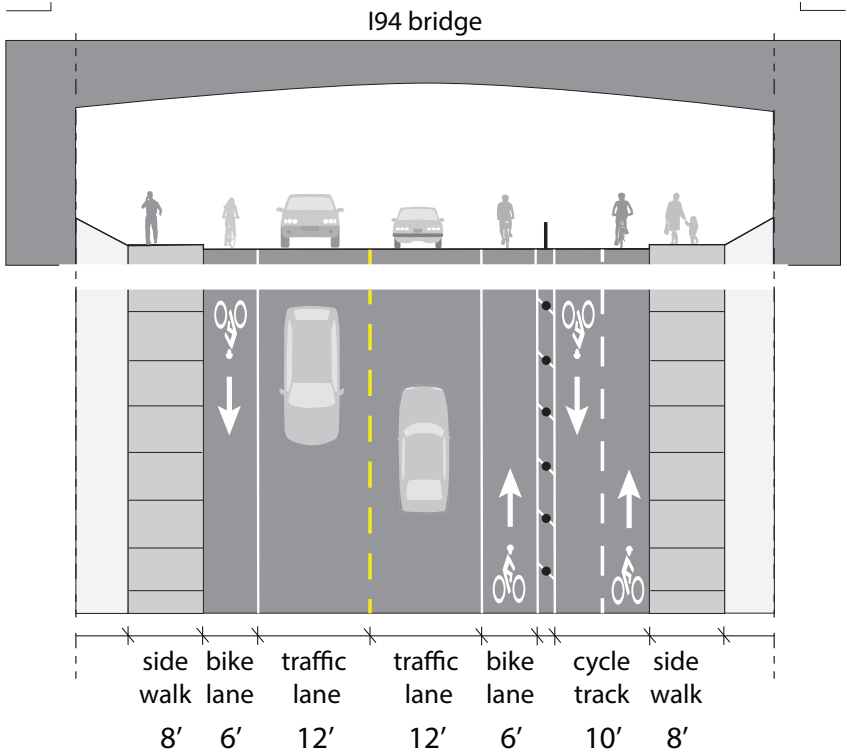
### Trail & Sidewalk Improvements

Improvements along Johnson Parkway can be completed in different stages and they are:

Trail Improvements will provide a 12 foot wide multi-use trail along the east side of Johnson Parkway from East Euclid Street to

East Burns Street. Roadway closure for the safety of pedestrians and bicyclists is recommended for Wakefield Avenue. However, it is recommended that a study of any road closure be completed prior to final design of the trail improvements. A 10 foot wide cycle track is proposed below the I94 Bridge to provide separation for pedestrians and bicyclists.

5 foot wide sidewalks can be added along the outer side of the frontage roads, to be completed at the time of roadway reconstruction. At the time of adding sidewalks the multi-use trail should be converted to a bike only trail.

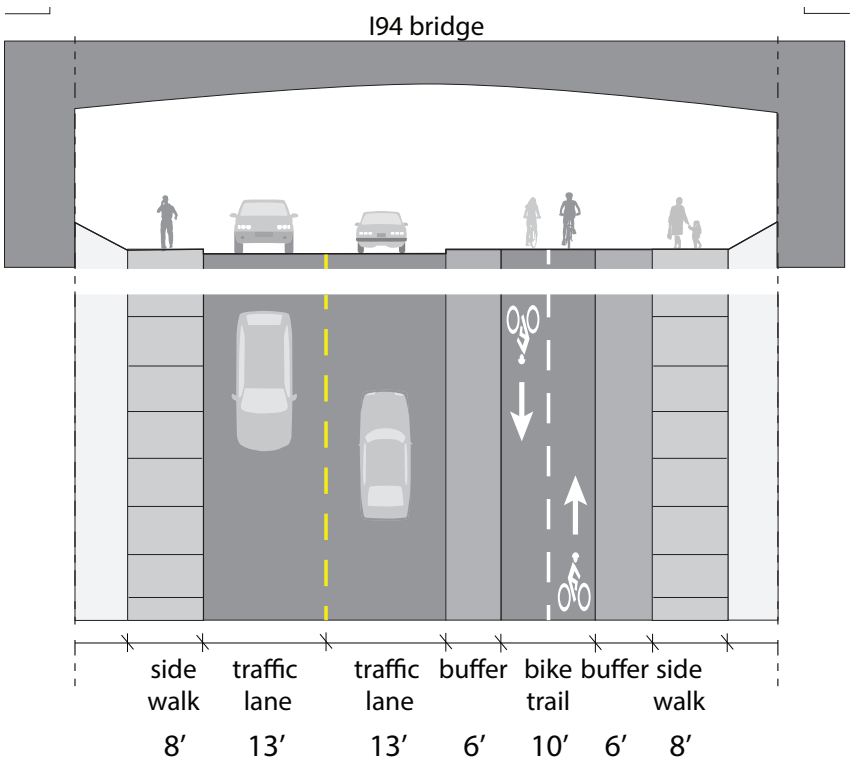


### JOHNSON PARKWAY

FIGURE 26.1 I-94 BRIDGE - TRAIL IMPROVEMENTS

### Parkway Amenities and Public Art Improvements

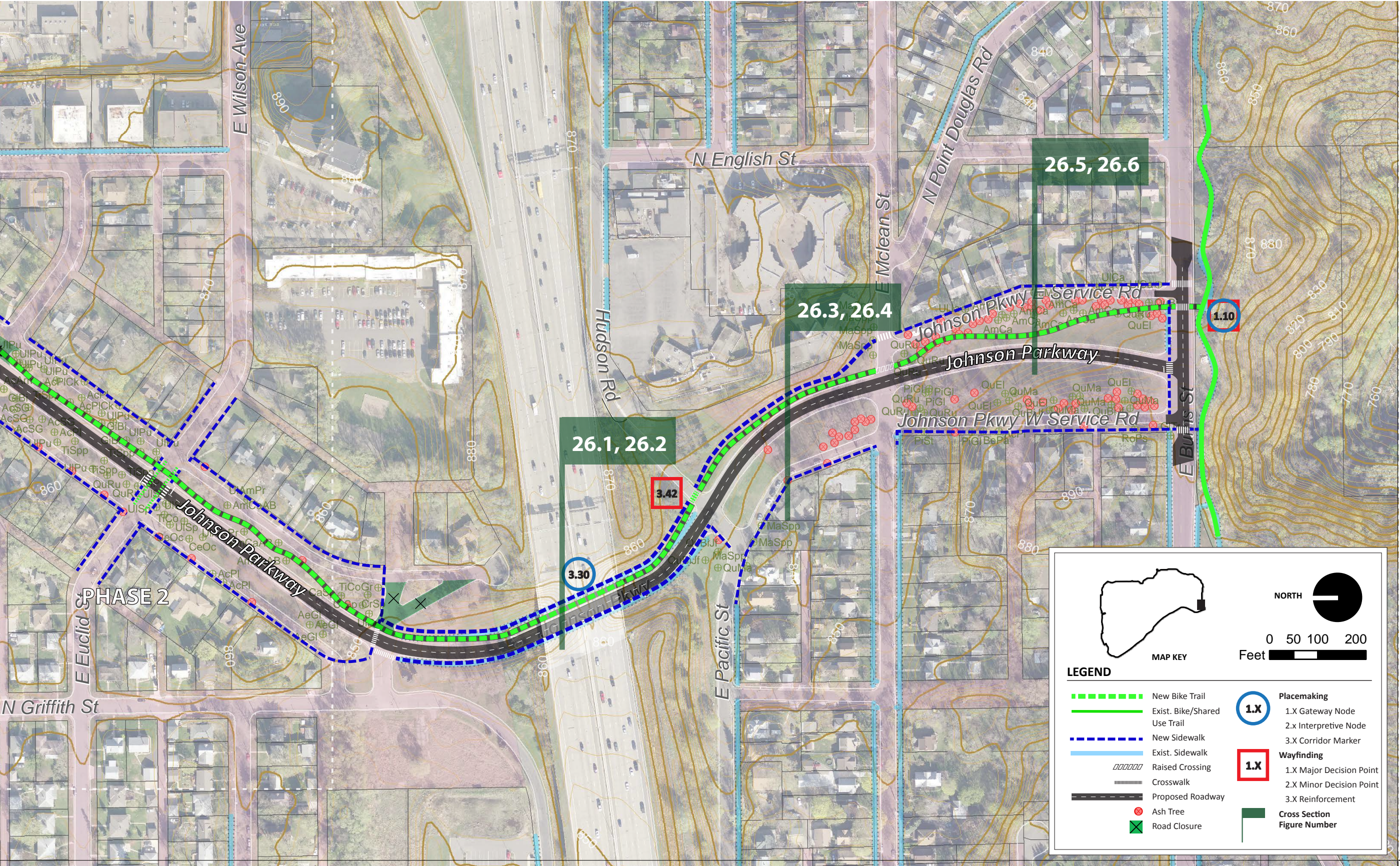
The areas below the I-94 Bridge provides an opportunity for public art (P.3.30). A Gateway Node (P.1.10) that will serve as a welcome to Indian Mounds Regional Park is programed for the south side of Johnson Parkway and East Burns Street. There is an existing Kiosk located within this area, coordination as to the repositioning of this kiosk will need to occur. The completed Gateway Node will include a plaza with kiosk that will have interpretive and map panels, seating, bike repair station, potential drinking fountain, waste receptacles, and public art and a corridor marker. The corridor marker will be placed on the northwest corner of Johnson Parkway and East Burns Street. This node can be constructed independently of any other work.



### JOHNSON PARKWAY

FIGURE 26.2 I-94 BRIDGE - ROADWAY IMPROVEMENTS

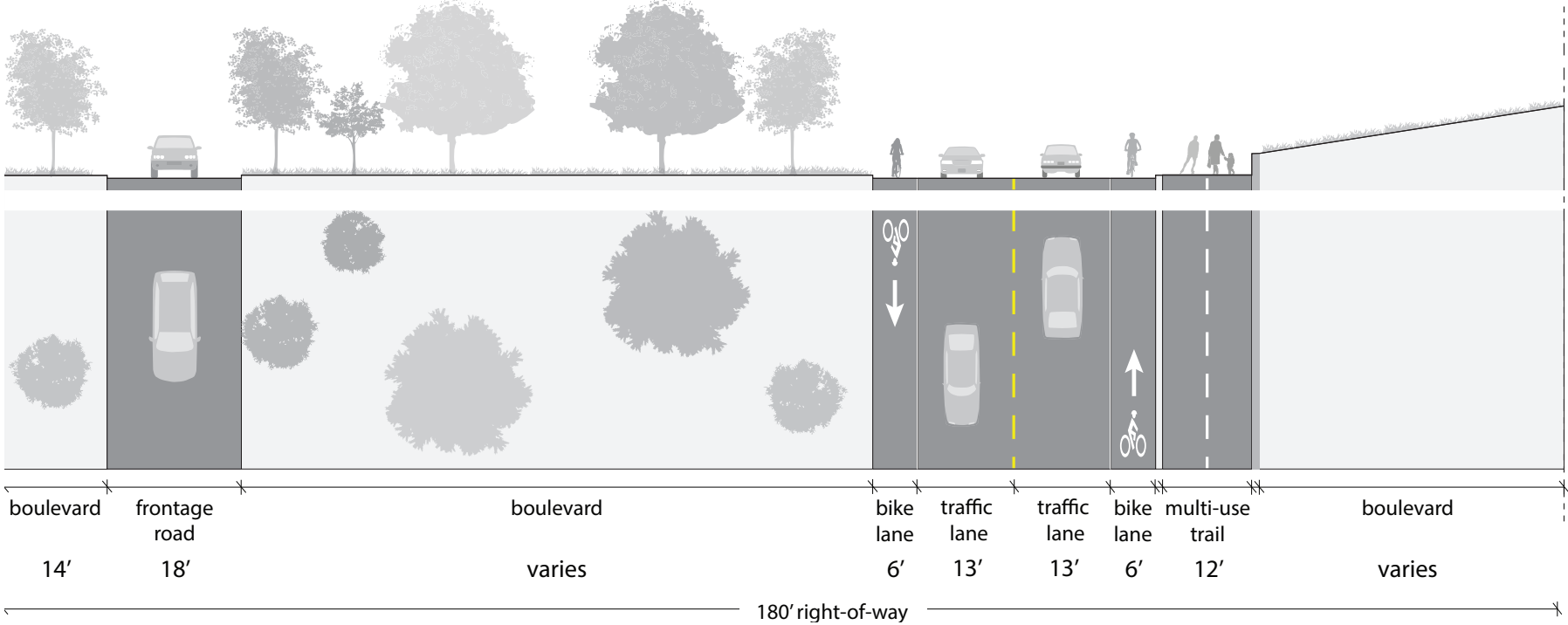




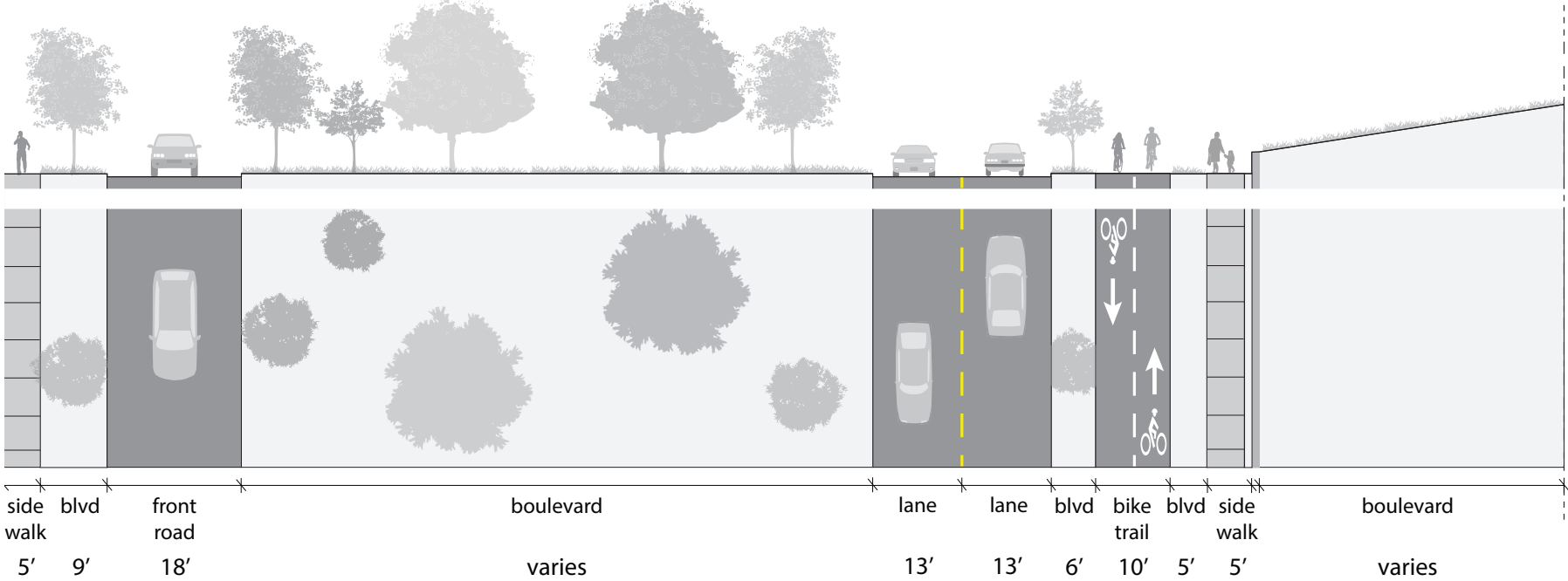
MAP 26 - JOHNSON PARKWAY EUCLID STREET TO BURNS STREET



MAP 26 - JOHNSON PARKWAY EUCLID STREET TO BURNS STREET



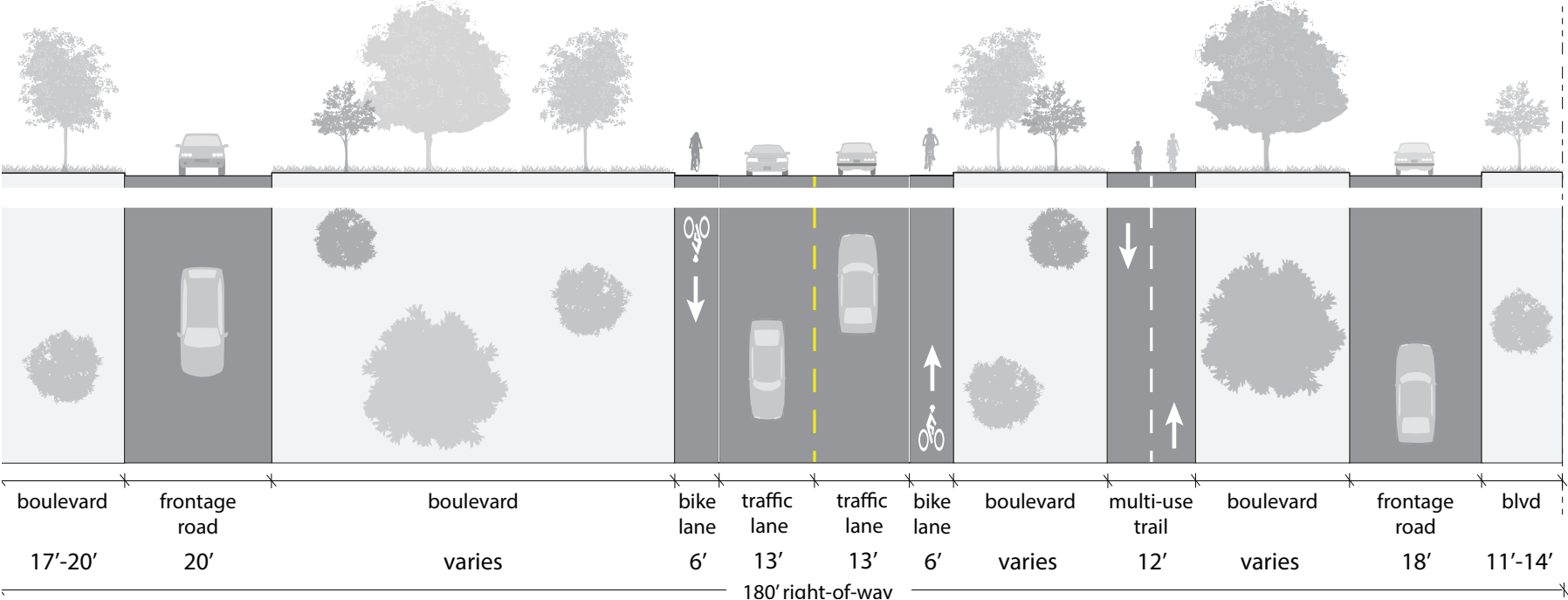
JOHNSON PARKWAY FIGURE 26.3 HUDSON ROAD TO EAST MCLEAN STREET - TRAIL IMPROVEMENTS



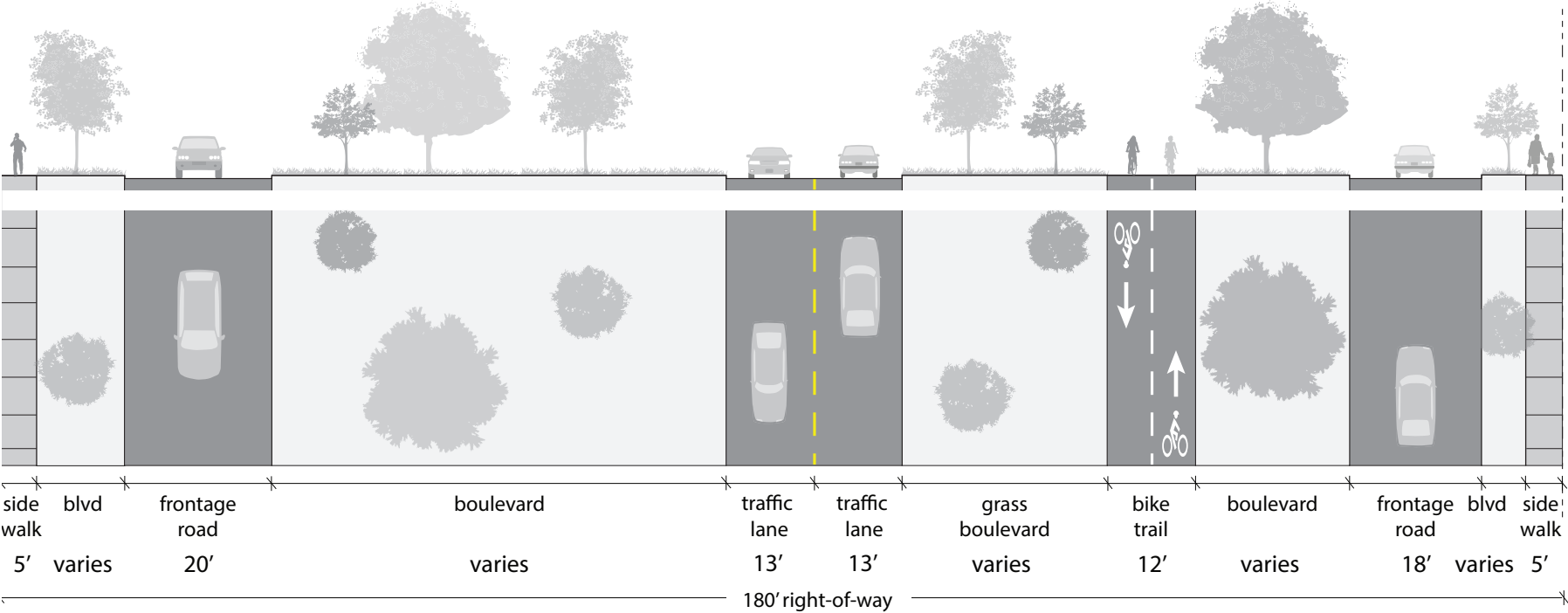
JOHNSON PARKWAY FIGURE 26.3 HUDSON ROAD TO EAST MCLEAN STREET - ROADWAY IMPROVEMENTS



MAP 26 - JOHNSON PARKWAY EUCLID STREET TO BURNS STREET



JOHNSON PARKWAY FIGURE 26.5 EAST MCLEAN STREET TO EAST BURNS AVENUE - TRAIL IMPROVEMENTS



JOHNSON PARKWAY FIGURE 26.6 EAST MCLEAN STREET TO EAST BURNS AVENUE- ROADWAY IMPROVEMENTS



PLACEMAKING & WAYFINDING MATRIX

Line No.	Key	Shown on Map	Location	Placement	Type	Placemaking												Wayfinding					Comments	
						P.1	P.1	P.1	P.1, P.2, P.3	P.1 & P.2	P.1	P.3	P.1	P.1	P.1	P.1	P.1	W.1	W.1		W.2	W.3		W.3
						Stone wall / columns	Plaza	Interpretive Panel (s)	Art	Landscaping	Lighting	Corridor Monument	Seating	Drinking Fountain	Waste / Recycling Receptacle	Bike Repair Station	Other	Map Panel	Blade signs (see note)	Directional	Reinforcement ("Trail Blazing")	Operational		
1	P.1.1	1	Mississippi River Blvd & N Pelham Blvd	South side of MRB	Gateway Node	X	X	X	X		X		X		X	X							Two major corridors - Pelham and MRB; place corridor monument on NE corner	
2	W.1.1	1	Mississippi River Blvd & N Pelham Blvd	NE Corner or south side of MRB	Major Decision Point												X	North: Grand Round East / South: Grand Round West: Mississippi River Boulevard					destinations on MRB / north on GR	
3	W.3.1	1	N Pelham Blvd & Otis Ave	NE corner	Directional														X				destination to Marshal Ave via Otis	
4	P.2.1	2	N Pelham Blvd & w St Anthony Ave	NW Corner	Interpretive Node			X	X														public art with historic interpretive (ox cart path)	
5	P.3.1	2	N Pelham Blvd & W St Anthony Ave	2 or 4 corners of bridge	Art / Corridor Marker				X														At time of bridge replacement opportunity to announce Grand Round to freeway below. Add art to railings, lighting, form liners, etc	
6	P.3.2	3	N Pelham Blvd & Myrtle Ave	SE Corner	Corridor Marker						X												For Pelham Boulevard	
7	W.3.2	3	N Pelham & Myrtle Ave	SE corner	Reinforcement															X			route turns	
8	W.3.3	3	Myrtle Ave & Raymond Ave	SW Corner	Reinforcement															X			route turns	
9	P.3.3	3	Myrtle Ave & Raymond Ave	SE Corner	Corridor Marker						X												For Raymond Avenue	
10	W.3.4	3	Raymond Ave & W University Ave	SE & NE Corner	Reinforcement															X			Univeristy Ave and Grand Round	
11	W.3.5	3	Raymond Ave & Ellis Ave	SE & NW Corner	Reinforcement															X			Roadway curve	
12	W.3.6	4	Raymond Ave & Hampden Ave	NE corner	Reinforcement															X			route turns	
13	P.2.2	4	Raymond Ave & Bayless St	West side between Bayless and Robbins	Interpretive Node			X	X														South St. Anthony Park, Hampden Park	
14	P.3.4	4	Raymond Ave & Long Ave	SE Corner	Corridor Marker						x												For Raymond Avenue	
15	W.3.7	4	Raymond Ave & Manvel St	SW Corner	Reinforcement															X			route turns	
16	W.2.1	4	Raymond Ave & Robbins St	NW Corner	Minor Decision Point														x				destinations west on Robbins to Univeristy Transitway	
17	W.2.2	5	Raymond Ave & Energy Park Dr	SE & NW corner	Minor Decision Point														x				destinations on Energy Park Drive to University Transitway	



# PLACEMAKING & WAYFINDING MATRIX

Line No.	Key	Shown on Map	Location	Placement	Type	Placemaking													Wayfinding					Comments
						P.1	P.1	P.1	P.1, P.2, P.3	P.1 & P.2	P.1	P.3	P.1	P.1	P.1	P.1	P.1	W.1	W.1		W.2	W.3	W.3	
						Stone wall / columns	Plaza	Interpretive Panel (s)	Art	Landscaping	Lighting	Corridor Monument	Seating	Drinking Fountain	Waste / Recycling Receptacle	Bike Repair Station	Other	Map Panel	Blade signs (see note)		Directional	Reinforcement ("Trail Blazing")	Operational	
18	P.3.5	5	Raymond Ave & transitway and rail underpass	below transitway and railroad bridge	Art / Corridor Marker				X															light based art installation under bridges
19	W.2.3	5	Raymond Ave & Blake Ave	NW corner & E side	Minor Decision Point														X					destination to Langford Park & St Anthony Middle School
20	W.3.8	5	Raymond Ave & W Standish St	NE Corner	Reinforcement																X			
21	W.3.9	5	Raymond Ave & Atty St	SW Corner	Reinforcement																X			
22	W.2.4	5	Raymond Ave & Langford Pk	NW corner & E side	Minor Decision Point														X					destination to Langford Park & St Anthony Middle School
23	P.1.2	6	Raymond Ave & Como Ave	NE corner	Gateway Node	X		X	X	X		x	X	X		X		X						Integrate public art in major wayfindings, kiosks, ect for destinations on Como, Cleveland, and Raymond
24	W.1.2	6	Raymond Ave & Como Ave	NE Corner	Major Decision Point												X	North: UofMN East: Grand Round South: Retail / Restruants West: Grand Round				X		
25	W.3.10	6	Como Ave & Gibbs Ave	NW & SE Corner	Reinforcement																X			
26	W.3.11	6	Como Ave & Fifiel St	NW & SE Corner	Reinforcement																X			
27	W.2.5	6	Como Ave & Inter Campus Transit Way	NE corner	Minor Decision Point														x					destinations on Inter Campus Transitway
28	W.3.12	7	Como Ave & Canfield St	NW Corner	Reinforcement																X			
29	W.3.13	7	Como Ave & N Catlin St	SE Corner	Reinforcement																X			
30	P.3.6	7 & 8	Como Ave at State Fairgrounds	along Fairground boulevard	Art / Corridor Marker				X															Public art interpretive opportunities and plantings along north boulevard area - improve aesthetics of corridor
31	P.3.7	8	Como Ave & N Snelling Ave	NW Corner	Minor Decision Point														X					destination to State Fair
32	P.3.8	8	Como Ave & N Snelling Ave	under bridge	Art / Corridor Marker				X															light based art under bridge
33	P.3.9	8	Como Ave & N Snelling Ave	in easterly Median	Corridor Marker							X												
34	W.2.6	8	Como Ave & N Arona St	NW Corner	Minor Decision Point														X					destinations to Tilden Park and Hmong College Preparatory College



PLACEMAKING & WAYFINDING MATRIX

Line No.	Key	Shown on Map	Location	Placement	Type	Placemaking													Wayfinding					Comments																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
						P.1	P.1	P.1	P.1, P.2, P.3	P.1 & P.2	P.1	P.3	P.1	P.1	P.1	P.1	P.1	W.1	W.1		W.2	W.3	W.3																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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35	W.3.14	8	Como Ave & N Pascal St	NE Corner	Reinforcement																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													</



Line No.	Key	Shown on Map	Location	Placement	Type	Placemaking												Wayfinding					Comments
						P.1	P.1	P.1	P.1, P.2, P.3	P.1 & P.2	P.1	P.3	P.1	P.1	P.1	P.1		W.1	W.1	W.2	W.3	W.3	
						Stone wall / columns	Plaza	Interpretive Panel (s)	Art	Landscaping	Lighting	Corridor Monument	Seating	Drinking Fountain	Waste / Recycling Receptacle	Bike Repair Station	Other	Map Panel	Blade signs (see note)	Directional	Trail Reinforcement ("Trail Blazing")	Operational	
51	W.2.10	12	W Wheelock Ave & N Dale St	SW Corner	Minor Decision Point															x			destinatins to Marydale Park
52	P.3.10	12	W Wheelock Ave & N Dale St	SE corner	Corridor Marker							x											
53	W.3.22	13	W Wheelock Pkwy & N Mackubin St	SE Corner	Reinforcement																x		
54	P.2.3	13	W Wheelock Pkwy & east of N Arundel St	south side of W Wheelock between Arndel St and W	Interpretive Node			x	x				x										overlook view of Mississippi River Gorge Edge
55	W.2.11	13	W Wheelock Pkwy & N Western Ave	SE corner	Minor Decision Point															x			destinations to Washington Technology Magnet School
56	P.3.11	13	W Wheelock Pkwy & W Arlington Ave	S Corner	Corridor Marker							x											
57	P.2.4	14	W Wheelock Pkwy & Horseshoe Bend Overlook	southeast side	Interpretive Node			x	x				x										potential mini trailhead and public art, possible interpretive panel on history
58	W.3.23	14	W Wheelock Pkwy & Horshoe Bend Overlook	southeast side	Reinforcement																x		
59	W.3.24	15	W Wheelock Pkwy & N Rice St	SE corner	Operational																	x	
60	P.3.12	15	W Wheelock Pkwy & N Rice St	SE Corner	Corridor Marker							x											
61	P.1.6	16	W Wheelock Pkwy & Troutbrook Trail	SE corner of Bridge	Gateway Node			x	x														Long term - access to Trout Brook Trail and Trout Brook Natural Area, landscape art down to Trout Brook Trail to Larpenter Avenue (form liners for retaining wall ??)
62	W.1.6	16	W Wheelock Pkwy & Troutbrook Trail	SE corner of Bridge	Major Decision Point													North: Trout Brook Trail East: Lake Phalen via Grand Round West: Lake Como via Grand Round		x			Short Term - Directional sign to Trout Brook via stairway Long Term - access to Trout Brook Trail and Trout Brook Natural Area
63	W.3.25	16	W Wheelock Pkwy & N Jackson St	SE Corner	Operational																	x	
64	P.3.13	16	W Wheelock Pkwy & N Jackson St	NW Corner	Corridor Marker							x											
65	P.3.14	17	W Wheelock Pkwy & I35E	SW Corner	Corridor Marker							x											
66	W.3.26	17	W Wheelock Pkwy & I35E	SW Corner	Operational																	x	



PLACEMAKING & WAYFINDING MATRIX

Line No.	Key	Shown on Map	Location	Placement	Type	Placemaking												Wayfinding					Comments	
						P.1	P.1	P.1	P.1, P.2, P.3	P.1 & P.2	P.1	P.3	P.1	P.1	P.1	P.1	P.1	W.1	W.1		W.2	W.3		W.3
						Stone wall / columns	Plaza	Interpretive Panel (s)	Art	Landscaping	Lighting	Corridor Monument	Seating	Drinking Fountain	Waste / Recycling Receptacle	Bike Repair Station	Other	Map Panel	Blade signs (see note)	Directional	Reinforcement ("Trail Blazing")	Operational		
68	P.3.15	17	Wheelock Pkwy & I35E	NE Corner	Corridor Marker							X												
69	P.1.7	18	E Wheelock Pkwy & Gateway Trail	East of Gateway Bridge	Gateway Node	X	X	X	X		X	X	X											Gateway connection - art (lighting) under bridge, mini seating area, landscaping
70	W.1.7	18	E Wheelock Pkwy & Gateway Trail	East of Gateway Bridge	Major Decision Point												X	North: Gateway Trail East: Lake Phalen via Grand Round West: Como Lake via Grand Round				X		
71	W.3.28	18	E Wheelock Pkwy & N Edgerton St	in median	Operational																	X		
72	P.3.16	18	E Wheelock Pkwy & N Edgerton St	SE Corner & in median	Corridor Marker				X			X												area within median for art
73	W.3.29	19	E Wheelock Pkwy & N Payne Ave	in median	Reinforcement																X			
74	W.3.30	19	E Wheelock Pkwy & N Walsh St	within green space	Reinforcement																X			
75	W.3.31	19	E Wheelock Pkwy & west of N Arcade St	in median	Operational																	X		
76	P.3.17	19	E Wheelock Pkwy & N Arcade St	NW Corner	Corridor Marker							X												
77	P.1.8	19	E Wheelock Pkwy & N Arcade St	NE Corner	Gateway Node	X	X	X	X	X	X	X	X											Gateway to Phalen Park and Arcade major bikeway north, connections to Keller Lake and Keller Regional Park
78	W.1.8	19	E Wheelock Pkwy & N Arcade St	NE Corner	Major Decision Point												X	North: Lake Phalen Park South: Johnson Senior High School / Restaurants / Retail						Arcade major bikeway north, connections to Keller Lake and Keller Regional Park
79	P.3.18	19	E Wheelock Pkwy & N Arcade St	SE Corner	Corridor Marker							X												
80	W.2.12	21	E Wheelock Pkwy & Phalen Dr	NE Corner	Minor Decision Point														x					destinations to Phalen Lakeside Activity Center
81	W.2.13	21	E Wheelock Pkwy & west side of Lake Phalen	at trail intersections	Minor Decision Point														x					destinations around Lake Phalen
82	W.3.32	21	E Wheelock Pkwy & west side of Lake Phalen		Operational																	X		
83	W.2.14	21	Johnson Pkwy & south side of Lake Phalen	at trail intersections	Minor Decision Point														x					destinations around Lake Phalen
84	P.1.9	22	Johnson Pkwy & Bruce Vento Trail	at trail intersections	Gateway Node	X		X	X				X											Lake Phalen History, gateway to greater east side



Line No.	Key	Shown on Map	Location	Placement	Type	Placemaking												Wayfinding					Comments
						P.1	P.1	P.1	P.1, P.2, P.3	P.1 & P.2	P.1	P.3	P.1	P.1	P.1	P.1	W.1	W.1		W.2	W.3	W.3	
						Stone wall / columns	Plaza	Interpretive Panel (s)	Art	Landscaping	Lighting	Corridor Monument	Seating	Drinking Fountain	Waste / Recycling Receptacle	Bike Repair Station	Other	Map Panel	Blade signs (see note)	Directional	Reinforcement ("Trail Blazing")	Operational	
85	W.1.9	22	Johnson Pkwy & Bruce Vento Trail	at trail intersections	Major Decision Point											X	North: Bruce Vento Trail East: Retail / Restaurants South: Retail / Restaurants West: Grand Round					Bruce Vento Trail, Grand Round, Lake Phalen Loop	
86	P.3.19	22	Johnson Pkwy & E Maryland Ave	All Corners	Corridor Marker								X										
87	P.3.20	22	Johnson Pkwy & Phalen Blvd	All Corners	Corridor Marker								X										
88	W.2.15	22	Johnson Pkwy & Phalen Blvd	N Corner	Minor Decision Point													X					destinations to Ames Lake Park
89	P.2.5	23	Johnson Pkwy & Hmong Village entrance	east side of Johnson Pkwy	Interpretive Node				X														landscaping - celebrate greater east side
90	P.3.21	23	Johnson Pkwy & Railroad Bridge	under bridge	Corridor Marker				X														lighted art below bridge
91	W.3.33	23	Johnson Pkwy & E Case Ave	NE Corner	Reinforcement														X				
92	W.3.34	23	Johnson Pkwy & E Stillwater Ave	SE Corner	Reinforcement														X				
93	W.3.35	23	Johnson Pkwy & E 7th St	NE Corner	Reinforcement														X				
94	P.3.22	23	Johnson Pkwy & E 7th St	NE Corner	Corridor Marker							X											
95	P.3.23	23	Johnson Pkwy & E 7th St	SE Corner	Corridor Marker							X											
96	W.3.36	24	Johnson Pkwy & E Bush Ave	SE Corner	Reinforcement														X				
97	W.3.37	24	Johnson Pkwy & E Minnehaha Ave	NE Corner	Reinforcement														X				
98	P.3.24	24	Johnson Pkwy & E Minnehaha Ave	NW Corner	Corridor Marker							X											
99	P.3.25	24	Johnson Pkwy & E Minnehaha Ave	SE Corner	Corridor Marker							X											
100	W.2.16	24	Johnson Pkwy & E Margaret St	SE Corner	Minor Decision Point													X					Destinations along Margaret
101	P.3.26	25	Johnson Pkwy & E 6th St	NE Corner	Corridor Marker							X											



PLACEMAKING & WAYFINDING MATRIX

Line No.	Key	Shown on Map	Location	Placement	Type	Placemaking												Wayfinding					Comments		
						P.1	P.1	P.1	P.1, P.2, P.3	P.1 & P.2	P.1	P.3	P.1	P.1	P.1	P.1		W.1	W.1		W.2	W.3		W.3	
						Stone wall / columns	Plaza	Interpretive Panel (s)	Art	Landscaping	Lighting	Corridor Monument	Seating	Drinking Fountain	Waste / Recycling Receptacle	Bike Repair Station	Other	Map Panel	Blade signs (see note)	Directional	Reinforcement ("Trail Blazing")	Operational			
102	W.3.38	25	Johnson Pkwy & E 6th St	SE Corner	Reinforcement																		X		
103	W.3.39	25	Johnson Pkwy & E 4th St	NE Corner	Reinforcement																		X		
104	P.3.27	25	Johnson Pkwy & E 3rd St.	NW Corner	Corridor Marker							X													
105	P.3.28	25	Johnson Pkwy & E 3rd St.	SE Corner	Corridor Marker							X													
106	W.3.40	25	Johnson Pkwy & E 3rd St	SE Corner	Reinforcement																		X		
107	P.3.29	25	Johnson Pkwy & E Wilson Ave	NE Corner	Corridor Marker							X													
108	W.3.41	25	Johnson Pkwy & E Wilson Ave	NE Corner	Reinforcement																		X		
109	P.3.30	26	Johnson Pkwy & I94 Bridge	under bridge	Art / Corridor Marker				X																light under bridge, art in railings, etc.
110	W.3.42	26	Johnson Pkwy & Hudson Rd	NE Corner	Reinforcement																		X		
111	P.1.10	26	Johnson Pkwy & Burns St	south side of E Burns St	Gateway Node	X	X	X	X	X	X		X	X	X										Gateway to east side, Indian Mound Park, River vistas, Great River Passage, Grand Round, and Mississippi River Trail
112	W.1.10	26	Johnson Pkwy & Burns St	south side of E Burns St	Major Decision Point												X	North: Grand Round / Lake Phalen East: Grand Round / Mississippi River Trail West: Indian Mound Park / To Downtown						Gateway to east side, Indian Mound Park, River vistas, Great River Passage, Grand Round, and Mississippi River Trail	
113	W.1.11	26	Burns Ave & TH61	SW Corner	Major Decision Point												X	South: Grand Round / Mississippi River Trail West: Indian Mound Park / To Downtown							Could be combined with Indian Mounds Park Wayfinding
114	W.2.17	Wayfinding Plan	Shepard Rd / Warner Rd East of LaFayette Bridge	South side	Minor Decision Point														X						Future Trout Brook Trail connection
115	W.1.12	Wayfinding Plan	Shepard Rd / Warner Rd & Jackson St	south side of Shepard Rd	Major Decision Point			X	Existing									North: Capital City Bikeway East: Grand Round West: Grand Round / Mississippi River Trail							Gateway node is existing
116	W.2.18	Wayfinding Plan	Shepard Rd & Eagle St	south side of Shepard Rd	Minor Decision Point														X						destinations to Capital City Bikeway
117	P.1.11	Placemaking Plan	Shepard Rd & Randolph Ave	SW Corner	Gateway Node	X	X	X																	Existing
118	W.2.19	Wayfinding Plan	Shepard Rd & Randolph Ave	SW Corner	Minor Decision Point												X								Existing Kiosk
119	W.2.20	Wayfinding Plan	Shepard Rd & Otto Ave	SE Corner	Minor Decision Point															X					destination to Ford River Trail



Line No.	Key	Shown on Map	Location	Placement	Type	Placemaking													Wayfinding					Comments
						P.1	P.1	P.1	P.1, P.2, P.3	P.1 & P.2	P.1	P.3	P.1	P.1	P.1	P.1		W.1	W.1		W.2	W.3	W.3	
						Stone wall / columns	Plaza	Interpretive Panel (s)	Art	Landscaping	Lighting	Corridor Monument	Seating	Drinking Fountain	Waste / Recycling Receptacle	Bike Repair Station	Other	Map Panel	Blade signs (see note)	Directional	Trail Reinforcement ("Trail Blazing")	Operational		
120	P.1.12	Placemaking Plan	Shepard Rd & Crosby Farm Entrance	SW Corner	Gateway Node	X	X	X								X							Existing	
121	W.1.13	Wayfinding Plan	Shepard Rd & Crosby Farm Entrance	SW Corner	Gateway Node												X						Existing	
122	W.2.21	Wayfinding Plan	Shepard Rd & Afton St	SE Corner	Minor Decision Point														X				destinations to 7th St	
123	W.2.22	Wayfinding Plan	Shepard Rd & Davern St	SE Corner	Minor Decision Point														X				destinations to Ford River Trail	
124	W.1.14	Wayfinding Plan	Shepard Rd & Gannon Rd	South side	Major Decision Point												X						Existing	
125	W.1.15	Wayfinding Plan	Mississippi River Blvd & south of Ford Pkwy	West side	Major Decision Point												X						Existing	
126	P.1.13	Placemaking Plan	Mississippi River Blvd & south of Ford Pkwy	West side	Gateway Node		X	X								X								
127	W.2.24	Wayfinding Plan	Mississippi River Blvd & Ford Pkwy		Minor Decision Point														X					
128	W.2.25	Wayfinding Plan	Mississippi River Blvd & Ford Pkwy		Minor Decision Point														X					
129	W.2.26	Wayfinding Plan	Mississippi River Blvd & Highland Pkwy		Minor Decision Point														X					
130	W.2.27	Wayfinding Plan	Mississippi River Blvd & Jefferson Pkwy		Minor Decision Point														X					
131	W.2.28	Wayfinding Plan	Mississippi River Blvd & Summit Ave		Minor Decision Point														X					
132	W.2.29	Wayfinding Plan	Mississippi River Blvd & Summit Ave		Minor Decision Point														X					
133	W.2.30	Wayfinding Plan	Mississippi River Blvd & Marshall Ave		Minor Decision Point														X					



# 6 | IMPLEMENTATION

## Estimates of Program Costs

The idea of the Grand Round, a park encircling the City of Saint Paul and connecting its’assets begun more than 100 years ago. Fifteen years ago, the Grand Round Master Plan was created to resurrect the idea, as the southern portion along the Mississippi River of paths and sidewalks and gathering places were completed in the interim. Through Saint Paul’s 8 80 Vitality Initiative the effort was renewed to complete the northern 13 miles of the Grand Round.

The prioritization and scoping of the implementation phasing is a collaboration of input from the public, the Mayor’s Office, Planning and Economic Development, Parks and Recreation, and Public Works. The resulting programming will the integration of 8 80 ideas into ongoing capital improvement activities of each department embedding vitality into City programs. Actual sequencing and magnitude of improvements will be based on future City budgeting processes.

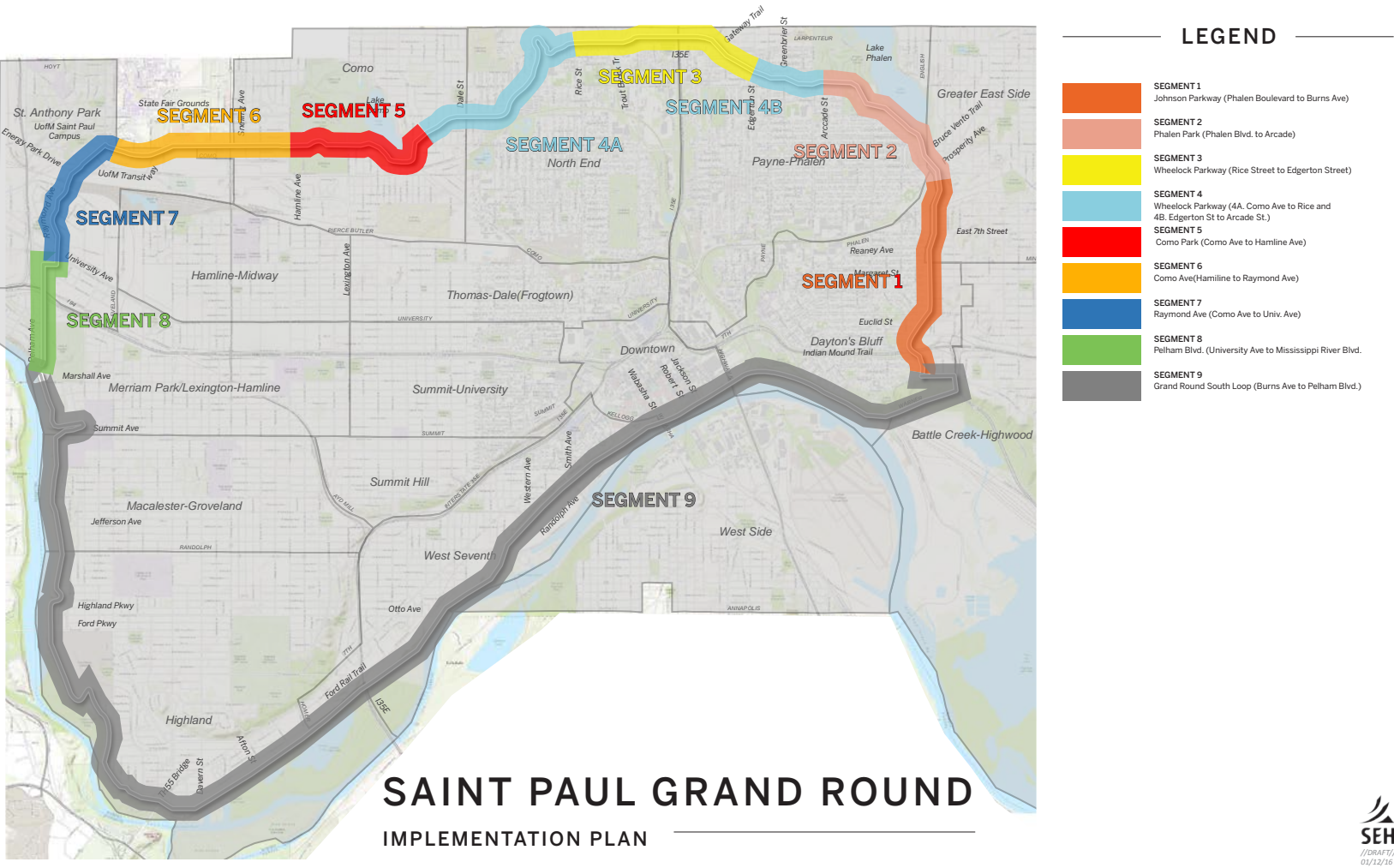
Potential funding sources include and are not limited to: local funds, street improvement bonds, capital improvement bonds, County funds, Municipal State Aid funds, State funds, Department of Natural Resource funds, and Federal funds.

The following table is a summary of estimated order of magnitude opinion of project costs using 2016 construction indexes. The table has been developed for Segments using potential project limits as defined by the City of Saint Paul’s 5-year capital improvement plan along with natural divides along the route. Future project scope, phasing, and costs will change based on future scope, construction cost indexes, and budget limitation at the time of actual implementation.

The table includes opinions of estimated costs for the program elements within the following categories:

- Streets – Includes curb and gutter, pavement, intersection and roadway construction, storm sewer and catch basins, all necessary clearing and grubbing, and replanting and boulevard restoration.
- Trails – Includes 10 to 12 foot wide bituminous bike and multi-use trails, operational signage, wayfinding, and crossing improvements. As well as applicable grading, clearing, grubbing, reforestation, and boulevard restoration.

- Sidewalks – Include construction of 5 foot concrete sidewalk on both sides of the parkway, as well as applicable grading, clearing, grubbing, reforestation, and boulevard restoration.
- Lighting – Includes removal of existing lighting, installation of new electrical feed points, conduit and conductors, bases, and luminaries.
- Parkway Amenities – Includes kiosks, benches, waste receptacles, landscaping, parklets, accent lighting, public art, corridor markers, interpretive elements that are unique to each node location.





GRAND ROUND PROGRAM SUMMARY & IMPLEMENTATION SCHEDULE									
Budget Estimates									
SEGMENT	LOCATION		YEAR					Beyond 2020	COST PER SEGMENT
			2016	2017	2018	2019	2020		
1	Johnson Pkwy	(Burns Ave to Phalen Blvd)						Roadway, Trail, & Sidewalks	
		Trail						\$ 1,963,000	
		Street						\$ 6,358,000	
		Sidewalk						\$ 1,737,000	
		Lighting						\$ 959,000	
		Parkway Amenities (I.e. Kiosks, benches, Waste Receptacles, art, etc.)						\$ 1,284,000	
		Estimated Project Cost						\$ 12,301,000	\$ 12,301,000
2	Wheelock Pkwy	(Phalen Blvd to Arcade St)						Roadway, Trail, & Sidewalks	
		Trail						\$ 1,675,000	
		Street						\$ 3,621,000	
		Sidewalk						\$ 925,000	
		Lighting						\$ 730,000	
		Parkway Amenities (I.e. Kiosks, benches, Waste Receptacles, art, etc.)						\$ 693,000	
		Estimated Project Cost						\$ 7,644,000	\$ 7,644,000
3	Wheelock Pkwy	(Rice St to Edgerton St)	Roadway, Trail, Sidewalks						
		Trail	\$ 1,503,000						
		Street	\$ 4,367,000						
		Sidewalk	\$ 1,360,000						
		Lighting	\$ 812,500						
		Parkway Amenities (I.e. Kiosks, benches, Waste Receptacles, art, etc.)	\$ 783,000						
		Estimated Project Cost	\$ 8,825,500						\$ 8,825,500



GRAND ROUND PROGRAM SUMMARY & IMPLEMENTATION SCHEDULE									
Budget Estimates									
SEGMENT	LOCATION		YEAR						COST PER SEGMENT
			2016	2017	2018	2019	2020	Beyond 2020	
4.A	Wheelock Pkwy	(Victoria St to Western Ave)		Roadway, Trail, & Sidewalks					
		Trail		\$ 1,178,000					
		Street		\$ 4,656,000					
		Sidewalk		\$ 682,000					
		Lighting		\$ 729,000					
		Parkway Amenities (I.e. Kiosks, benches, Waste Receptacles, art, etc.)		\$ 231,000					
		Estimated Project Cost		\$ 7,476,000					\$ 7,476,000
4.B	Wheelock Pkwy	(Western Ave to Rice St)			Roadway, Trail, & Sidewalks				
		Trail			\$ 638,000				
		Street			\$ 3,660,000				
		Sidewalk			\$ 949,000				
		Lighting			\$ 506,000				
		Parkway Amenities (I.e. Kiosks, benches, Waste Receptacles, art, etc.)			\$ 244,000				
		Estimated Project Cost			\$ 5,997,000				\$ 5,997,000
4.C	Wheelock Pkwy	(Edgerton St to Arcade St)				Roadway, Trail, & Sidewalks			
		Trail				\$ 431,000			
		Street				\$ 3,007,000			
		Sidewalk				\$ 64,000			
		Lighting				\$ 288,000			
		Parkway Amenities (I.e. Kiosks, benches, Waste Receptacles, art, etc.)				\$ 14,000			
		Estimated Project Cost				\$ 3,804,000			\$ 3,804,000



GRAND ROUND PROGRAM SUMMARY & IMPLEMENTATION SCHEDULE									
Budget Estimates									
SEGMENT	LOCATION		YEAR					Beyond 2020	COST PER SEGMENT
			2016	2017	2018	2019	2020		
5	Como Ave	(Como Blvd to Hamline Ave)						Roadway, Trail, & Sidewalks	
		Trail						\$ 964,000	
		Street						\$ 3,674,000	
		Sidewalk						\$ 532,000	
		Lighting						\$ 608,000	
		Parkway Amenities (I.e. Kiosks, benches, Waste Receptacles, art, etc.)						\$ 855,000	
		Estimated Project Cost						\$ 6,633,000	\$ 6,633,000
6	Como Ave	(Hamline Ave to Raymond Ave)	Bike Lane Striping					Roadway, Trail, & Sidewalks	
		Trail	\$ 3,000					\$ 843,000	
		Street						\$ 7,122,000	
		Sidewalk						\$ 334,000	
		Lighting						\$ 608,000	
		Parkway Amenities (I.e. Kiosks, benches, Waste Receptacles, art, etc.)						\$ 699,000	
		Estimated Project Cost	\$ 3,000					\$ 9,606,000	\$ 9,609,000
7	Raymond Ave	(Como Ave to University Ave) - (City)	Roadway & Sidewalks						
		Estimated Project Cost	\$ 6,322,000						\$ 6,322,000
8	Pelham Blvd	(University Ave to MRB)	Cycle Track					Roadway, Trail, & Sidewalks	
		Trail	\$ 130,000					\$783,000	
		Street						\$3,021,000	
		Sidewalk						\$179,000	
		Lighting						\$41,000	
		Parkway Amenities (I.e. Kiosks, benches, Waste Receptacles, art, etc.)						\$1,837,000	
		Estimated Project Cost	\$ 130,000					\$ 5,861,000	\$ 5,991,000



GRAND ROUND PROGRAM SUMMARY & IMPLEMENTATION SCHEDULE									
Budget Estimates									
SEGMENT	LOCATION		YEAR						COST PER SEGMENT
			2016	2017	2018	2019	2020	Beyond 2020	
9	South Segment	(Burns Ave to Pelham Blvd)						Branding & Wayfinding	
		Parkway Amenities (I.e. Kiosks, benches, Waste Receptacles, art, etc.)							
		Estimated Project Cost						\$ 541,000	\$ 541,000
TOTAL PROJECT COST PER YEAR			\$ 15,280,500	\$ 7,476,000	\$ 5,997,000	\$ 3,804,000	\$ -	\$ 42,586,000	\$ 75,143,500
Note: Budget Estimates are opinions of potential costs in 2016 dollars. Budgets include estimates for surface upgrades within the Grand Round corridor such as curb & gutter, pavement, intersection storm sewer and catch basins, lighting, sidewalks, trails, limited grade changes, clearing and grubbing related to each activity, and preliminary estimates of a limited level of tree replacement, landscaping, wayfinding, amenities and art, plus 35% for contingency. Cost estimates do not include estimates for subsurface soil or foundation corrections, utility upgrades such as sanitary and storm sewer trunk line rehab, service line replacements, private utility upgrades, changes in construction materials and markets, nor public structures such as bus and park shelters.									







