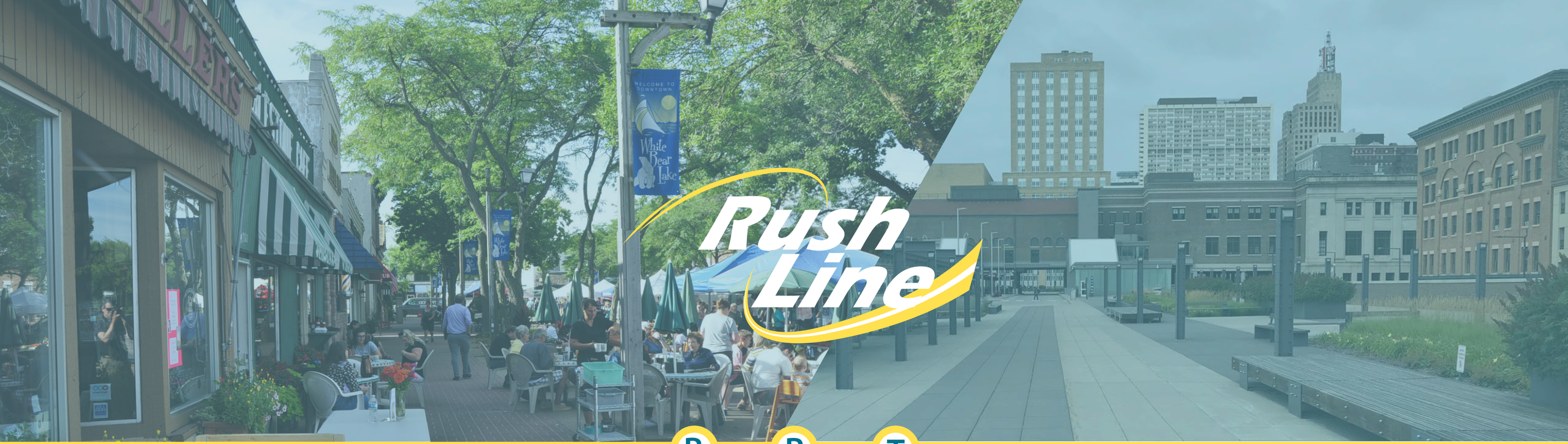


VISUAL QUALITY MANUAL

APRIL 2021

CONTENTS

INTRODUCTION

PURPOSE AND SCOPE

The Rush Line Bus Rapid Transit (BRT) Project is a proposed 15-mile transit route with 21 stations between Union Depot in Lowertown Saint Paul and downtown White Bear Lake. Located in Ramsey County, it will pass through six municipalities: Saint Paul, Maplewood, White Bear Township, Vadnais Heights, Gem Lake and White Bear Lake. Each of these communities has a unique visual character along the route, which is highlighted through selected photos in the subsequent Context and Character section of this manual.

The establishment of a visually attractive and maintainable corridor and transit facilities will support the project's overall goals of providing high quality transit service and connecting communities. The visual quality recommendations aim to find the appropriate balance between a consistent Rush Line BRT visual identity while also recognizing the individual character of each community.

Along the length of the Rush Line BRT Project, there will be new design features in addition to the stations and guideway that will become part of the surrounding urban and suburban contexts. The main purpose of this visual quality manual is to illustrate the proposed aesthetic design for each feature and provide sufficient guidance to enable advancement of project engineering. The visual quality manual is intentionally broad in the range of features that are covered in order to develop coordinated design recommendations for each. Design elements are illustrated through representative photos or graphics and applied in prototypical study areas.

The scope includes the following features:

- Station sites (not including shelter architecture).
- Bridges.
- Retaining walls.
- Lighting.
- Pavements.
- Fencing and barriers.
- Furnishings.
- Wayfinding signage.
- Plantings.

This manual provides guidance on the size, form, texture, color and other characteristics of the design features from both a visual and functional perspective. The design recommendations are tailored to complement the community character, cultural resources, natural environment and existing significant structures nearby. As Rush Line BRT planning and design advances, other ongoing projects may overlap and influence the project design in the future as their outcomes become more established.

During the 15% design phase, there was extensive coordination with agency stakeholders and public input on the overall design layout and visual preferences. In future phases, a more in depth station design process involving agency and community representatives will be initiated. This process will explore opportunities for community input and local expression to influence certain station area design elements.

Where applicable, the recommendations in this document complement, and will continue to be subject to, the review process required under Section 106 of the National Historic Preservation Act. Specific historic districts and properties are listed in the Context and Character corridor segments.

OTHER RUSH LINE BRT PROJECT STUDIES

RAMSEY COUNTY RAIL RIGHT-OF-WAY DESIGN GUIDE

As part of the Rush Line BRT Project, a design guide was developed for the Ramsey County rail right-of-way along the proposed BRT route from the Arcade Street station to the Buerkle Road station. The BRT and Bruce Vento Regional Trail will be co-located within the Ramsey County rail right-of-way along this segment. The goal of the design guide is to "develop a safe and context-sensitive BRT guideway and shared use trail plan incorporating relevant user, stakeholder and public guidance along the Ramsey County rail right-of-way."

The project conducted public engagement that included a visual preference survey for different landscape features. This visual quality manual builds upon the results of the design guide. The subsequent Visual Quality Design Principles herein are intended to complement previously established Guiding Principles from the design guide. While the design guide is limited to improvements within the Ramsey County rail right-of-way, this visual quality manual considers design consistency strategies for the entire Rush Line project limits.

RUSH LINE BRT STATION AREA PLANNING

In addition to determining station locations, the Rush Line BRT station area planning process provides guidance for longer-term transit-supportive land use planning. Focusing on the area within generally a half-mile radius, station area planning efforts have included a health impact assessment, market assessment and walkshed and bikeshed analysis. Grant funding has been secured to do additional station area planning in future phases.

RELATED PROJECTS

METRO GOLD LINE BRT
Extending from downtown Saint Paul to Woodbury generally along the Interstate 94 (I-94) corridor, the planned Gold Line BRT is under design concurrently with Rush Line BRT. In downtown, Rush Line BRT and Gold Line BRT will overlap routing and share several stations: Union Depot station at Sibley and Wacouta Streets and the 5th / 6th Street Station at Jackson and Robert Streets.

BRUCE VENTO REGIONAL TRAIL EXTENSION
The existing Bruce Vento Regional Trail connects to the Mississippi River and Sam Morgan Regional Trail southeast of downtown Saint Paul. Heading northbound, it passes through Swede Hollow, follows Phalen Boulevard past Lake Phalen Regional Park, and then follows Ramsey County rail right-of-way to I-694 where it currently terminates. In the future, Ramsey County Parks & Recreation plans to extend the route further north to White Bear Lake and beyond.

NORTH END VISIONING
In an effort to revitalize and leverage new investment in the Maplewood Mall area, the city of Maplewood completed a visioning process separate from the Rush Line BRT Project. It has implications for transit planning because it proposes significant land use and street network evolution. The vision statement is, “The North End is a local and regional economic activity center characterized by a diverse mix of sustainable land uses where people of all backgrounds can safely and easily come from near and far to gather for purposes of obtaining goods and services, wellness, work, recreation, socialization, learning, and living.”

HARVEST PARK MASTER PLANNING
The city of Maplewood has developed alternative designs for Harvest Park, located north of Highway 36 on Gervais Avenue, adjacent to the proposed Rush Line BRT and Bruce Vento Regional Trail. A BRT park-and-ride facility is currently being considered in the southwest corner of the park. Coordination between Maplewood and the Rush Line project is ongoing.

ROBERT STREET
The Robert Street Corridor extends from the Minnesota State Capitol, through Downtown Saint Paul, and across the river into Saint Paul’s West Side neighborhoods. The Minnesota Department of Transportation and City of Saint Paul are planning improvements to the segment between I-94 and the Mississippi River.

VISUAL QUALITY DESIGN PRINCIPLES

Transit riders expect and deserve high quality facilities that provide comfort and enhance their daily travel experiences. As a regional transit corridor, both the stations and supporting infrastructure contribute to the overall transit experience. In addition, the project’s design will reshape the experience and perception of the overall public realm for community members who live near the corridor or frequent it in their daily lives Underlying the recommendations later in the document, the following design principles establish the reasons why investing in visual quality is important to the overall success of the Rush Line BRT Project. Future design advancement will strive for solutions that are also functional, durable, and cost-effective.

1. SUPPORT RUSH LINE BRT AND METRO TRANSIT BRAND IDENTITY
Consistency in the forms, colors and textures of the stations and supporting features will make the transit service more visible and familiar over time amidst varying local contexts. Further coordination with system-wide branding representatives will be needed as this project advances.

2. ENHANCE TRANSIT RIDER EXPERIENCE
As riders continually take in visual information during their arrival and travel, high quality aesthetics reinforce that the transit system is intentionally designed for their benefit and kept in good repair. Visual quality can have the added benefit of reinforcing a sense of order and safety as well.

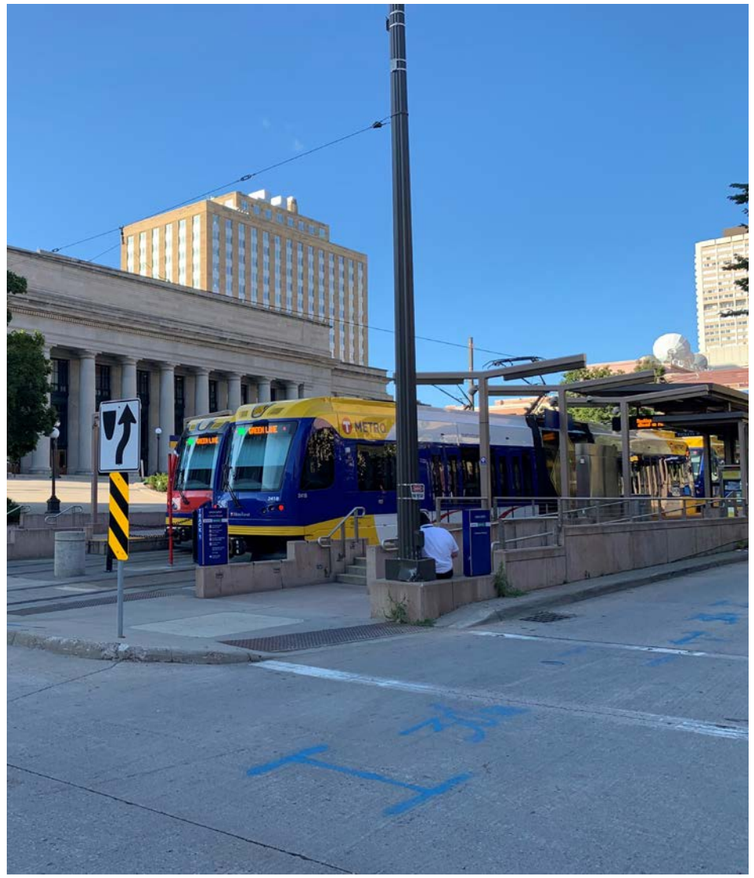
3.PROVIDE OPPORTUNITIES FOR LOCALLY UNIQUE AESTHETIC EXPRESSION
Enabling ways for the stations and supporting features to respond to context and character and incorporate aspects of local identity can create a local sense of ownership and belonging, thereby better integrating transit with the surroundings. This can be achieved by identifying select design features that are repeated with consistency throughout the system but may have customizable components at individual locations.

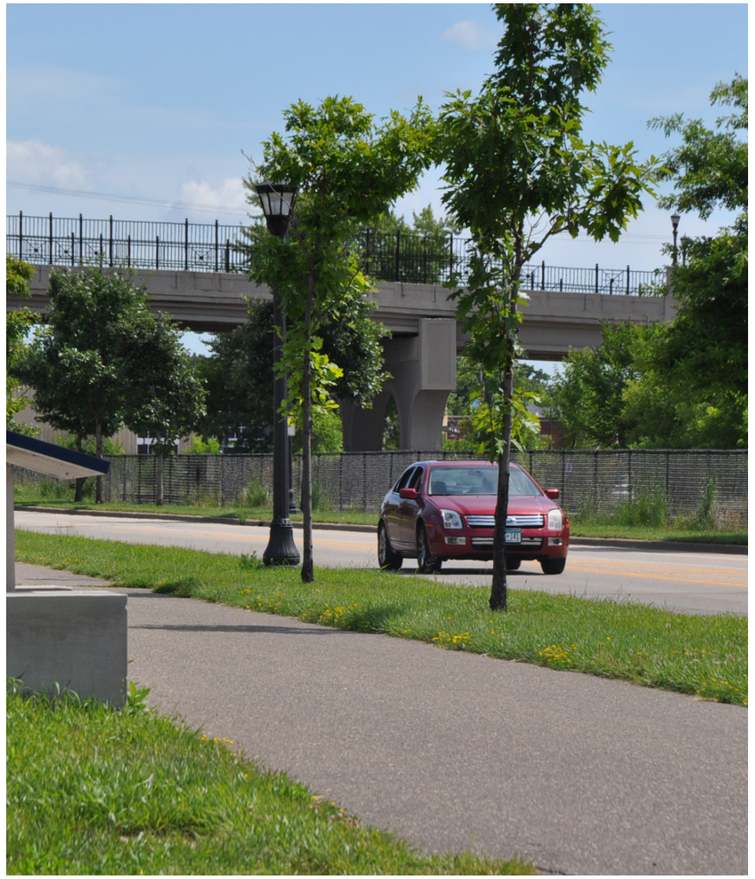
Incorporating public art is another way to create unique local expression, although current federal policy requires it to be funded separately from the project. Further coordination amongst project partners will be needed to determine the feasibility and opportunities for local design expression.

4. HIGHLIGHT EXISTING VALUED COMMUNITY FEATURES
Existing valued community features such as landmark buildings, natural features and intentionally designed streetscapes can be celebrated to the benefit of the visual transit experience by avoiding or minimizing impacts and preserving key sight lines. Historic character can also be reflected in project design elements in complementary ways.

5. DESIGN CORRIDOR EDGES APPROPRIATE TO ADJACENT LAND USES
Where the transit corridor development will change the type and frequency of activity along the edges of adjacent residential, park, or historic properties, visual screening may be warranted to mitigate visual impacts. In the case of commercial properties, additional visibility may be beneficial.

1 // CONTEXT AND CHARACTER





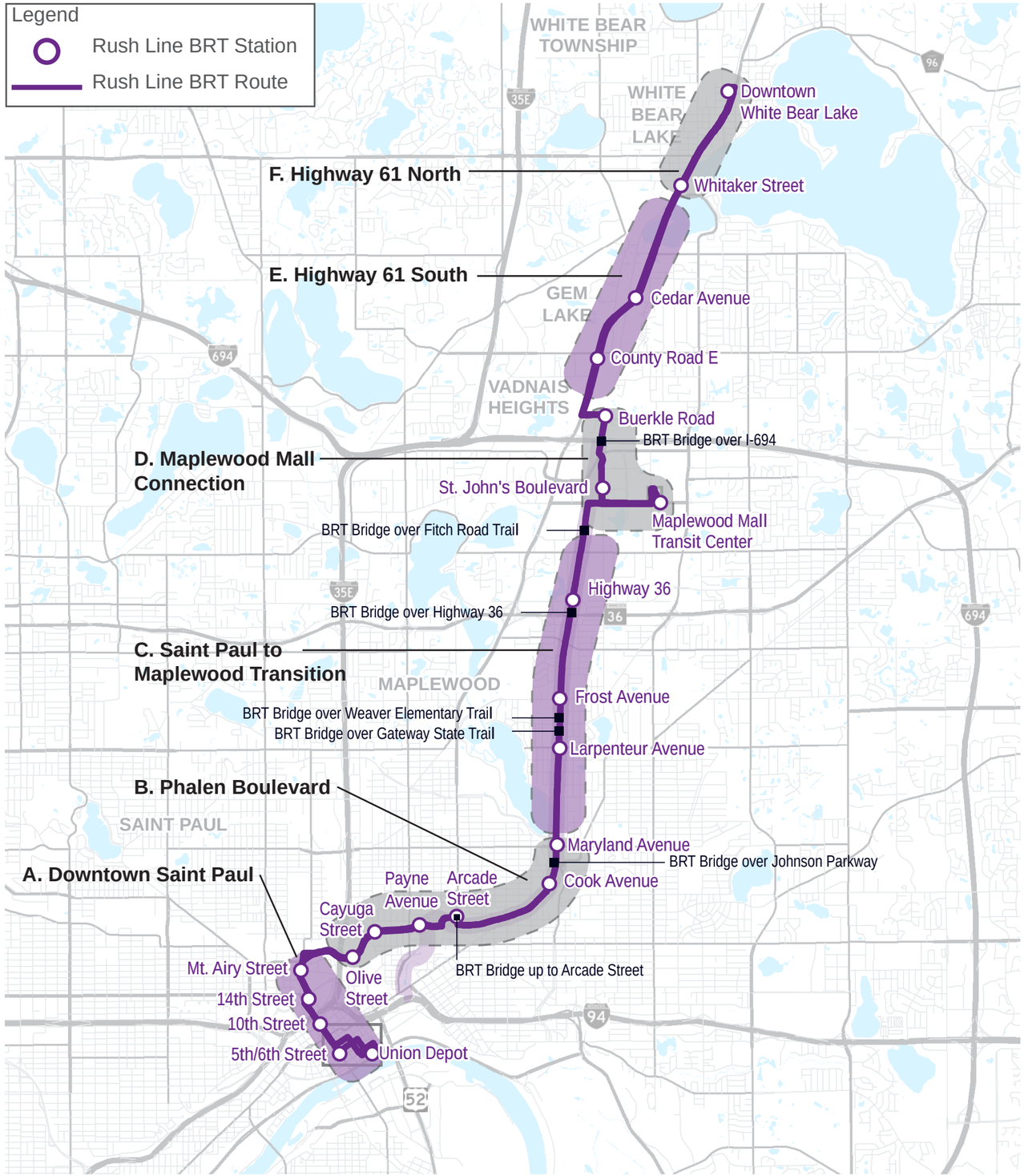
OVERVIEW MAP

CONTEXT AND CHARACTER SEGMENTS

Context and Character is the general visual appearance of a distinctly identifiable area along the project route. It is comprised of the many existing design features within the public right of way as well as the private properties at the edges that have developed over time - not necessarily the result of a specific project. The designated context and character segments represent distinct areas based on a preliminary visual review of existing corridor conditions revealing diverse expressions of community identities.

Six segments were identified:

A. Downtown Saint Paul
B. Phalen Boulevard
C. Saint Paul to Maplewood Transition
D. Maplewood Mall Connection
E. Highway 61 South
F. Highway 61 North



A. DOWNTOWN SAINT PAUL

UNION DEPOT TO PENNSYLVANIA AVENUE

CHARACTER

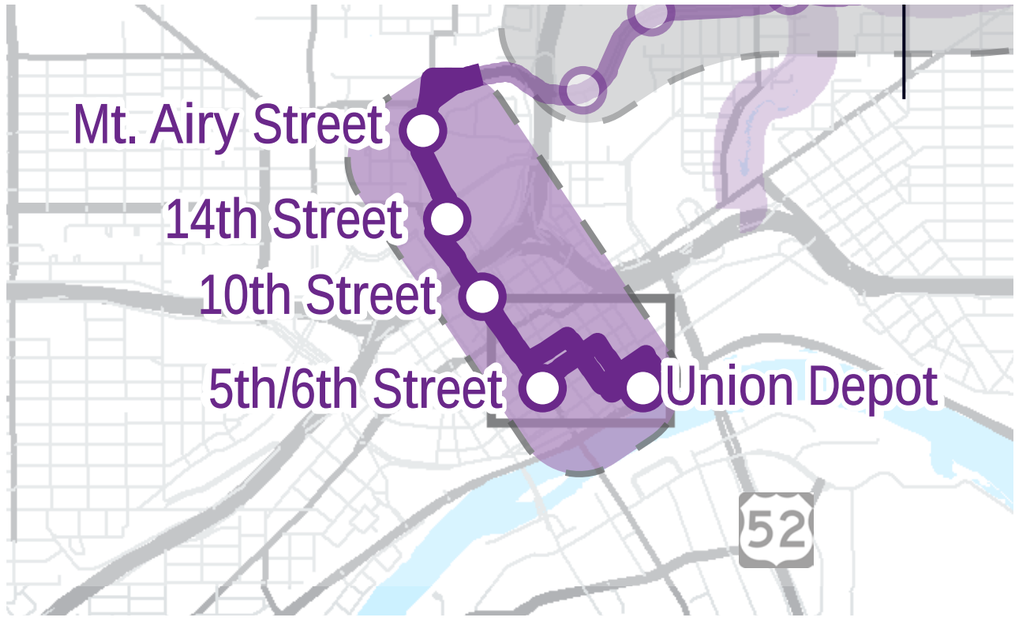
- **Land use:** business core, urban mixed-use, medical, residential.
- **Built form:** varied architectural styles, human-scale streetscape, historic properties and districts.
- **Destinations:** Union Depot, Lowertown, Central Business District, State Capitol, Regions Hospital, Mt. Airy Community Center, downtown parks.
- **Natural features:** Mississippi River, prominent hill and steeper grade heading north towards Mt. Airy Street Station.
- **Historic Resources:**
  - Saint Paul Union Depot
  - Finch, Van Slyck, and McConville Dry Goods Company
  - Lowertown Historic District
  - Saint Paul Urban Renewal Historic District
  - First Farmers and Merchants National Bank Building
  - First National Bank of Saint Paul
  - Pioneer and Endicott Buildings
  - Manhattan Building
  - Golden Rule Department Store Building
  - Foot, Schulze & Company
  - Produce Exchange Building

CHALLENGES

- Avoiding adverse effects to historic districts and resources.
- Varied architectural styles / no single vernacular.
- Coordination with other nearby transit lines (will require distinct Rush Line BRT wayfinding and branding).

OPPORTUNITIES

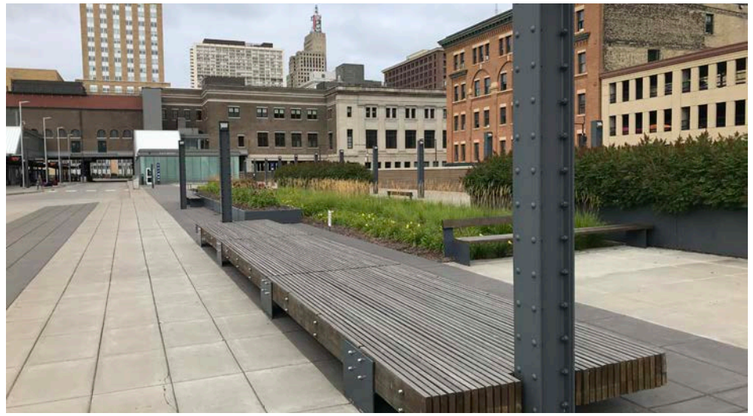
- Connectivity to other transit lines and robust pedestrian / cyclist network.
- Numerous institutional, commercial, retail, employment and medical destinations.
- Integration into the urban streetscape with high level of existing pedestrian activity.



BUSINESS DISTRICT / URBAN CORE

UNION DEPOT ENTRANCE

UNION DEPOT METRO GREEN LINE STATION



UNION DEPOT PUBLIC SPACE

MIXED USE BUILDINGS NEAR ROBERT STREET & 10TH STREET

MANHATTAN BUILDING NEAR ROBERT STREET & 5TH STREET

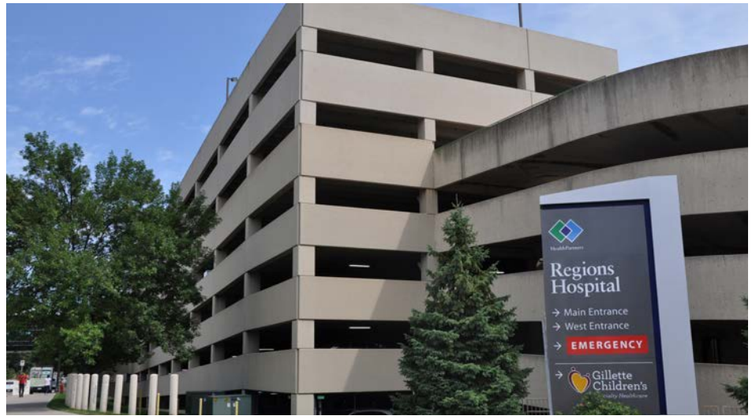
OFF-STREET BIKEWAY ON JACKSON STREET

HOSPITAL CAMPUS

METRO TRANSIT SHELTER NEAR JACKSON ST. AND 14TH STREET

METRO TRANSIT SHELTER NEAR REGIONS HOSPITAL

GILLETTE CHILDREN'S SPECIALTY HEALTHCARE BUILDING



REGIONS HOSPITAL SIGNAGE AND PARKING STRUCTURE

RESIDENTIAL

MT. AIRY STREET MULTIFAMILY HOUSING

MT. AIRY STREET SINGLE-FAMILY HOUSING

DETAILS

LIMESTONE SEAT WALLS NEAR REGIONS HOSPITAL

DECORATIVE MANHOLE COVER

DECORATIVE TREE GRATES

CONCRETE MODULAR BLOCK WALL AND FENCE

EXISTING JACKSON STREET BRIDGE OVER RAILROAD

GRANITE PLAZA SEATING NEAR CAPITOL

B. PHALEN BOULEVARD

PENNSYLVANIA AVENUE TO MARYLAND AVENUE

CHARACTER

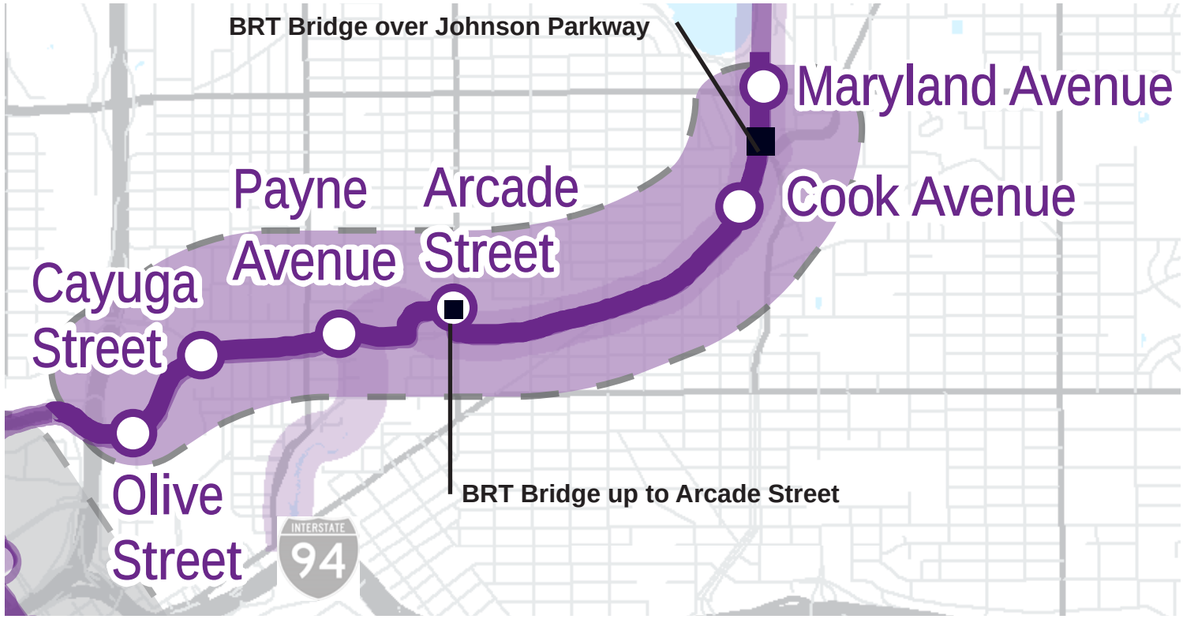
- **Land use:** large commercial, light industrial, medical, recreational, residential, adjacent freight rail.
- **Built form:** open green space, large buildings, car-oriented, roadway landscaping and lighting.
- **Destinations:** Hmong Village, Phalen Village, Arcade Street and Payne Avenue businesses, specialty health clinics, Eastside Heritage Park, Duluth and Case Recreation Center, Phalen Regional Park, Bruce Vento Regional Trail.
- **Natural features:** Lake Phalen, Swede Hollow, Ames Lake.
- **Historic Resources:**
  - Great Northern Railroad Corridor Historic District
  - St. Paul, Minneapolis, and Manitoba Railway Company Shops Historic District
  - Westminster Junction
  - Saint Paul, Stillwater & Taylors Falls/Chicago, Saint Paul, Minneapolis & Omaha Railroad Corridor Historic District
  - Lake Superior & Mississippi Railroad Corridor Historic District
  - Theodore Hamm Brewing Company Complex
  - 3M Administration Building
  - Johnson Parkway
  - Phalen Park

CHALLENGES

- Avoiding adverse effects to historic districts and resources.
- Railroad creates barrier between Rush Line BRT and adjacent neighborhoods to the south and east.
- Steep topography is a challenge to pedestrian and bicycle connectivity in some locations.

OPPORTUNITIES

- Established neighborhoods adjacent to the corridor are within walking distance of stations.
- Employment and medical destinations.
- Extensive linear network of proposed stormwater treatment areas and green spaces.
- Transit access via the Bruce Vento Regional Trail.
- Increased access to Phalen Regional Park.



PHALEN BOULEVARD AND JOHNSON PARKWAY AREA

PHALEN BOULEVARD AND ARCADE STREET BRIDGE

PHALEN REGIONAL PARK SIGNAGE ON JOHNSON PARKWAY

PHALEN DRIVE AND WHEELOCK PARKWAY GATEWAY

PHALEN BOULEVARD PATH AND RAILING

PHALEN BOULEVARD AND ADJACENT RAILROAD CORRIDOR
Source: Google

BRUCE VENTO REGIONAL TRAIL ALONG PHALEN BOULEVARD

STRUCTURES

HEALTH PARTNERS NEUROSCIENCE CENTER

HEALTH PARTNERS SPECIALTY CENTER, SAINT PAUL

EARL STREET BRIDGE PIER AESTHETICS

PAYNE AVENUE COMMERCIAL DISTRICT
Source: Ramsey County

REALIFE COOPERATIVE AT PHALEN VILLAGE

LIGHTING AND RAILING AESTHETICS

PARKS AND TRAILS

PARK ENTRANCE SIGN

PARK SHELTER

RECREATIONAL FACILITIES ALONG JOHNSON PARKWAY

PARK SEATING AND SHADE TREES

TRAIL WAYFINDING

LAKE PHALEN TRAIL

C. SAINT PAUL TO MAPLEWOOD TRANSITION

MARYLAND AVENUE TO BEAM AVENUE

CHARACTER

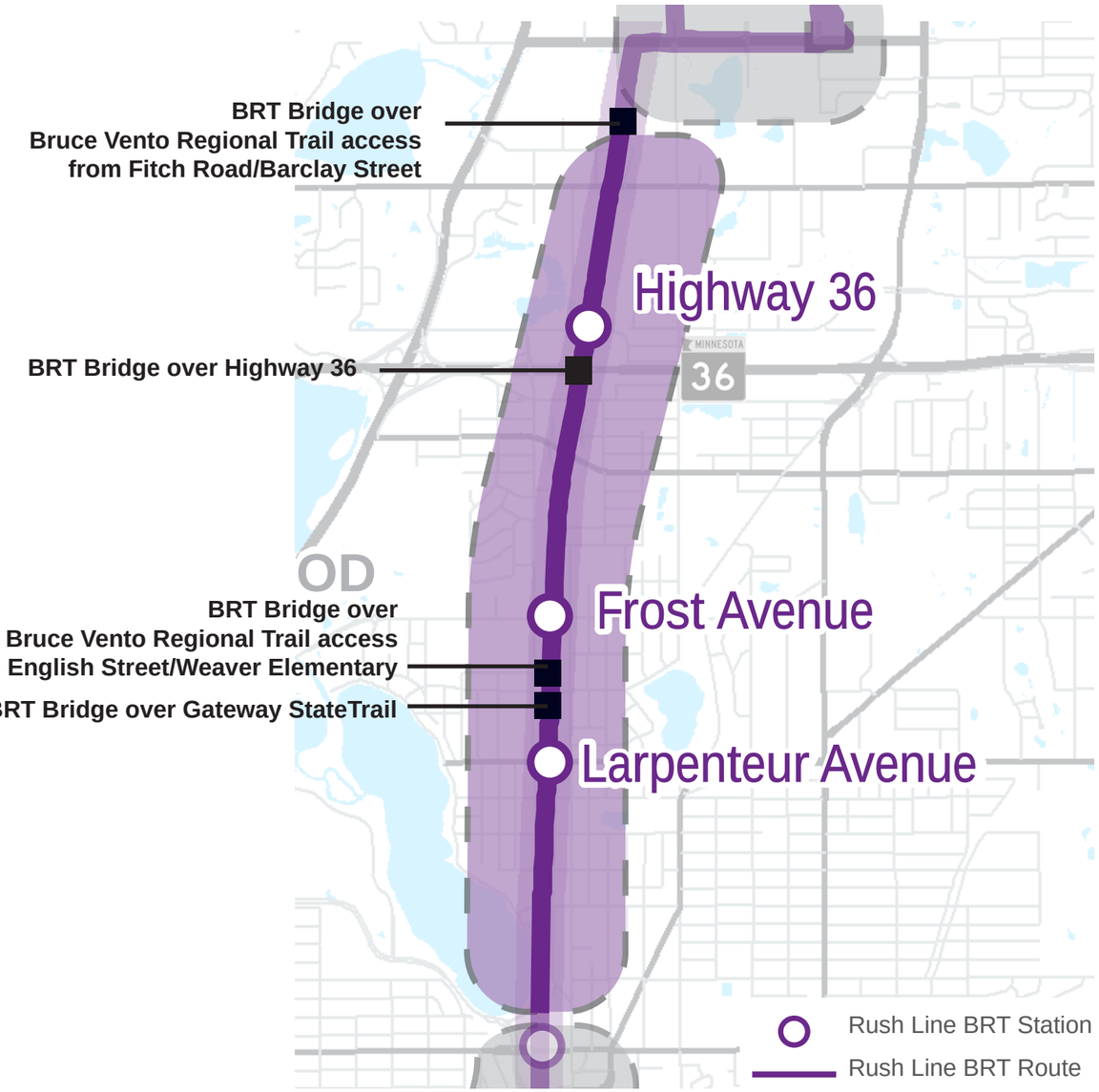
- **Land use:** single family and multifamily residential with occasional commercial nodes.
- **Built form:** smaller scale neighborhood residential buildings, larger public buildings.
- **Destinations:** Weaver Elementary School, religious buildings and community gardens, Harvest Park, Phalen Regional Park, Bruce Vento Regional Trail, Gladstone Savanna, Gateway State Trail.
- **Natural features:** Lake Phalen, mature street tree canopy, wetlands / woods complex.
- **Historic Resources:**
  - Phalen Park
  - Gladstone Shops (Gladstone Savanna)
  - Moose Lodge 963
  - Madeline L. Weaver Elementary School
  - Lake Superior & Mississippi Railroad Corridor Historic District

CHALLENGES

- Avoiding adverse effects to historic districts and resources.
- Developing a safe dedicated guideway and shared-use trail within the Ramsey County rail right-of-way that fits in with the surrounding landscape and reflects relevant user, stakeholder and public guidance.
- Disturbance of existing vegetation and corridor edge buffer along residential areas.
- New BRT guideway will add more activity to the former railroad right-of-way.
- Some corridor edges will need retaining walls, introducing new “built” features.
- Integrating potential park-and-ride within the southern edge of Harvest Park.

OPPORTUNITIES

- Transit access via the Bruce Vento Regional Trail.
- Established neighborhoods adjacent to the corridor are within walking distance of stations.
- Extensive network of proposed stormwater treatment areas and green spaces.
- Vegetative buffering would mitigate impacts and enhance the existing natural character.
- Increased access to Phalen Regional Park.



RESIDENTIAL

TRAIL ACCESS ALONG NEIGHBORHOOD EDGE

MULTIFAMILY RESIDENTIAL ON FROST AVENUE

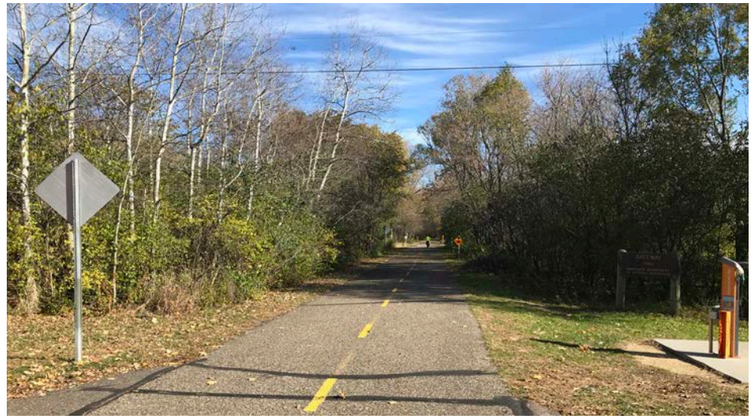
FROST AVENUE MEDIAN PLANTING

TRAIL ACCESS AND HOMES NEAR FROST AVENUE

TRAIL ACCESS AND MULTIFAMILY RESIDENTIAL ON LARPENTEUR AVENUE

ENGLISH STREET / FROST AVENUE ROUNDABOUT

TRAILS

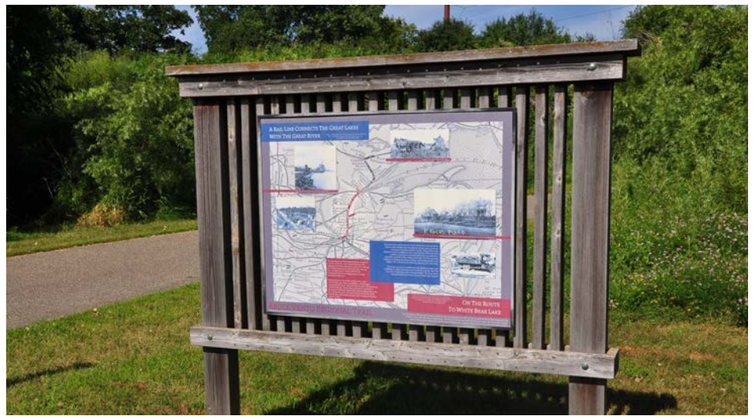


GATEWAY STATE TRAIL

MODULAR BLOCK WALL

BRUCE VENTO REGIONAL TRAIL SIGNAGE

GATEWAY STATE TRAIL TRAILHEAD



BRUCE VENTO REGIONAL TRAIL SIGNAGE

BRUCE VENTO REGIONAL TRAIL SIGNAGE

PARKS

HARVEST PARK

HARVEST PARK

HIGHWAY 36 BRIDGES

GLADSTONE SAVANNA

NATURE PRESERVE

BRUCE VENTO REGIONAL TRAIL BRIDGE OVER HIGHWAY 36

ENGLISH STREET BRIDGE OVER HIGHWAY 36

D. MAPLEWOOD MALL CONNECTION

VIA BEAM AVENUE AND BACK TO BUERKLE ROAD

CHARACTER

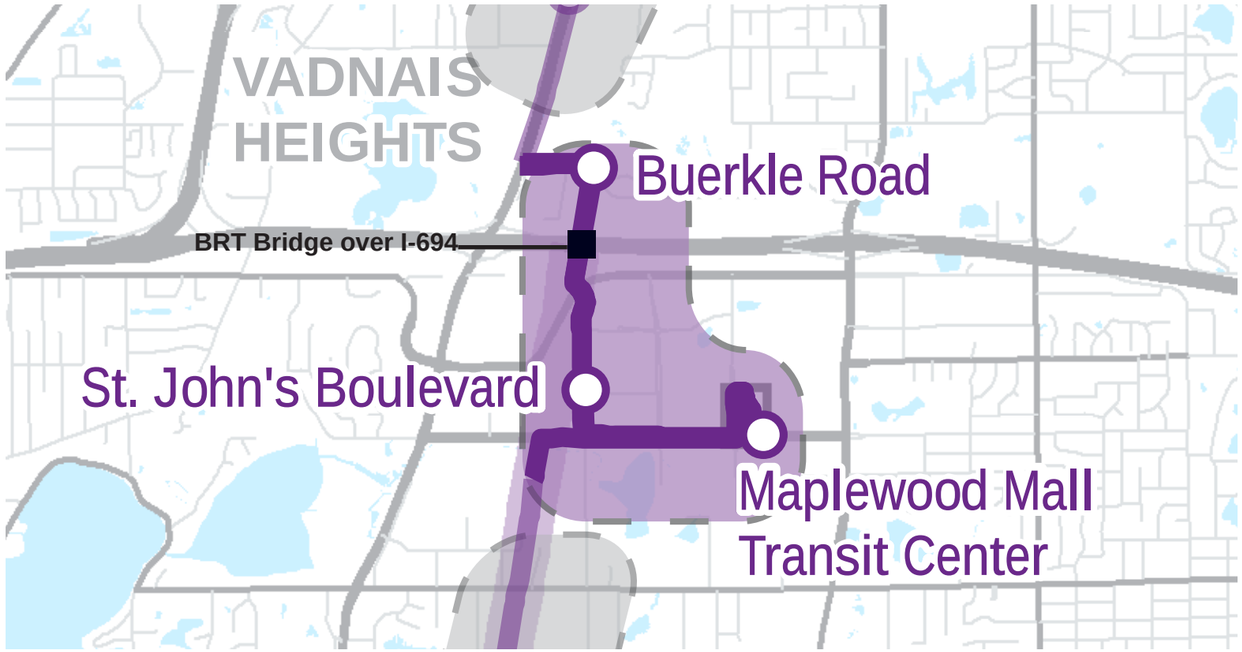
- **Land use:** retail mall, commercial, medical, single family and multifamily residential, adjacent freight rail.
- **Built form:** large institutional and commerical buildings, transit center parking structure, car-oriented, mutlifamily residential on Hazelwood Street.
- **Destinations:** Maplewood Mall, Maplewood Mall Transit Center, Ramsey County Library, St. John's Hospital, HealthEast Clinic and Specialty Center
- **Natural features:** wetlands / wood complex, Maple Heights Park, North Hazelwood Park, Willow Lake.
- **Historic Resources:**
  - Lake Superior & Mississippi Railroad Corridor Historic District

CHALLENGES

- Avoiding adverse effects to historic districts and resources.
- Need for distinct branding and wayfinding to distinguish from other bus service at Maplewood Mall Transit Center.
- Clear route identification and awareness with many turns.

OPPORTUNITIES

- Major transit hub with existing amenities (seating, lighting, shelter, parking).
- City's North End Vision Plan for redevelopment and improved pedestrian and bicycle network.
- Convenient access to heath services in nearby clustered medical facilities.



STRUCTURES

RAMSEY COUNTY LIBRARY
Source: McGough

MAPLEWOOD MALL

HEALTHEAST CLINIC AND SPECIALTY CENTER

MAPLEWOOD MALL TRANSIT CENTER

RESIDENTIAL

CARDINAL POINTE SENIOR COOPERATIVE ON HAZELWOOD STREET
Source: Google

MULTIFAMILY RESIDENTIAL ON LEGACY PARKWAY
Source: Google

E. HIGHWAY 61 SOUTH

BUERKLE ROAD TO WHITE BEAR AVENUE

CHARACTER

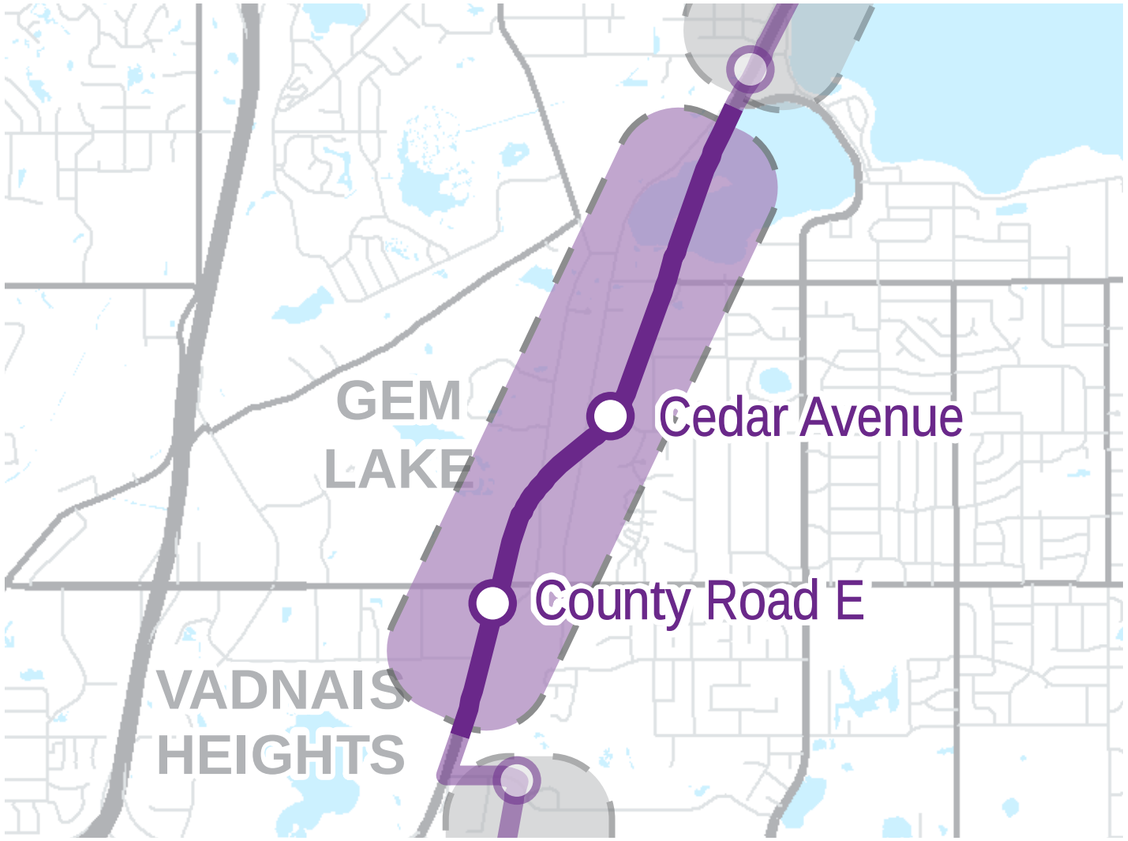
- **Land use:** auto-oriented commercial, residential, institutional.
- **Built form:** open sightlines, car-oriented, BNSF overpass.
- **Destinations:** TCO Sports Garden, auto dealerships, Community of Grace Lutheran Church, Waters of White Bear Lake senior living.
- **Natural features:** Goose Lake, Gem Lake.
- **Historic Resources:**
  - Lake Superior & Mississippi Railroad Corridor Historic District
  - Polar Chevrolet Bear/Paul R. Bear

CHALLENGES

- Nondescript existing visual character with standard highway features.
- Predominantly auto-oriented environment.

OPPORTUNITIES

- New bicycle and pedestrian connections between the planned Bruce Vento Regional Trail Extension and stations.
- Placemaking to create a more cohesive and human-centered environment at stations and along access routes.



STRUCTURES

AUTO-ORIENTED COMMERCIAL BUILDING NEAR COUNTY ROAD F
Source: Google

TCO SPORTS GARDEN

WATERS OF WHITE BEAR LAKE RESIDENTIAL NEAR CEDAR AVENUE

VADNAIS HEIGHTS SIGNAGE

HIGHWAY CORRIDOR

ROADSIDE GREEN SPACE

GOOSE LAKE VIEWS FROM HIGHWAY 61 CAUSEWAY

F. HIGHWAY 61 NORTH

WHITE BEAR AVENUE TO DOWNTOWN WHITE BEAR LAKE

CHARACTER

- **Land use:** auto-oriented commercial, downtown commercial, residential neighborhoods off main corridor.
- **Built form:** streetscape enhancements, strong White Bear Lake branding throughout.
- **Destinations:** Downtown White Bear Lake, White Bear Lake City Hall, Ramsey County Library, retail and restaurants, Manitou Island / Central Park, White Bear Center for the Arts, Lakeshore Players Theater, White Bear Lake Area High School.
- **Natural features:** White Bear Lake.
- **Historic Resources:**
  - Lake Superior & Mississippi Railroad Corridor Historic District

CHALLENGES

- Integrating Rush Line BRT wayfinding with existing community-themed streetscape features.

OPPORTUNITIES

- Strong pedestrian network and facilities.
- Planned high school campus expansion and upgrades near the Downtown White Bear Lake Station.

HIGHWAY CORRIDOR

DIVIDED HIGHWAY WITH MEDIAN TREATMENTS NEAR 4TH STREET

INTERSECTION WITH MEDIAN TREATMENTS NEAR 2ND STREET

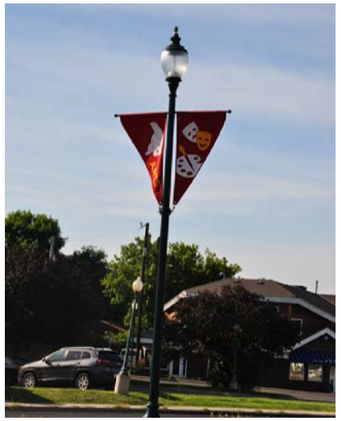
HISTORIC DEPOT

RAIL AND WEST FRONTAGE ROAD

METRO TRANSIT STOP NEAR 2ND STREET

8TH STREET LOOKING WEST FROM HIGHWAY 61

DOWNTOWN STREETSCAPE



LIGHTING AND CITY BANNERS

DOWNTOWN STOREFRONTS

PARK SHELTER

FARMERS MARKET

RESTAURANT PATIOS

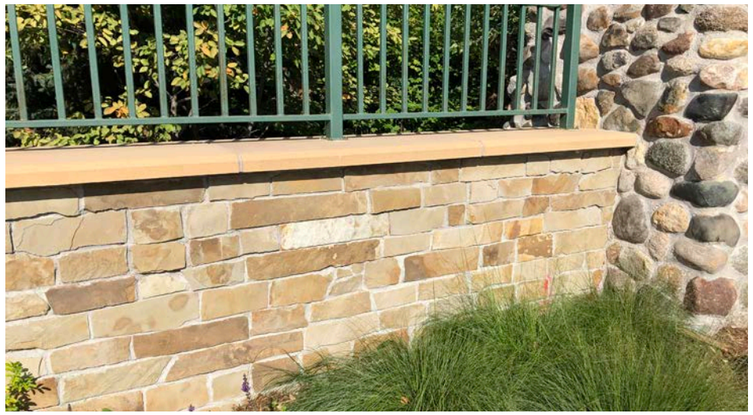
ROADSIDE PLANTINGS

DETAILS

CITY SIGNAGE

SIDEWALK WITH BRICK EDGE TEXTURE

COBBLE TEXTURE MEDIAN PAVEMENT



STONE MASONRY

DECORATIVE SCORING PATTERN AND PAVERS AT PARK

BRICK WALK ALONG RAIL

2 // DESIGN ELEMENTS

OVERVIEW

This section includes the full range of primary and supporting design elements that together will create the visual character of the project and support the visual quality design principles. Future design refinement is anticipated as the project progresses. The following design elements are illustrated through representative photos or graphics and applied in prototypical study areas.

Station Sites
Bridges
Retaining Walls
Lighting
Pavements
Fencing
Furnishings
Signage
Planting

STATION SITES

A station site is comprised of many design elements. The shelter and platform is the focal point, but access walkways and landscape areas also establish the visual character and passenger experience. A vertical pylon, typically located at the head of the platform, will display the Metro Transit brand and station name. Supporting elements should include: fare collection equipment, platform pavement, signage, furnishings, lighting and railings. On each station platform, a shelter with a roof and windscreen will provide protection from the elements. The shelter and platform design will be developed through a separate process outside the scope of this document.

To enhance passenger orientation and Rush Line BRT brand recognition, the shelter and pylon form and color should be distinct from the immediate surroundings and mostly consistent along the entire project. Nevertheless, some variation may be appropriate for site-specific conditions and historic considerations. Future design development should take into account the precedents set by previous BRT projects, Metro Transit standards, project staff review and community input.

STATION TYPES

- **Union Depot Station.**

- **Downtown Shared Gold Line / Rush Line BRT Stations.**
  Sibley Street
  Wacouta Street
  5th Street and Robert Street
  6th Street and Jackson Street

- **Split Stations.**
  Olive Street
  Cayuga Street
  Cook Avenue
  Maryland Avenue
  St. John's Boulevard
  Whitaker Street

A "split" station typically extends across a roadway intersection with platforms located diagonally from each other.

- **Opposite Side Stations.**
  10th Street
  14th Street
  Mt. Airy Street
  Payne Avenue
  Arcade Street
  Larpenteur Avenue
  Frost Avenue
  Highway 36
  Buerkle Road
  County Road E
  Cedar Avenue

An "opposite side" station typically has platforms located directly across from each other on one side of an intersection.

- **Park-and-Ride Stations.**
  Highway 36
  Maplewood Mall Transit Center
  County Road E

- **Downtown White Bear Lake Station.**

METRO GOLD LINE BRT STATION CONCEPT ILLUSTRATION (6TH ST. AND JACKSON ST.)
Source: Metro Transit

METRO GOLD LINE BRT STATION CONCEPT ILLUSTRATION (MAPLEWOOD)
Source: Metro Transit

UNION DEPOT STATION

The Rush Line BRT Union Depot station will be located on the bus deck behind the building south of Kellogg Boulevard. There is an existing canopy structure and glass windscreen. New Rush Line BRT features should include a designated platform area, pylon sign, fare collection equipment, additional furnishings and an electrical charging station.

DRAFT - WORK IN PROCESS

N

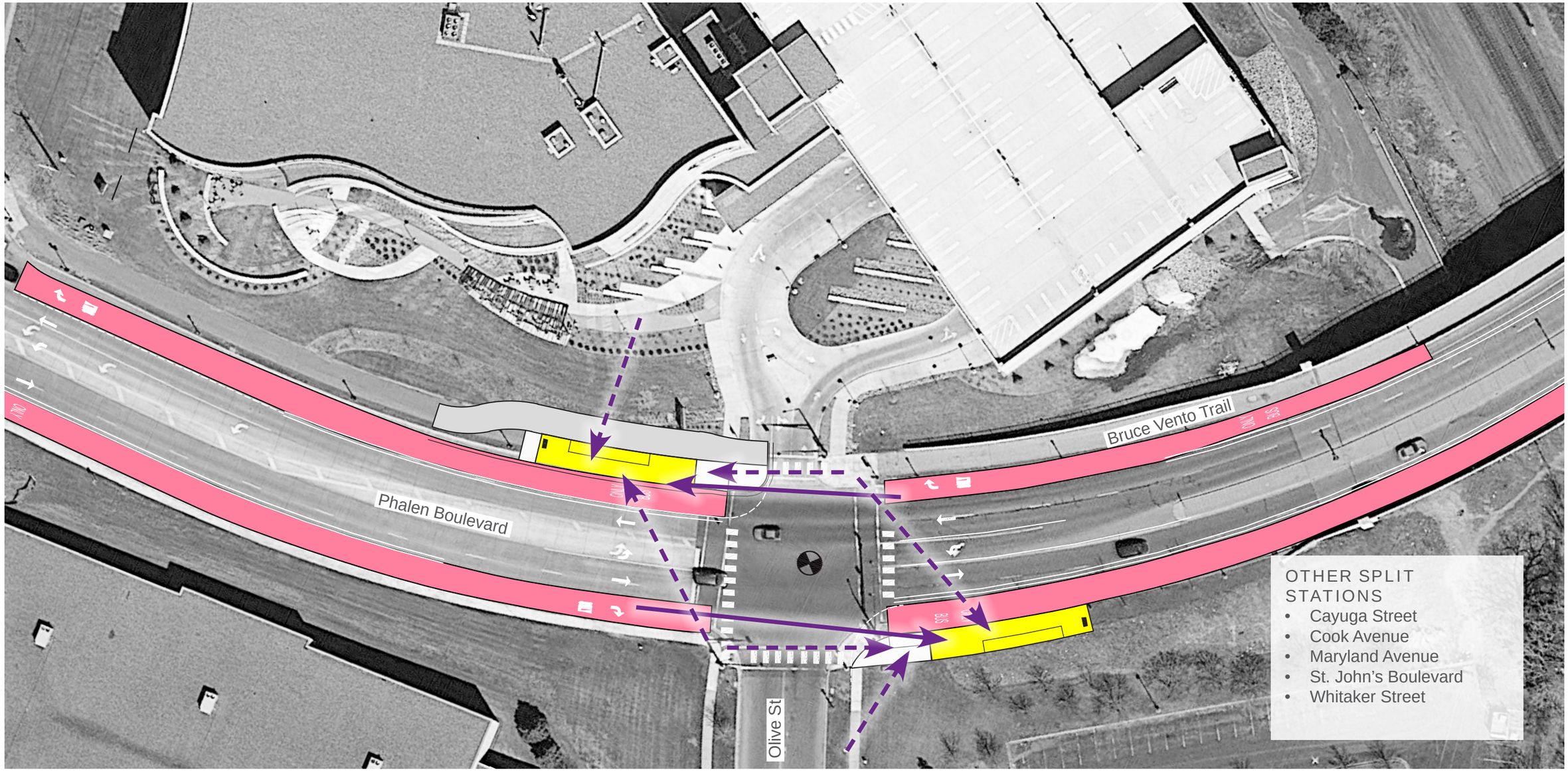
0 25' 50'

DOWNTOWN SHARED GOLD LINE / RUSH LINE STATION

UNION DEPOT STATION - SIBLEY AND WACOUTA STREET

Four platforms are planned to be shared with the Gold Line BRT in Lowertown and the central business district. These stations should have consistent platforms, shelters, pylons and furnishings to distinguish Gold Line and Rush Line BRT from other bus services. Gold Line BRT project design is ahead of Rush Line BRT and is currently developing the station concepts.

- Shelter
- Pylon
- Platform
- BRT Guideway
- Signalized Intersection
- Primary Pedestrian Visibility
- Primary Approaching Bus Visibility
- Mixed Traffic (General Use and BRT)



PROTOTYPICAL SPLIT STATION

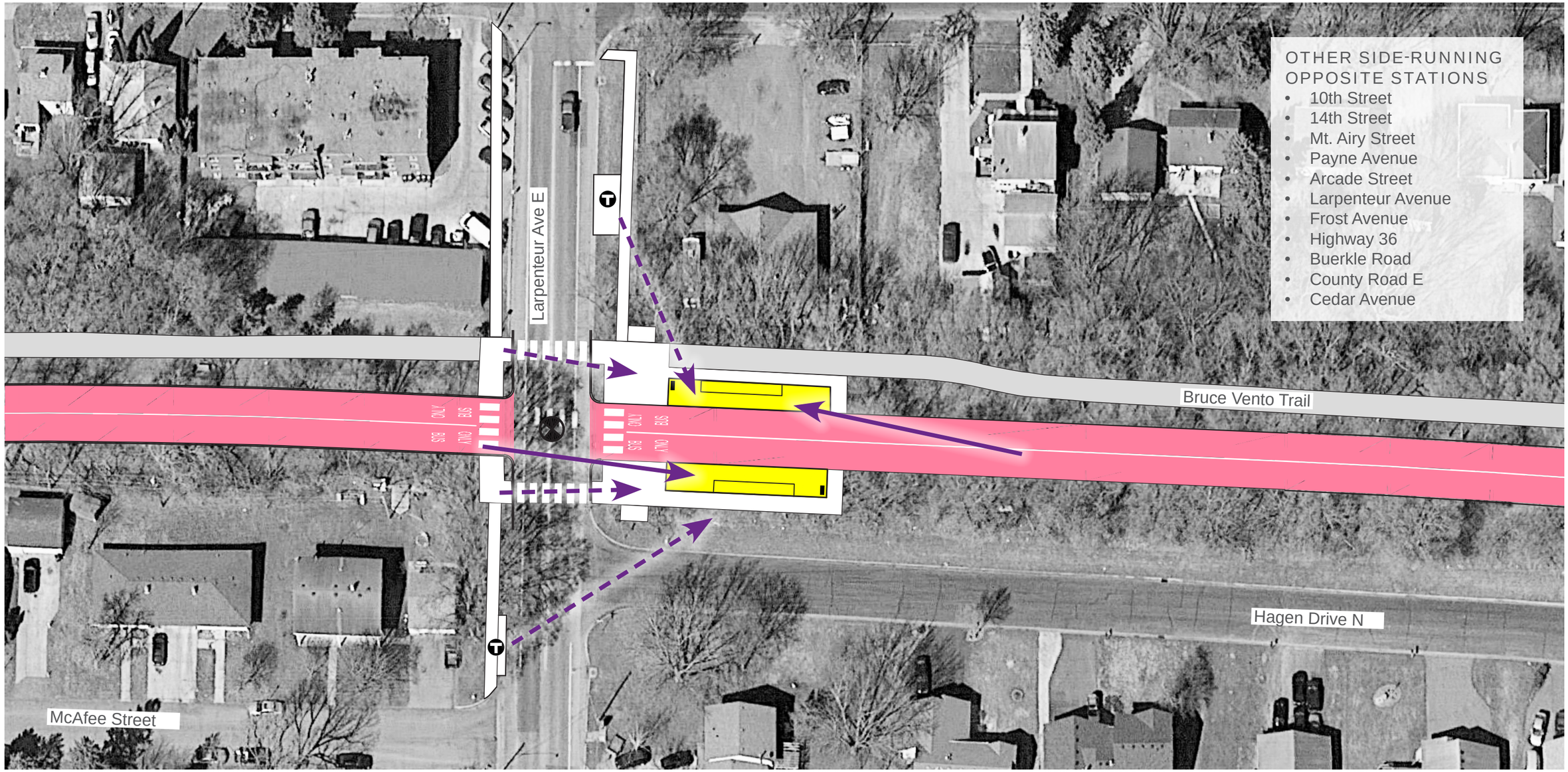
OLIVE STREET STATION

Most stations are comprised of a pair of platforms. A split station typically extends across a roadway intersection with platforms located diagonally from each other. This arrangement feels more spread out spatially and clarifying the direction of bus travel for each platform is critical to wayfinding and a positive passenger experience.

Pedestrian circulation to and between platforms should be guided to designated crossings for safety. The existing area along the back side of the platform and approach walks should be evaluated to determine whether any protective measures are necessary for steep slopes, proximity to vehicle travel lanes or other site-specific features.

PROTOTYPICAL SPLIT STATION

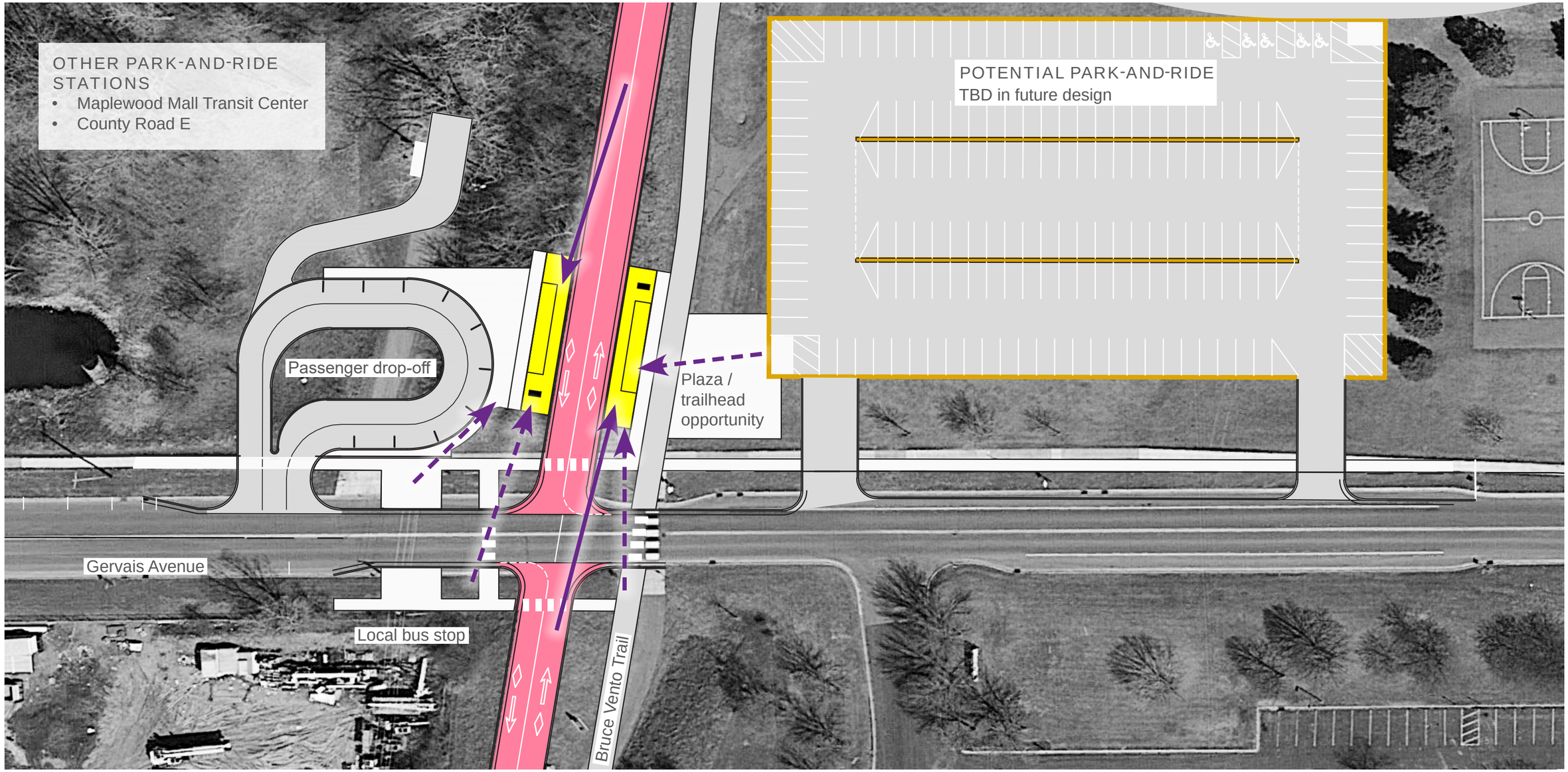
ST. JOHN'S BOULEVARD STATION



PROTYPICAL OPPOSITE SIDE STATION

LARPENTEUR AVENUE STATION

An opposite side station typically has platforms located directly across from each other on one side of an intersection. This arrangement feels more compact than a split station. Clarifying the direction of bus travel is still important but is more visually apparent to passengers since the other platform is in closer visual proximity.



DRAFT - WORK IN PROCESS

N

0 25' 50'

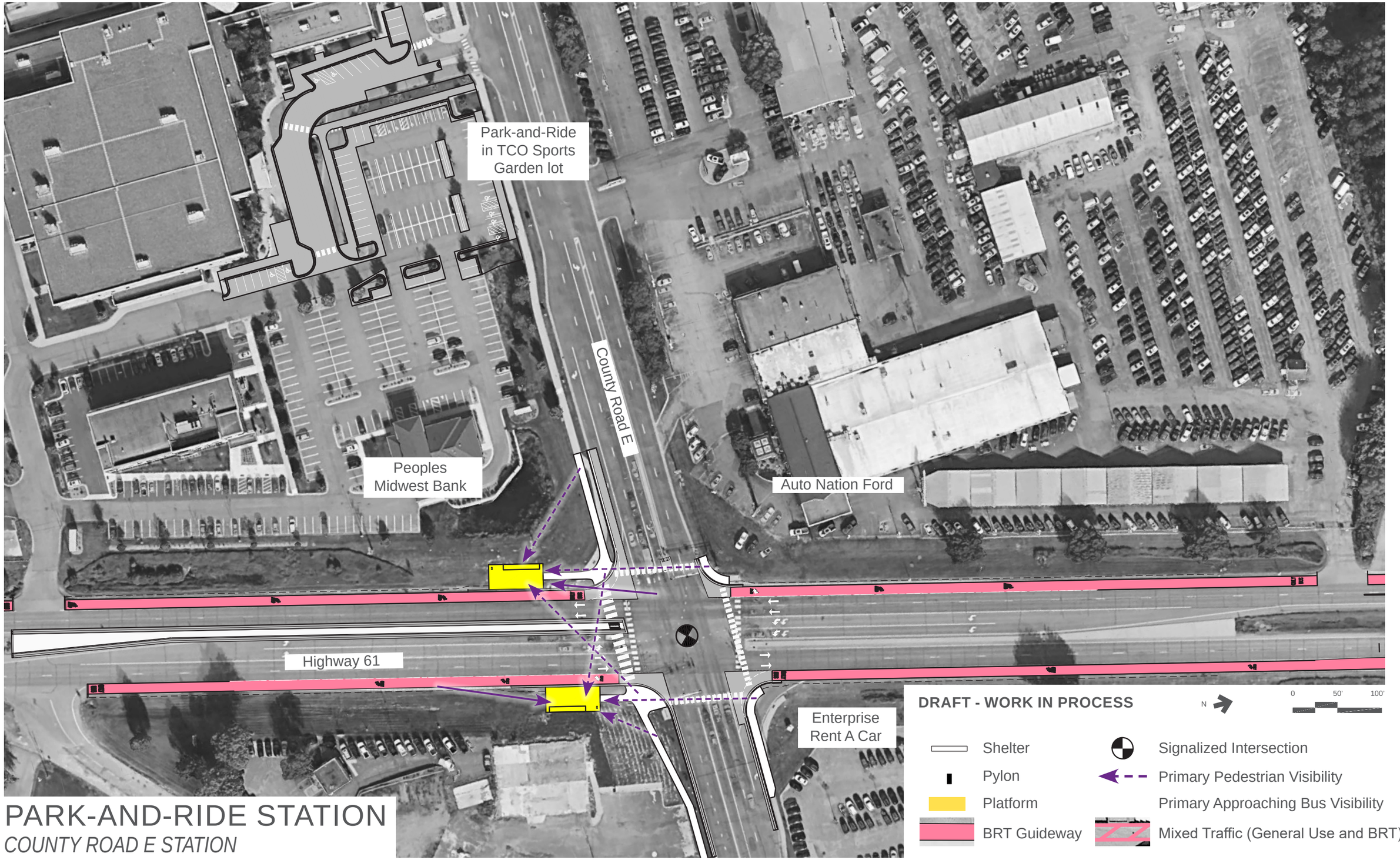
PARK-AND-RIDE STATION

HIGHWAY 36 STATION

Park-and-ride stations have the advantage of distinct signage and in some cases a significant structure that can help visually identify the transit service while also incorporating a designated platform boarding area. Park-and-ride site layout should prioritize safe interaction of different travel modes – particularly at morning and evening peak travel periods where vehicle entrance and egress is more concentrated.

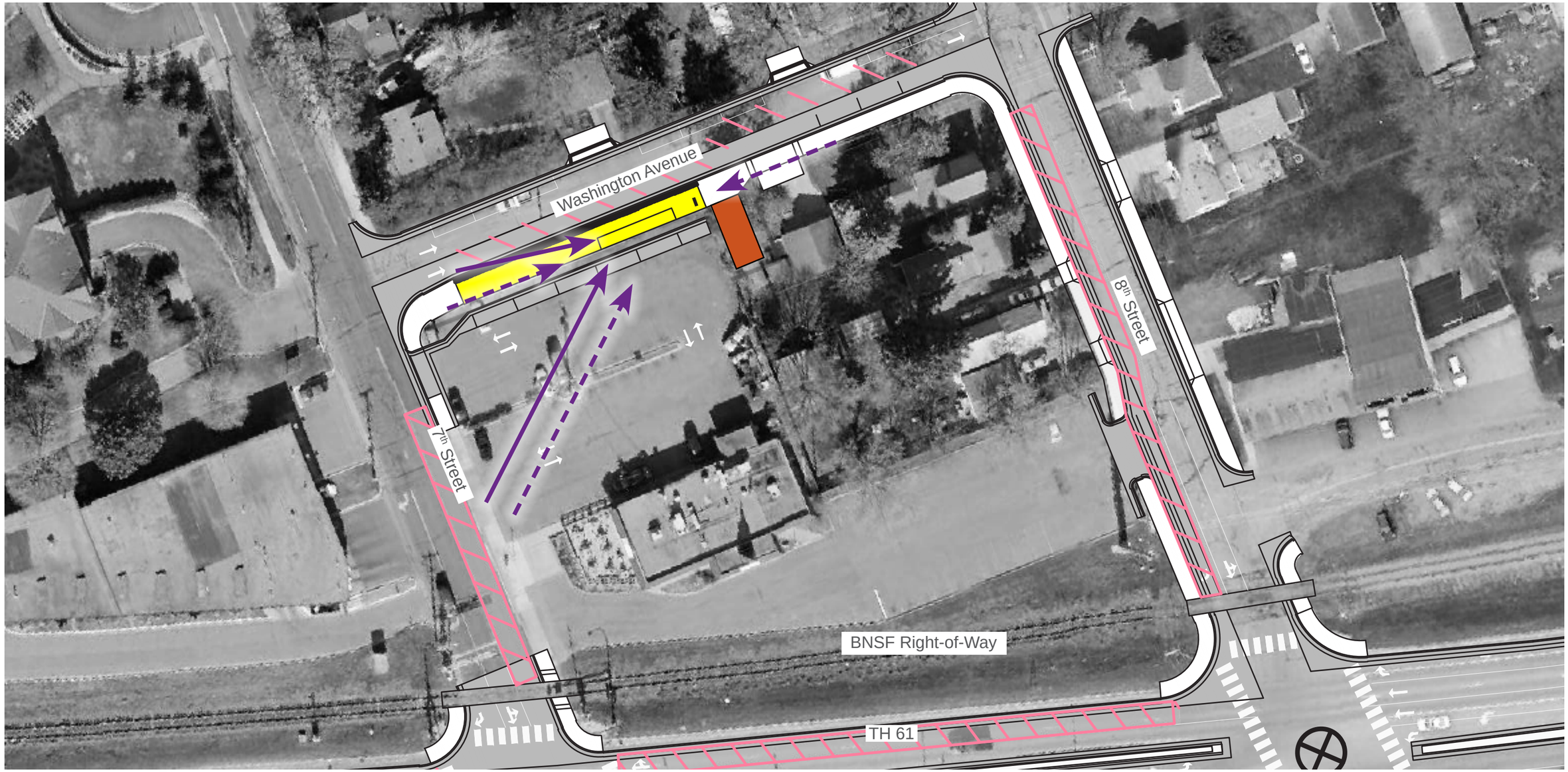
The pedestrian connection between the parking area and platform should be a convenient and aesthetically pleasing walk for passengers.

- Shelter
- Pylon
- Platform
- BRT Guideway
- Signalized Intersection
- Primary Pedestrian Visibility
- Primary Approaching Bus Visibility
- Mixed Traffic (General Use and BRT)



PARK-AND-RIDE STATION

COUNTY ROAD E STATION



DOWNTOWN WHITE BEAR LAKE STATION

The Downtown White Bear Lake Station will be located on the west side of Highway 61, between the commercial highway frontage and the residential area. As the terminus station, the bus route will be a clockwise movement around the block utilizing 7th Street, Washington Avenue and 8th Street.

Wayfinding for passengers will be important to connect to nearby activity nodes such as the center of downtown at 4th Street and Banning Avenue and the expanding high school campus to the west and arts and cultural uses to the north.

DRAFT - WORK IN PROCESS

N

0 25' 50'

- Shelter
- Pylon
- Platform
- BRT Guideway
- Driver Facility
- Signalized Intersection
- Primary Pedestrian Visibility
- Primary Approaching Bus Visibility
- Mixed Traffic (General Use and BRT)

BRIDGES

All of the proposed bridges on the project are structures that elevate the guideway over other travel routes. Aesthetic design opportunities on bridges typically include: piers, abutments, wing walls, concrete barrier exterior and metal railing; and may include variations on form details, surface texture and color finishes. The types of lighting that are applicable include pedestrian-scaled lighting along trail facilities and wall-mounted lighting under bridges.

Each Rush Line BRT bridge should be designed to fit into its context. As supporting infrastructure, the aesthetic design of each bridge should take its cue from the nearby surroundings, existing adjacent design treatments, or existing guidance documents rather than follow a single consistent look. Many of the following graphics are taken from existing bridge plans and should be adapted to the new BRT bridge layouts and requirements.

BRIDGE TYPES

- **BRT guideway bridges.**
  Arcade Street
  Highway 36
  I-694

- **BRT guideway and trail bridge.**
  Johnson Parkway

- **BRT guideway bridge and trail underpasses.**
  Gateway State Trail
  Bruce Vento Regional Trail access from English Street/Weaver Elementary School
  Bruce Vento Regional Trail access from Fitch Road/Barclay Street

An exclusive BRT guideway bridge will carry the two bus travel lanes plus narrow shoulders on both sides. Each of these bridges will include several spans and need to meet roadway clearances below. Pedestrians and bicyclists will not be allowed on these bridges. Maintenance personnel may need to access them on foot occasionally.

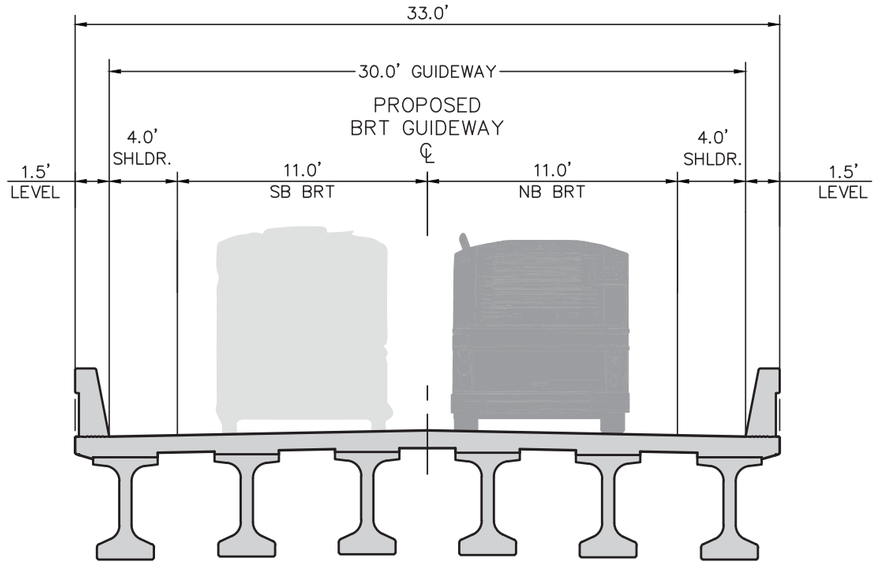
A BRT guideway and trail bridge will be built over Johnson Parkway. It is widened to include a trail facility on the bridge in addition to the bus-only lanes.

The three BRT guideway bridge and trail underpasses will be shorter spans with lower clearances required for grade separation of the intersecting trails. These will all be located within Segment C - Saint Paul to Maplewood Mall Transition.

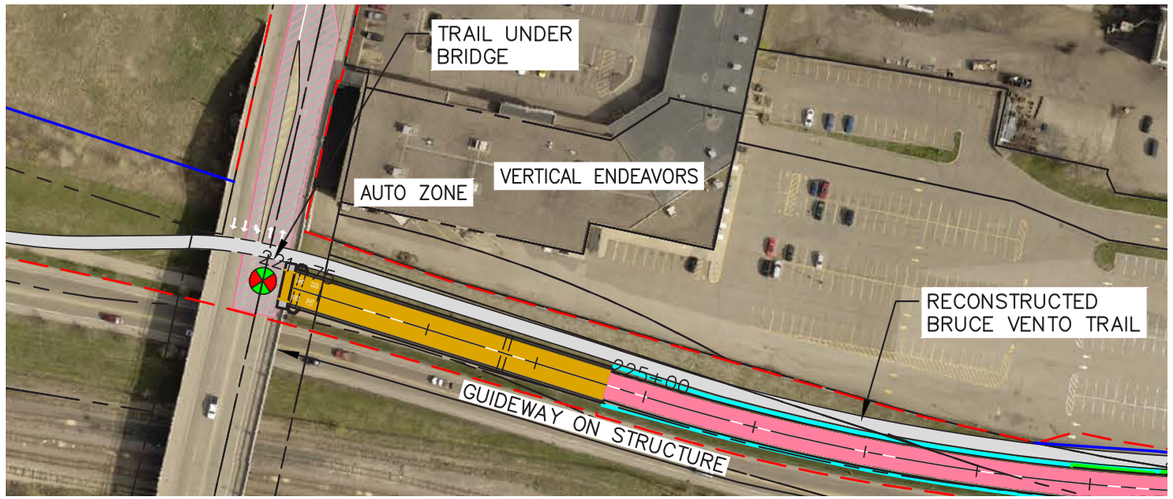
BARRIERS AND RAILINGS

Depending on the bridge function and the surroundings, barrier and railing design requirements that have aesthetic implications may vary. Barrier shapes, railing height, maximum opening sizes and mounting details are specified in the Minnesota Department of Transportation’s standard bridge details. While these details provide the base performance requirements, there are often aesthetic variations for local conditions, as is evident in other nearby bridges along the Rush Line BRT route. Variations may include surface relief patterns in concrete barrier faces, railing member sizes and shapes, and finish colors.

EXISTING ARCADE STREET BRIDGE LOOKING NORTH



BRIDGE SECTION



BRIDGE LOCATION PLAN

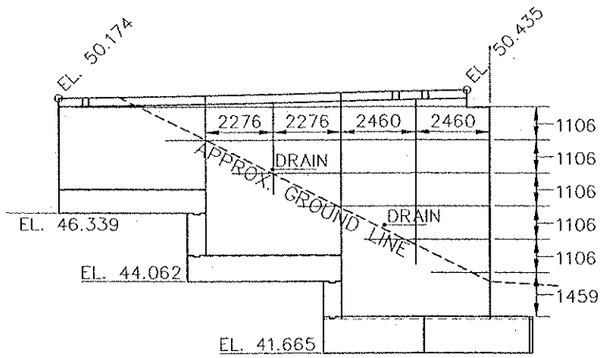
DRAFT - WORK IN PROCESS

BRT GUIDEWAY BRIDGE

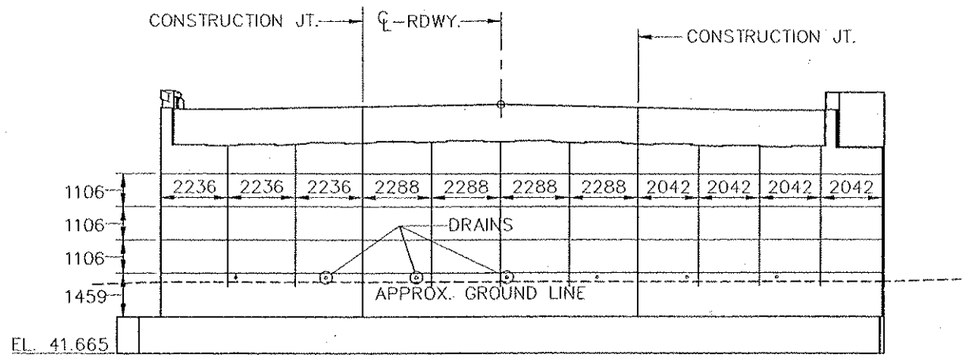
ARCADE STREET BRT BRIDGE

The new Arcade Street BRT bridge will connect to the existing bridge up from where it parallels Phalen Boulevard and require modifications to the existing bridge. In order to make the structures appear as one unified design, the new bridge should match the existing aesthetics, including the arched pier form, surface textures and overall color palette.

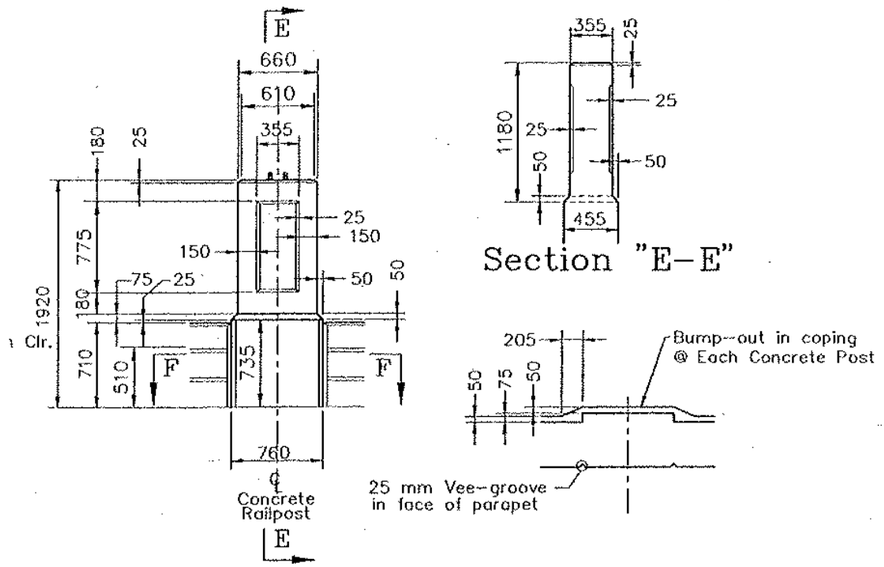
Although the new bridge extension is intended for vehicles only, if lighting is determined necessary, the City's standard decorative "lantern" style should be utilized to match the existing bridge features.



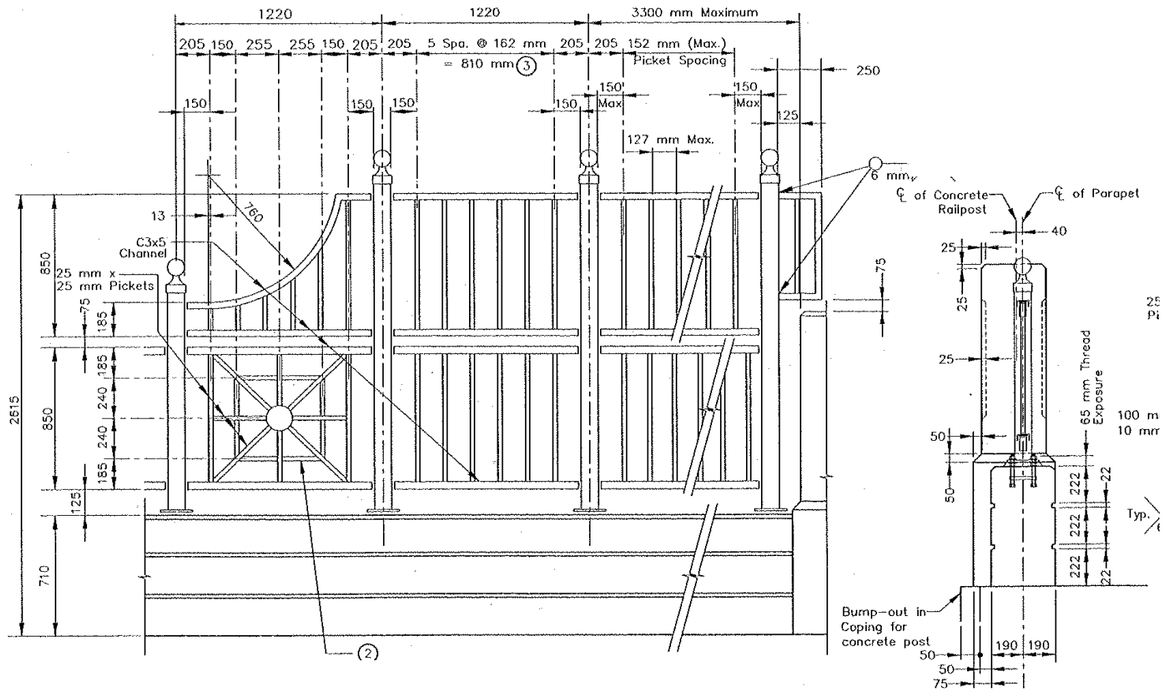
WING WALL ELEVATION



ABUTMENT ELEVATION



RAILING PLASTER DETAILS

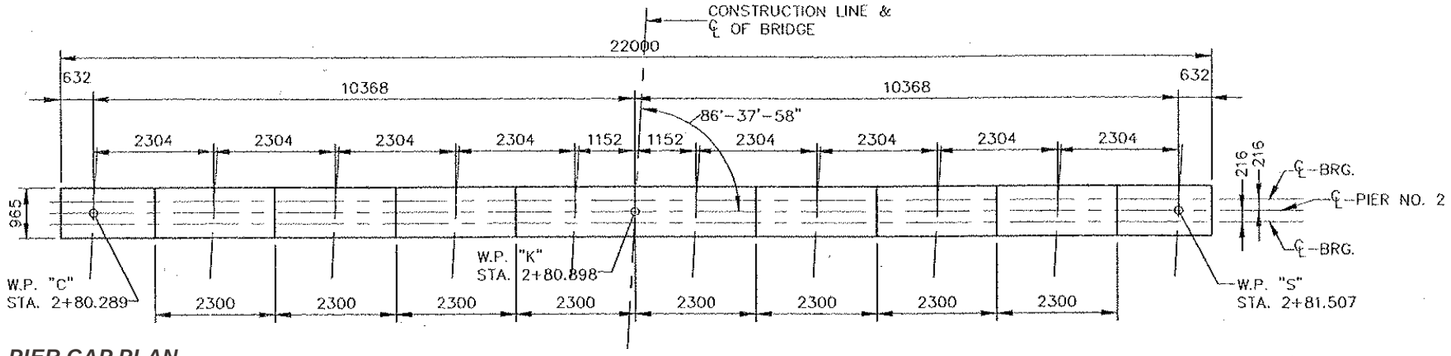


ORNAMENTAL METAL RAILING AND CONCRETE BARRIER DETAILS

BRT GUIDEWAY BRIDGE

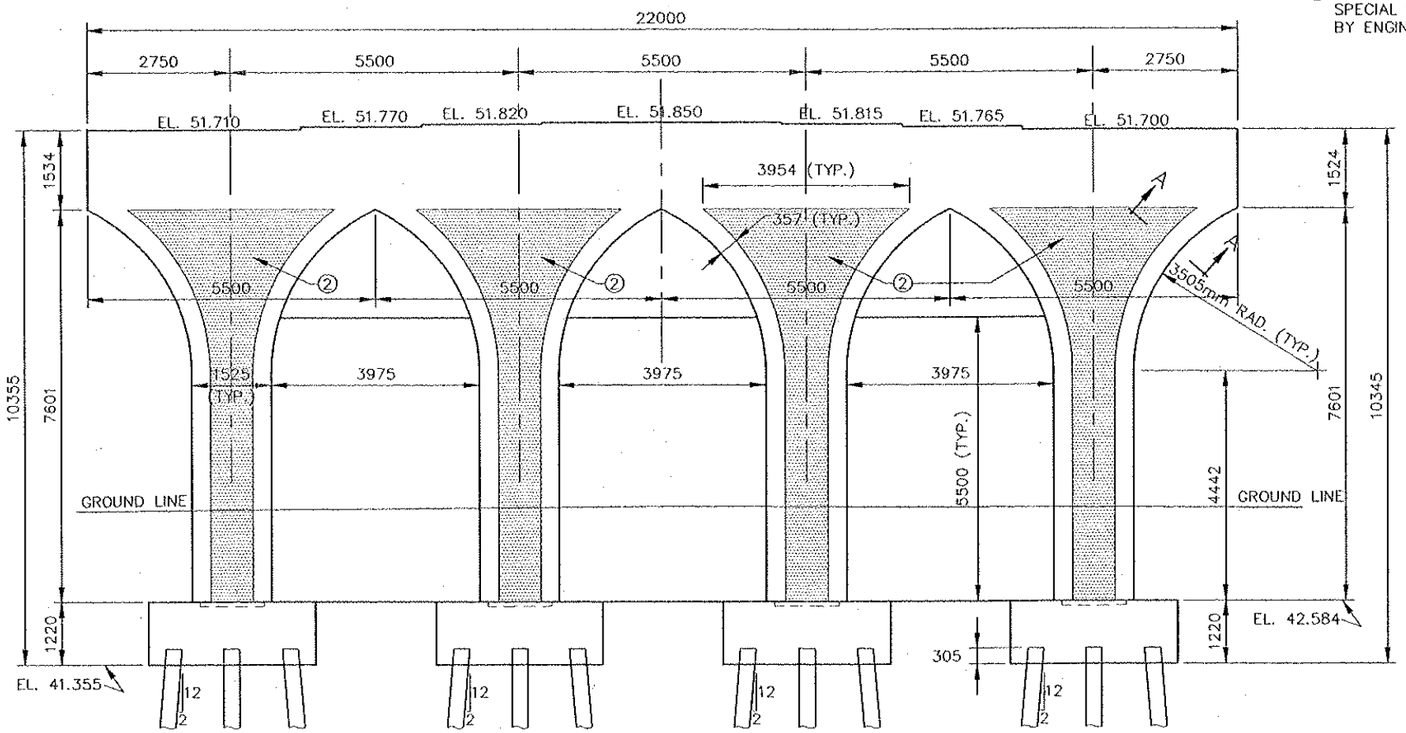
ARCADE STREET BRT BRIDGE

EXCERPTS FROM CONSTRUCTION PLANS FOR EXISTING ARCADE STREET BRIDGE OVER PHALEN BOULEVARD (DIMENSIONS SHOWN ARE IN METRIC)

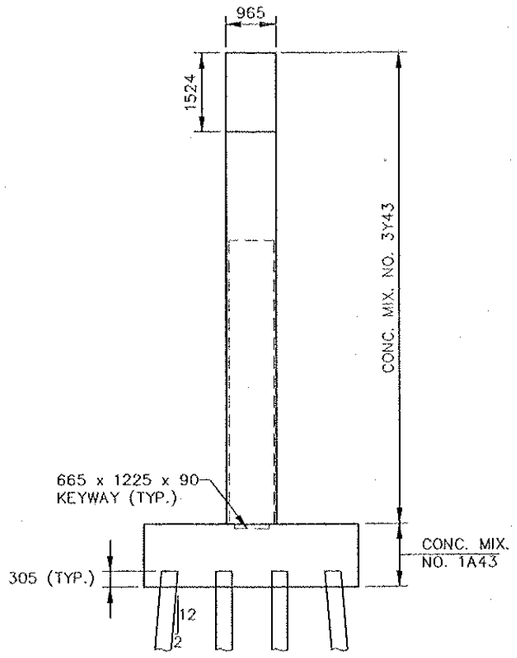


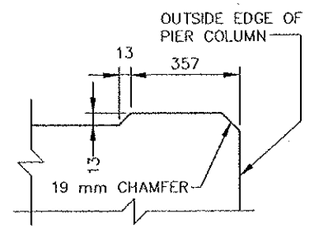
PIER CAP PLAN

② SHADED AREA SHALL BE RECESSED 13 mm. SPECIAL SURFACE COLOR TO BE DETERMINED BY ENGINEER IN FIELD.



PIER ELEVATIONS





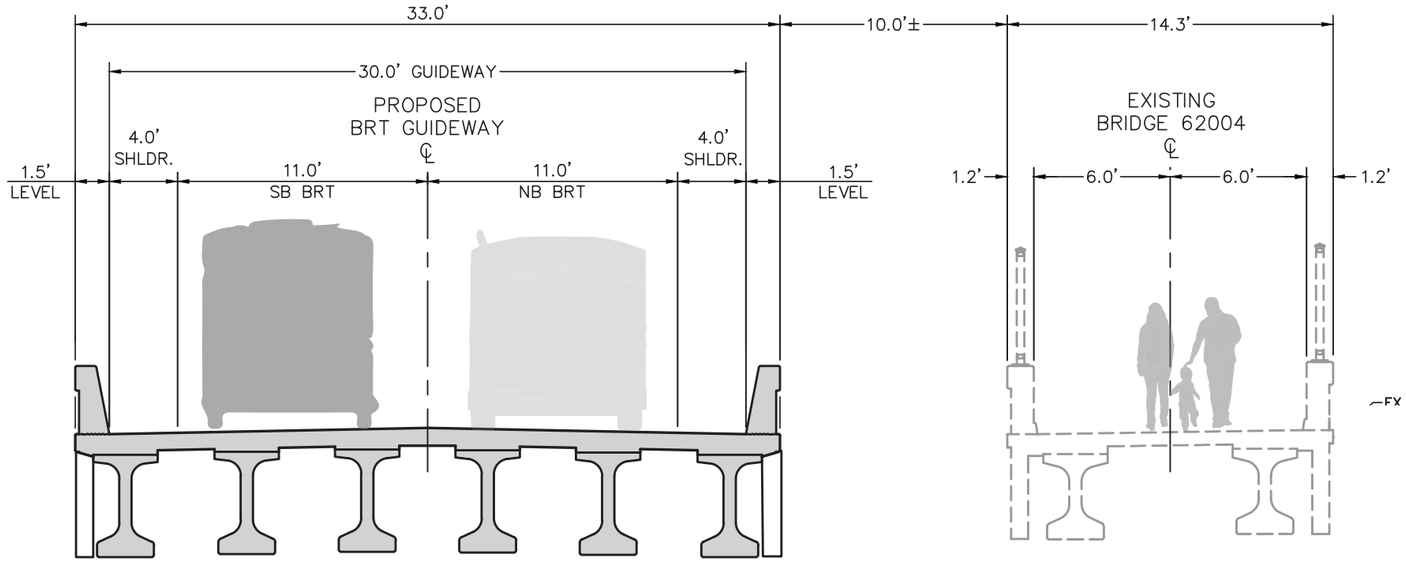
PIER COLUMN DETAIL A-A

EXCERPTS FROM CONSTRUCTION PLANS FOR EXISTING ARCADE STREET BRIDGE OVER PHALEN BOULEVARD (DIMENSIONS SHOWN ARE IN METRIC)

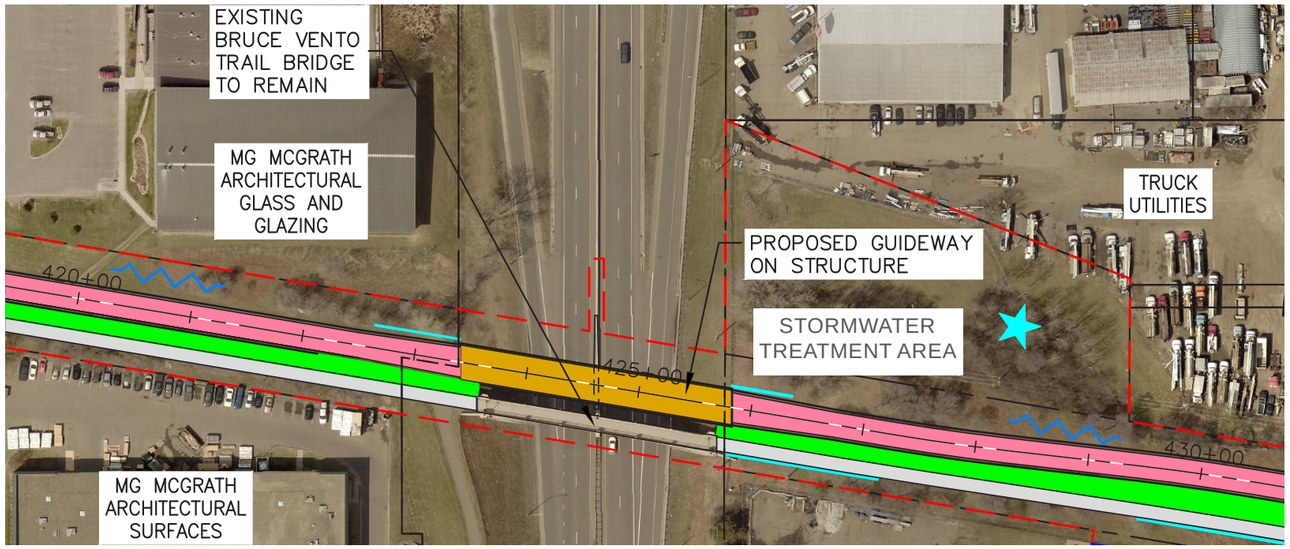
BRT GUIDEWAY BRIDGE

ARCADE STREET BRT BRIDGE

EXISTING BRUCE VENTO REGIONAL TRAIL BRIDGE OVER HIGHWAY 36



BRIDGE SECTION



BRIDGE LOCATION PLAN

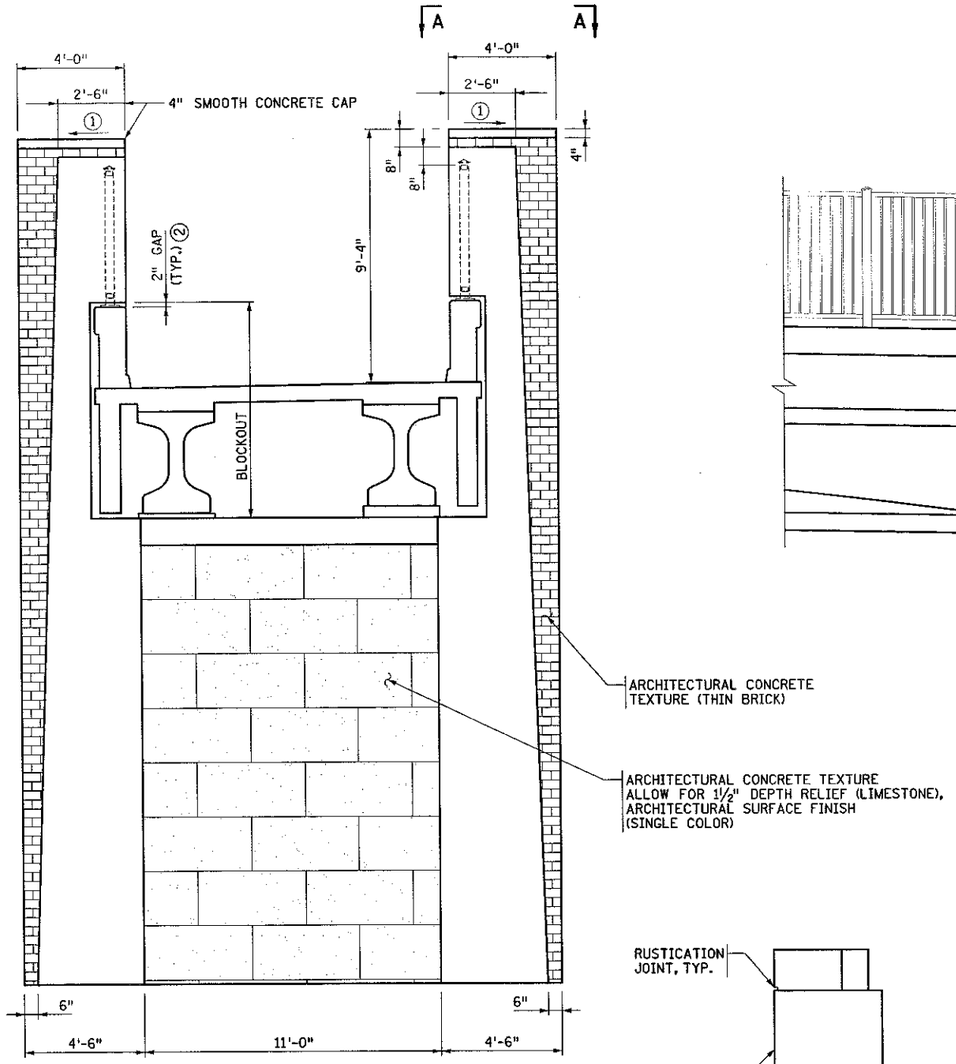
DRAFT - WORK IN PROCESS

BRT GUIDEWAY BRIDGE

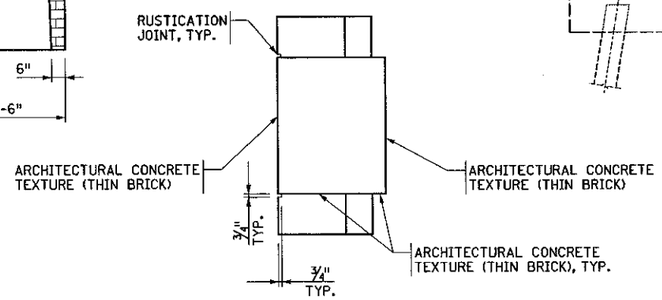
HIGHWAY 36 BRT BRIDGE

The Highway 36 BRT bridge will be a 2-span structure over Highway 36 with a center pier. The bridge should follow the aesthetic approach implemented on the adjacent existing Bruce Vento Regional Trail pedestrian bridge and English Street bridge.

The new bridge should adapt the multi-column arched pier form, arched fascia beams, abutment pilasters with brick veneer, surface textures and overall color palette.

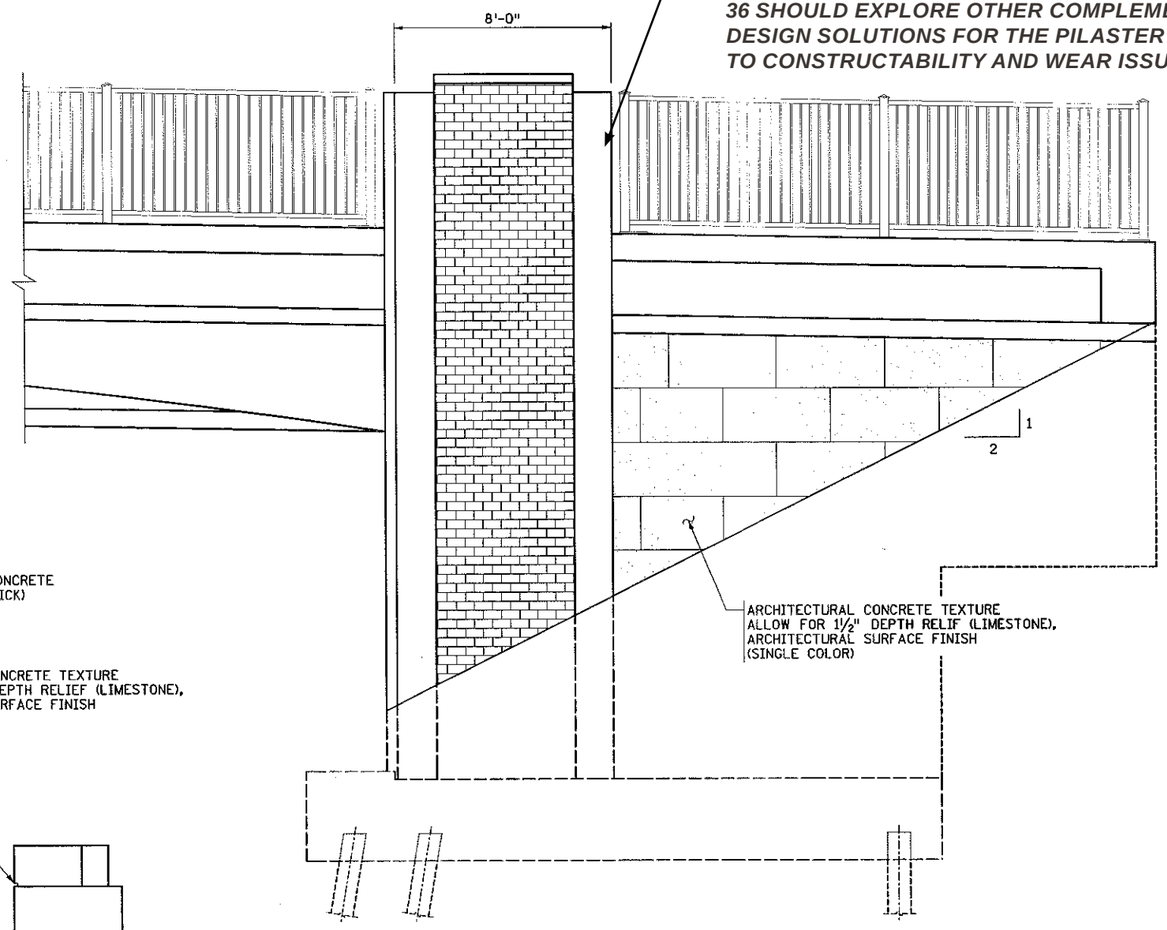


ABUTMENT ELEVATION



ABUTMENT PILASTER PLAN DETAIL (A-A)

DESIGNS FOR THE RUSH LINE BRIDGE OVER HIGHWAY 36 SHOULD EXPLORE OTHER COMPLEMENTARY DESIGN SOLUTIONS FOR THE PILASTER DETAIL DUE TO CONSTRUCTABILITY AND WEAR ISSUES.

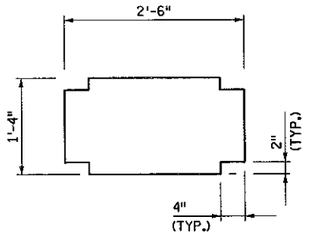


WING WALL ELEVATION

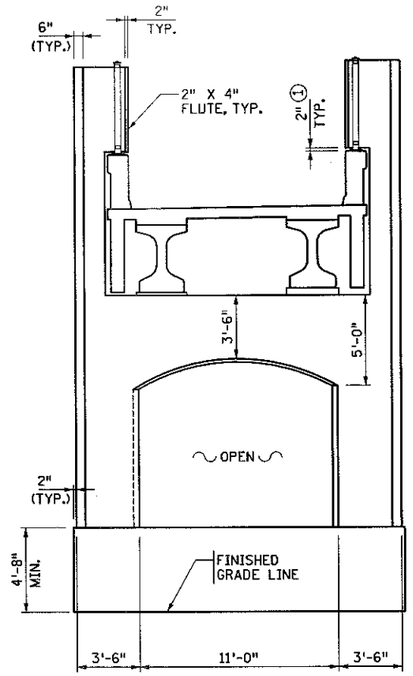
BRT GUIDEWAY BRIDGE

HIGHWAY 36 BRT BRIDGE

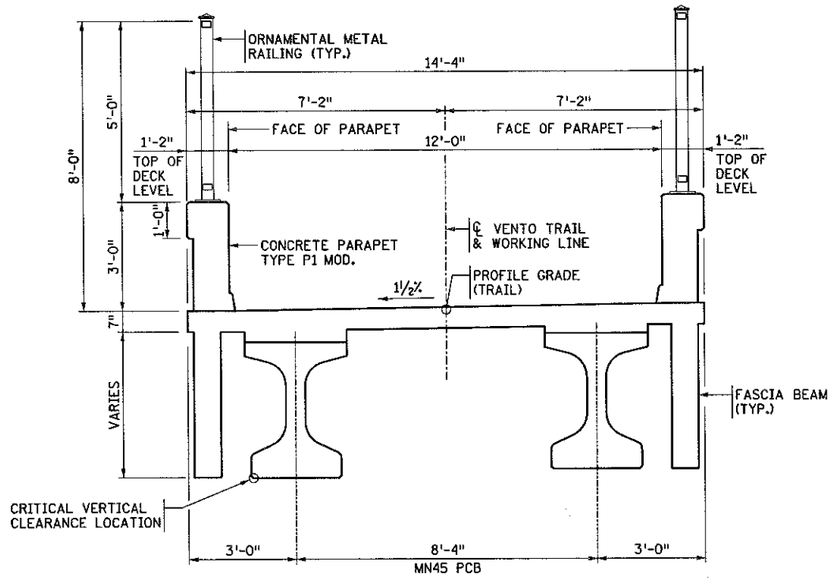
EXCERPTS FROM CONSTRUCTION PLANS FOR EXISTING BRUCE VENTO REGIONAL TRAIL BRIDGE OVER HIGHWAY 36



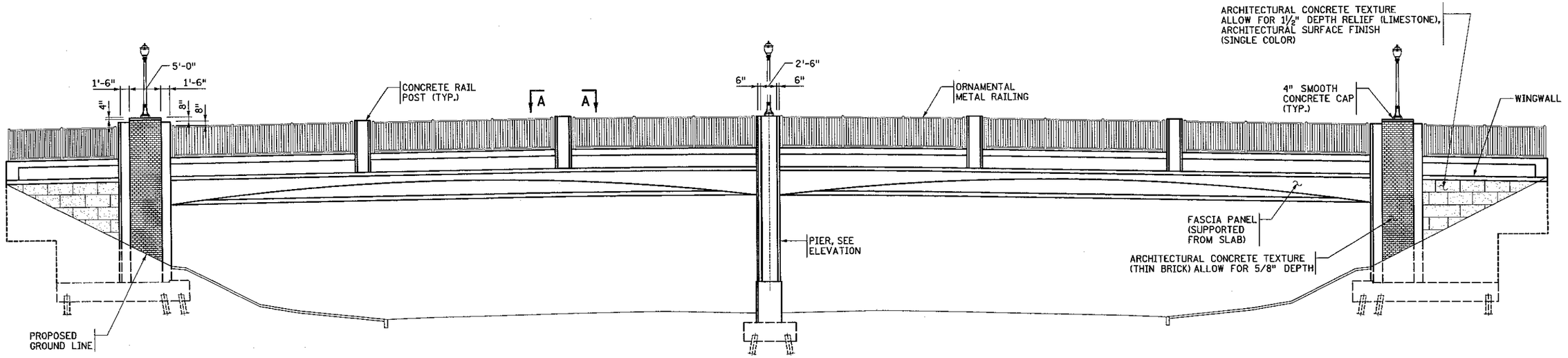
PIER COLUMN PLAN DETAIL (A-A)



PIER ELEVATION



TYPICAL BRIDGE SECTION



OVERALL ELEVATION

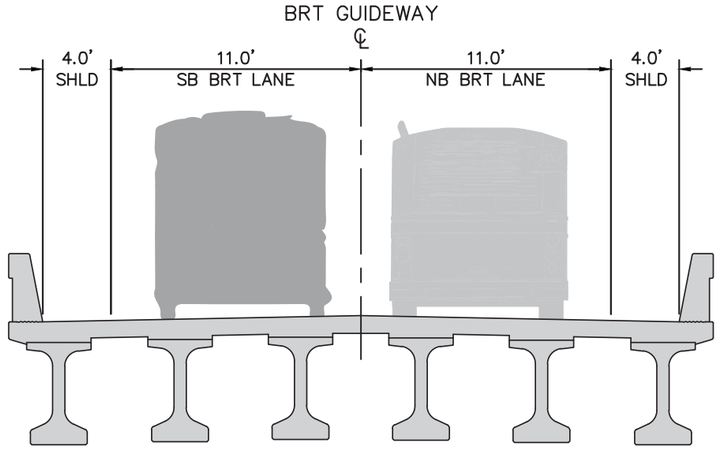
BRT GUIDEWAY BRIDGE

HIGHWAY 36 BRT BRIDGE

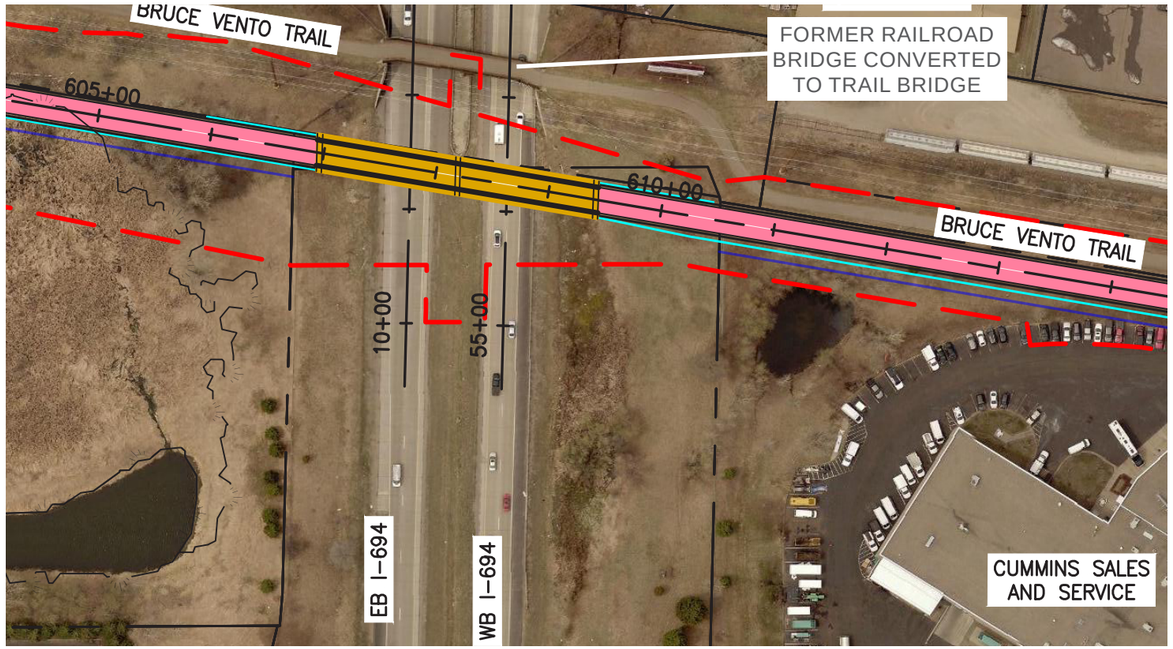
EXCERPTS FROM CONSTRUCTION PLANS FOR EXISTING BRUCE VENTO REGIONAL TRAIL BRIDGE OVER HIGHWAY 36

EXISTING SNELLING AVENUE BRIDGE OVER I-694 LOOKING NORTH ON BRIDGE

EXISTING SNELLING AVENUE BRIDGE OVER I-694 LOOKING WEST



BRIDGE SECTION



BRIDGE LOCATION PLAN

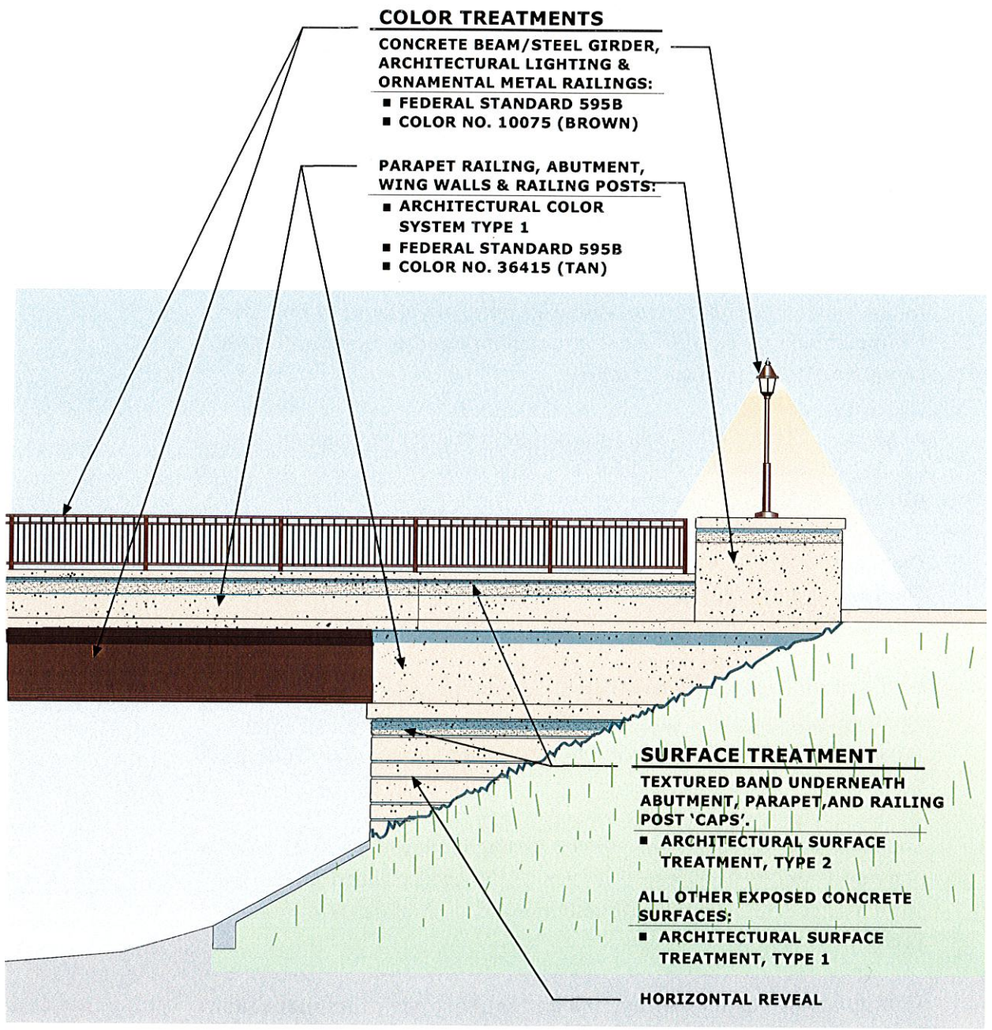
DRAFT - WORK IN PROCESS

BRT GUIDEWAY BRIDGE

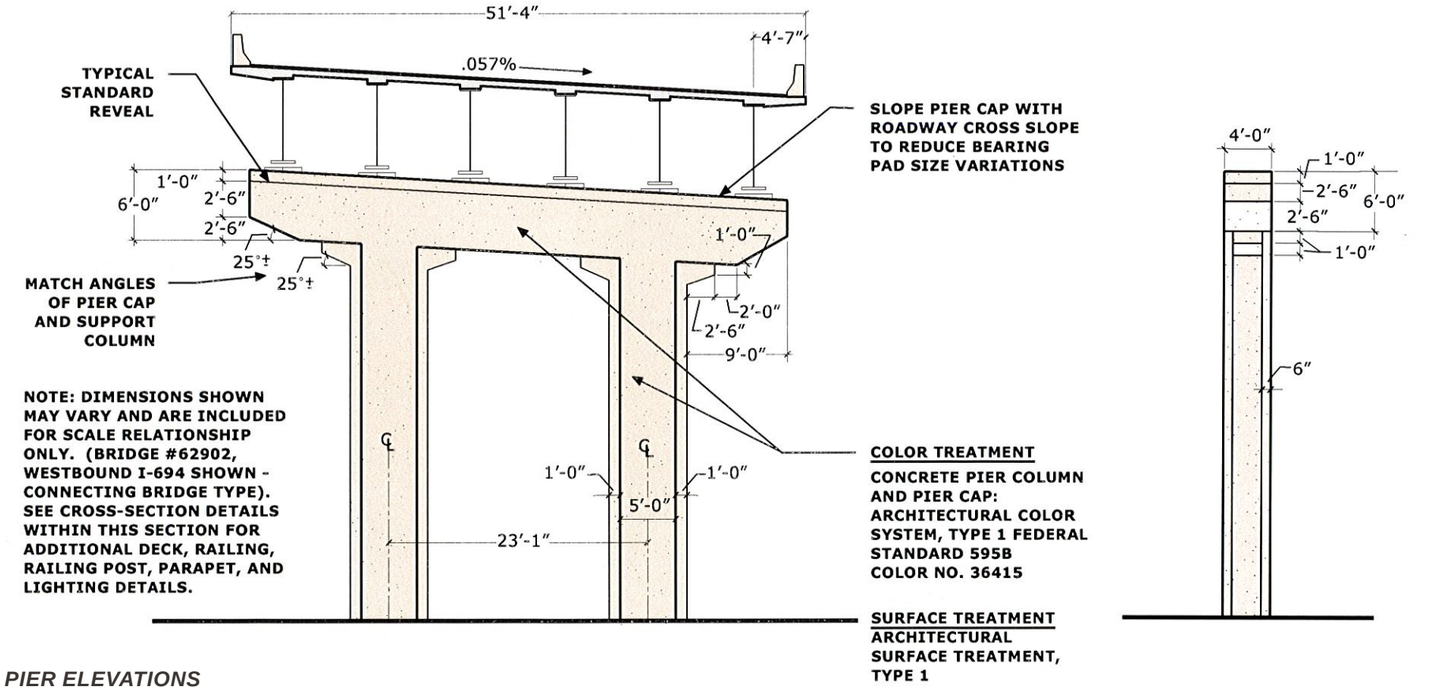
I-694 BRT BRIDGE

The I-694 BRT bridge will be a two-span structure over I-694 with a center pier. The bridge should follow the I-694 Aesthetic Design Guidelines developed by the Minnesota Department of Transportation in 2002, which include the segment from the Mississippi River to I-494. The new bridge should adapt the multi-column pier form, pilasters, surface textures and overall color palette from the guidelines.

The Snelling Avenue bridge over I-694 is an appropriate example of the corridor aesthetic guidelines that should be matched. The nearby Edgerton Street and Labore Avenue bridges were constructed with additional customizations to the concrete barrier and railing designed by an artist and should not be matched on the BRT bridge in order to maintain their distinction.



WING WALL ELEVATION



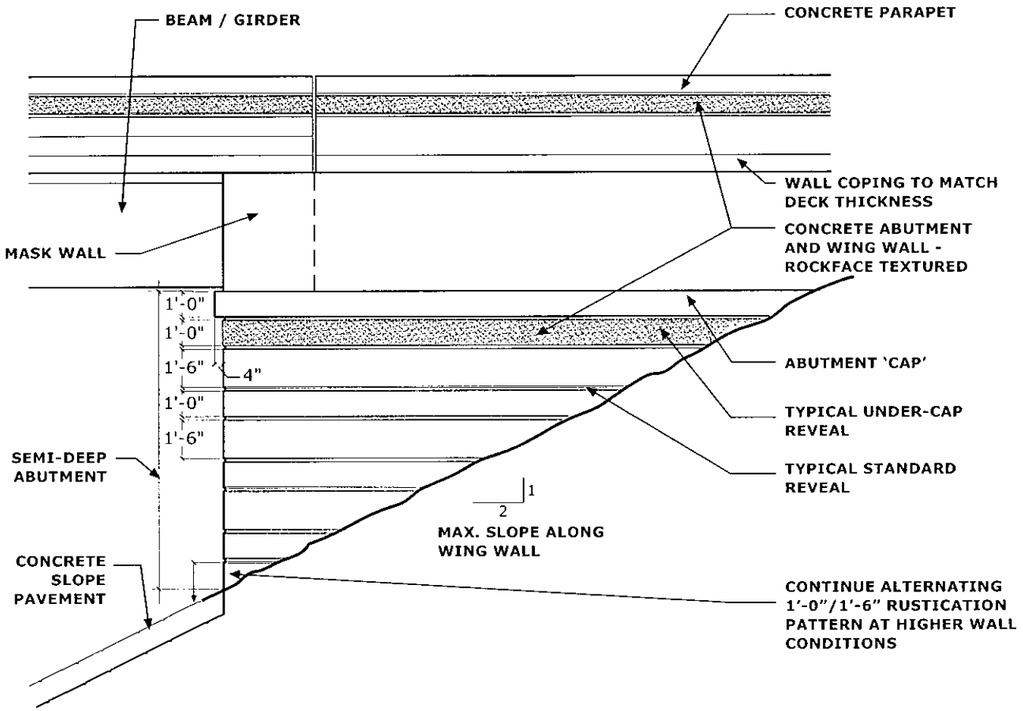
PIER ELEVATIONS

NOTE: COLOR SYSTEM REFERENCES ABOVE ARE NOW AMS-STD-595A INSTEAD OF OUTDATED FEDERAL STANDARD 595B

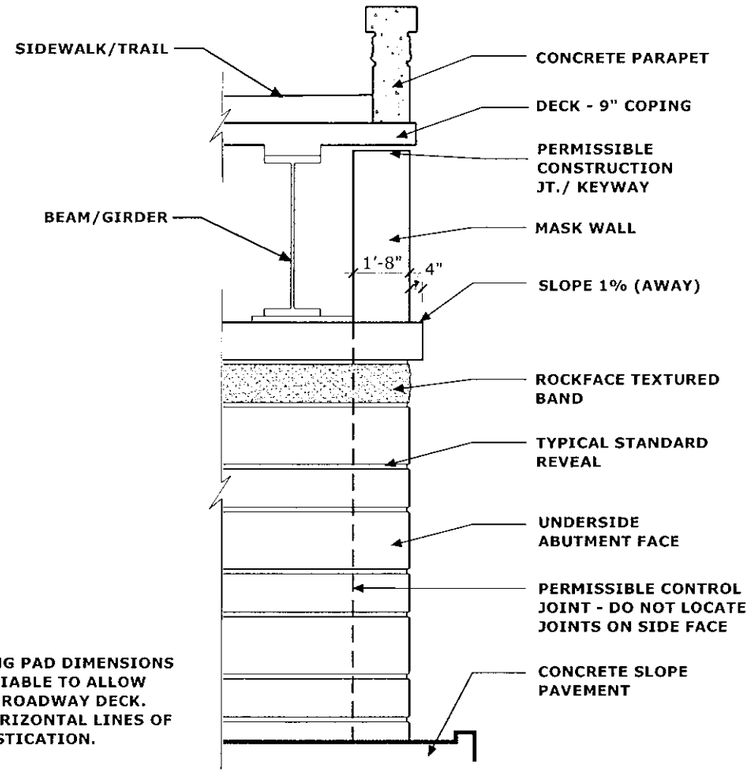
BRT GUIDEWAY BRIDGE

I-694 BRT BRIDGE

EXCERPTS FROM I-694 AESTHETIC GUIDELINES



WING WALL ELEVATION



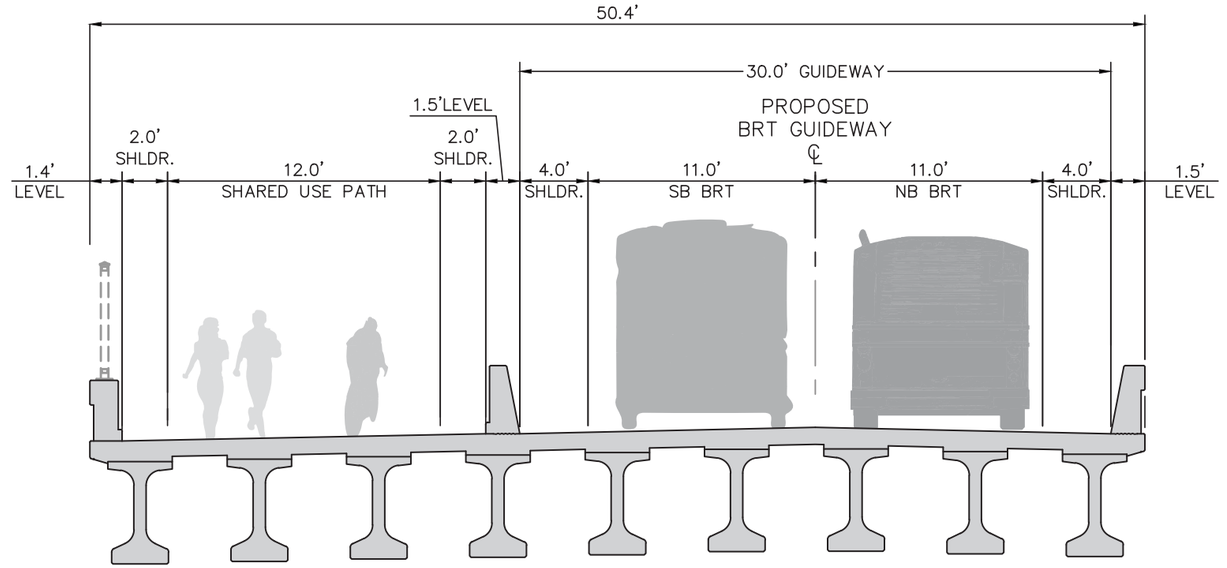
ABUTMENT ELEVATION

BRT GUIDEWAY BRIDGE

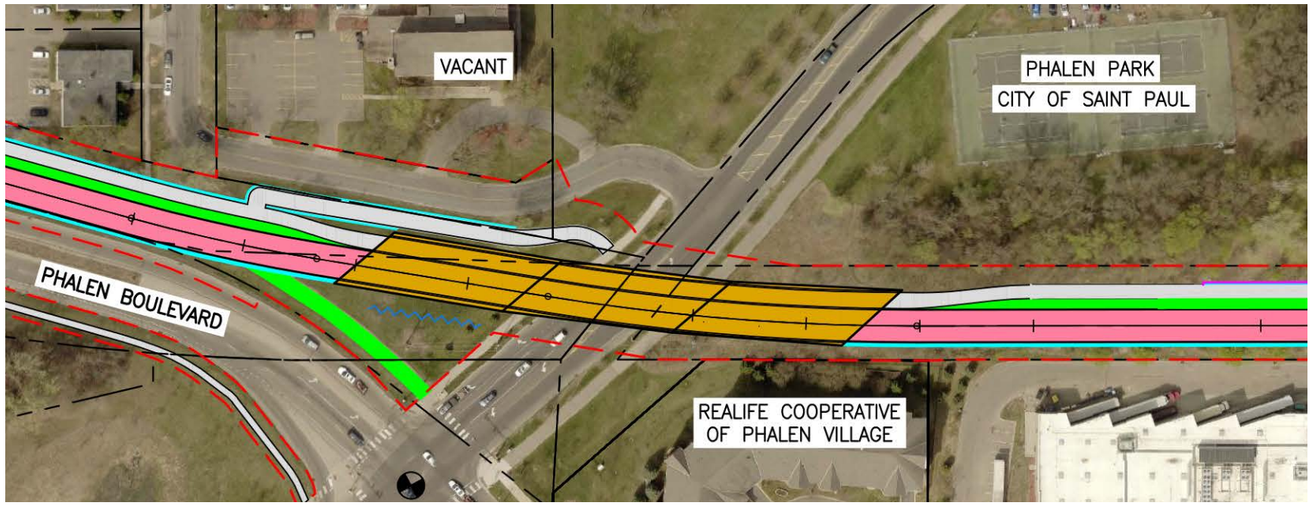
I-694 BRT BRIDGE

EXCERPTS FROM I-694 AESTHETIC GUIDELINES

EXISTING EARL STREET BRIDGE



BRIDGE SECTION



BRIDGE LOCATION PLAN

DRAFT - WORK IN PROCESS

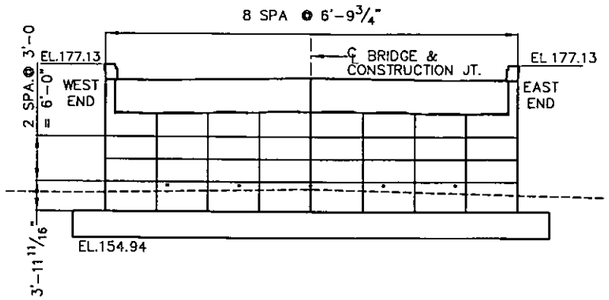
BRT GUIDEWAY AND TRAIL BRIDGE

JOHNSON PARKWAY BRIDGE

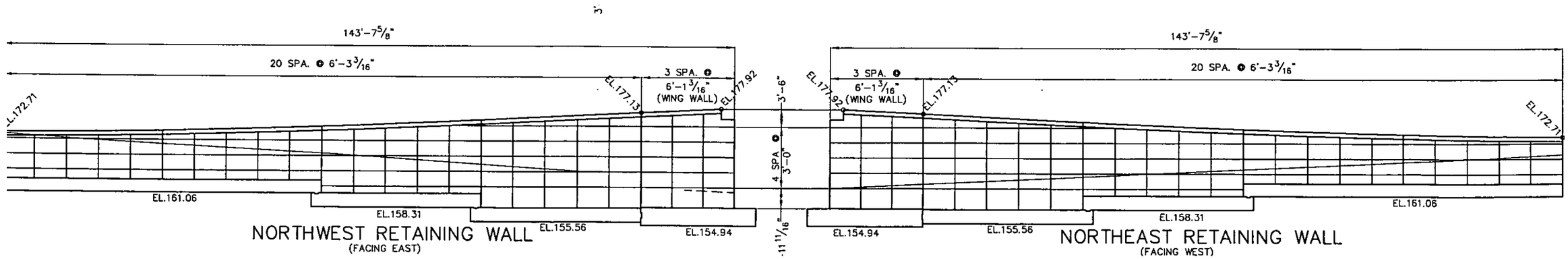
At Johnson Parkway, the proposed bridge will accommodate both the guideway and the reconstucted Bruce Vento Regional Trail. In the past, there was a railroad bridge in the same location. This bridge will include several spans and should be guided by the aesthetics of other nearby bridges along Phalen Boulevard such as the nearby Earl Street bridge, including the arched pier form, ornamental railing, surface textures and overall color palette. A railing will be required on the west side of the bridge for fall protection, and a barrier separating the trail and bus lanes on the interior of the bridge will enhance safety. Lighting along the trail is proposed to be the City's standard decorative "lantern" style.

Since Johnson Parkway is an identified historic resource, the bridge's aesthetic design should also be reviewed for consistency with the Secretary of the Interior's Standards for the Treatment of Historic Properties. The design should consider sight lines for both aesthetics and traffic safety as well.

PRELIMINARY VISUALIZATION OF JOHNSON PARKWAY BRIDGE LOOKING NORTH



ABUTMENT SURFACE TEXTURE EXAMPLE

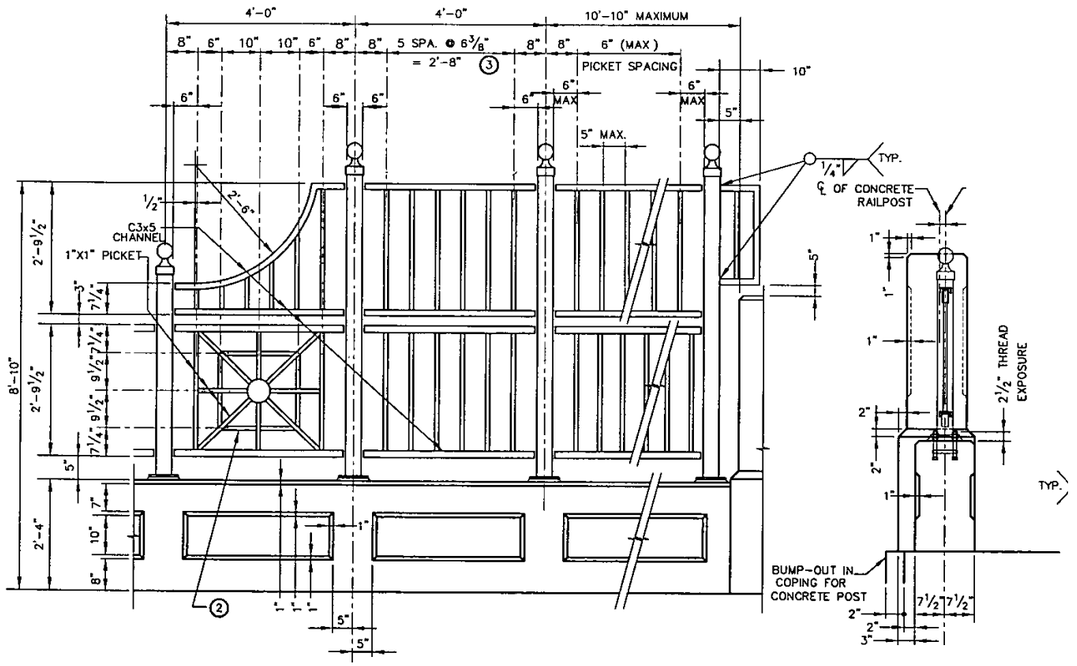


WING WALL AND RETAINING WALL SURFACE TEXTURE EXAMPLE (SEE PAGE 54 FOR PHOTO)

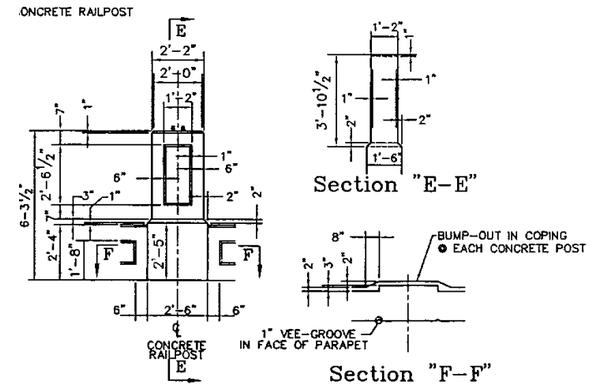
EXCERPTS FROM CONSTRUCTION PLANS FOR EXISTING EARL STREET BRIDGE OVER PHALEN BOULEVARD

BRT GUIDEWAY AND TRAIL BRIDGE

JOHNSON PARKWAY BRIDGE

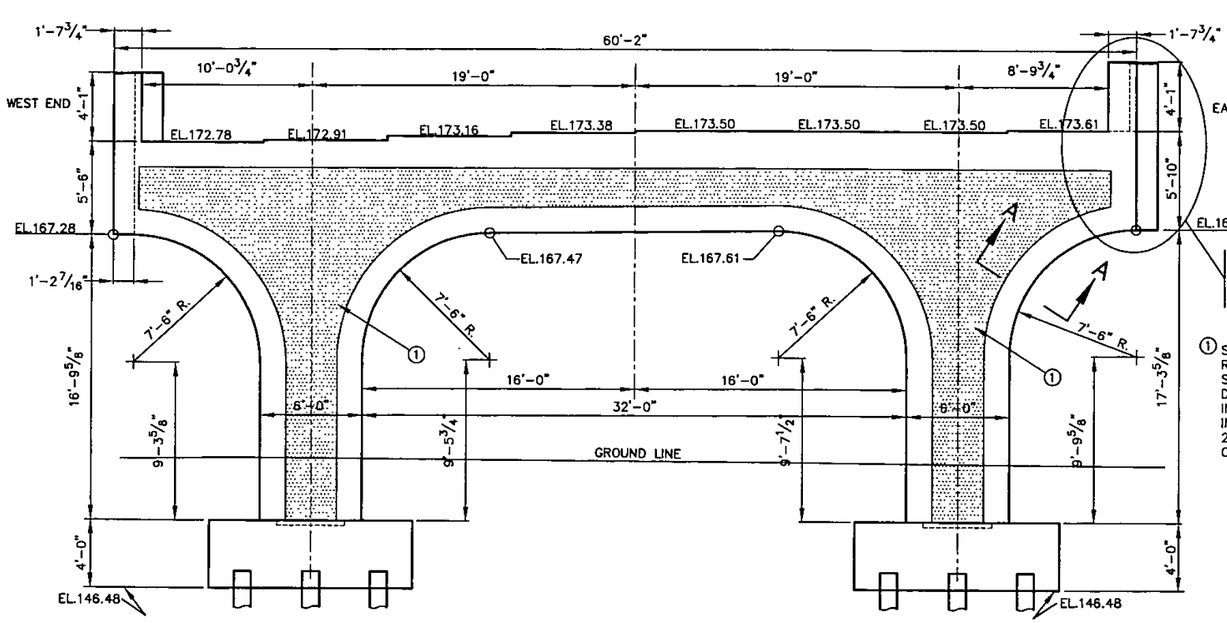


TYPICAL RAIL ELEVATION

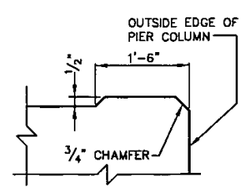


TYPICAL METAL RAILPOST SECTION

TYPICAL RAILPOST GEOMETRICS



PIER ELEVATIONS



PIER COLUMN DETAIL A-A

EXCERPTS FROM CONSTRUCTION PLANS FOR EXISTING EARL STREET BRIDGE OVER PHALEN BOULEVARD

BRT GUIDEWAY AND TRAIL BRIDGE

JOHNSON PARKWAY BRIDGE

VISUALIZATION OF THE POTENTIAL BRT BRIDGE AND GRADE SEPARATION OF A COMMUNITY TRAIL AND ACCESS TO WEAVER ELEMENTARY SCHOOL

BRT GUIDEWAY BRIDGE AND TRAIL UNDERPASS

There are three intersecting local and regional trails that will be grade-separated from the guideway for safety and transit operations. The single span lengths for each of these bridges will be quite short and clearances lower than those required over roadways. By angling wing walls down and integrating them with the embankment, they will be less visually dominant and allow more opportunity for greening of the corridor. In addition, creating an attractive and well-lit “underpass” environment with good sight lines is important in establishing a safe experience. All three of these bridges should follow a consistent aesthetic since they are close in proximity along the former rail right-of-way context.

- BRT bridge over the Gateway State Trail.
- Bruce Vento Regional Trail access from English Street/Weaver Elementary School.
- Bruce Vento Regional Trail access from Fitch Road/Barclay Street.

Bridge Name	Span Type	Concrete Features							Railings and Fences					
		Pier		Abutment / Wing Wall		Parapet / Barrier		Color (1)	Description	Minimum Overall Height Required (2)	Maximum Picket Spacing	Railing Height (not including parapet)	Finish	Color (1)
		Form	Texture	Form	Texture	Form	Texture							
ARCADE STREET (addition to existing bridge)	• Concrete girders • Color finish on exterior girders only	• Multi-column • Pointed arch opening • Rectangular column base with flared top	• Smooth with edge bands and shallow recessed interior surface	• Squared corner • Mask walls at edge where girders rest • 9” coping (or match height of deck edge)	• Rectangular grid pattern	• Type P-1 mod • 2’-8” ht	• Smooth • Horizontal reveals on interior and exterior	• MnDOT Gray 30372 • Darker gray on interior pier surfaces 30340 • Match existing	• Vertical post and picket with arched transition panels and accent panels	• 6’ • Railing required at corner transition to existing bridge only	• 6"	• 3’-4”	• Galvanized and Painted	• Black
HIGHWAY 36	• Concrete girders • Color finish on exterior girders only • Arched fascia panel	• Multi-column • Arched openings • Rectangular column shape	• Smooth • Corner reveals	• Brick veneer pilasters at corners • Mask walls at edge where girders rest	• Rectangular cut stone • Smooth border	• Type S • 3’ ht • Sloped interior face • 1’-1” coping on exterior	• Smooth	• Light Buff 33522	• NA	• NA	• NA	• NA	• NA	• NA
I-694	• Concrete girders • Color finish on exterior girders only	• Multi-column • Pier cap extends beyond columns with flared ends • Rectangular column shape with angled top	• Smooth • Corner reveals	• Mask walls at edge where girders rest • 9” coping (or match height of deck edge)	• Tiered design • Lower area has horizontal reveals and texture band • Upper area smooth	• Type S mod • 3’ ht • Sloped interior face • 1’-1” coping on exterior	• Smooth • Texture band below coping	• Tan 36415 • Girders – Reddish Brown 10075	• NA	• NA	• NA	• NA	• NA	• NA
JOHNSON PARKWAY (match nearby Earl Street Bridge features)	• Concrete girders • Color finish on exterior girders only	• Multi-column • Rounded arch opening • Rectangular column base with flared top	• Smooth with edge bands and shallow recessed interior surface	• Squared corner • 9” coping (or match height of deck edge)	• Rectangular grid pattern	• Type P-1 mod along trail • Type S mod along guideway • 2’-8” ht • Pilasters with decorative lights along trail	• Smooth • Type P-1 Window pane relief on both interior and exterior • Type S Window pane relief on exterior only	• MnDOT Gray 30372 • Darker gray on interior pier surfaces 30340	• Vertical post and picket with arched transition panels and accent panels	• 6’	• 6"	• 3’-4”	• Galvanized and Painted	• Black
TRAIL UNDERPASSES (between Frost Avenue and Beam Avenue)	• Single opening	• NA	• NA	• Angled wing walls • 9” coping (or match height of deck edge)	• Rectangular cut stone	• Type S • 3’ ht • Sloped interior face • 1’-1” coping on exterior	• Smooth	• MnDOT Gray 30372	• Vertical post and picket	• NA	• NA	• NA	• NA	• NA

NOTES:

(1) Refer to AMS Standard 595A color system unless noted otherwise

(2) Minimum height required from walk surface to top of railing for fall protection

SUMMARY TABLE OF PROPOSED BRIDGE AESTHETIC FEATURES

RETAINING WALLS

EXAMPLE CAST IN PLACE WALL NEAR I-694

EXAMPLE CAST IN PLACE WALL ON PENNSYLVANIA AVENUE

EXAMPLE MECHANICALLY STABILIZED EARTH WALL

EXAMPLE PRECAST MODULAR BLOCK WALL

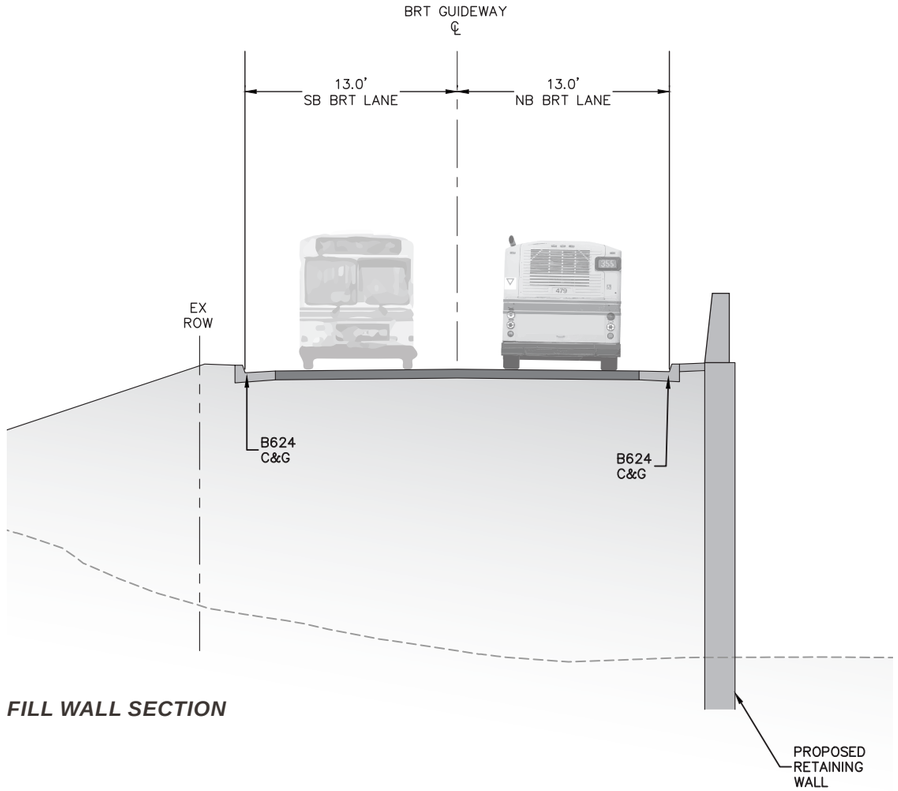
RETAINING WALL TYPES

As the project advances, constructability and cost will heavily influence the selection of the appropriate type of retaining wall system. In addition, each wall type has inherent aesthetic features and opportunities. Generally, cast in place wall construction allows the greatest aesthetic flexibility. Mechanically stabilized earth and precast modular brick walls have inherent modular unit sizes and layout patterns and afford limited options in surface textures. In some instances, a vegetated engineered slope may be selected instead of a wall.

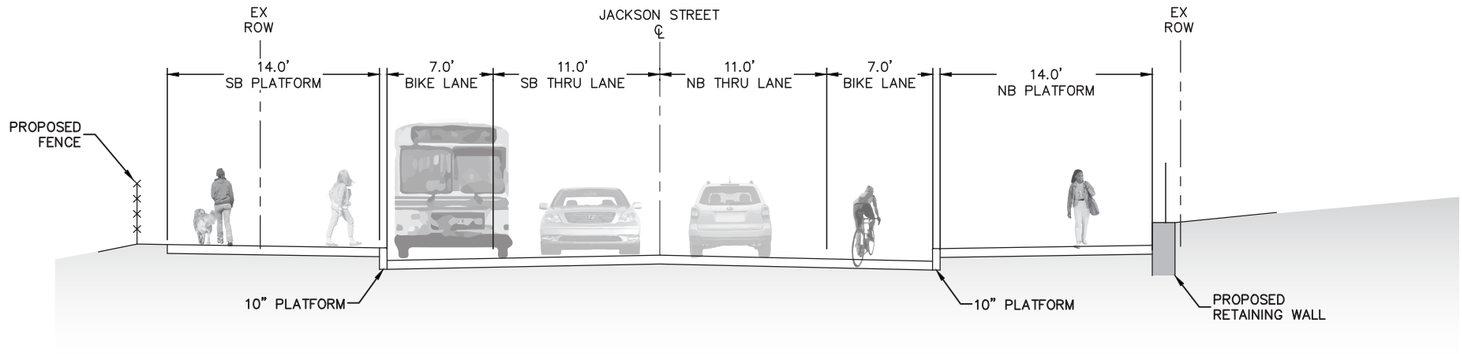
The Ramsey County Right-of-Way Design Guide provided the following initial guidance:

- Materials and colors should reflect the natural character of the right-of-way.
- Walls should be textured rather than smooth.
- Wall design will consider historic elements.

The recommended surface texture for concrete retaining walls is a rectangular cut stone in a running bond pattern which can be utilized across multiple wall types. Colors should be warm gray and limestone tones that complement the natural character of the surroundings. These recommendations will be reviewed and potentially adjusted through the Section 106 consultation process.



FILL WALL SECTION



CUT WALL SECTION

FILL CONDITION

Where the guideway is higher than the surroundings, but there is insufficient room for a fill slope, a retaining wall may be necessary to retain grade. In a “fill” condition, the wall face will be more visible from the surroundings. Unless there is a pedestrian or bicycle facility, no railing or fence is typically required. A concrete barrier for vehicle protection will be necessary though, which will add to the perceived height of the wall.

CUT CONDITION

Where the guideway is lower than the surroundings, requiring some excavation and a wall to retain grade, it is called a “cut” condition, which exposes the wall face towards the transit environment. There is typically a fence or railing necessary for fall protection from the adjacent areas or a concete barrier if there is a roadway.

SAINT PAUL ORNAMENTAL RAILING

CHAIN LINK FENCE ON A RETAINING WALL

EARL STREET BRIDGE WING WALL

BARRIERS, RAILINGS AND FENCES

As with bridges, the wall function and surroundings will dictate barrier, railing and fence requirements for vehicle protection or fall protection. Beyond functional requirements, there are two basic scenarios that help determine the appropriate level of aesthetic treatment for top of wall conditions.

Where retaining walls are part of a bridge approach area, barriers and railings should match the bridge so that a seamless appearance is achieved. On other freestanding walls, a black vinyl-coated chainlink fence should be used unless other site-specific conditions may warrant a different treatment.

BRIDGE WING WALLS

Depending on the proposed bridge configuration and surrounding conditions, some wing walls may need to be extended with additional retaining walls. In this situation, the aesthetics of the retaining wall should take its cue from the bridge to create a unified appearance.

Wall Location (1)	Cut / Fill	Concrete Features					Railings and Fences					
		Main Wall		Parapet / Barrier		Color (2)	Description	Minimum Overall Height Required (3)	Maximum Picket Spacing	Railing Height (not including parapet)	Finish	Color (3)
		Form	Texture	Form	Texture							
CAYUGA STREET STATION	• Fill	• 9” coping	• Rectangular cut stone	• Type P-1 mod • 2’-8” ht	• Window pane relief on interior and exterior	• Smooth surfaces - MnDOT Gray 30372 • Textured surfaces – multi-color limestone	• Vertical post and picket	• 4’-6”	• 6"	• 1’-10”	• Galvanized and Painted	• Black
ARCADE STREET BRIDGE (extension of bridge wing walls)	• Fill	• 9” coping (or match height of deck edge)	• Rectangular grid pattern	• Type P-1 mod • 2’-8” ht	• Horizontal reveals on interior and exterior	• MnDOT Gray 30372	• NA	• NA	• NA	• NA	• NA	• NA
JOHNSON PARKWAY (extension of bridge wing walls)	• Fill	• 9” coping (or match height of deck edge)	• Rectangular grid pattern	• Type P-1 mod along trail • Type S mod along guideway • 2’-8” ht • Pilasters with decorative lights along trail	• Smooth • Type P-1 Window pane relief on both interior and exterior • Type S Window pane relief on exterior only	• MnDOT Gray 30372	• Vertical post and picket with accent panels	• 4’-6”	• 6"	• 1’-10”	• Galvanized and Painted	• Black
TRAIL UNDERPASSES (between Frost Avenue and Beam Avenue)	• Fill	• 9” coping	• Rectangular cut stone	• Type S • 3’ ht • Sloped interior face • 1’-1” coping on exterior	• Smooth	• Smooth surfaces - MnDOT Gray 30372 • Textured surfaces – multi-color limestone	• NA	• NA	• NA	• NA	• NA	• NA
UNDERNEATH EXISTING COUNTY ROAD C E BRIDGE	• Cut	• 9” coping	• Rectangular cut stone	• NA	• NA	• Smooth surfaces - MnDOT Gray 30372 • Textured surfaces – multi-color limestone	• Chainlink	• 3’-6”	• NA	• 5’	• Vinyl-coated	• Black
SOUTH OF BEAM AVENUE (lower wall supporting guideway)	• Fill	• 9” coping	• Rectangular cut stone	• Type S • 3’ ht • Sloped interior face • 1’-1” coping on exterior	• Smooth	• Smooth surfaces - MnDOT Gray 30372 • Textured surfaces – multi-color limestone	• NA	• NA	• NA	• NA	• NA	• NA
SOUTH OF BEAM AVENUE (upper wall supporting trail)	• Fill	• 9” coping	• Rectangular cut stone	• NA	• NA	• Smooth surfaces - MnDOT Gray 30372 • Textured surfaces – multi-color limestone	• Chainlink	• 4’-6”	• NA	• 5’	• Vinyl-coated	• Black
I-694 BRIDGE (extension of bridge wing walls)	• Fill	• 9” coping (or match height of deck edge)	• Rectangular cut stone	• Type S mod • 3’ ht • Sloped interior face • 1’-1” coping on exterior	• Smooth • Texture band below coping	• Tan 36415	• NA	• NA	• NA	• NA	• NA	• NA
BUERKLE ROAD (near Fanum Road)	• Fill	• 9” coping	• Rectangular cut stone	• Type S • 3’ ht • Sloped interior face • 1’-1” coping on exterior	• Smooth	• Smooth surfaces - MnDOT Gray 30372 • Textured surfaces – multi-color limestone	• NA	• NA	• NA	• NA	• NA	• NA

NOTES:

(1) During future design phases, wall locations are subject to change

(1) Refer to AMS Standard 595A color system unless noted otherwise

(2) Minimum height required from walk surface to top of railing for fall protection

SUMMARY TABLE OF PROPOSED RETAINING WALL AESTHETIC FEATURES

LIGHTING

Lighting along the Rush Line BRT route will primarily serve wayfinding and safety needs, but it will also influence overall visual quality. While sometimes subtle, individual fixtures have unique aesthetic detailing and illumination patterns that become more visually apparent through regular spacing in the landscape. To minimize light trespass and glare, lighting will be utilized in select areas but not continuously along the route and should be generally downcast. The project's design criteria will specify the appropriate illumination levels that apply to different conditions.

The station lighting design will utilize standard fixture types that Metro Transit has employed elsewhere because of their performance and consistent aesthetic, and limited extra stock is kept on hand for maintenance and repairs. In addition, the right-of-way will include trail lighting at at-grade crossings, grade-separated crossings, and directional changes. Within the project limits, lighting for trails that serve station access will be evaluated for adequate illumination.

Where lighting on reconstructed portions of roadway or trails is impacted, fixtures should be salvaged and reinstalled or replaced in kind. Where pedestrian lighting already exists that is part of an established district or corridor theme in a proposed station area, it could also serve as the station lighting if it provides adequate illumination in conjunction with shelter lighting. Coordination of ownership and maintenance responsibilities will play a significant part in confirmation of final selections and should follow city standards where applicable.

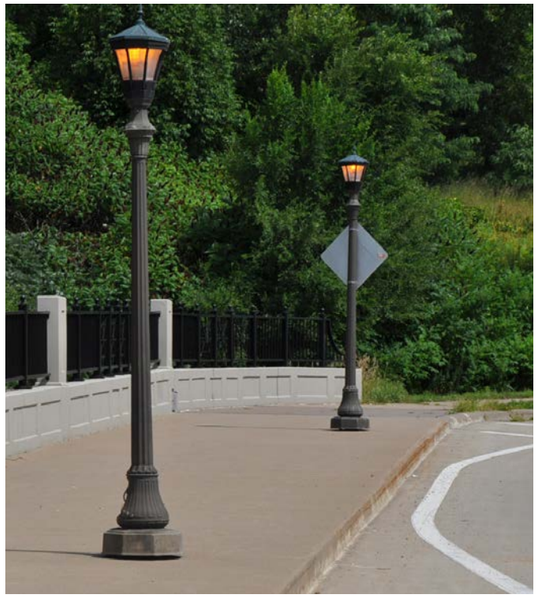
The Ramsey County Right-of-Way Design Guide provided the following initial guidance:

- Poles at stations and along trails would be shielded in consistency with dark sky strategies.
- LED bulbs should be warm in temperature to provide a natural rendering and comfortable environment.
- Light poles should be a dark earth tone color.
- All pedestrian light poles should be appropriately scaled at approximately 12 to 16 feet in height.

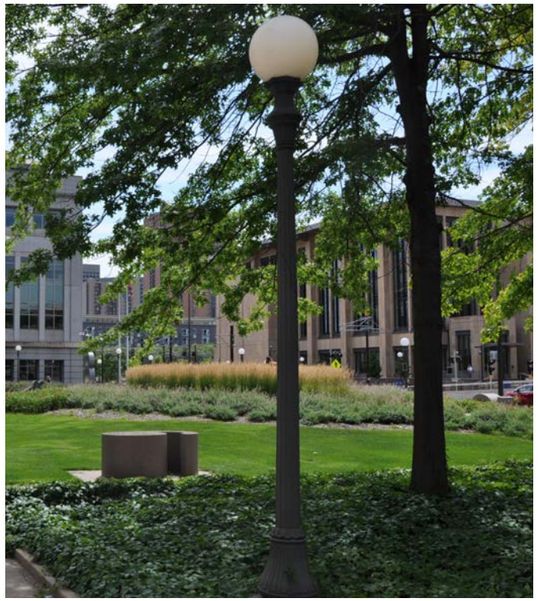
STATION SITE AND DEDICATED GUIDEWAY

Some lighting will be integral to the station shelter, but additional lighting will likely be necessary to adequately light the full platform extents. Metro Transit standard pedestrian-height light poles should be utilized on the platform and the same fixtures will be used in the station site, including station access walks, bicycle parking, vehicle drives and parking and other areas as needed.

- Walkways and other non-vehicle areas – pedestrian-height light poles (approximately 15 feet tall), single heads.
- Parking lots - taller light poles (approximately 25 feet tall), single or twin heads.
- Dedicated guideway - taller light poles (approximately 25 feet tall), single or twin heads.
- Full cut-off downcast LED luminaires.
- Anodized aluminum poles and luminaire housings.
- Clear (silver), black or dark bronze depending on the transit shelter finish and other coordinating station site elements.



SAINT PAUL



WHITE BEAR LAKE

MAPLEWOOD

LOCAL ROADWAY/PEDESTRIAN LIGHTING

Where the project is reconstructing all or portions of local roadways, trails or walks, existing lighting may also be impacted. The project should replace the impacted fixtures in-kind using the current standard fixtures of the affected city or Minnesota Department of Transportation, as applicable.

SAINT PAUL: TRAFFIC SIGNAL WITH LIGHT

MAPLEWOOD: TRAFFIC SIGNAL WITH LIGHT

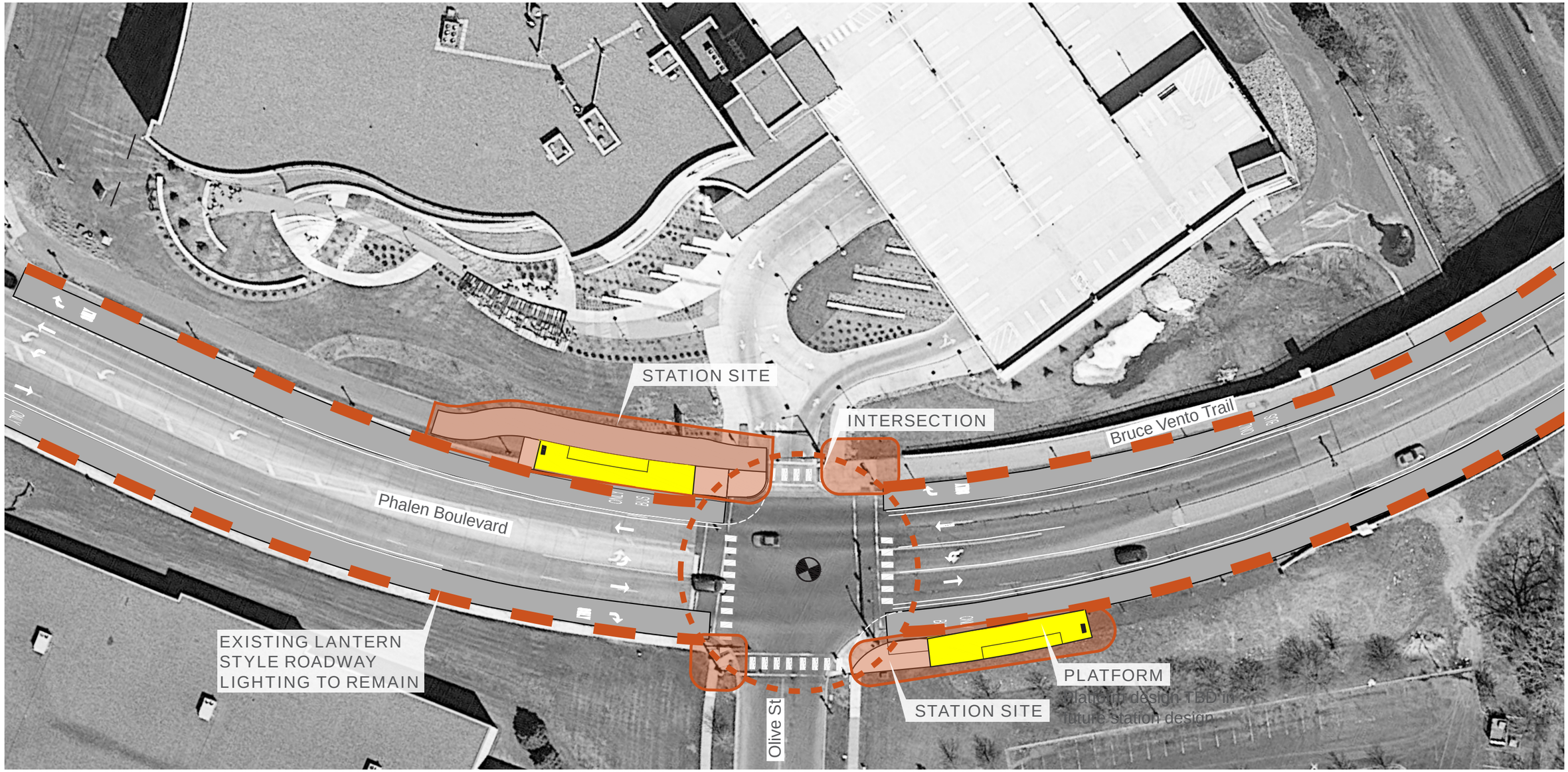
WHITE BEAR LAKE: TRAFFIC SIGNAL WITH LIGHT

NEAR GEM LAKE: TRAFFIC SIGNAL WITH LIGHT

VADNAIS HEIGHTS: TRAFFIC SIGNAL WITH LIGHT

INTERSECTION ROADWAY LIGHTING AND TRAFFIC SIGNALS

Where the project is reconstructing all or portions of roadway intersections, existing lighting and signals may also be impacted. The project should replace the impacted fixtures in-kind using the current standard designs of the affected city or Minnesota Department of Transportation as applicable. The finish color should match other existing signals that will remain in place.



PROTOTYPICAL SPLIT STATION: LIGHTING CONCEPT PLAN

OLIVE STREET STATION

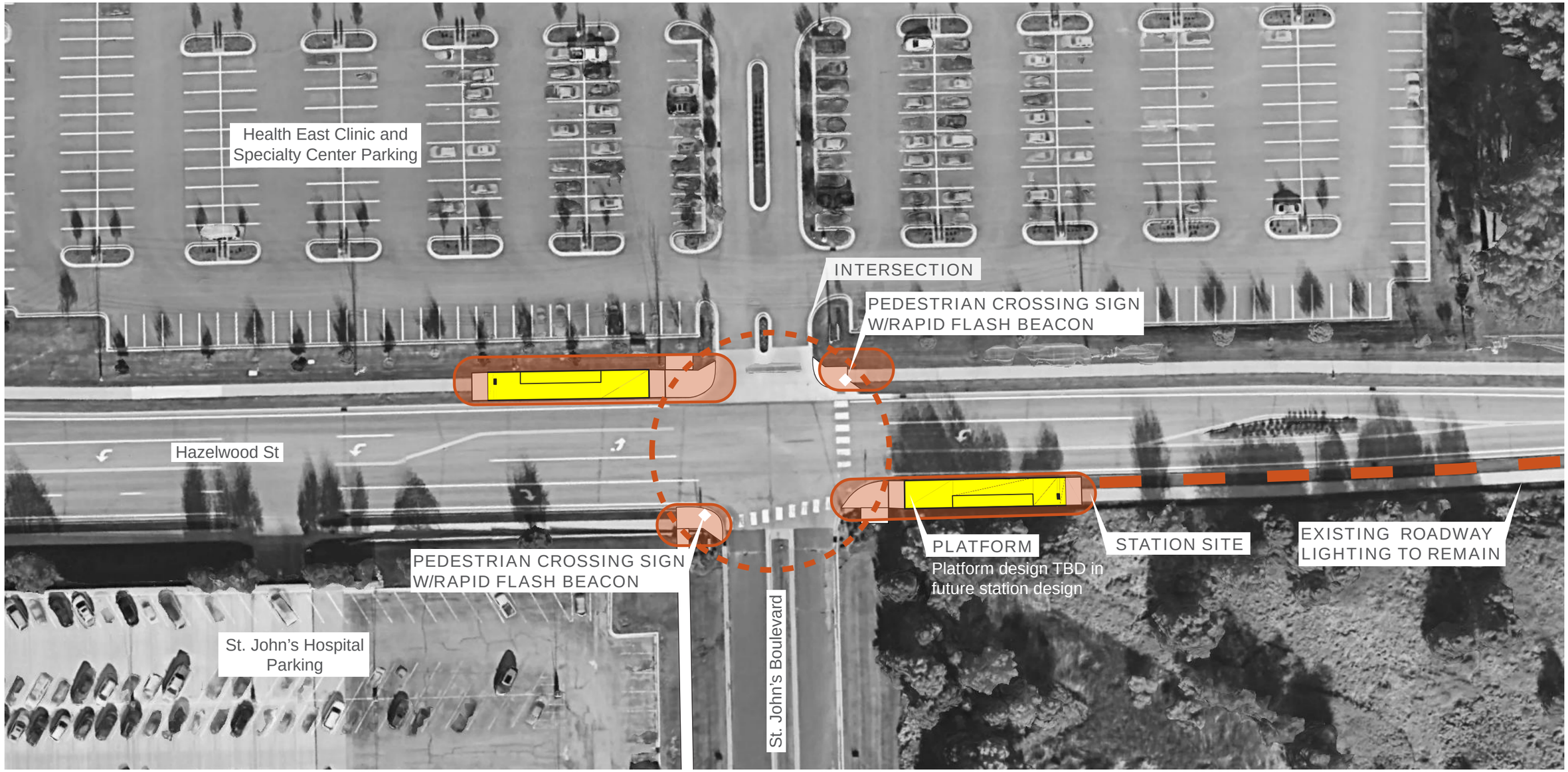
DRAFT - WORK IN PROCESS

N

0 25' 50'

Lighting around stations will be comprised of four primary components: station platform, station site, approaching roadway/ guideway, and intersection lighting. The lighting types shown on the previous pages are applicable to each of these areas. The lighting concept plans illustrate the approximate extents and interrelation of the four components.

- Signalized Intersection
- Station Site Lighting
- Roadway/Guideway Lighting
- Platform Lighting
- Intersection Lighting



PROTOTYPICAL SPLIT STATION: LIGHTING CONCEPT PLAN

ST. JOHN'S BOULEVARD STATION

DRAFT - WORK IN PROCESS

N

0 25' 50'

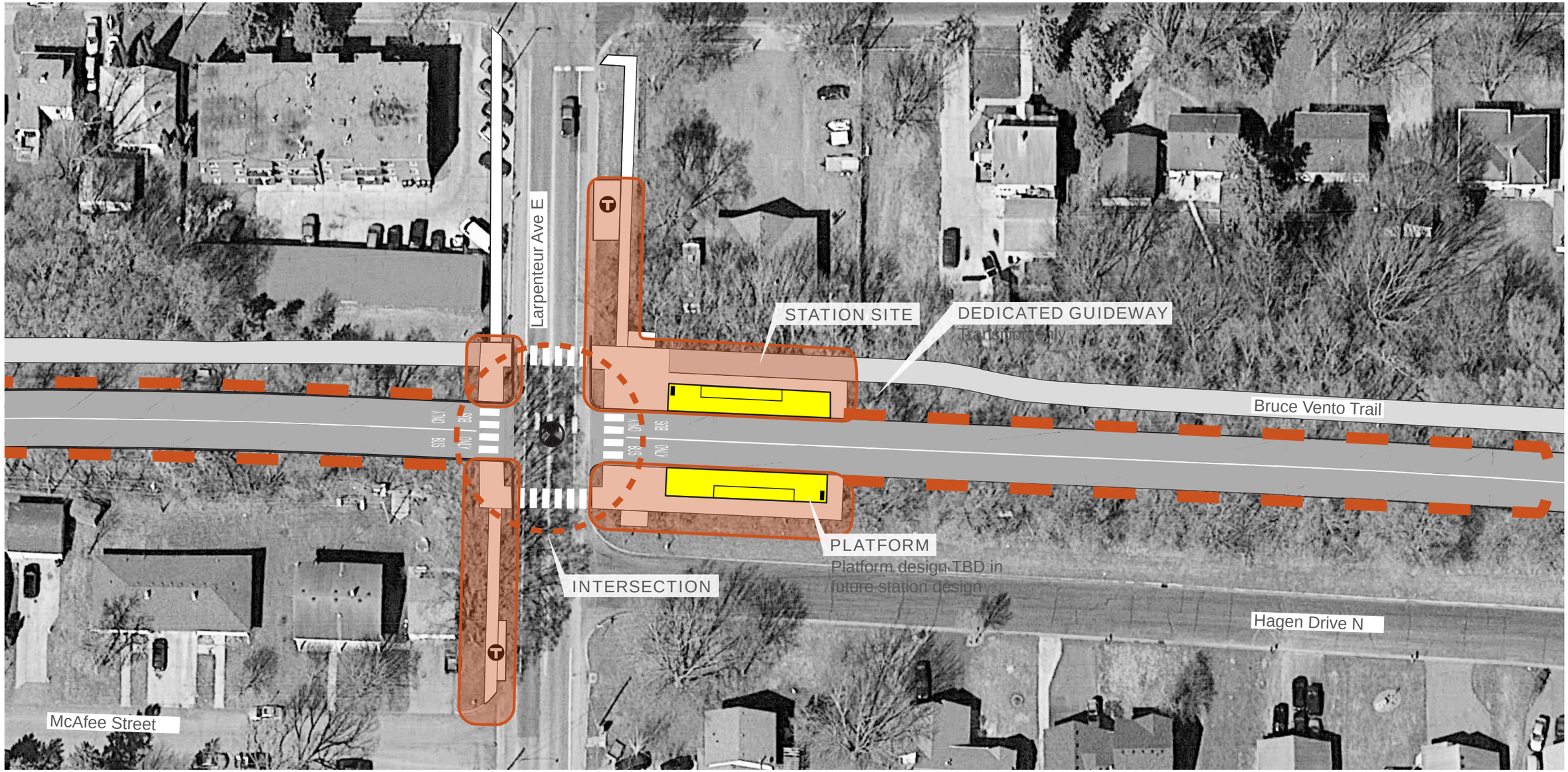
Station Site Lighting

Platform Lighting

Signalized Intersection

Roadway/Guideway Lighting

Intersection Lighting



PROTOTYPICAL OPPOSITE SIDE STATION: LIGHTING CONCEPT PLAN

LARPENTEUR AVENUE STATION

DRAFT - WORK IN PROCESS

N

0 25' 50'

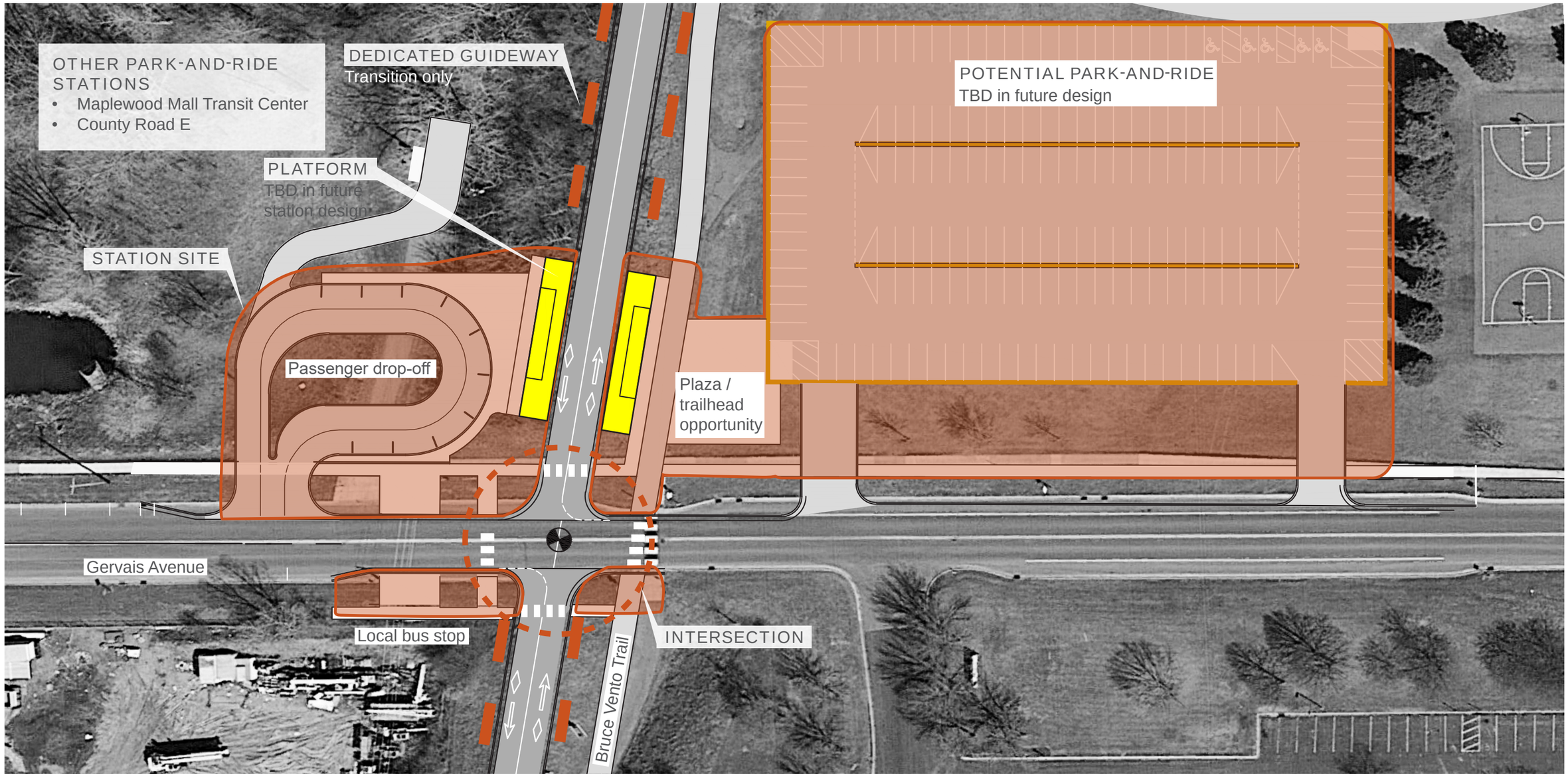
Station Site Lighting

Platform Lighting

Signalized Intersection

Roadway/Guideway Lighting

Intersection Lighting



PARK-AND-RIDE STATION: LIGHTING CONCEPT PLAN

HIGHWAY 36 STATION

DRAFT - WORK IN PROCESS

N

0 25' 50'

Signalized Intersection

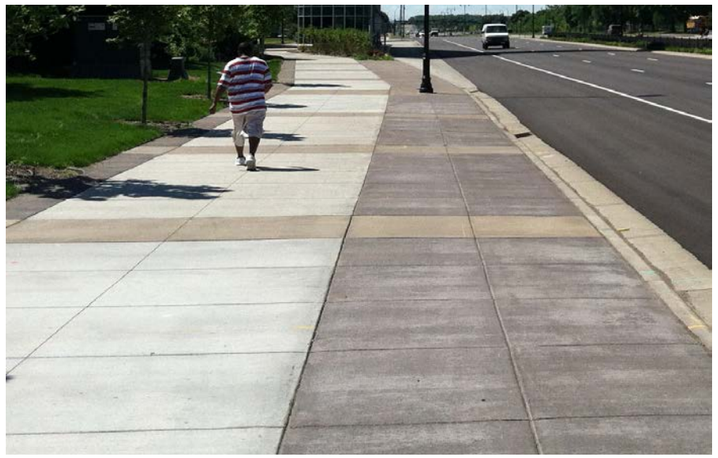
Station Site Lighting

Roadway/Guideway Lighting

Platform Lighting

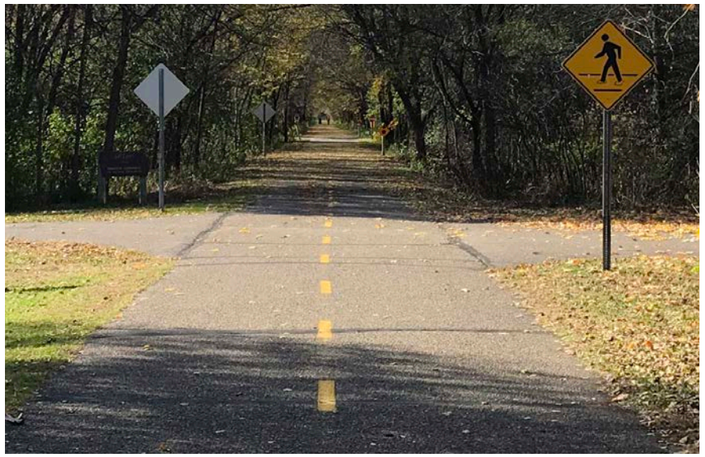
Intersection Lighting

PAVEMENTS



STATION SITE CONCRETE SIDEWALK WITH ACCENTS EXAMPLE

STANDARD CONCRETE SIDEWALK EXAMPLE



BITUMINOUS TRAIL EXAMPLE

STATION SITE

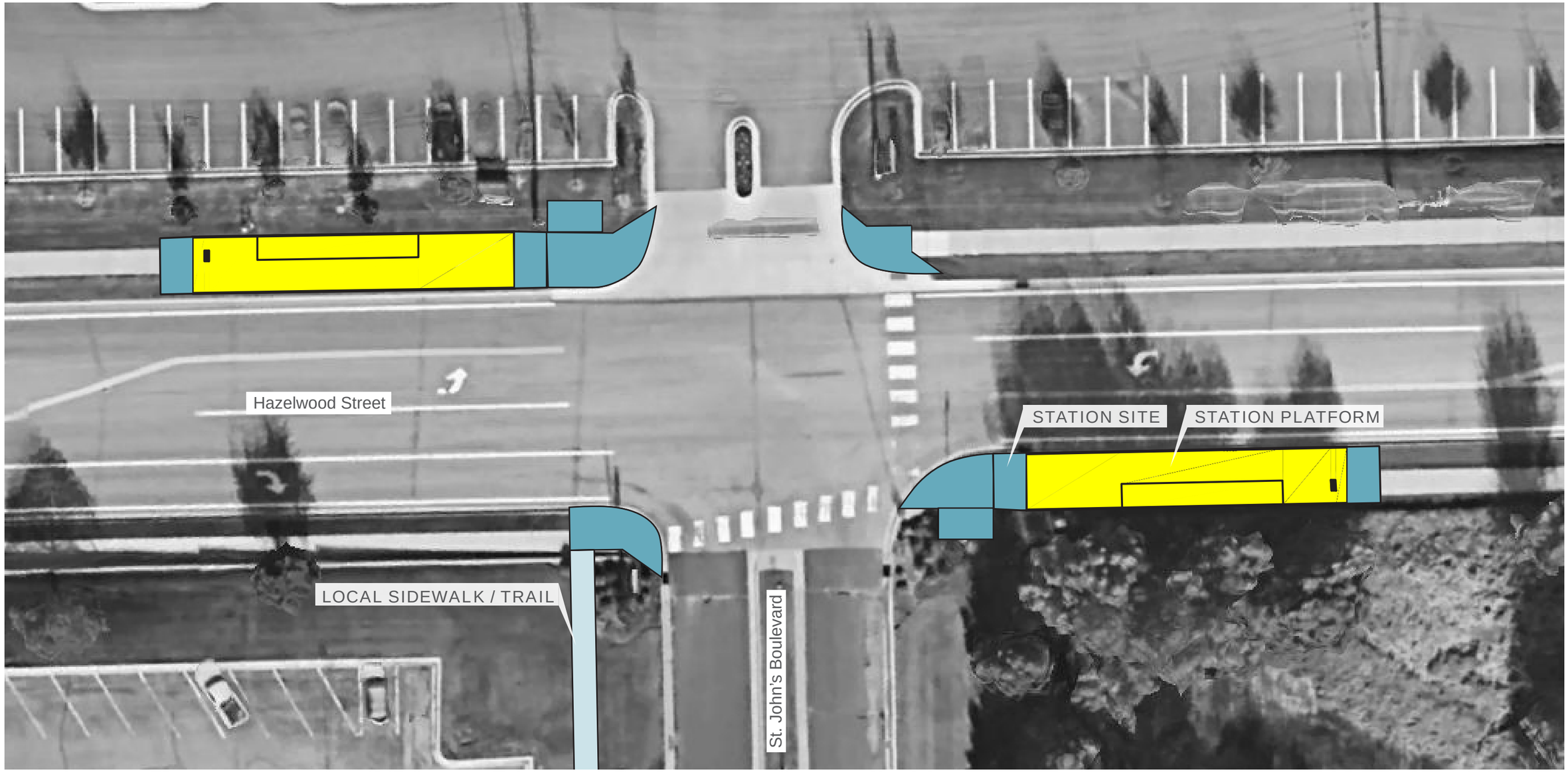
Station site walkway pavement should be standard gray concrete with potential accent treatments. Coordinating site pavement with platform pavement will create a visually integrated transition.

- Standard gray concrete with broom finish.
- Colors, aggregate, jointing pattern accents.

Platform pavement should be concrete with a durable tactile edge along the entire length of the boarding zone. Alternative integral colors, aggregates, surface texturing and jointing patterns can be employed for distinct expressions. The platform design may evolve and vary in conjunction with future station design advancement.

LOCAL SIDEWALK / TRAIL

Approaching sidewalks or trails should follow local standards, which are typically standard gray broom finish concrete walks and bituminous trails.



PROTOTYPICAL STATION SITE PAVEMENT CONCEPT PLAN

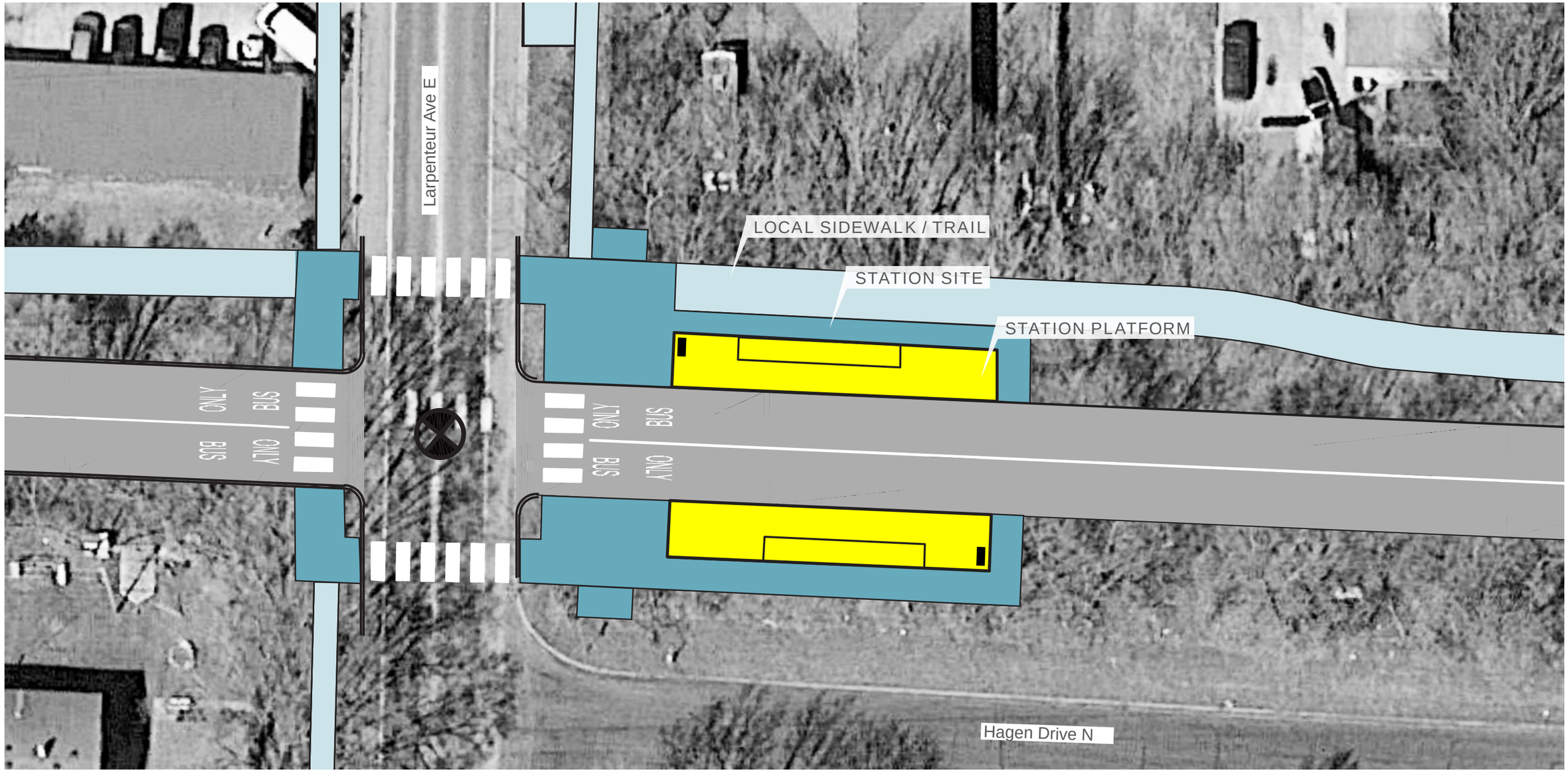
ST. JOHN'S BOULEVARD STATION

DRAFT - WORK IN PROCESS

N

0 25' 50'

- Signalized Intersection
- Local Sidewalk / Trail
- Station Site Paving
- Station Platform Paving



PROTOTYPICAL STATION SITE PAVEMENT CONCEPT PLAN

LARPENTEUR AVENUE STATION

DRAFT - WORK IN PROCESS

N

0 25' 50'

- Signalized Intersection
- Local Sidewalk / Trail
- Station Site Paving
- Station Platform Paving

FENCING

Fencing or railings will have different applications throughout the project at stations, crossings, right-of-way buffers, and along the dedicated guideway. The primary functions include pedestrian guidance and deterrence, fall protection, and right-of-way definition along properties.

The Ramsey County Right-of-Way Design Guide provided the following initial guidance:

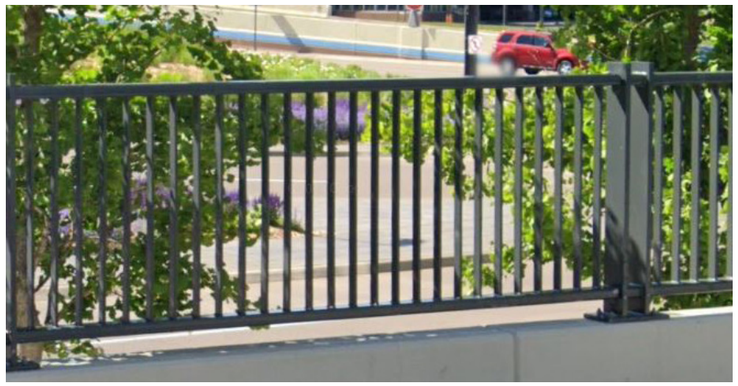
- Fencing at station areas and crossings should be consistent throughout the right-of-way.
- Fencing at the right-of-way or along the dedicated guideway should be limited in size, mass and visibility.
- Material should maintain the natural aesthetic of the right-of-way by using dark metal earth tones and a minimal metal design.
- Fencing offers a branding opportunity for the Rush Line.

EXAMPLE WOOD POST AND CABLE FENCE

EXAMPLE OPEN RAILING

EXAMPLE STATION FENCE WITH CUSTOMIZATIONS

EXAMPLE BLACK VINYL-COATED CHAINLINK FENCE



EXAMPLE VERTICAL PICKET FENCE ON CURB

EXAMPLE COMPOSITE VISUAL SCREEN FENCE

RIGHT-OF-WAY

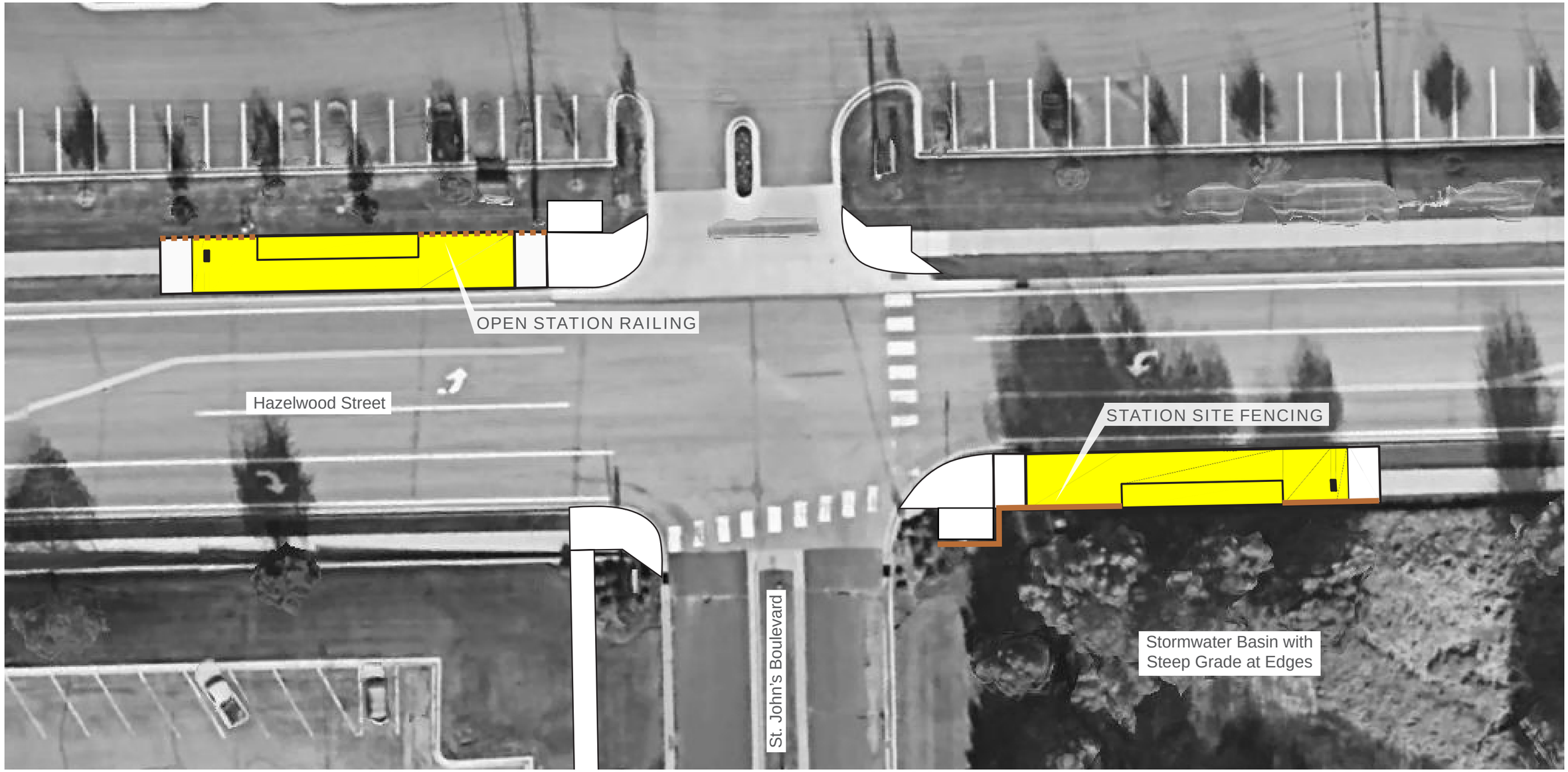
Where the edge of right-of-way or other property needs access restrictions or edge definition, black vinyl-coated chainlink fence is a cost-effective selection. When set against a darker vegetative backdrop, the fence is almost completely transparent and will blend in visually. In some locations, other fence types may be considered based on the surroundings such as wood posts with cables.

STATION SITE

Where station site fences are necessary to guide pedestrian circulation, they can also be designed as distinct visual features that support overall station character. Vertical pickets or slats minimize climbing potential while also creating a streamlined aesthetic. Slats may not be necessary in all conditions where an open rail may be sufficient functionally. Durable materials and finishes are important to retain good condition and minimize maintenance over time. While maintaining consistent detailing, some customization is possible for community expression.

VISUAL SCREENING

In limited applications, visual screen fencing may be warranted along residential property edges within proximity of the guideway. Such fencing should be 100 percent opaque and 6, 8 or 10 feet tall depending on the situation. Composite materials are preferred to minimize maintenance and longer-term durability when compared to wood products.



PROTOTYPICAL STATION SITE FENCING CONCEPT PLAN

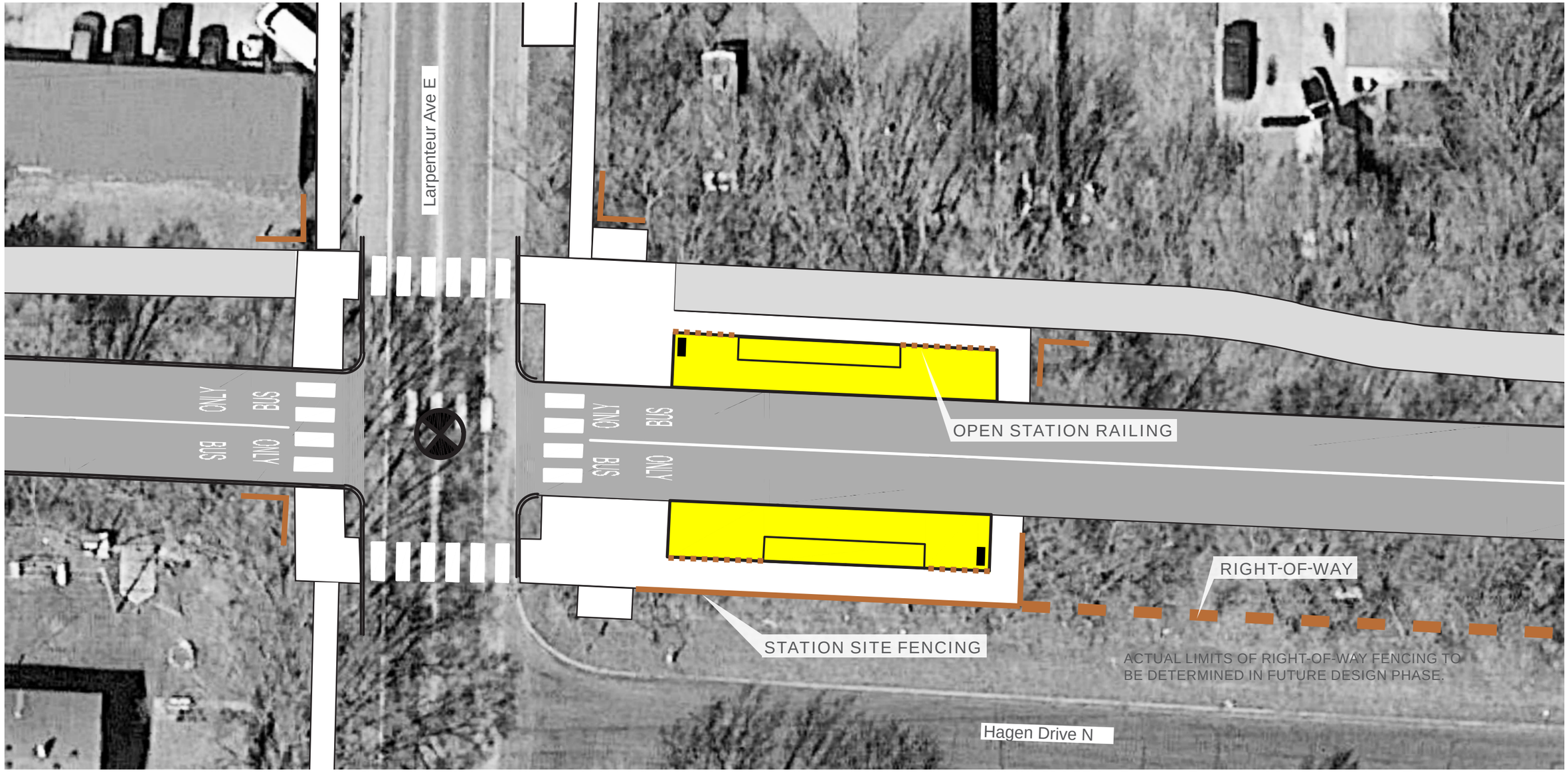
ST. JOHN'S BOULEVARD STATION

DRAFT - WORK IN PROCESS

N

0 25' 50'

- Signalized Intersection
- Platform
- Station Site Fencing
- Open Station Railing
- Right-of-Way Fencing



PROTOTYPICAL STATION SITE FENCING CONCEPT PLAN

LARPENTEUR AVENUE STATION

DRAFT - WORK IN PROCESS

N

0 25' 50'

- Signalized Intersection
- Platform
- Station Site Fencing
- Open Station Railing
- Right-of-Way Fencing

FURNISHINGS

Site furnishings are human-centered features that can contribute to an attractive station environment while also accomplishing basic functional needs. Use of the same selections at stations will create a more consistent user experience and enable more efficient maintenance. Nevertheless, furnishings are an opportunity for communities to customize stations with integrated enhancements such as community logos. As with other deisgn elements, dark earth tone colors are desirable to reflect the natural character of the right-of-way. If local site furnishings are impacted, they should be salvaged and reinstalled or replaced in-kind.

EXAMPLE BENCH

SEATING

Seating will be primarily incorporated on the station platform and on station sites where passengers may be waiting for extended periods of time such as a park-and-ride pick-up location. Seating should have backs, end and intermediate armrests, and should be manufactured from high-strength metals.

EXAMPLE BICYCLE PARKING WITH LOCAL CUSTOMIZATIONS

EXAMPLE BICYCLE PARKING

BICYCLE PARKING

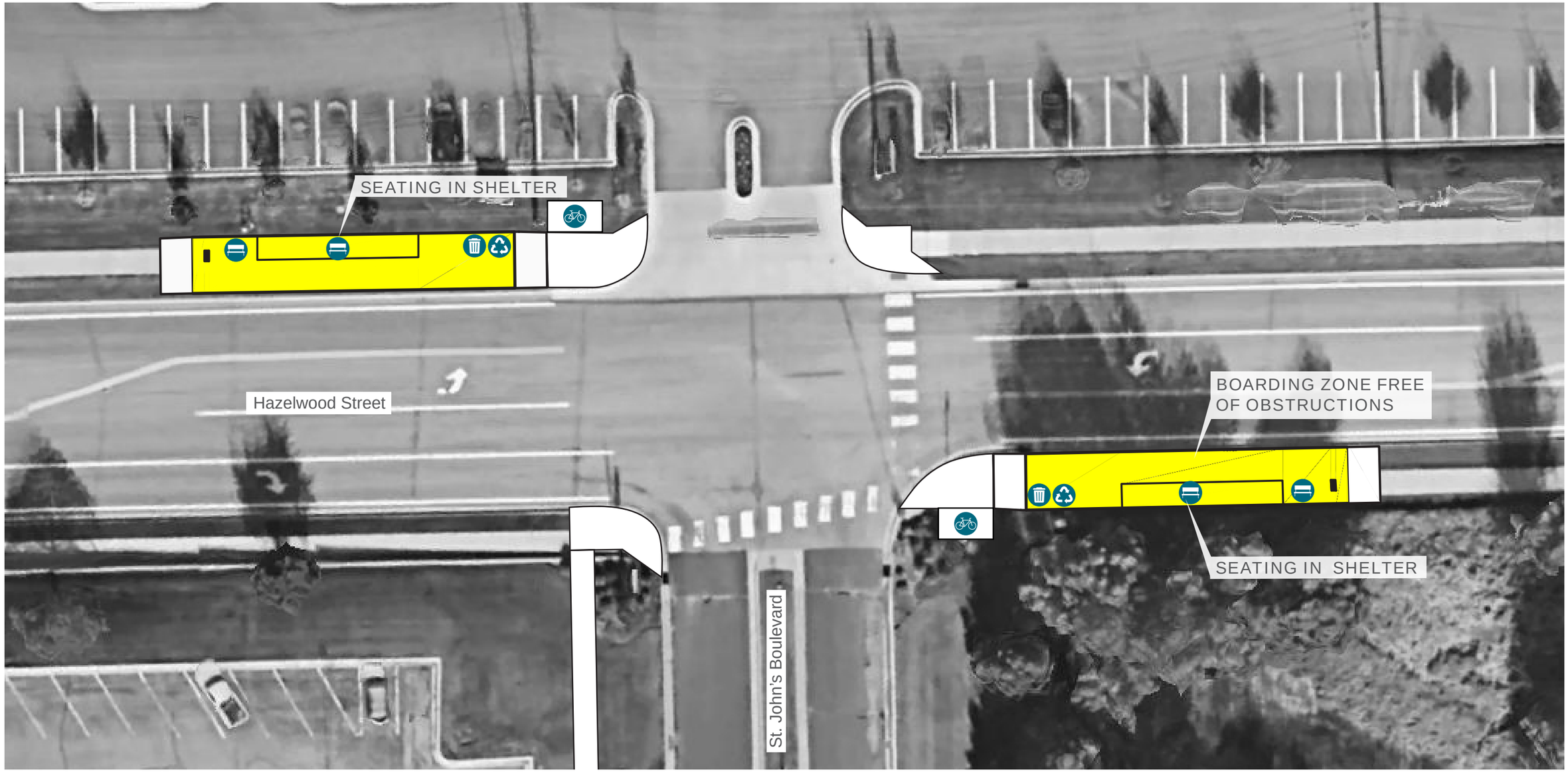
Rush Line BRT buses will have front racks for bicyclists to take their bicycles with them, but providing bicycle parking at stations creates additional flexibility for passengers to combine trips. Bicycle parking should be clustered in a designated exterior paved area that is visible and convenient from approaching roadways and trails. Durable hitches should be spaced adequately in rows to allow two bikes per hitch and should not impede adjacent walkways. Additional planning is needed to determine the appropriate number of hitches during future site design.

BICYCLE REPAIR STATION

EXAMPLE WASTE RECPTACLE

WASTE COLLECTION

Both waste and recycling receptacles should be provided at platforms and in other select site locations where there will be higher passenger and pedestrian activity. Receptacles should have top covers that minimize rain intrusion and lockable side doors for removal of interior plastic containers.



PROTOTYPICAL STATION SITE FURNISHING CONCEPT PLAN

ST. JOHN'S BOULEVARD STATION

DRAFT - WORK IN PROCESS

N

0 25' 50'

Signalized Intersection

Platform

Bicycle parking (off platform)

Pylon

Waste and recycling collection

Seating

PROTOTYPICAL STATION SITE FURNISHING CONCEPT PLAN

LARPENTEUR AVENUE STATION

DRAFT - WORK IN PROCESS

N

0 25' 50'

- Platform
- Pylon
- Signalized Intersection
- Bicycle parking (off platform)
- Waste and recycling collection
- Seating

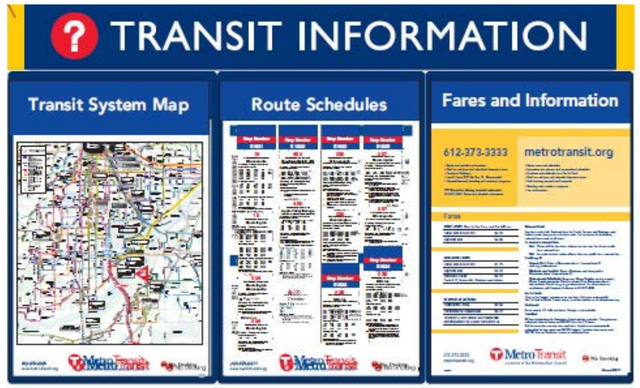
SIGNAGE

Signage serves many purposes in the transit system while also reinforcing the Metro Transit brand through messages, symbols and colors employed in a consistent manner. This section provides a brief synopsis of the primary sign types. In future phases of design where additional detail is required, the current version of the Metro Transit Light Rail and Bus Rapid Transit signage standards document should be consulted for all sign types.

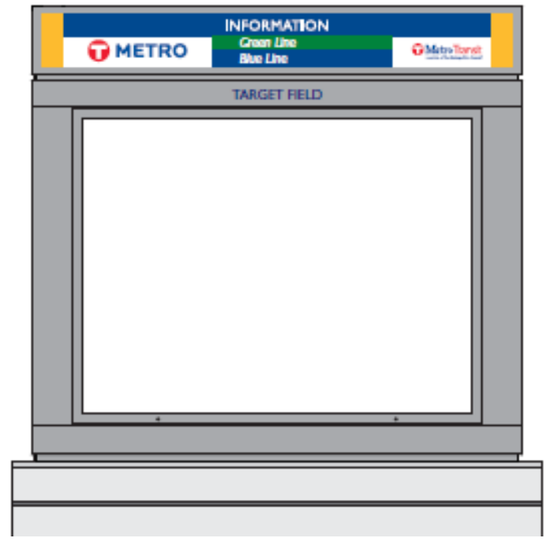
Future design phases will address ADA accessibility in detail to ensure transit passengers of all abilities can access and use the faciiities safely and conveniently. Layout may vary depending on specific station configuration and surroundings. Parking structure external and internal signage will be determined separately during design advancement.

The Bruce Vento Regional Trail has existing wayfinding signage for trail users that will need updating as part of the project. Map kiosks and trail posts are the two main signage types outlined in the Ramsey County Rail Right-of-Way Design Guide. There may also be opportunity to enrich awareness of natural and cultural resources through interpretive signage in select locations, subject to the Section 106 consultation process.

In addition, regulatory signage should be implemented along roadways, the guideway, and at intersection crossings in accordance with the Minnesota Manual of Uniform Traffic Control Devices (MMUTCD).



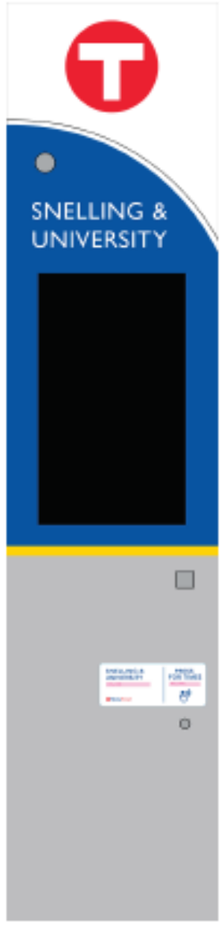
TRANSIT INFORMATION HOLDER (WALL MOUNT OR FREESTANDING)



INFORMATION KIOSK

CUSTOMER INFORMATION

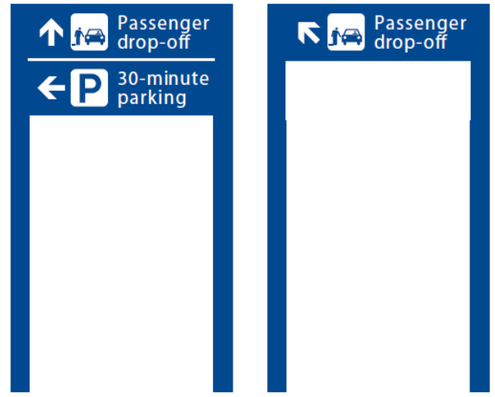
Attached to the shelter, or nearby, a panel sign will include a transit system map, route schedules and fare information. The sign should be an anodized aluminum housing with operable doors with polycarbonate facing. Printed posters will be mounted in the interior. In addition, Metro Transit is reviewing options for a digital information kiosk on platforms.



STATION PYLON

STRUCTURE-MOUNTED WAYINDING

OFF-PLATFORM WAYFINDING



PASSENGER DROP-OFF SIGNAGE

SITE IDENTIFICATION

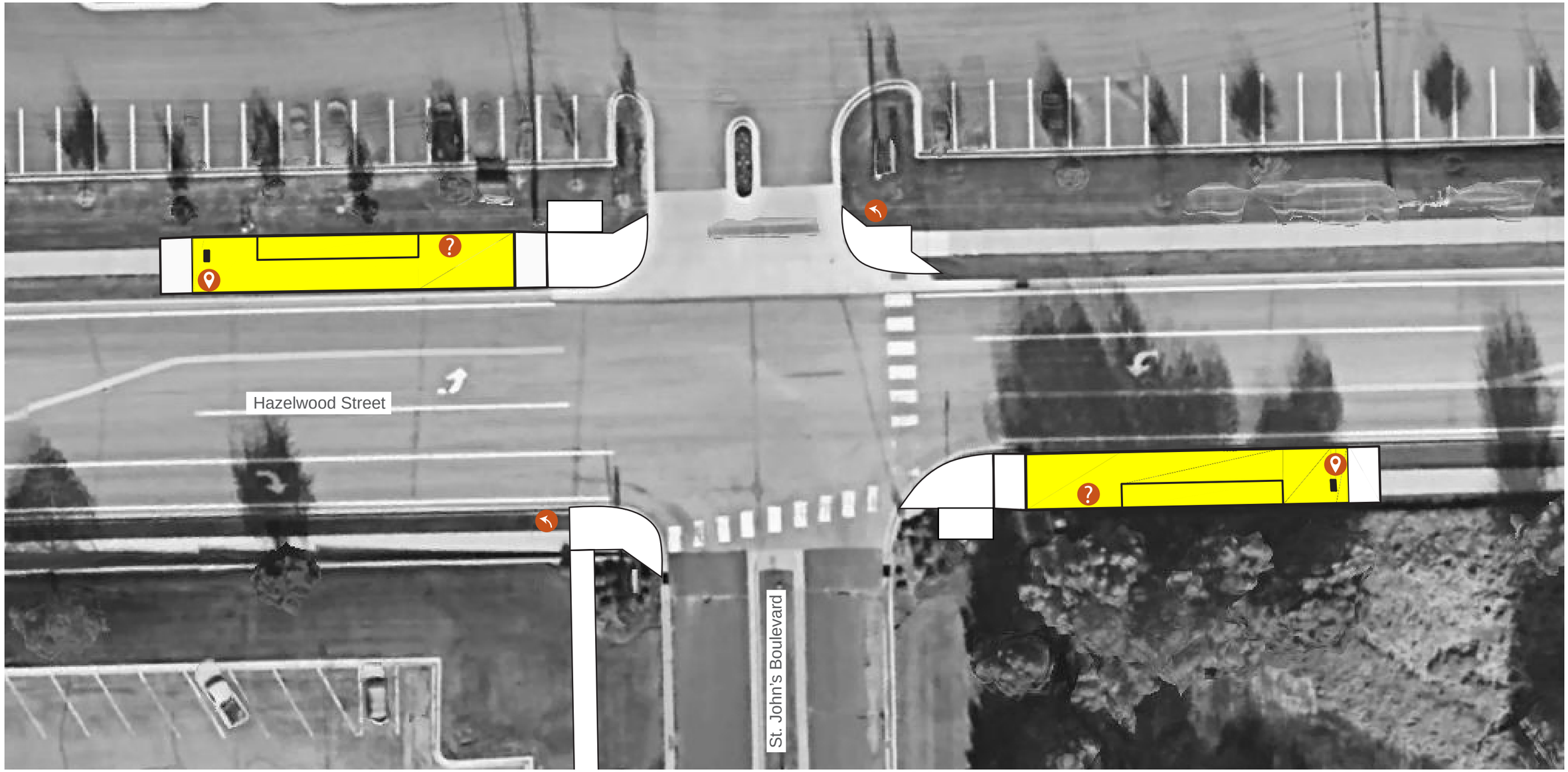
At a prominent location in the station approach area, a pylon sign that displays the Metro Transit line brand, station name and major destination information will serve as a gateway to the station. The sign will be an anodized aluminum housing with polycarbonate sign panels and vinyl graphics on the interior. It will be internally lit.

WAYFINDING

The primary purpose of wayfinding signage is directional guidance to the station sites and destination direction of travel. Planned project wayfinding signage is not intended to point to local landmarks, public spaces, business districts, neighborhoods or other non-transit features. Some wayfinding signs are intended for motorists in vehicles and some for pedestrians. There are multiple sign plaques that will be mounted on structures and a free-standing post sign for trail and walk approaches.

PASSENGER DROP-OFF

Passenger drop-off signs will be utilized at park-and-rides to guide people to designated short-term drop-off zones to create orderly activity in the station site.



PROTOTYPICAL STATION SIGNAGE CONCEPT PLAN

ST. JOHN'S BOULEVARD STATION

DRAFT - WORK IN PROCESS

N

0 25' 50'

Platform

Pylon

Signalized Intersection

Wayfinding

Site identification

Customer information

PROTOTYPICAL STATION SIGNAGE CONCEPT PLAN

LARPENTEUR AVENUE STATION

DRAFT - WORK IN PROCESS

N

0 25' 50'

Platform

Pylon

Signalized Intersection

Wayfinding

Site identification

Customer information

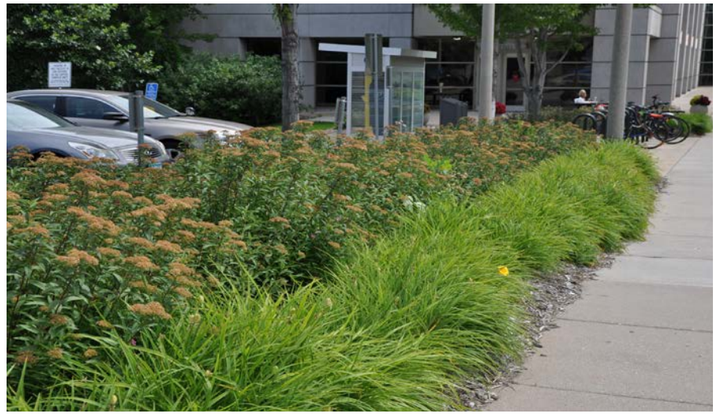
PLANTINGS

Plantings will have different functional and aesthetic applications throughout the project. Within the right-of-way, a vegetative buffer can help define the interface between the guideway and Bruce Vento Regional Trail where adequate space allows. At the outside edges, buffering and screening can also be accomplished with plantings. Additionally, planting strategies can support an attractive environment at stations, at-grade crossings, grade-separated crossings, and stormwater treatment areas.

The Ramsey County Right-of-Way Design Guide provided the following initial guidance:

- Avoid disturbing existing vegetation where feasible.
- Provide buffering and screening but avoid using heavy and dense plantings that can be a safety concern.
- Use native plants with numerous species and sizes that helps reestablish the natural character of the right-of-way and provides screening at multiple heights.
- Create buffers that suggest cross-travel and cut-throughs are not permitted.
- If used for buffering and screening, topographic changes and bioswales should be curvilinear and varied in height to appear natural in form.
- Provide seasonal interest.
- Avoid sight line obstructions at crossings and station areas.
- Station areas: Use a concentration of visually interesting ornamental and flowering plants.
- Stormwater treatment areas: Use large massings of shrubs and trees with natural and irregular characteristics.
- Open areas: Hardy and native turf varieties should be used to control erosion and must tolerate infrequent mowing and no supplemental watering.

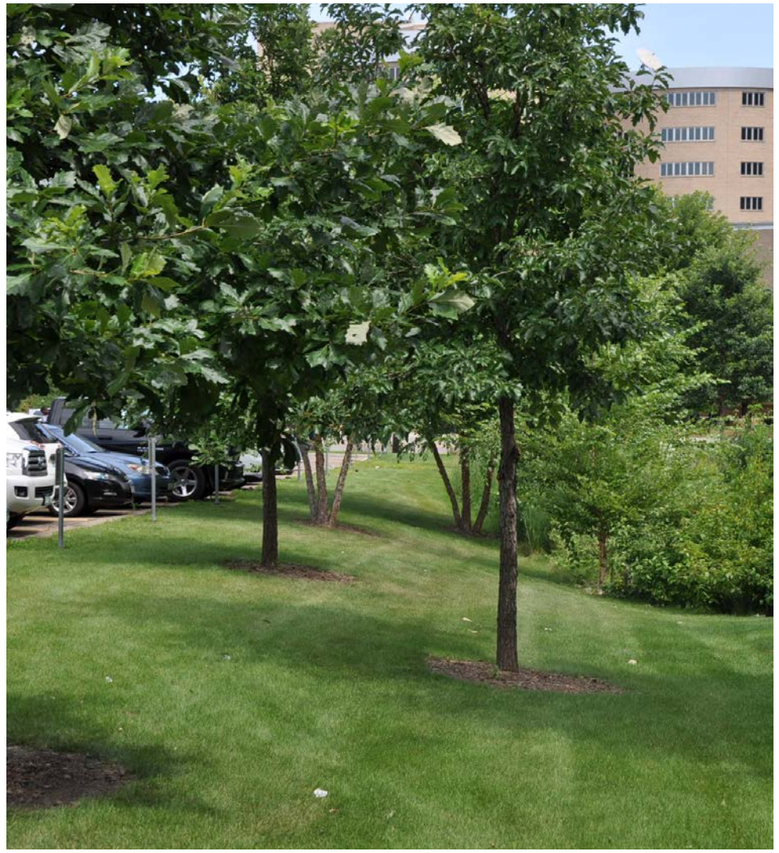
Planned tree removal will be determined in a future design phase as project construction limits are refined. The project will also seek input from city forestry staff on appropriate best practices for soil improvement and species selection.



STATION SITE

Plantings on the station site improve the visual character and enhance rider experience while also delineating walkways and waiting areas. Depending on site conditions, this treatment could include perennial beds, shrubs, ornamental trees and overstory trees. A consistent plant palette used across stations will support Rush Line BRT branding.

In a station area where passengers will have opportunity to view plantings up close, species with a variety of flowering and textural characteristics will add visual interest. Selections should be hardy to Minnesota's winter climate (grown in USDA Hardiness Zones 3, 4, or 5a). Plant size and layout must not impede sightlines or pedestrian traffic. There may be also be opportunities to direct drainage from shelter roofs or pavements to planting areas as part of overall stormwater treatment and passive irrigation.



CORRIDOR EDGE

Where there are wider margins along the guideway or roadsides away from traffic, the corridor edge treatment will provide a more naturalized appearance. Establishment of vegetation with native seed mixes of perennial wildflowers and grasses will provide color, interest and habitat connectivity along the Rush Line BRT route. This treatment is relatively low-maintenance after initial establishment, requiring infrequent mowing and no irrigation.

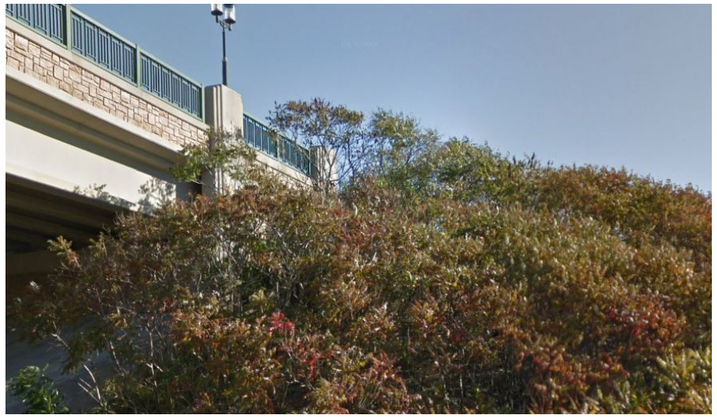
Where determined necessary through the Section 106 process and space permits, visual screening along corridor edges could be accomplished with vegetation.

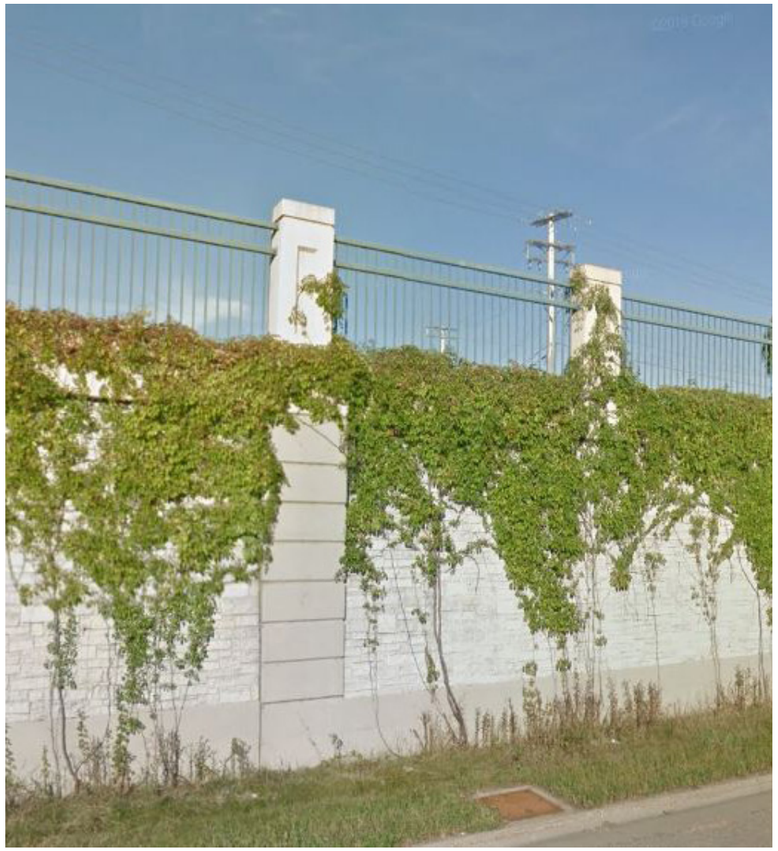
STORMWATER

Strategic planting in combination with native seed mixes will improve the aesthetic and habitat quality of stormwater treatment facilties. Stormwater treatment facilities along the corridor may include tree trenches, wet ponds, infiltration basins, rain gardens and vegetated swales. These could be planted with flood-tolerant deciduous trees, shrubs and perennials to visually define stormwater facility edges and diversify foliage color and texture. Where the treatment facility is close to a station or other high activity area, increased use of plantings, as a percentage of the overall ground cover, in deliberate clusters of species and patterns will create a more ordered aesthetic character.

- Basic stormwater treatment planting – native seed mix on basin bottom and side slopes, mixed tree species around facility edges. Trees within stormwater treatment facilities may not be appropriate to be planted in linear facilities between BRT and Bruce Vento Regional Trail due to Section 106 input.

- Enhanced stormwater treatment planting – predominantly trees, shrubs, and perennials with a mulched ground cover (shredded hardwood or aggregate depending on future design advancement).

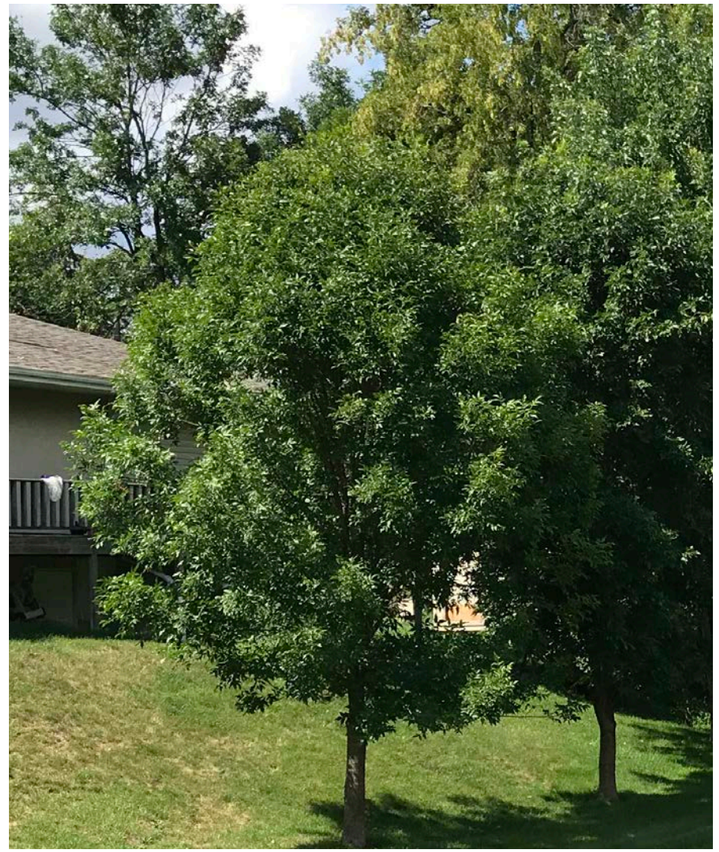




STRUCTURE BUFFERING

While care will be taken to incorporate aesthetic features into bridges and walls, infrastructure can often be perceived as intrusive by the public. In areas of high visibility from the public right-of-way or adjacent properties, vegetation will be used in conjunction with the structures in a coordinated aesthetic.

Where adequate space permits along proposed walls, massings of mixed species deciduous shrubs and vines will soften the appearance of structures and blend them into the landscape.



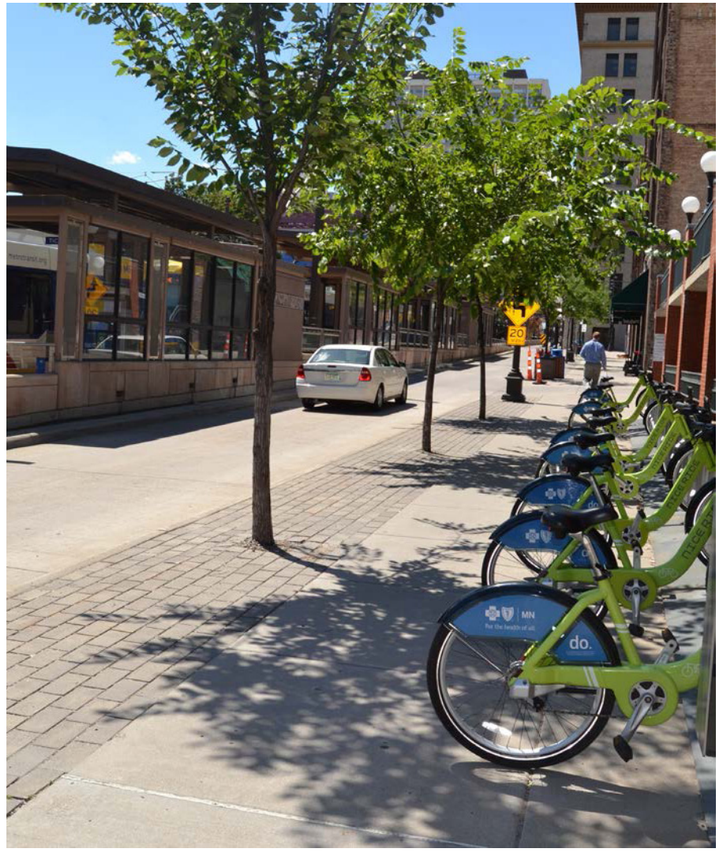
REVEGETATION

Where Rush Line BRT guideway construction or other improvements will impact existing woods, tree canopy re-establishment will re-create visual buffer from adjacent properties and habitat edge. Deciduous overstory and understory trees, along with limited groups of deciduous shrubs that will grow together in a massed arrangement, will buffer residential areas from Rush Line BRT traffic. Overall, this treatment will have a naturalized appearance with minimal maintenance anticipated after establishment.

BOULEVARD

As a linear project, there are many margins along the guideway, roadsides, and pedestrian and bicycle facilities. This treatment is appropriate along the BRT guideway or other facilities where greenery, shade and edge definition are desired and width is sufficient for healthy turf and overstory tree growth. Primary functional benefits include separation between pedestrian and bicycle facilities and roadways, snow storage and shade.

Boulevards are subjected to higher levels of road salt from winter maintenance than other landscape areas so selection of salt-tolerant species is critical. Substantial soil replacement and amendment at the time of planting is necessary for trees to mitigate the compaction and minimal organic content in construction soils. Turf will require regular mowing and potentially irrigation. Trees will require regular pruning and other care to keep the guideway or roadways free from obstructing branches.



URBAN BOULEVARD

Street trees provide shade and visual relief at urban stations with constrained footprints. Careful tree placement will ensure universal access to station platforms and clear public walks. This treatment consists of deciduous trees planted in structural soil, with tree grates and/or permeable pavers.

PROTOTYPICAL STATION LANDSCAPE CONCEPT PLAN

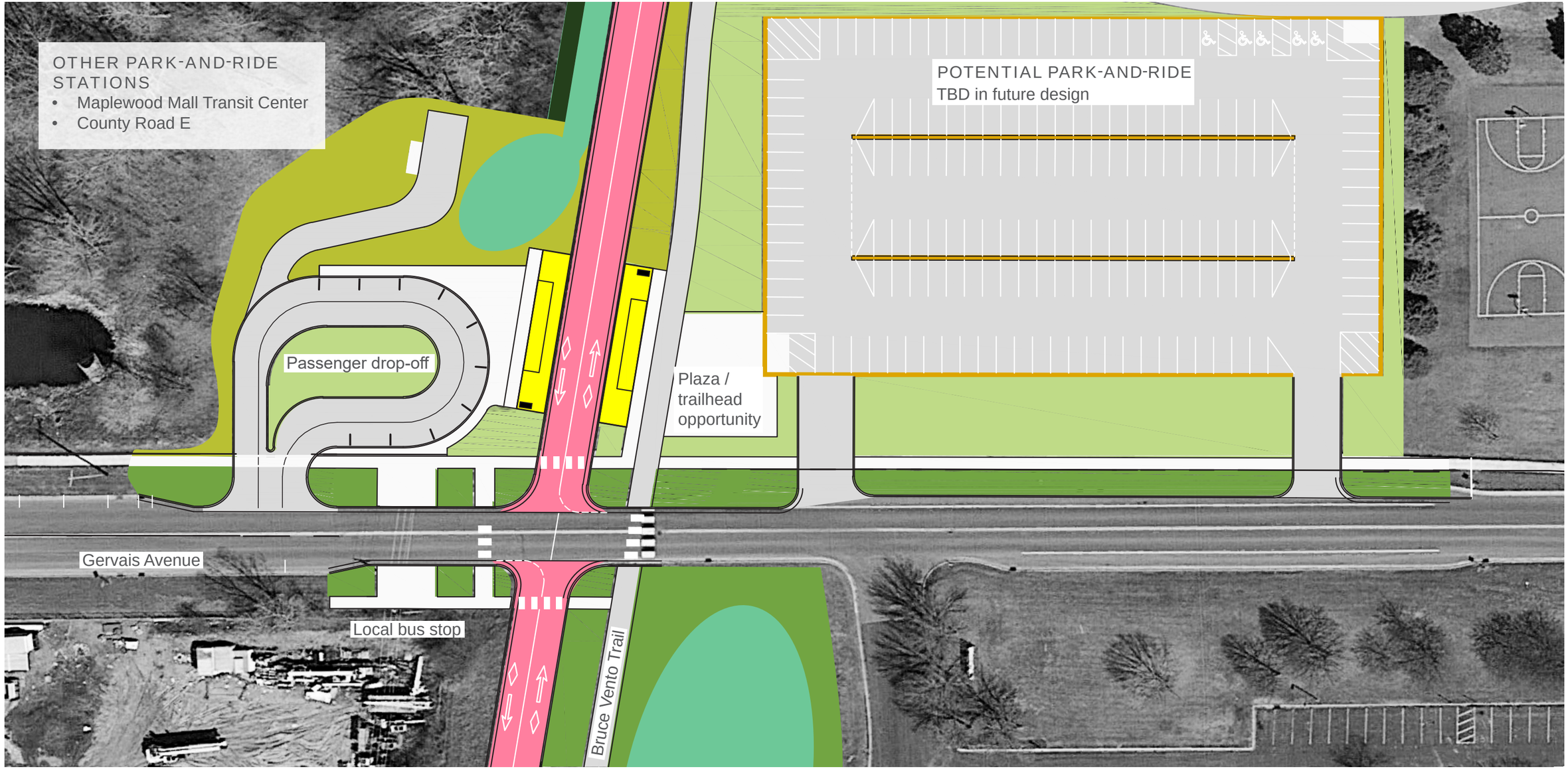
LARPENTEUR AVENUE STATION

DRAFT - WORK IN PROCESS

N

0 25' 50'

- Station site
- Boulevard
- Stormwater treatment facility
- Revegetation
- Corridor edge
- Structure Buffering
- BRT guideway
- Retaining wall
- Rush Line BRT station



PARK AND RIDE STATION: LANDSCAPE CONCEPT PLAN

HIGHWAY 36 PARK-AND-RIDE STATION

DRAFT - WORK IN PROCESS

N

0 25' 50'

- Station site
- Boulevard
- Stormwater treatment facility
- Revegetation
- Corridor edge
- Structure Buffering
- BRT guideway
- Retaining wall
- Rush Line BRT station

DRAFT - WORK IN PROCESS

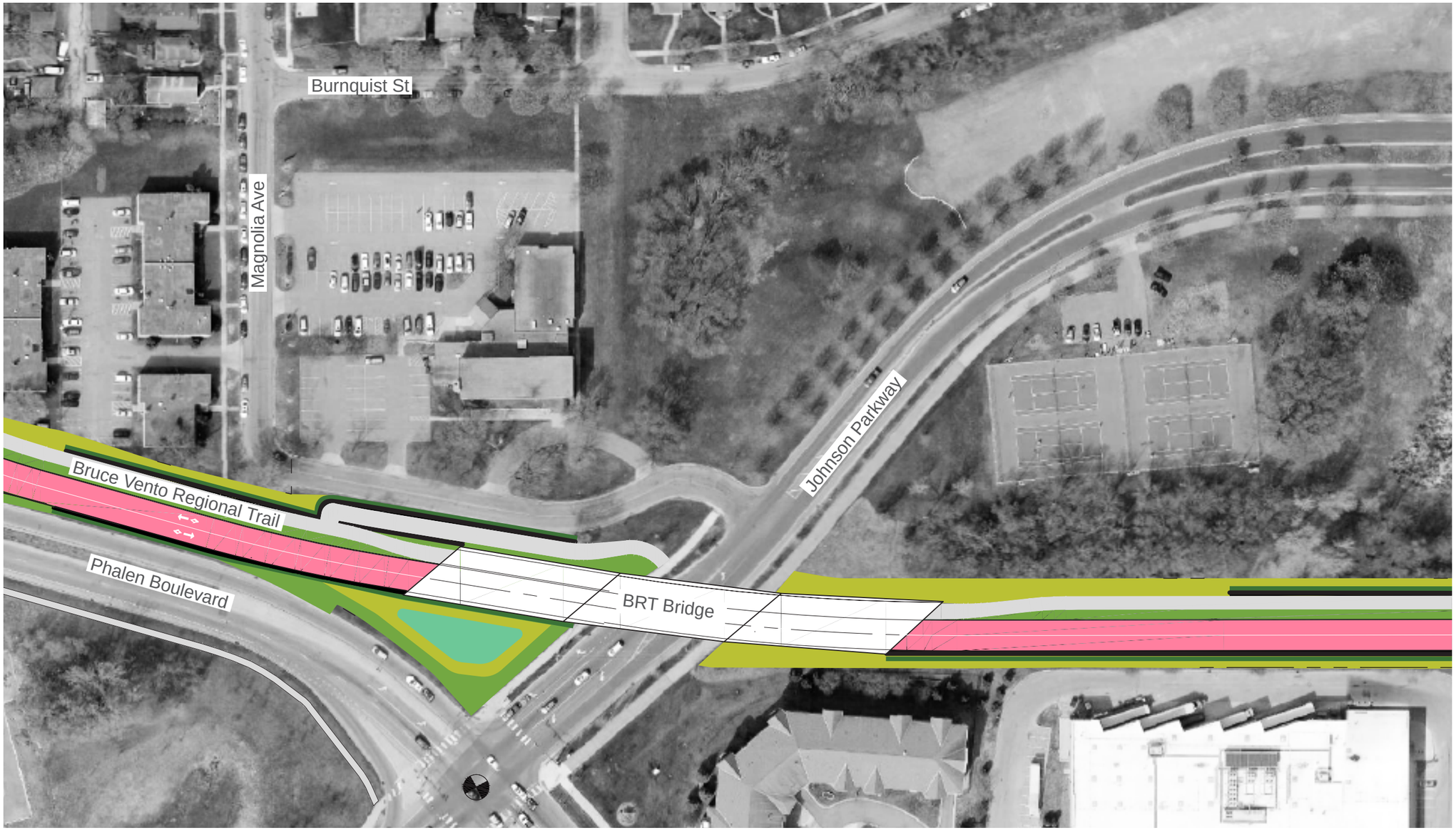
PROTOTYPICAL SEPARATED GUIDEWAY LANDSCAPE CONCEPT PLAN

SAINT PAUL RESIDENTIAL AREA

N

0 50' 100'

- Station site
- Boulevard
- Stormwater treatment facility
- Revegetation
- Corridor edge
- Structure Buffering
- BRT guideway
- Retaining wall
- Rush Line BRT station



DRAFT - WORK IN PROCESS

PROTOTYPICAL BRIDGE AREA LANDSCAPE CONCEPT PLAN

JOHNSON PARKWAY BRT BRIDGE

N

0 50’ 100’

- Station site
- Boulevard
- Stormwater treatment facility
- Revegetation
- Corridor edge
- Structure Buffering
- BRT guideway
- Retaining wall
- Rush Line BRT station

CONCLUSION

The visual quality manual illustrates an overview of the context and character of the station areas and the local communities along the corridor. It provides preliminary aesthetic and functional guidance to enable future advancement of project engineering with a primary focus on station sites and major structural features including bridges and retaining walls.

As Rush Line BRT planning and design advances, a station design process involving community representatives and other stakeholders will be initiated. This process will explore opportunities for community input and local expression to influence certain station area design elements. The project will strive to find a balance between aesthetic consistency along the corridor and local variability. Many of these future choices will have operational and maintenance implications and will require input from Metro Transit and other partner agencies.

Where applicable, the recommendations in this document will be subject to the review process required under Section 106 of the National Historic Preservation Act.