Southwest Transitway

Station Area Strategic Planning

December, 2010

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Cedar Lake Park Association
Downtown 2020 Partnership
Dunwoody Institute
Glenwood Business Association
Harrison Neighborhood Association
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Midtown Community Works Partnership
Midtown Greenway Coalition
North Loop Neighborhood Association
Uptown Association
Warehouse District Business Association
West Calhoun Neighborhood Council

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Thank you to attendees and participants at our public meetings and open houses.

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Project Overview

Station Area Strategic Planning

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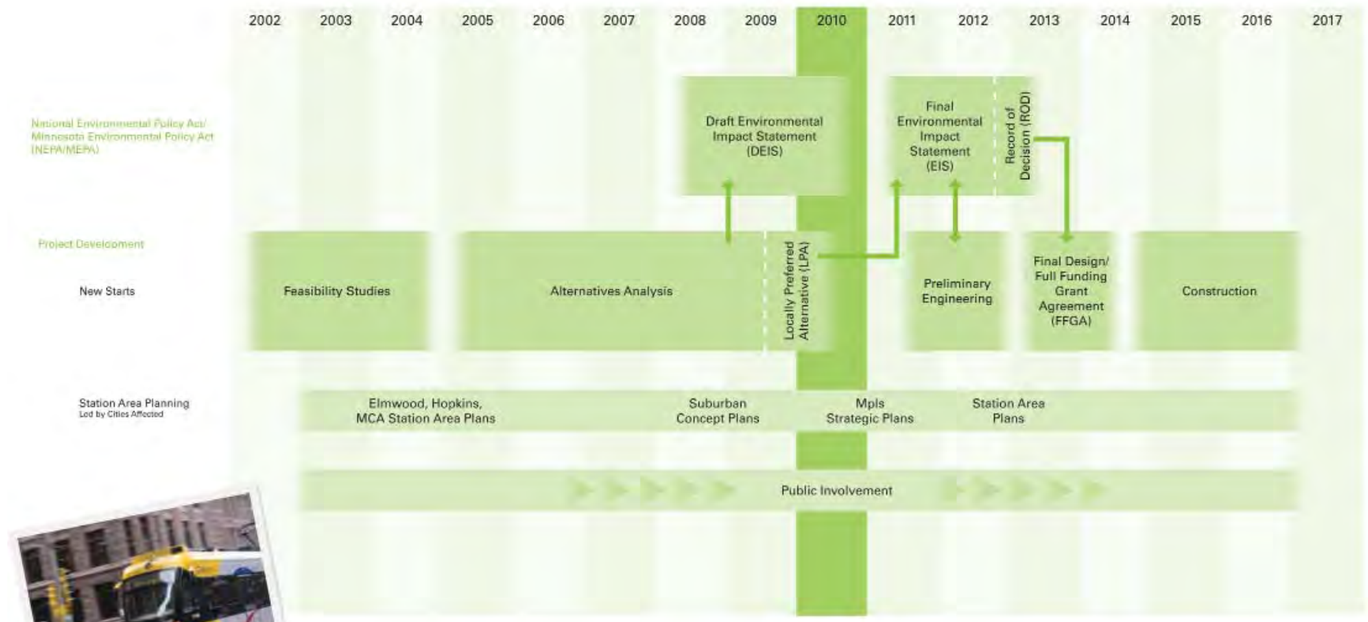
Project Background

Purpose

The Hennepin County Regional Railroad Authority (HCRRA), in partnership with the City of Minneapolis, undertook this strategic planning process in order to examine the opportunities and issues introduced by light rail transit (LRT) service on the Kenilworth Corridor in Minneapolis. The project's sponsors very specifically envisioned the process as *strategic* planning, emphasizing the need to capitalize on transit investment to create neighborhood value, enhancement and economic development. The strategic recommendations that come out of this process will be passed on to Metro Transit, to inform LRT Preliminary Engineering; City of Minneapolis, to inform land use changes; and Hennepin County, to inform Southwest LRT Community Works efforts.

Scope

The HCRRA and the City of Minneapolis charged the project design team with examining character, land use, development opportunity, access, circulation, and multimodal interface within the 1/2-mile radius surrounding each of the five stations within the boundaries of the City of Minneapolis. Recommendations regarding platform location, bus stops, pedestrian and bicycle routes and amenities, vehicular circulation and parking, land use and redevelopment were all within the scope of the project. The transit alignment (horizontal and vertical) and five station locations were considered 'givens' ; changes in these elements were not within the scope of study.



This station area strategic planning process will inform future planning and engineering efforts.

Relationship to Other Projects

This planning process assumes the alignment and mode recommended as the Locally Preferred Alternative (LPA) by the HCRRA in November 2009 and approved by the Metropolitan Council in May 2010. The LPA emerged directly from the research and analysis carried out in the Alternatives Analysis (AA), initiated by the HCRRA in 2005.

Next Steps

The Southwest Transitway LRT project has applied to the FTA for approval to enter preliminary engineering (PE). It is expected that the results of this planning process, including recommendations regarding platform location and multi-modal access, will be factored into and influence this engineering process.

Land use and development recommendations contained within this document will also be used to guide local policy and development decisions as parcels become available and new projects are proposed within each of the station areas.

Project Process & Participants

Timeframe

The planning process took place over an eight month period, from May to December 2010. The process was co-directed by the Hennepin County Regional Railroad Authority (HCRRA) and the City of Minneapolis.

Technical Oversight

Major technical oversight and input was provided by the City's Community Planning and Economic Development Department (CPED) and Public Works, Minneapolis Park & Recreation Board (MPRB), HCRRA, Metro Transit, Met Council, and Hennepin County's Transportation, and Housing, Community Works & Transit Departments. These organizations participated in a Technical Advisory Committee (TAC), which met five times over the course of the project and commented on each major milestone of planning.

Public Input

The project used two avenues of public input: the Community Members' Working Group (CMWG) and public open houses.

The CMWG, composed of peer-nominated community representatives, met in a small-group format to provide focused feedback on issues important to the members' organizations. Meetings typically included a presentation by the project design team on project progress and plans, followed by station-specific discussion groups. A member of the project design team facilitated each discussion group, in order to respond to questions and take first-hand project feedback. While not all invited organizations (see box at right) were able to participate, all organizations were able to follow project process via email updates and postings to the project website.

Three sets of public open houses were held at major project milestones - existing conditions, land use alternatives, final recommendations - in order to solicit public input and feedback. At each milestone, two meetings were held on successive nights and at different locations in the affected neighborhoods. The same materials were presented at each meeting.

Community Members' Working Group

The station area planning effort invited neighborhood groups, business associations and property owners immediately adjacent to the five stations to designate a representative to participate in a Community Member's Working Group. This group met four times over the course of the project, typically in advance of the public open houses, in order to provide focused feedback in a small-group setting. Participating organizations included:

- **Bassett Creek Redevelopment Oversight Committee (ROC)**
- **Bryn Mawr Neighborhood Association**
- **Bryn Mawr Neighborhood Business Association**
- **Cedar-Isles-Dean Neighborhood Association (CIDNA)**
- **Cedar Lake Park Association**
- **Downtown 2020 Partnership**
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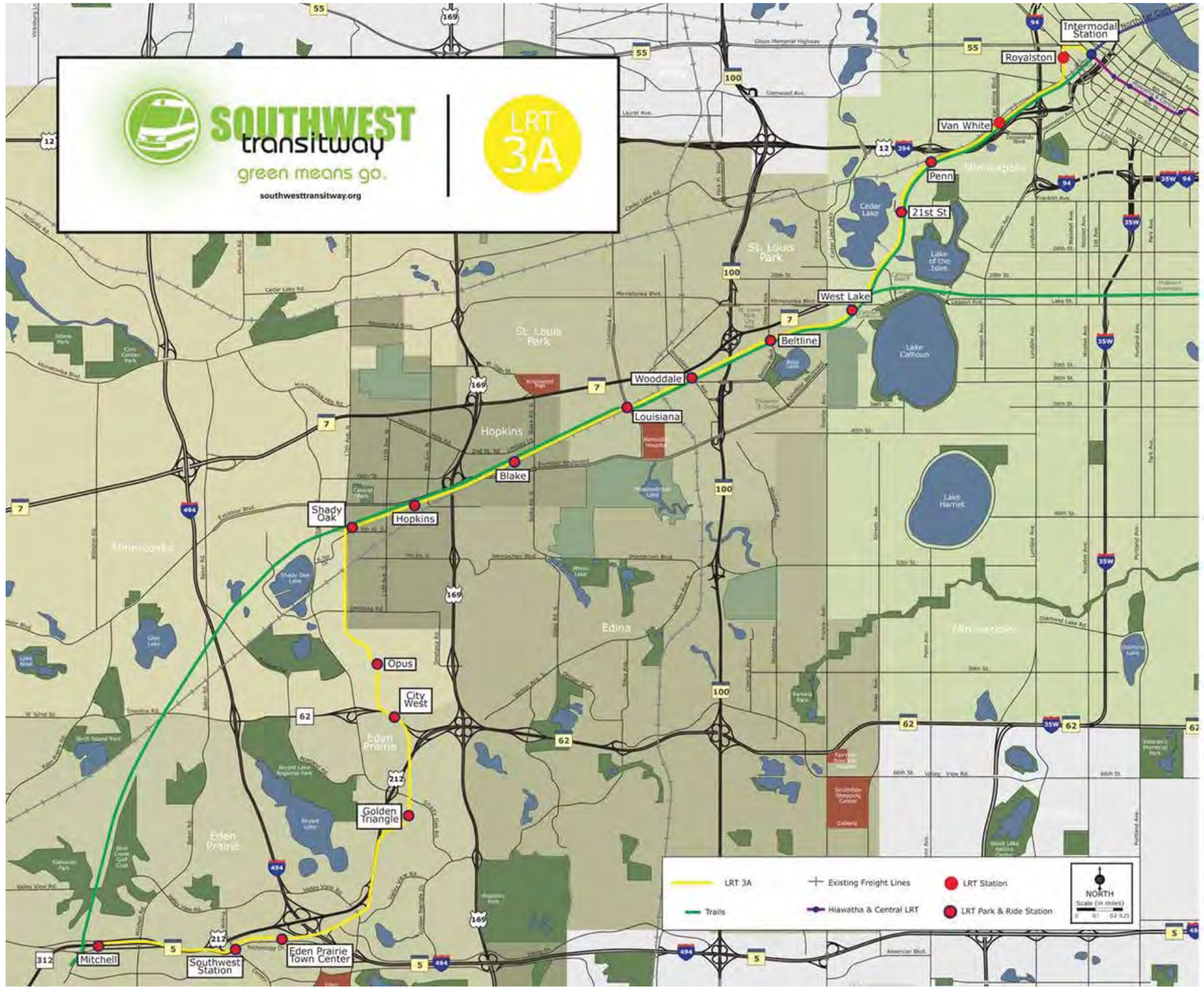
- **Kenwood Isles Area Association**
- **Lake Street Council**
- **Lowry Hill Neighborhood Association**
- Midtown Community Works Partnership
- **Midtown Greenway Coalition**
- **North Loop Neighborhood Association**
- **Uptown Association**
- **Warehouse District Business Association**
- **West Calhoun Neighborhood Council**

Corridor Overview

Station area planning must consider station function from two viewpoints: how the station relates to other stations along the transit corridor, and how the station relates to the neighborhood in which it is located.

Station Roles

Within context of the corridor, stations must be planned to complement rather than compete with each other. Simply put, not every station can be a town center. Although the 'classic' mixed-use town center is many a community's transit dream, there are many other types of transit stations, ultimately dependent on existing conditions, community goals, and local development market. Other types of stations might include civic center, entertainment node, employment center, park-n-ride, even recreational node—there is no single correct formula, but it is certain that careful corridor planning leads to stronger, more successful station planning.



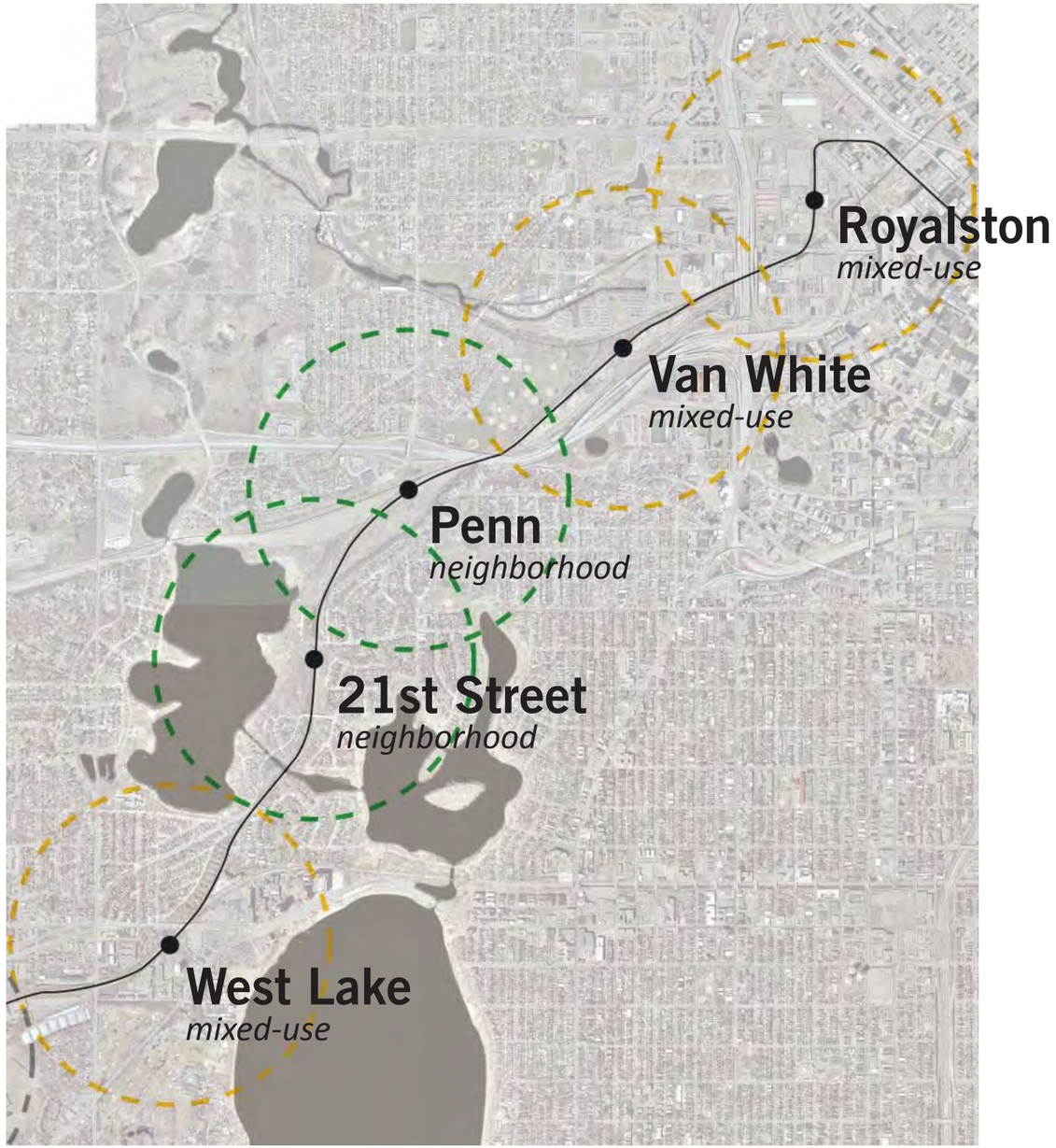
LRT Alignment 3A, the Kenilworth-Opus-Golden Triangle Corridor, was selected as the Locally Preferred Alternative (LPA) for the Southwest Transitway. The line will connect to the existing Hiawatha and proposed Central light rail lines at the Target Field Station at the Minneapolis Interchange, and extend southwest through the communities of St. Louis Park, Hopkins, Minnetonka and Eden Prairie.

Community Context

Moving from corridor scale to community scale, transit stations should integrate with and enhance their host neighborhood. In some cases, a new station will become the centerpiece of new development or redevelopment, acting as a catalyst for change and revitalization. In other cases, the station should be as unobtrusive as possible, providing transportation and enhanced mobility but sitting lightly, almost invisibly, within the neighborhood. These descriptions represent the two ends of a spectrum, and there are as many permutations between the two roles as there are neighborhoods.

The five Minneapolis stations studied in this report are sandwiched between St. Louis Park's Beltline station, to the south, and the Target Field station to the north. Previous planning efforts have identified Beltline station as an employment center, while the Target Field station functions as a major gameday destination and transfer location. Planning is also underway for an intermodal station at this location, where passengers will be able to transfer between trains and buses from across the metro area.

Corridor and neighborhood context suggest that the five Minneapolis stations in this report fall into two broad station categories, illustrated in the graphic at right: mixed-



The five Southwest Transitway stations within the city of Minneapolis are, from north to south, the Royalston Station, the Van White Station, the Penn Station, the 21st Street Station and the West Lake Station. Service will continue southward through the communities of St. Louis Park, Hopkins, Minnetonka and Eden Prairie. Station character is discussed on the next page.

Royalston. The Royalston station area is characterized as transitional mixed use, in recognition of the likely longevity of existing industrial uses. The station's downtown adjacency makes it an attractive location for eventual transition to downtown-style residential or commercial development, which are likely to co-exist with industrial uses for some time. This station area may display the most diverse definition of mixed use of all the station areas, likely serving industrial, residential, commercial, retail, entertainment and social service interests for a long time in the future. Expansion of the existing Minneapolis Farmers' Market, located one block west of the station platform, is also seen as a near-term priority.

The station area is significantly confined by adjacent highway and roadway infrastructure; as such, it is envisioned as a walk-up station only meant to serve local destinations as well as (future) origins in the form of residential. As a walk-up station, it will have no transit parking, but will still prioritize intermodal connections, particularly for the reverse-commute to southern employment destinations. Royalston will also be designed to accommodate crush loads and act as an alternate destination station for Target Field, making connectivity to the Field a priority as well.

Van White. Van White Station's role as a transitional mixed-use station was established in the Bassett Creek Valley Master Plan and reflects both neighborhood desires and the goals of the site's designated master developer. The current planning process supports the use of this station area as a mixed-use area, adding 'transitional' to the station character in recognition of significant development challenges (office absorption, uncertain redevelopment time frame of several key parcels, engineering challenges for the Linden Yards parcel) that suggest an extended transitional period during which existing and new uses may co-exist. The proposed Van White Memorial Boulevard will provide additional access to the station area.

Penn. Located in a valley between two bluffs and adjacent to Cedar Lake, vehicular access to the Penn station area would have an unacceptably high impact on adjacent land uses. For this reason and in contrast to CE/LPA identification as a park-n-ride station, Penn has been characterized as a low-impact, walk-up station with a neighborhood character. It will primarily serve the adjacent residential neighborhoods for transportation to downtown, while also providing recreational lake access to Cedar Lake for patrons coming from either north or south.

21st. The 21st Street station area, situated in the midst of a very stable, predominantly single-family neighborhood and adjacent to Cedar Lake, also suggests a low-impact, walk-up station character. This station is expected to serve primarily local residents who have expressed a strong desire for a station that blends with the park-like character of the area.

West Lake. The West Lake Street station area already exhibits an urban mix of uses, with retail, residential and office already existing within the immediate station area. As such, the current planning effort considers this station the best candidate for a true, mixed-use 'urban village'. Existing uses are expected to continue, with the potential for densification in response to transit service.

Parking

Park-n-Ride

This study considers the potential for and impacts of transit parking, often referred to as Park-n-Ride. The project's planning parameters neither require nor prohibit this type of use within the five station areas but instead seeks to determine the relative balance of positive and negative effects such use would have within each individual station context. Some relevant points to consider in the parking discussion are summarized as follows:

City Policy

City of Minneapolis policy generally does not support Park-n-Ride facilities within City boundaries. The reasons for this position include the potential for lost development/preservation opportunity, and the promotion of true transit goals. With regards to development, the City feels that parking is among the least desirable land uses, and that land could be better preserved in an existing condition, or used for active development. Considering transit goals, the City feels that among the most important goals of transit is the reduction of vehicle miles traveled (VMT). Park-n-ride facilities that encourage patrons to park near their point of origin and take transit to their destination fulfill this goal; conversely, park-n-ride facilities that allow patrons to park near their destination and take transit for only a short distance in order to avoid downtown parking fees, for example, do not fulfill this goal. The Minneapolis stations offer frequent bus service by Metro Transit that can connect area residents to their closest station. Following this theory, park-n-ride facilities would be appropriate at the stations furthest from the downtown core, but not at the 'close-in' stations near downtown.

Conceptual Engineering (CE)

Conceptual Engineering (CE) includes parking at three of the five Minneapolis stations: Penn, 21st and West Lake. It should be noted, however, that the CE utilizes a regional, computer-generated model that does not account for specific station context, but rather focuses on a regional distribution of facilities. The model is also 'unconstrained', assuming for purposes of ridership projection that parking is available if people want it.

Next Steps

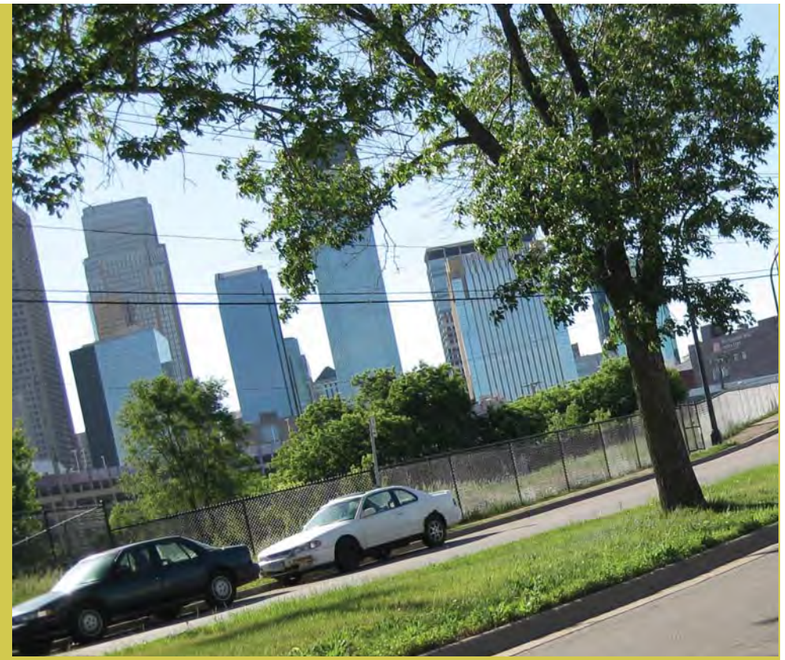
The concepts and recommendations contained in this station area strategic planning document suggest ways to integrate LRT into local neighborhoods in a context-sensitive manner, provide practical solutions to circulation and access issues near the stations, and illustrate guidelines and principles for future land use and development that will create truly transit-oriented places. The recommendations are meant to inform the upcoming Southwest LRT Preliminary Engineering process, and aid in shaping future land use designations in the station areas.

To this end, the Minneapolis Station Area Strategic Plans will be sent to Metro Transit/Metropolitan Council who will lead the LRT project through Preliminary Engineering and future project development phases, and the City of Minneapolis, who holds land use jurisdiction. City of Minneapolis staff intend to bring the plans forward for consideration by the City Planning Commission and the City Council and will suggest that the appropriate stations are designated as Transit Station Areas in order to formalize policies related to redevelopment around the stations in the City's Comprehensive Plan, *The Minneapolis Plan for Sustainable Growth*. Station area planning stakeholders will be notified when this proposal is brought forward and a public hearing will be held.

Hennepin County will also use this document to inform the Southwest LRT Community Works project, which seeks to integrate land use and economic development with the engineering of the LRT line.

Metro Transit/Metropolitan Council, Hennepin County, and the City of Minneapolis will continue to coordinate on LRT design issues and work with area stakeholders as the project evolves.

Royalston Station

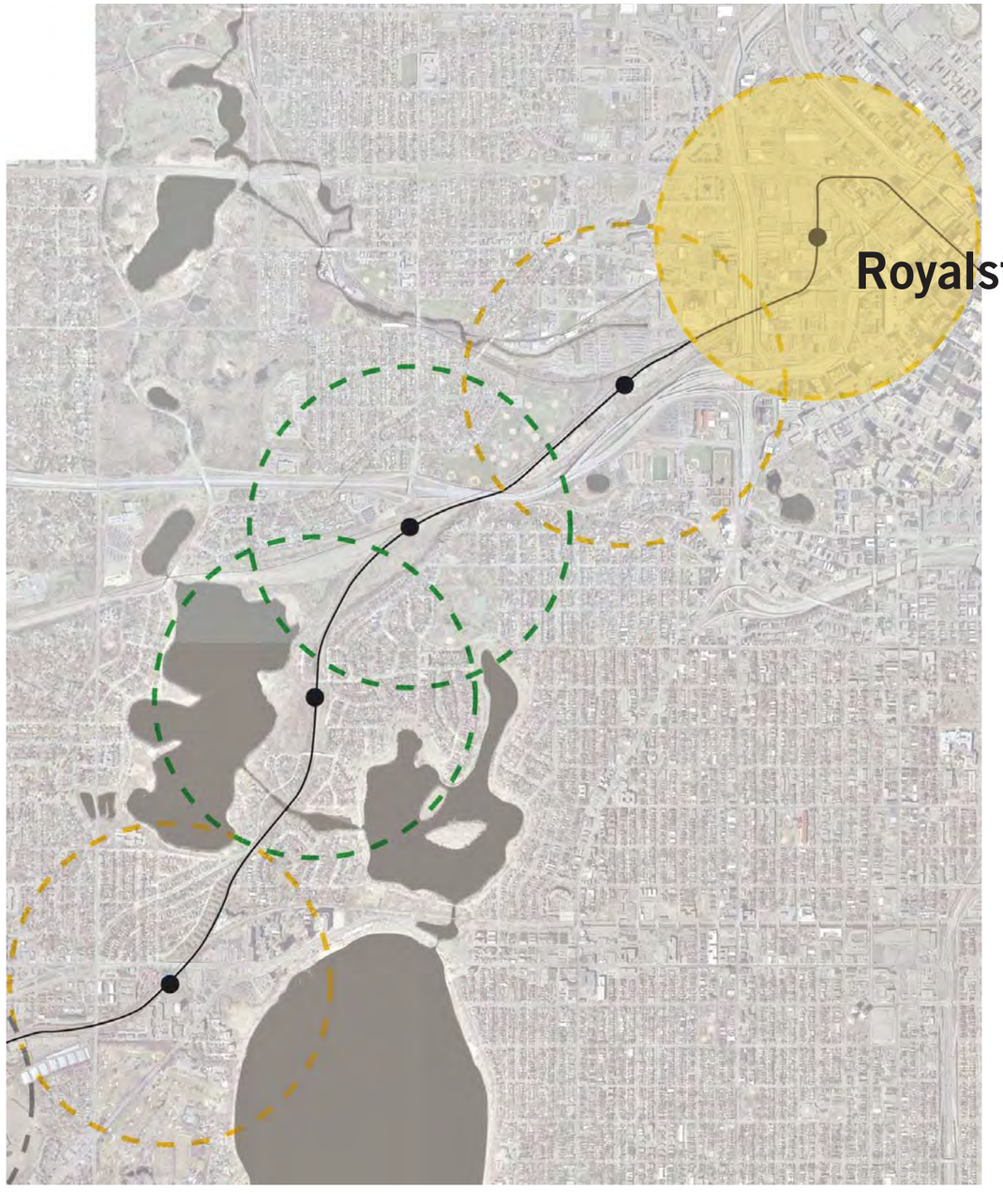


Station Area Strategic Planning

- Existing Conditions
- Previous & Current Planning Efforts
- Summary Analysis
- Opening Day Recommendations
- Sample Transit-Oriented District
- Next Steps

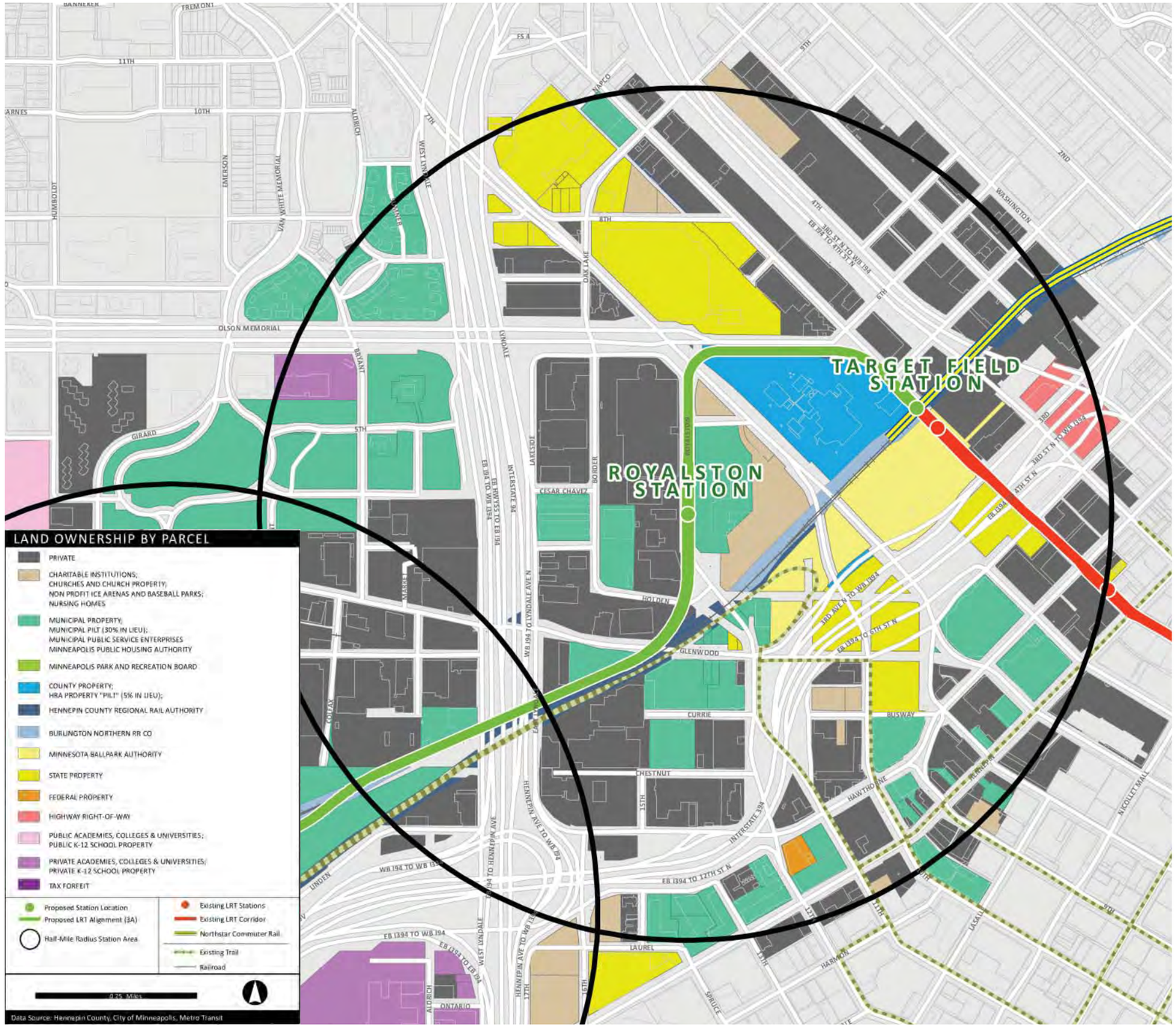
Existing Conditions

Royalston Station is the Southwest Transitway's closest station to downtown Minneapolis. The station itself will be located in an enclave of existing, low-rise industrial, while the larger station area includes commercial, office and multi-family residential. Major destinations within a 10-minute walk will be the Minneapolis Farmers' Market and Target Field.



Land Ownership

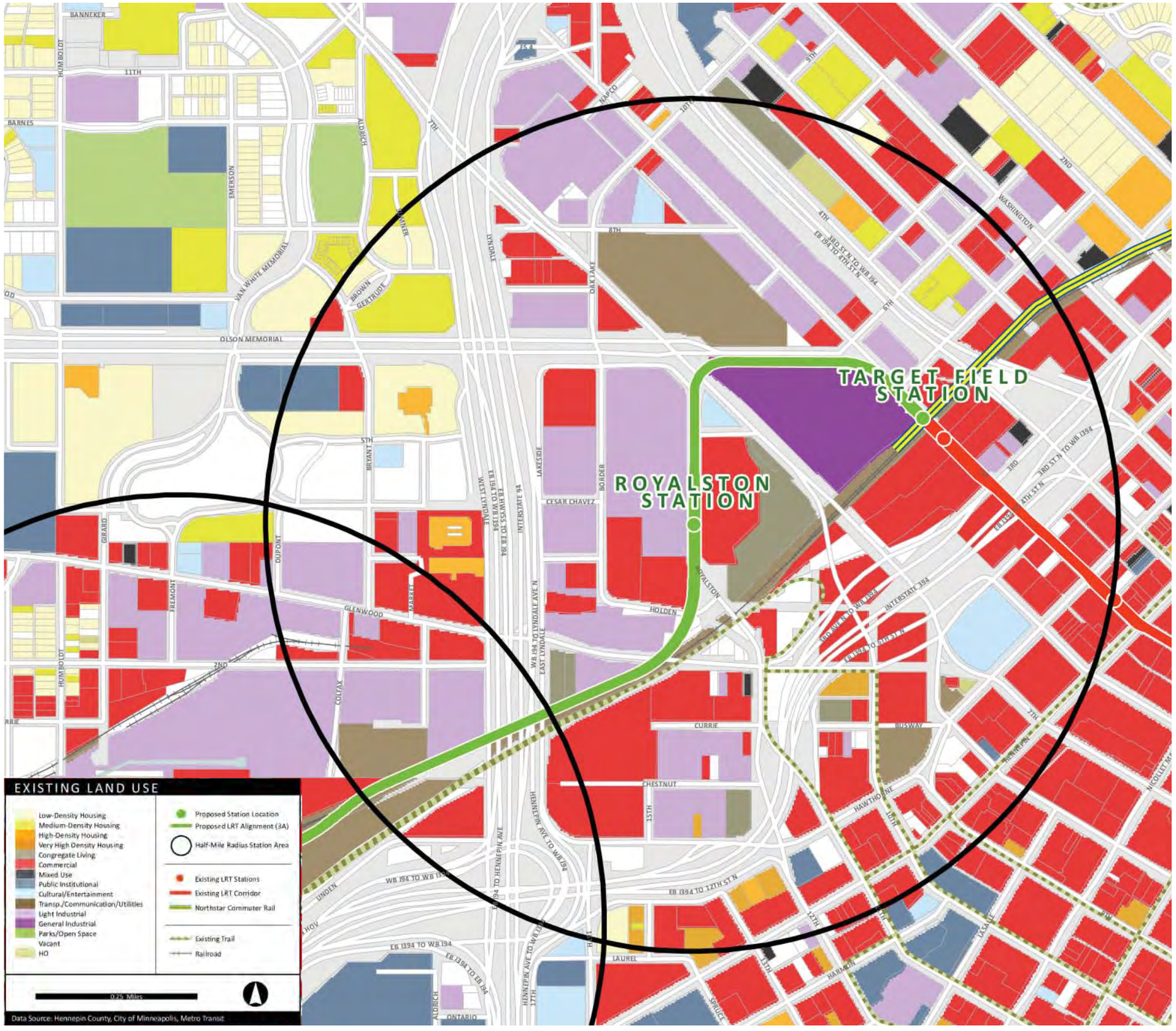
The effective station area is limited by adjacent highways and major roadways, and ownership within the more immediate station area defined by these roadways is a mix of private and public. The Minneapolis Farmers' Market, the City Public Works Traffic Building and the Metro Transit bus facility, and the Hennepin Energy Resource Center are the major public landowners in this area. The larger 1/2-mile radius station area includes additional federal, municipal and county property. Given ownership and use (see next page), private parcels offer the most likely redevelopment opportunities within the station area.



Land Use

Land use around the Royalston station is dominated by industrial and commercial uses. The majority of these uses are housed in low-rise buildings, generally one to two stories in height. The majority of these enterprises, at present, are economically healthy businesses which take advantage of adjacent highway access. Parcels are of significant size, with minimal east-west connectivity.

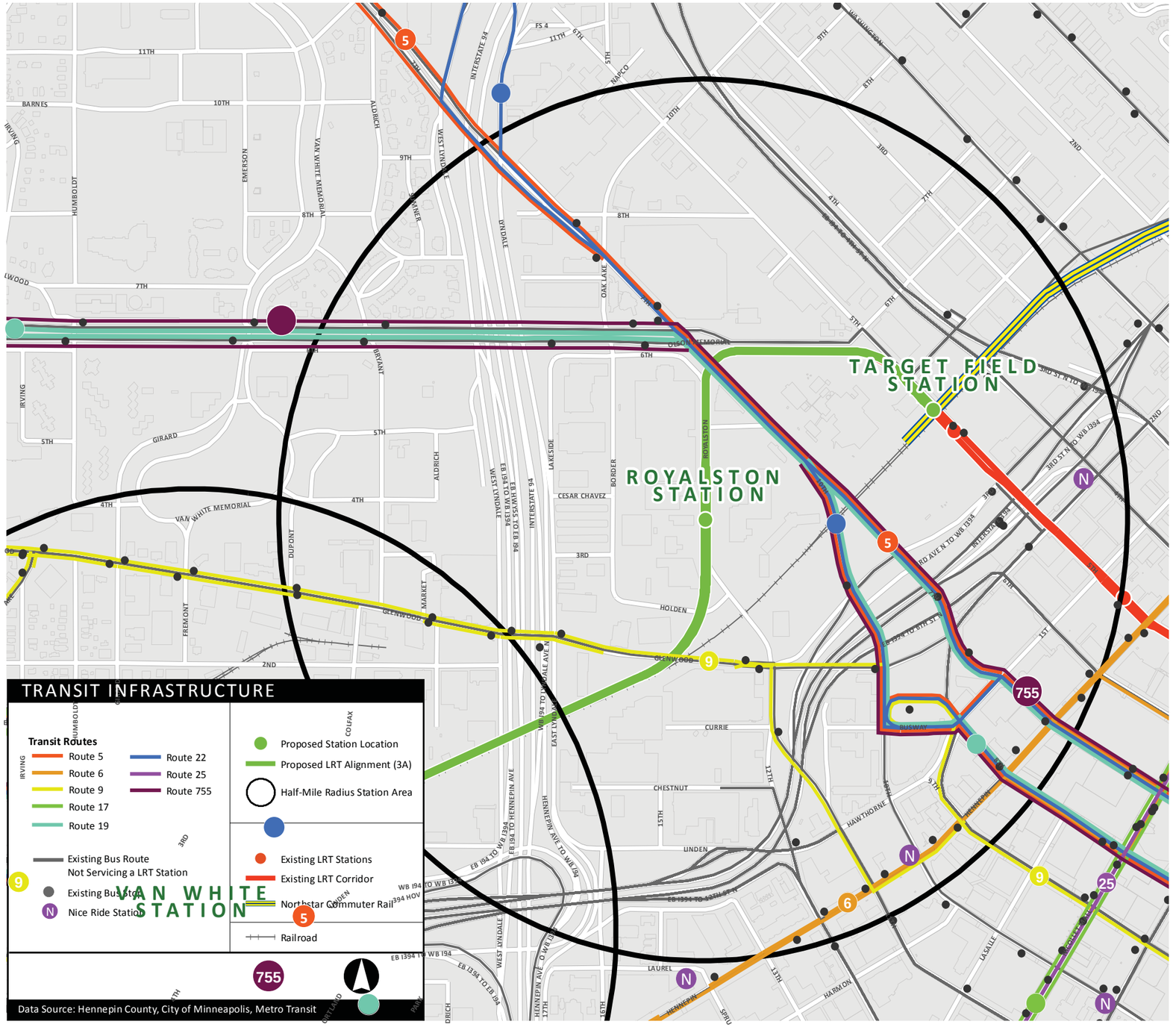
Other significant land uses and potential ridership generators within the 1/2-mile station area are Target Field, where the Minnesota Twins play upwards of 80 home games a year, and the Minneapolis Farmers' Market, open 7 days a week from April to mid-November.



Transit

Existing uses within the station area are not of a type which act as transit origins or destinations, and as such do not generate high transit demand. For this reason, routes serving this area are focused on bringing riders into downtown from the north and west.

The station area has three major transit corridors: Olson Memorial Hwy and Glenwood Ave, both moving east-west, and Seventh Ave, moving diagonally from northwest to downtown. Of these corridors, Seventh Ave has the greatest number and frequency of buses, and will be the most significant bus-LRT transfer interface.

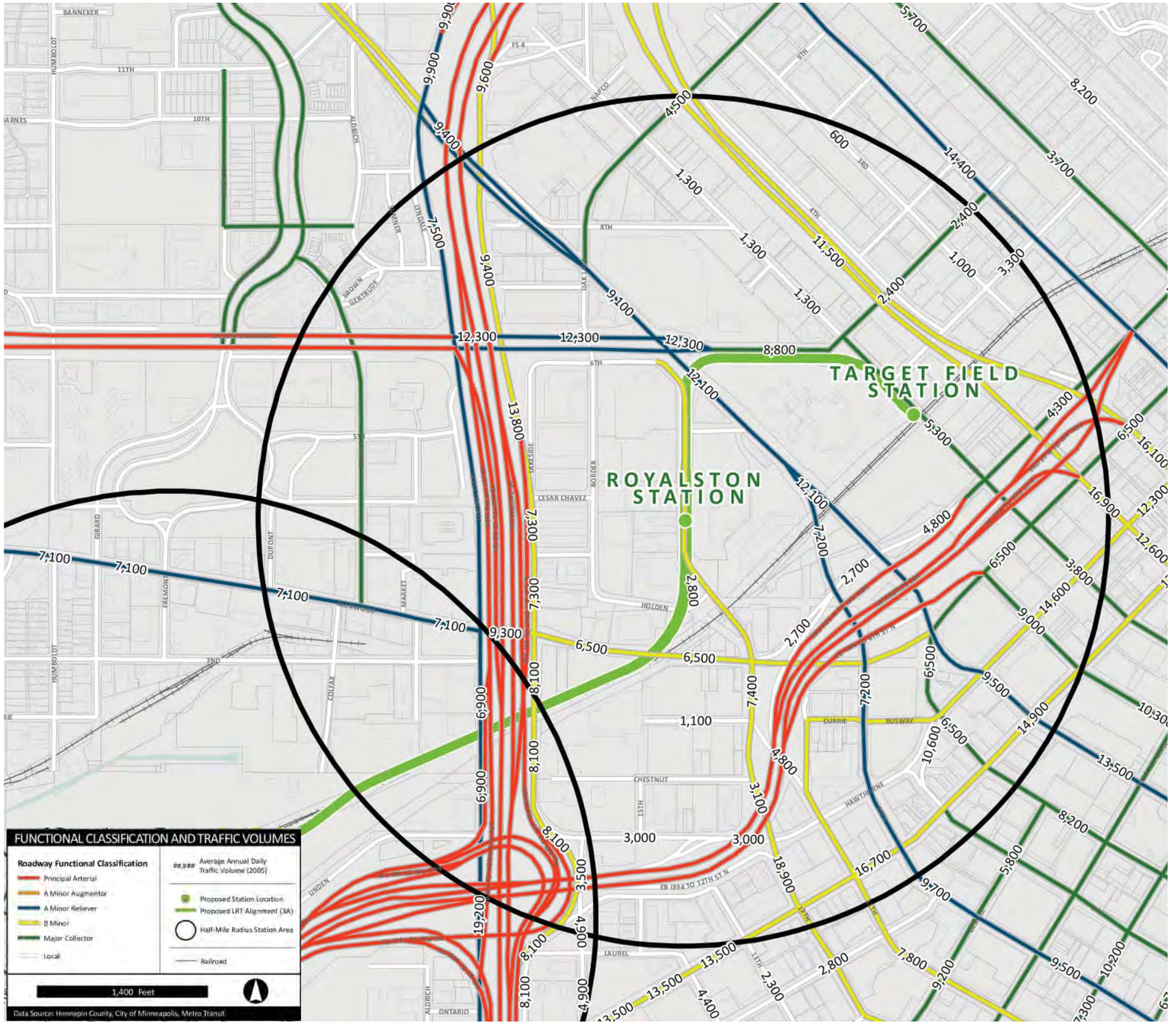


Roadways & Parking

Based on existing daily traffic volumes, the adjacent roadway network currently operates within the capacity range of the various roadway types. The Royalston Station area connects to downtown Minneapolis via Royalston Avenue and 12th Street, or via 7th Street and 10th Street. The short segment of 5th Avenue provides vehicular (and pedestrian) access to the Minnesota Twins Ball Park area and other parts of north downtown via 7th Street.

The existing industrial uses and roadway network that surrounds the station area require semi-truck access. Royalston Avenue is limited today in how it serves semi-trucks, with respect to appropriate turning radii and lane widths. Although, I-94 and I-394 provide good regional access to and through Minneapolis, these freeway facilities are obstacles to the station area as they restrict vehicular access surrounding the station area. I-94 limits the station area connections to the Heritage Park, Harrison, Bryn Mawr residential neighborhoods to the west, boxing the area in on its western side. I-394 has a similar effect with respect to the downtown area.

Most current land uses provide off-street parking. On-street parking exists on Royalston and Border Avenues, and funding is in place to add parking on Glenwood Avenue.

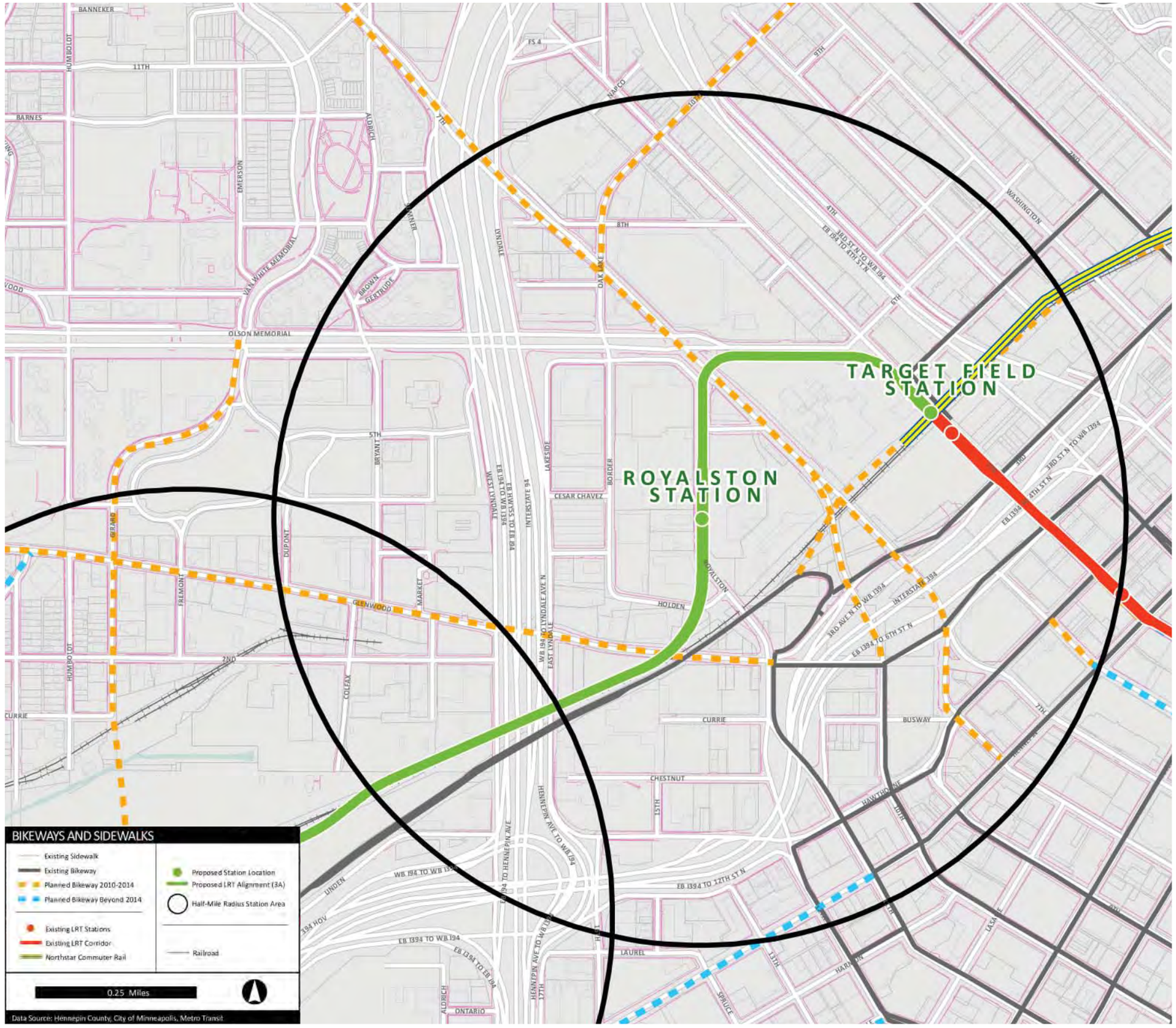


Sidewalks & Trails

Currently, the existing Royalston Station area does not provide a pedestrian and bicycle friendly environment. Large block sizes, industrial uses, major roadways and freight rail line are barriers to pedestrian and bicycle access.

Comprehensive sidewalk and trail connections are not present, although there are sidewalks that parallel most roadways. In addition, the Cedar Lake Trail is located just south of the proposed station. I-94 is a significant obstacle for direct pedestrian access to the station area from the west.

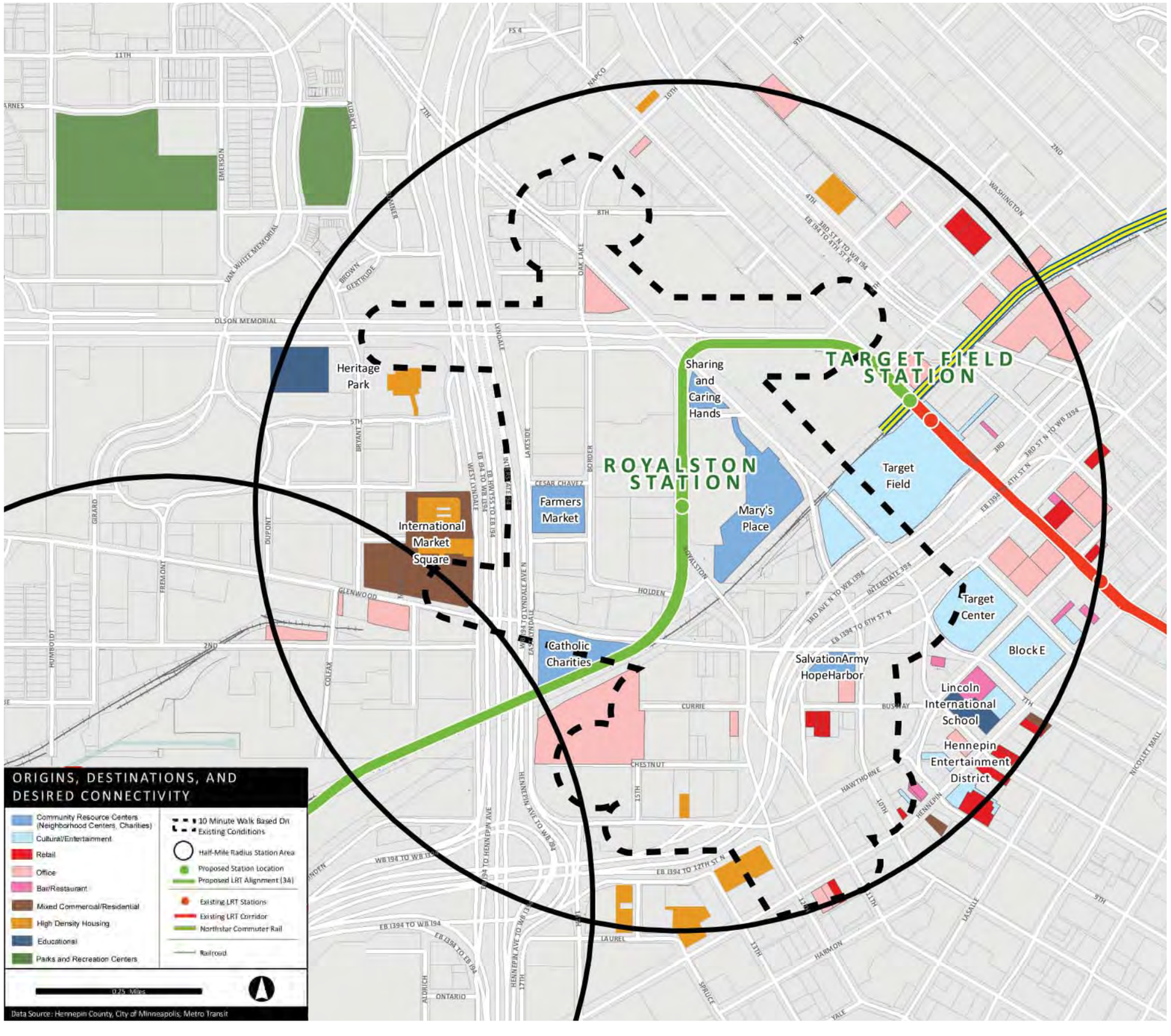
Connectivity to the residential land use west of I-94 is critical for the initial success of this station area. Although pedestrian connections to the downtown core exist, they are limited and undesirable.



Origins, Destinations & Connectivity

As noted in the 'roadways' section, roadways have a significant impact on reducing what is a 'reasonable walk' from the station, both perceptually and physically. The dashed black line at right shows what is likely to be a comfortable 10-minute walk, from a pedestrian point of view. Within this area, the station has no major, ridership-generating origins; the farmers' market and Target Field are the area's major destinations. Although some downtown locations are reachable from the Royalston Station, riders are more likely to use the closer and more intuitive Target Field or Warehouse/Hennepin station. Game days at Target Field will likely add a second major destination, spreading the condensed arrival and departure rushes between the Target Field and Royalston stations.

Redevelopment is likely to add both origins and destinations to the station area.

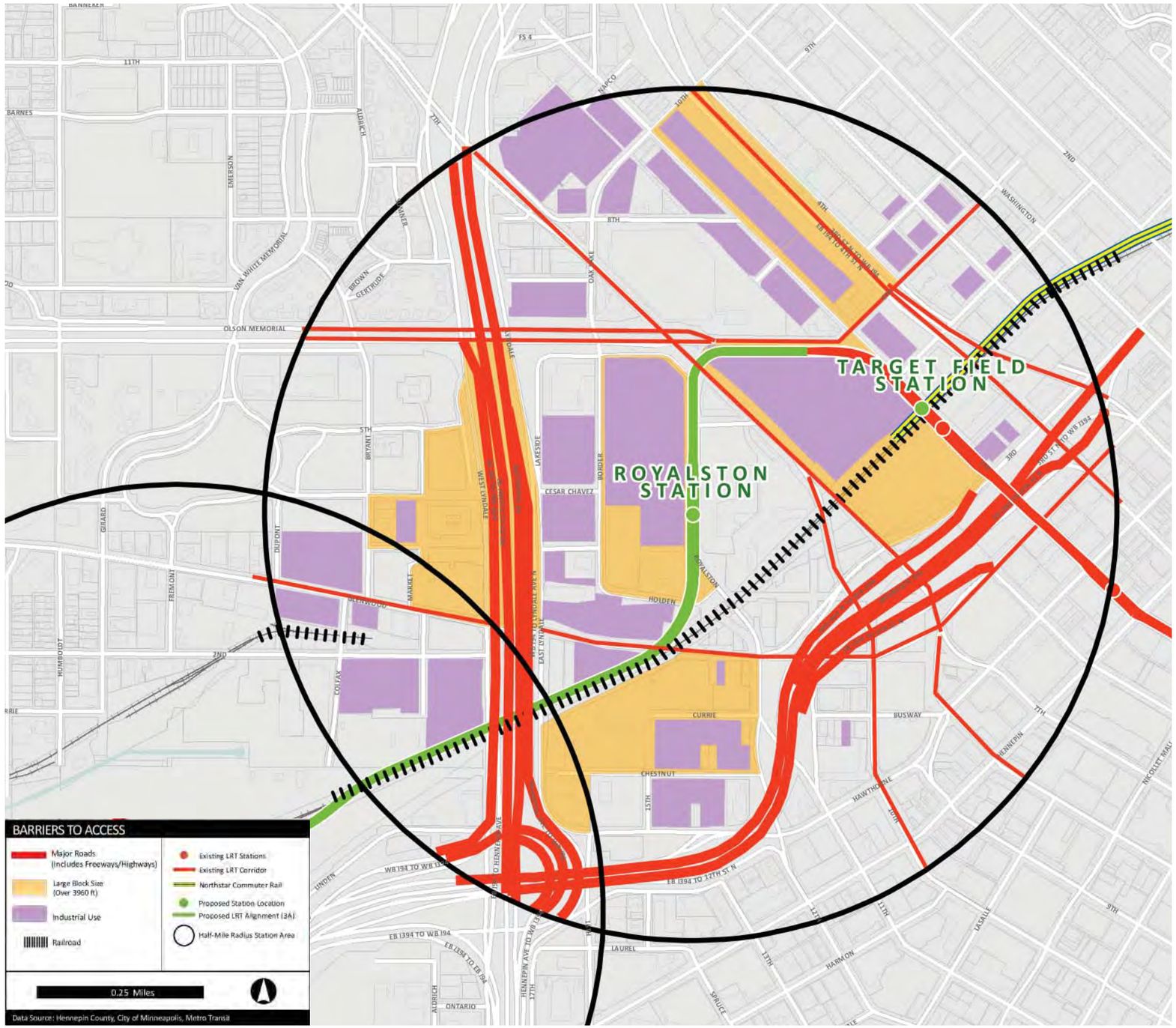


Barriers

Land use, block size and infrastructure can all have signifi cant impacts on neighborhood walkability and, as a corollary, station access. All three of these elements are influencing factors within the Royalston station area.

Although pedestrians can pass under I-394 from the Loring Park neighborhood, the urban realm is notably hostile to pedestrians, with only informal sidewalks and a very 'concrete' feel. The scale and speed of Olson Memorial Highway and Glenwood Avenue have similar effects in discouraging foot traffic.

The predominance of industrial uses combines with large block size to create little east-west pedestrian circulation from the proposed station platform. It should be noted that these 'superblocks' are situated directly between the platform and the station area's major destinations, the Minneapolis Farmer's market (to the west) and Target Field (to the east).



Previous & Current Planning Efforts

North Loop Small Area Plan (NLSAP), 2010

This document serves as a guide to land use and development in the North Loop neighborhood for the next 20 years. It is a complementary piece that updates the Downtown East/North Loop Master Plan.

The Plan notes that existing uses within the station area are predominantly stable industrial, and notes that while the area is an attractive area for infill and densification, such redevelopment is very much a long-term vision. The plan provides an illustrative birds-eye view of a redeveloped station area, but does not provide specific product mix, layout or footprints.

The Plan does note two short term priorities: a need to reconnect the neighborhood both internally and to surrounding neighborhoods, and a vision of an expanded farmers' market.

The North Loop Small Area Plan was adopted by City Council in 2010; City staff are currently working on a rezoning study for the area.

Due to the extended redevelopment time frame anticipated for the study area, the primary goal of station area planning in relationship to the North Loop Small Area Plan is to identify transit-related enhancements and connections, and to identify land use options (such as an eastward or a northward Farmers' Market extension) that increase the area's flexibility in response to market changes and parcel availability.

This artist's rendering, from the North Loop Small Area Plan, envisions a dense, mixed-use area adjacent to the Royalston Station. The drawing looks north, showing I-94 is on the left side of the drawing.

Cultural Resources

An area adjacent to the Royalston station, generally bounded by Glenwood, Lyndale, and Royalston Avenues and Olson Memorial Highway, is currently under evaluation as a historic industrial district as part of the Section 106 review process for the Southwest Transitway project.

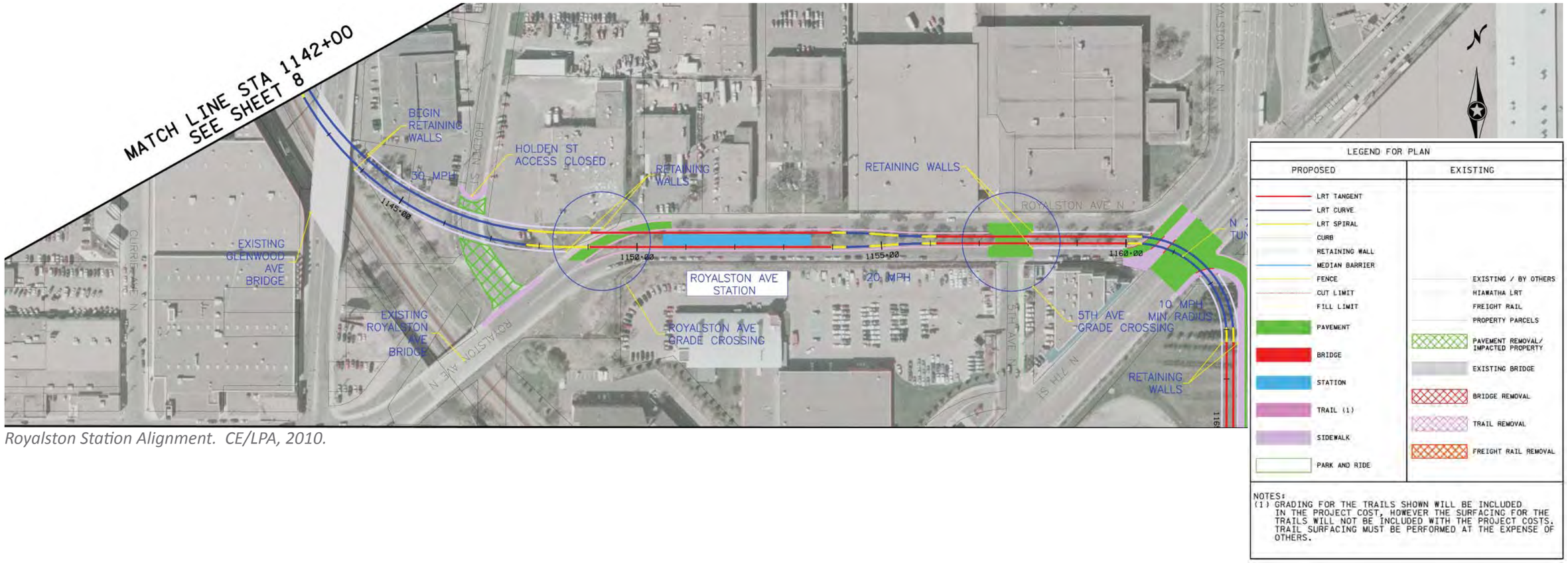
If the district is determined eligible to the National Register of Historic Places, the historic character of the area will need to be taken into account during the design of the station and related development.

Conceptual Engineering & Locally Preferred Alternative (CE/LPA), 2010

Conceptual Engineering (CE), included in the Locally Preferred Alternative (LPA) selected by the Metropolitan Council in 2010, represents a preliminary step in design of the actual transit infrastructure itself. Portions of this document most important to station area planning are transit alignment, station location, and at-grade/elevated/sunken crossings; these elements will have a direct bearing on future station area character and development opportunity. CE/LPA drawings show the LRT tracks crossing under 7th Street, climbing to a high-point on Royalston Avenue, and descending again to meet the existing rail bed. The significant grade differences in such a short distance mean that the location of the station platform has very limited opportunity to shift north or south along Royalston Avenue.

Draft Environmental Impact Statement (DEIS), 2010

The DEIS documents the possible impacts of the LRT project on both the natural and built environments. As of the writing of this document, the DEIS is currently under FTA review.



Royalston Station Alignment. CE/LPA, 2010.

Summary Analysis

Community Assessment

Community concerns for this station area centered around access issues, both vehicular and non-vehicular. Existing grades on Royalston and Border Avenues were called out in particular as issues that may complicate access. Community members specifically requested improvements to the sidewalks in the station area, as well as a need for a bicycle parking.

Design Team Assessment

As illustrated on the Barriers to Access Map, the Royalston Station area is bounded on all sides by highways and existing freight rail. The pedestrian-unfriendly nature of these barriers suggest that the station will draw from a much smaller area - the area inside these barriers - than the conventional 1/2-mile transit radius. I-94, Olson Memorial Highway, 7th Street and I-394 and its ramps will likely be the real boundaries of the station area.

The station is expected to see a large number of bus-LRT transfers from reverse commuters. The station will also act as a second boarding/unboarding option for Target Field patrons; the station's proximity to this attraction will be particularly important on game days.

Within the effective ridership area, large block sizes and limited east-west connectivity pose additional challenges for station access. Redevelopment should look for opportunities to introduce smaller block sizes and a finer-grain human scale to the area, in order to promote ridership and non-vehicular circulation.

The health of current commercial and industrial land uses, and the presence of unlikely-to-change City uses, suggests that redevelopment will occur in a mid- to long-term time frame. 'Interim' development conditions may exist for extended time periods, and station area planning should provide clear transition strategies allowing for copacetic existence of low-rise industrial uses with high-rise residential and mixed-use projects.

Royalston Station

Royalston Station is an opportunity to provide improved transit access to the Minneapolis Farmers' Market and Target Field, as well as a connection point for 'reverse commuters' from Minneapolis to the Southwest Metro Area.

Top Issues

- **Important bus transfer: high number of transfers from 7th Street**
- **Target Field: provide a second stadium-serving station to assist with heavy game-day ridership demand**
- **Pedestrian connectivity: lack of sidewalks**
- **Drop-n-Ride: provide efficient route**
- **Signage, wayfinding, lighting**

Principles

- **No park-n-ride**
- **Align with North Loop Small Area Plan**
- **Provide efficient, intuitive bus-LRT transfer**
- **Increase connections within station area and to neighborhoods**

Opening Day Recommendations

The following recommendations identify elements essential to the safe, efficient function of the transit station: pedestrian and bike connections, multi-modal transfer, passenger drop-off/pick-up, and wayfinding. These elements are the minimum recommendations of this station area strategic planning study, for implementation on opening day. It should be noted that these recommendations are outside the current Southwest Transitway LRT project as defined in the conceptual engineering drawings. While some elements may be constructed as part of the LRT project itself, other elements must be funded, designed and constructed by other entities, and will require close coordination between the City, the County, and Metro Transit, as well as local stakeholders and neighborhood groups. Further recommendations contributing to a larger transit-oriented district, projects and enhancements that may take many years to fully realize, are contained in the next section.

At Royalston, the station area planning processes seeks to build on the vision of the North Loop Small Area Plan (NLSAP). As such, the actions and recommendations detailed below should be considered refinements, not replacements, of the direction contained in the NLSAP.

Roadway

- Extend Border Ave to Glenwood Ave

CE/LPA documents show a closure of the Holden Street/ Royalston Ave intersection, with Holden being converted to a cul-de-sac to provide service to existing development. If this roadway change is executed, the following actions recommended in the NLSAP should be taken to ensure continued mobility and connectivity in the station area:

- Border Avenue should be extended to Glenwood Ave.
- Border Avenue should be made two-way movement for its entire length.
- The remaining Holden Street cul-de-sac and roadway stub should ultimately be closed, and 3rd Avenue extended (at least for pedestrians and bikes), ideally for pedestrians and vehicles), to create a pedestrian-scaled block structure.

- Introduce traffic signal at 5th Ave & 7th St

This signal will be critical for safe pedestrian connection with north-bound buses on 7th Street, and with Target Field.

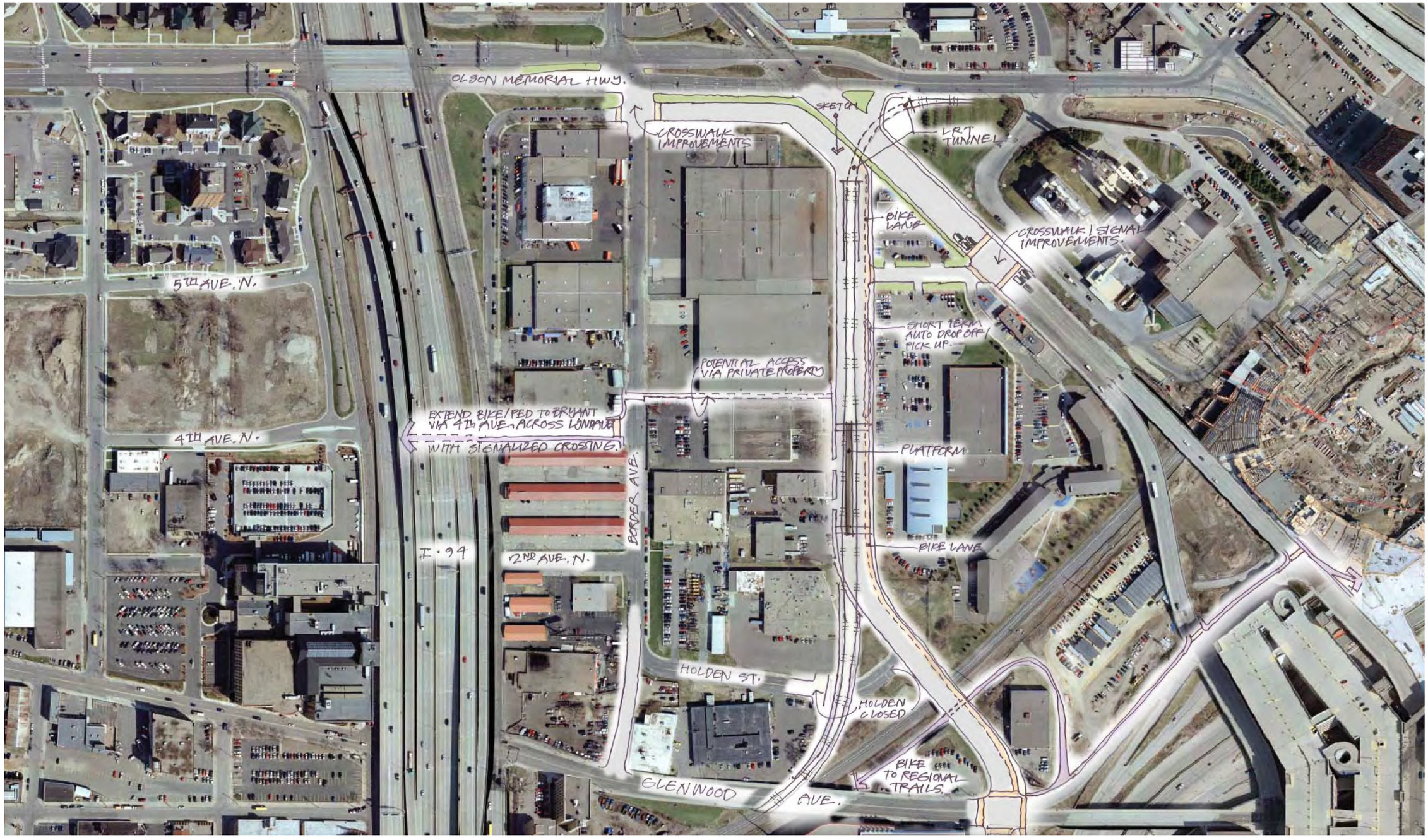
Pedestrian Connection (sidewalk)

- Reconfigure intersection geometry and signal timing to give pedestrians priority at:
  - Olson Memorial Hwy & Van White Memorial Blvd
  - Olson Memorial Hwy & N Bryant Ave
  - Olson Memorial Hwy & Border Ave
  - Royalston Ave & Glenwood Ave

- Add pedestrian-scale lighting on:
  - Royalston Ave
  - Border Ave
  - Glenwood Ave
  - 5th Ave, from Royalston to 7th St

- Establish east-west, ADA-compliant pedestrian & bike connection between the platform and the Farmers' Market.

Connections within the central station area will depend on parcel availability. These core connections should also be carried through to the west side of I-94; in this portion of the station area, 4th Ave is a likely route, and is preferred over 3rd Ave due to superblock nature of the IMS development. If 4th Ave is used for this connection, the following elements will be necessary: sidewalks on both sides of 4th Ave between Bryant Ave and I-394, defined pedestrian walkway under I-94 and through parking lot, stop sign and crosswalks at 4th Ave & Lyndale, sidewalks on south side of 4th Ave between Lyndale and Border (note that this sidewalk must be compatible with Farmers' Market functions)



Royalston Station: Opening Day Recommendations. Intermodal transfer and pedestrian connections are critical to the success of Royalston Station.

- Introduce wayfinding signage at:
  - Olson Memorial Highway & Van White Memorial Blvd
  - Olson Memorial Highway & N Bryant Ave
  - Olson Memorial Highway & Border Ave
  - Royalston Ave & Glenwood Ave
  - Royalston Ave & 5th Ave
  - 5th Ave & 7th Street
  - 7th St & 5th Ave (bus stops)
  - Target Field: 7th Street gate & plaza
  - Glenwood Ave & Border Ave (new intersection, recommended in NLSAP)
  - N Bryant Ave & 4th Ave

Bicycle Connection (trail/bike lane)

- Create direct bike access between platform and Cedar Lake Trail

Where the Cedar Lake Trail surfaces and connects to the Royalston Ave bridge, connect to a new on-street bike lane (if new cross-section permits) OR widen sidewalk on east side of Royalston Ave to serve as multi-use pathway.

- Install NiceRide station

A bike share station on the station platform will enhance connectivity and mobility within the station area.

Transit Connection

- Introduce bus stop at 5th Ave & 7th Street

Parking Management

Farmers' Market parking under I-94 is likely to be used by transit patrons. If this condition is permitted, install cross-walks and stop signs at appropriate locations on East Lyndale Ave N. If this condition is not permitted, parking management and enforcement will be required.

It should also be noted that downtown parking requirements are generally more progressive than those applied to the City as a whole. The Downtown Parking Overlay District, which applies in the Royalston station area, is specifically meant to "protect the unique character of the downtown area and mixed-use downtown neighborhoods by restricting the establishment or expansion of surface parking lots."

Platform

The platform location identified in the LPA documents is in alignment with station area planning goals.

Land Use

Station area planning identified no immediate land use changes necessary for LRT introduction. Strategic, long-term land use recommendations are contained in the next section.

Royalston Avenue, looking south from Olson Memorial Highway, opening day.

Public Comment

Neither the Community Members' Working Group nor the general public as represented at the Public Open House had strong reactions, positive or negative, to the Royalston Station Area concept plans.

Questions & Comments

- **I like the Farmers' Market emphasis.**
- **Will the exisitng social services (east of Royalston Avenue and south of Glenwood Avenue) have to relocate?**
  Social services are retained in their current locations and configurations in these concepts.
- **The bike trail must remain uninterrupted.**
  Continuity of the existing multi-use path wiill be maintained at all stations, including Royalston.
- **Who will decide which parcels will redevelop, and when?**
  Redevelopment will be market-driven, and is likely to be led by private developers. Public investment, such as a farmers' market expansion or creation of a new public amenity, such as a park or plaza, may serve as early-phase catalysts to attract private development. Public-private partnerships are a also possibility in the station area.

Sample Transit-Oriented District

The graphic at right illustrates one of many ways the Royalston station area might look in the future, embodying transit-oriented development principles. This drawing is not a plan, per-se, but simply a graphic representation of the physical form that could evolve within a framework of pedestrian-focused, transit-supportive policies.

The goal of this station area strategic planning process is not to decide which parcels will redevelop, when they will redevelop, or even what specific land use they will have. All of these particulars will be decided by market demand, and by the private landowner. Rather, the goal of this process is to identify the land use and planning principles most relevant to this particular station area, and to begin to formulate a framework of visioning principles that will act as a base for future, more detailed planning efforts.

As stated in the Opening Day Recommendations, it is important to note that this station area planning processes seeks to build on the vision of the North Loop Small Area Plan (NLSAP). As such, the actions and recommendations detailed below should be considered refinements, not replacements, of the direction contained in the NLSAP.

Roadway

Station area planning identified no additional, long-term roadway changes beyond those identified in the preceding Opening Day Recommendations.

Pedestrian Connection (sidewalk)

- Introduce pedestrian-scale streetscape improvements along Glenwood Ave, both sides, consistent with recommendations in adopted community plans

- Introduce additional streetscape enhancements between the 7th Street bus stops and the platform, in order to shorten the perceived walk distance between bus and LRT.

Enhancements could include, but would not be limited to, special paving, special lighting, banners, planting, public art.

Bicycle Connection (trail/bike lane)

- Prioritize City-proposed bikeways on Glenwood Ave & 7th St

As of the writing of this document, updates on the City's Bicycle Master Plan can be found on the web at: http://www.ci.minneapolis.mn.us/bicycles/bicycle-plans.asp

Transit Connection

Station area planning identified no additional, long-term transit recommendations beyond those identified in the preceding 'Opening Day Recommendations'.

Parking Management

- Consider reduced parking requirements, shared parking and other parking management tools.

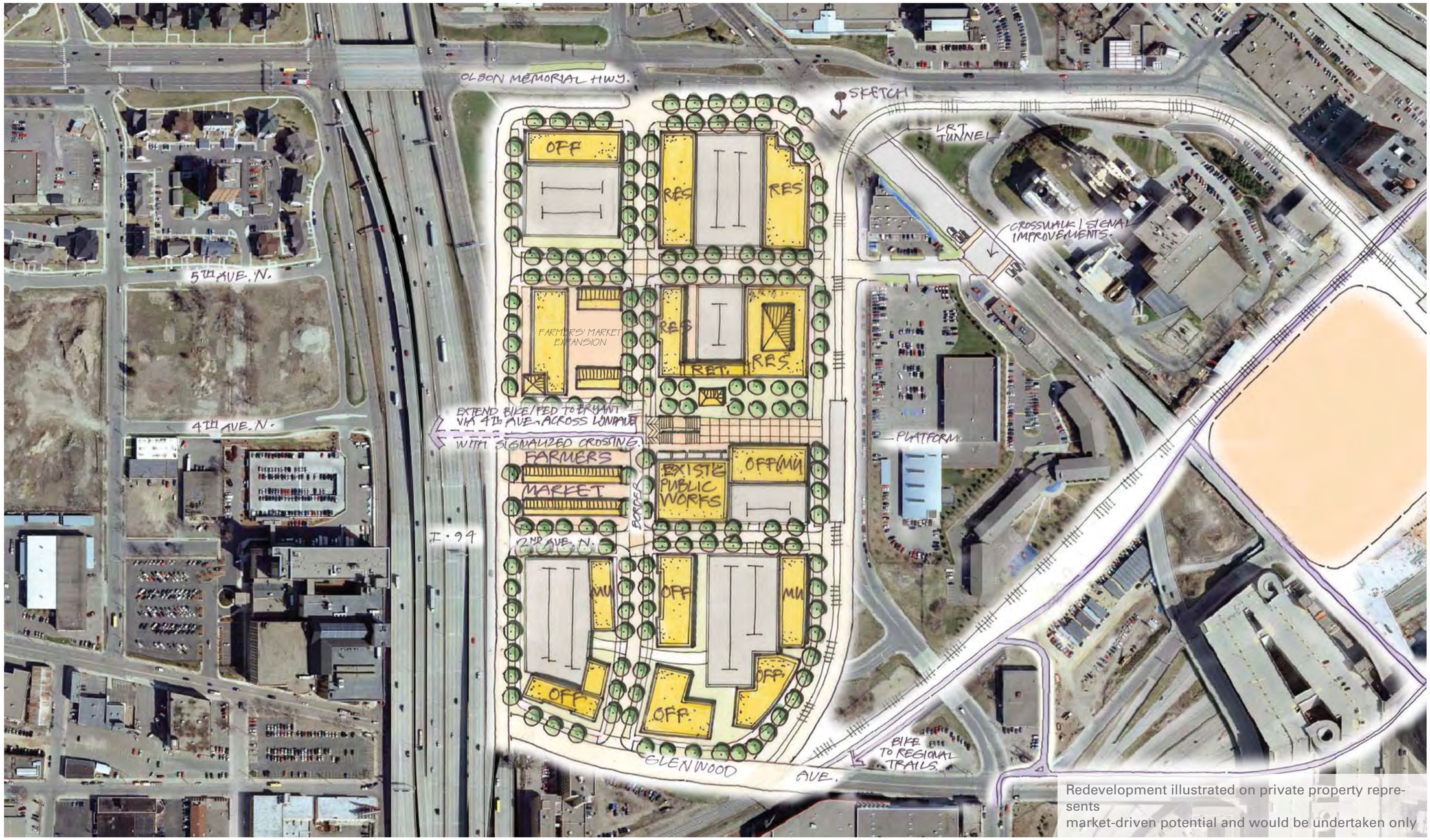
In order to promote density and capitalize on transit connectivity, reduced parking requirements, shared parking, parking caps (maximums instead of minimums) or phased parking requirements (a lower parking cap or lower parking requirements as the area reaches redevelopment build-out) should be considered.

The City of Minneapolis's zoning code already sets parking maximums for most uses. In station areas in particular reduced parking numbers should be encouraged. In addition, application of the Transit Station Pedestrian Oriented Overlay District should be considered. This zoning overlay further reduces the minimum and maximum parking requirements. It also allows for parking to be located an additional 500' from the use served and reduces parking lot dimensions.

Care should be taken that parking policy is not so stringent as to discourage market-based development. Enforcement will be required.

Platform

Station area planning identified no additional, long-term platform changes beyond those identified in the preceding Opening Day Recommendations.



Royalston Station: Sample Transit-Oriented District. Royalston's location and large parcels offer redevelopment potential for a true, mixed-use urban neighborhood with places to live, work and recre-ate within a compact, walkable environment.

Land Use

- Increase internal connectivity of station area

As the immediate station area redevelops, buildings should be sited to create a smaller, more pedestrian-scale block structure. East-west connection at 3rd, 4th, and 5th Avenues should be introduced. Full roadways accommodating vehicles as well as bikes and pedestrians are preferred, but if grade or parcel size issue prove difficult, pedestrian & bike connection should be a minimum requirement. As another measure promoting internal connectivity, Border Ave should also be opened to two-way traffic.

- Create a new, centrally-located public plaza

A plaza can act as both a catalyst and amenity for the new medium- to high-density residential envisioned for this area. The plaza should be centrally located and could be coupled with a pedestrian promenade connecting the station and farmers' market. A location between Border & Royalston, and between 3rd & 5th Aves would be preferred for the most direct connection between platform and farmers' market.

- Distribute land uses with less visually- and noise-sensitive uses adjacent to I-94 and Olson Memorial Highway.

Residential uses should be internal to the site, to provide noise/visual buffering from the adjacent highways. In contrast, retail and commercial uses can benefit from increased visibility by locating adjacent to significant downtown routes, and should be locating along Glenwood Ave, in keeping with the Bassett Creek Valley Master Plan, which designated this roadway as a commercial corridor.

- Promote active ground floor uses

An interesting, human-scaled public realm encourages pedestrian activity and activates an area. Active ground floor uses with a high degree of transparency (ie, windows) create an inviting walking district. This recommendation applies to parking ramps as well, which should 'wrapped' with commercial, retail, or other active uses at ground level. Any ramps that are not 'wrapped' should be internal to the block.

Zoning

As identified in the market analysis for the North Loop Small Area Plan, redevelopment in this station area is going to be long-term. A current rezoning study to implement the plan's recommendations is contemplating zoning changes along the new Glenwood Avenue Commercial Corridor to allow for
a mix of uses, but the remainder of the Industrial zoning in the station area is likely to continue in the short-term in order to keep the thriving industrial businesses conforming. The plan states: "the direction in this district should be refined once a Southwest Transitway station is a certainty and the current market has improved – an updated market analysis will likely be needed."

Next Steps

Context & Planning Assumptions

- The North Loop Small Area Plan was adopted by the Minneapolis City Council in 2010. The Minneapolis Station Area Strategic Plan for the Royalston Station is meant to complement the North Loop Small Area Plan by providing LRT specific recommendations and alternative development scenarios.
- No park and ride allocation in LRT project; station area strategic planning also does not recommend park and ride at the Royalston Station.

Planning Process

The tables at right summarize the recommendations contained in the preceding 'Opening Day Recommendations' and "Sample Transit Oriented District' sections. A number of broader steps, listed below, will be needed to set the framework for the more specific steps identified at right.

- Provide input to preliminary engineering for LRT effort with Met Council
- Carry out station area, but non-LRT infrastructure enhancements: close gaps in pedestrian & bike circulation, including roadway modifications
- Adopt appropriate transit-area policies at the City/County level
- Create a development-friendly environment (transit overlay zone)
  - Evaluate current land use needs & desires
  - Explore parcel assembly & acquisition
  - Identify catalytic projects (public/private)
  - Consider RFP's
- Identify funding mechanisms, incentives & public participation

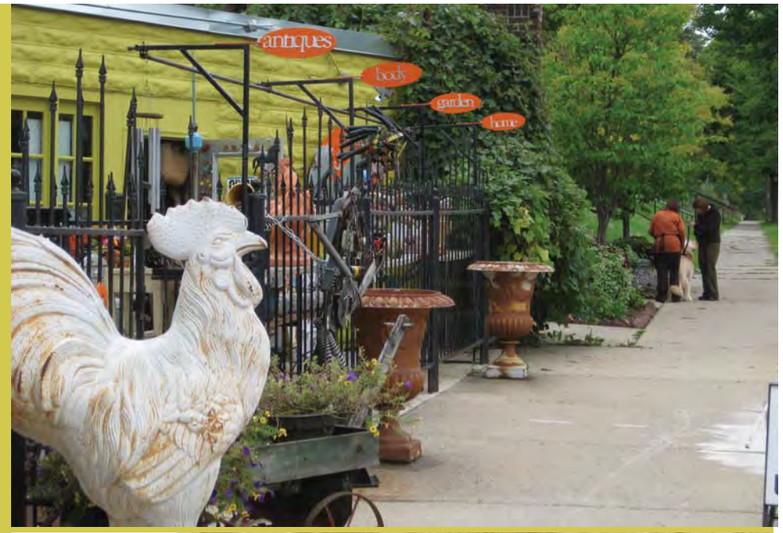
Specific Recommendations to be Implemented by LRT Opening Day	Additional Study & Design during Preliminary Engineering	Policy Change	Lead Jurisdiction
Traffic signal at 5th & 7th	x		City
Intersection geometry & timing	x		City, County
Wayfinding signage	x		SW LRT Project
Bike access between Cedar Lake Trail and station platform	x		City
Ped/bike connection between station platform and farmers' market	x		City
NiceRide station	x		City
Bus stop at 5th & 7th	x		Metro Transit
Border Ave to Glenwood Blvd	x		City, SW LRT Project
Streetscape enhancements: bus - LRT connection	x		City, BID

Specific Recommendations to be Implemented as Needed	Additional Study & Design during Preliminary Engineering	Policy Change	Lead Jurisdiction
New bikeways	x		City
Distribute land uses according to noise/visual sensitivity		x	City
Streetscape enhancements: Glenwood Blvd	x		City, BID
New park/open space	x		City, private developer
Parking management tools	x		City
Internal connectivity/smaller block size		x	City
Active ground floor uses		x	City

Van White Station

Station Area Strategic Planning

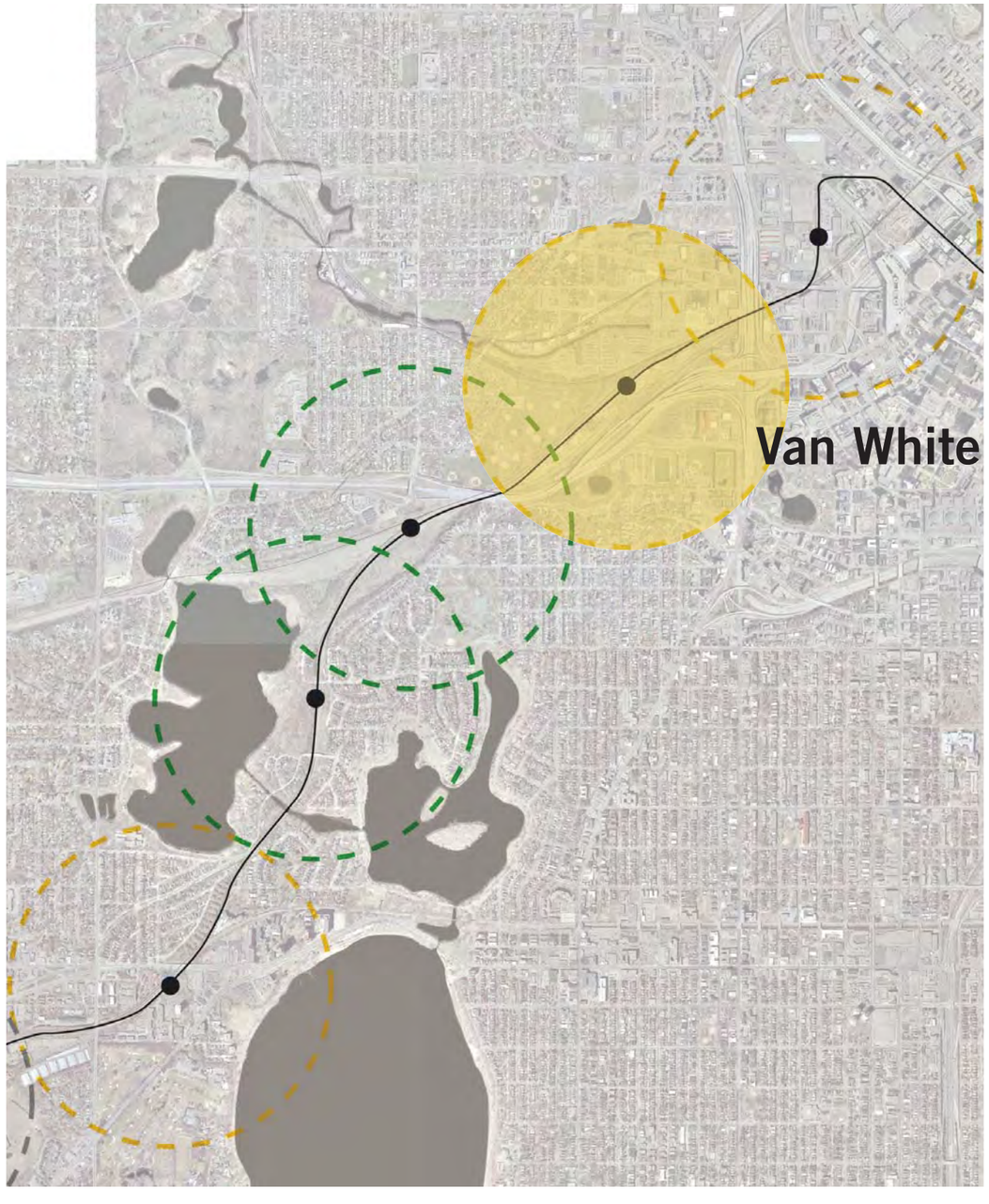
- Existing Conditions
- Previous & Current Planning Efforts
- Summary Analysis
- Opening Day Recommendations
- Sample Transit-Oriented District
- Next Steps



Existing Conditions

The Van White Station is located in the heart of the Bassett Creek Valley, envisioned as one of Minneapolis's next great urban redevelopments. Detailed vision for the area is set out in the City-adopted Bassett Creek Valley Master Plan (BCVMP: 2000, 2007), which illustrates an intensive mix of uses including office, residential, civic and retail. Uses will be mixed both horizontally and vertically, and will enjoy close proximity to active and passive open space.

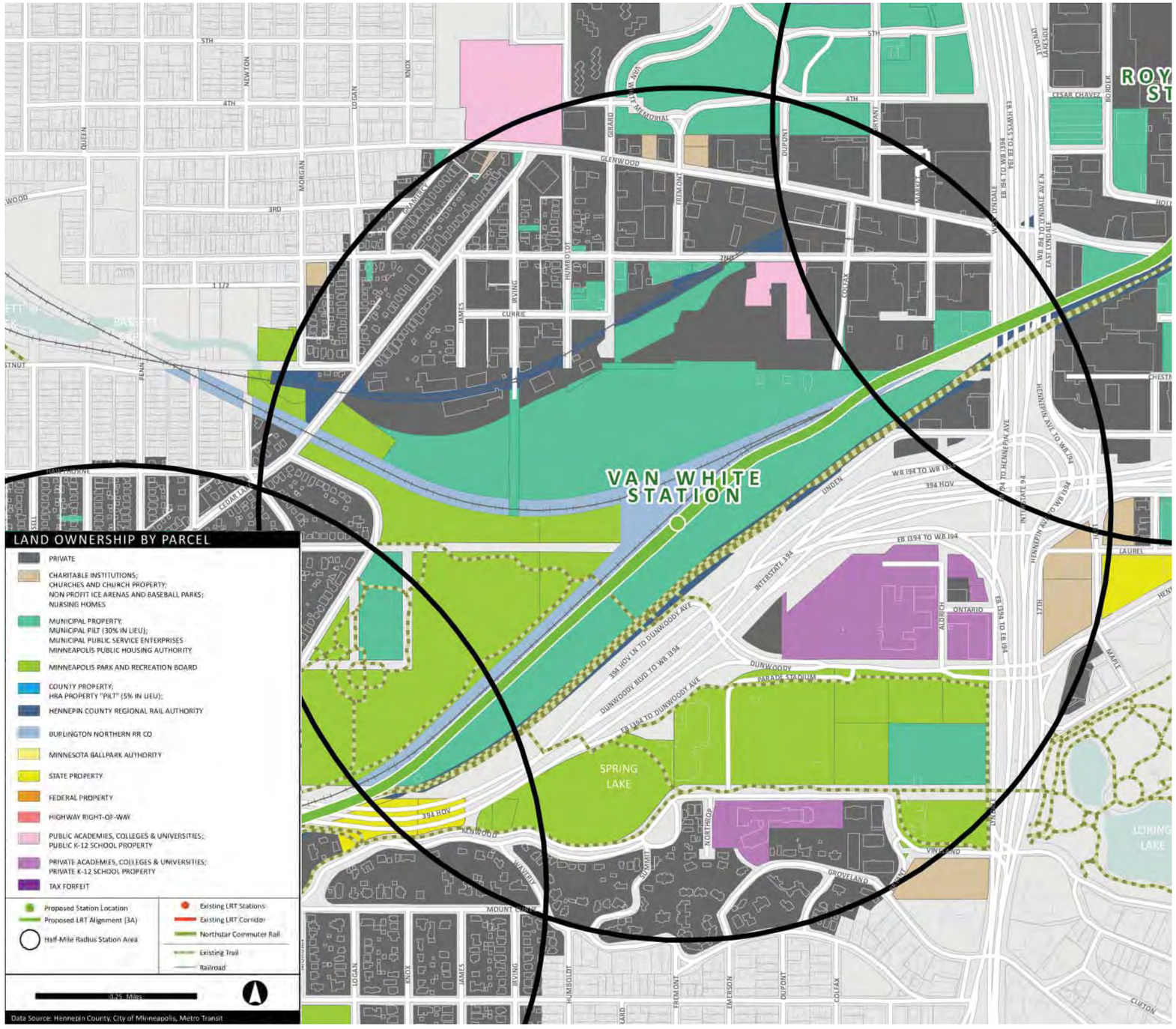
In addition to anticipated new uses, the station will also serve the well-established, predominantly residential neighborhoods of Bryn Mawr, Harrison, Lowry Hill, and Kenwood.



Land Ownership

The Van White station is surrounded almost exclusively by publicly owned property; the City-owned impound lot and gravel yards and the MPRB-owned Bryn Mawr Meadows park are the largest public parcels in this area, and exert a significant influence on station character and development potential. The western portion of the LRT alignment abuts privately-owned rail property.

The outer perimeter of the 1/2-mile radius station area, north of I-394, is dominated by stable, residential ownership. South of I-394, additional MPRB property and private educational (Dunwoody Institute) holdings form the bulk of the area.

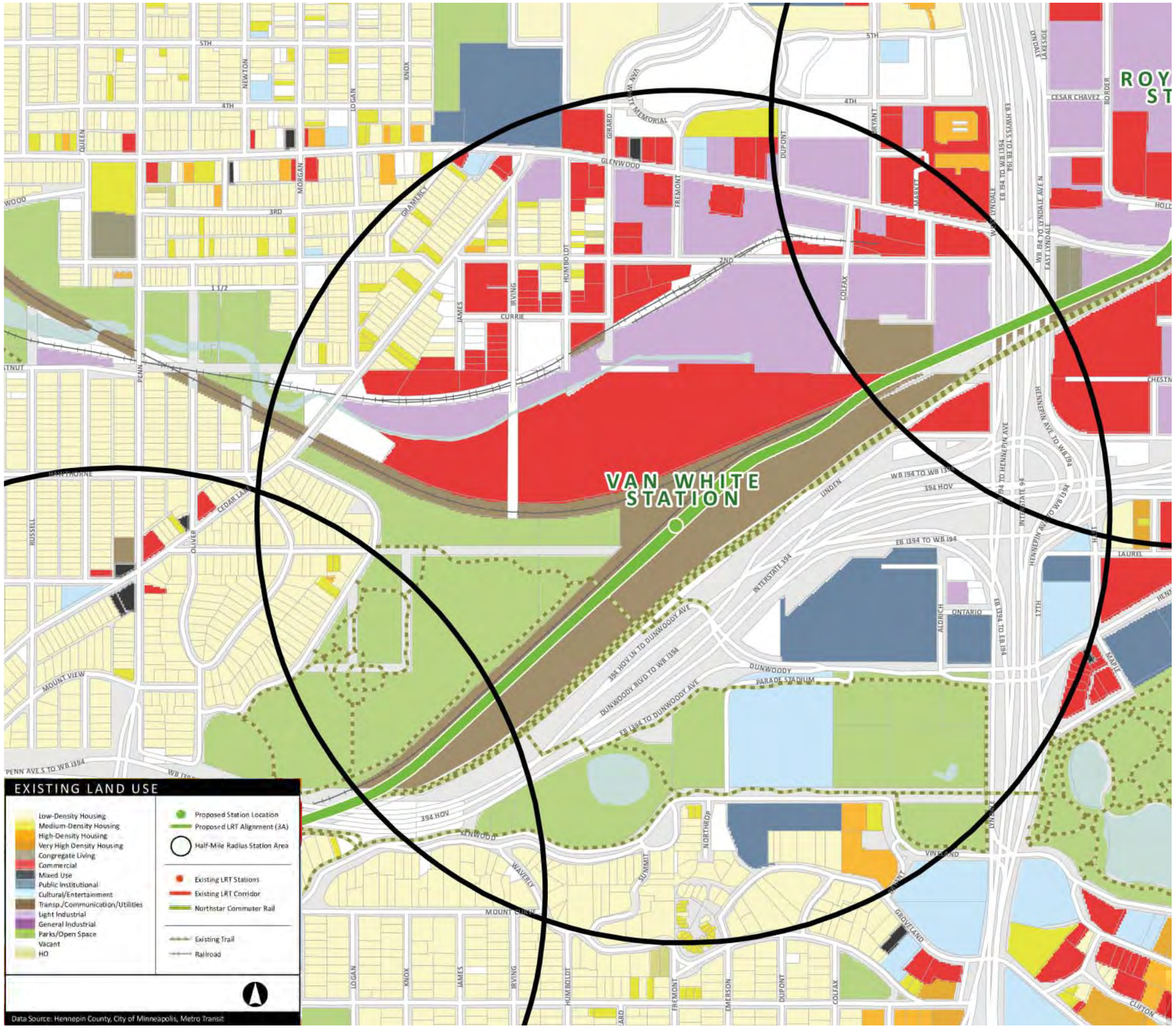


Land Use

Land uses of most interest within the station area are the City-owned properties to the north and east of the station. These parcels, the City impound lot to the north and the City concrete crushing yards to the east, have been identified by the Bassett Creek Valley Master Plan as the area's most promising redevelopment parcels.

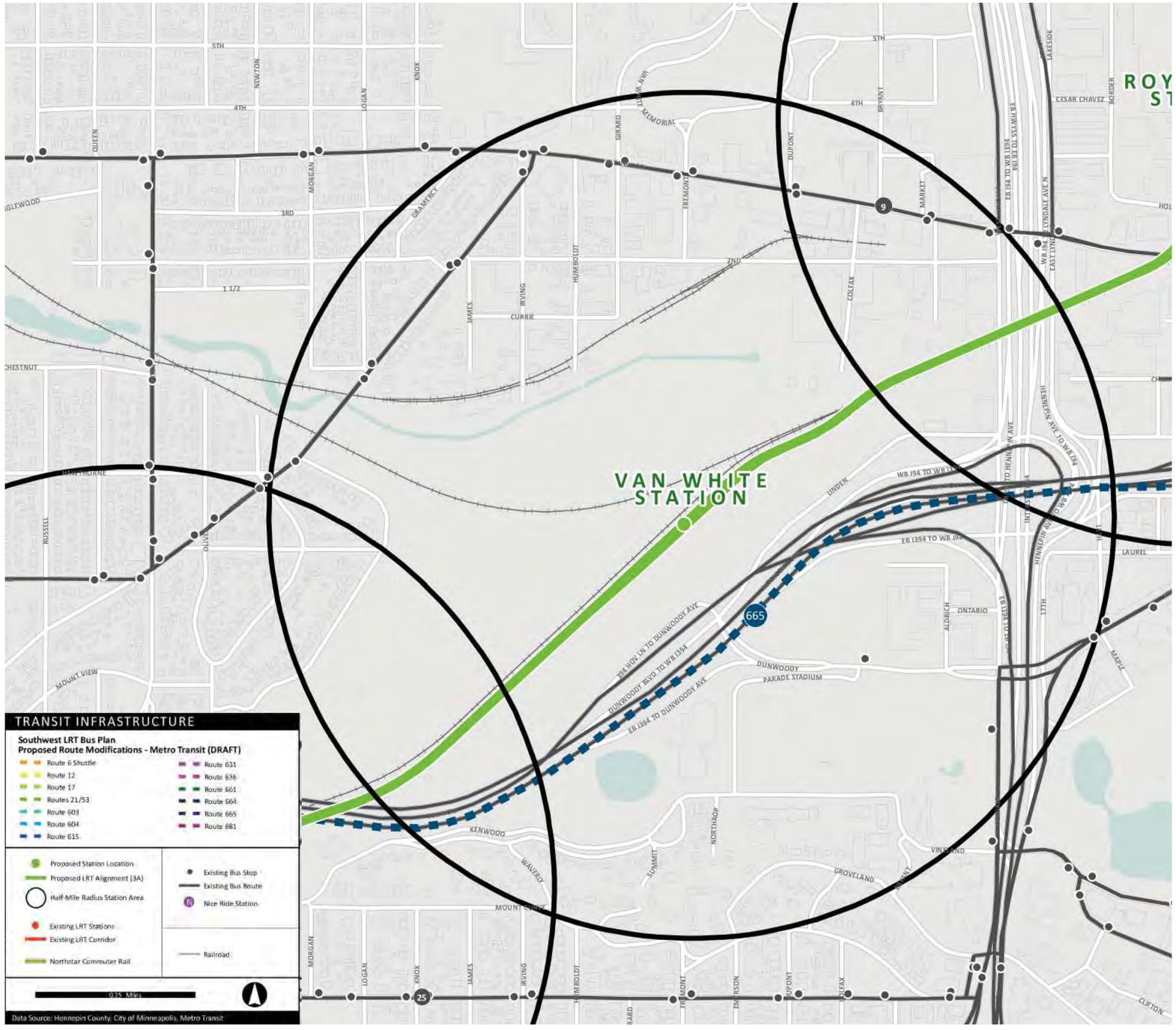
Also located within the 1/2-mile radius station area, the Dunwoody Institute and Walker Art Center could prove significant ridership generators for the station. Ridership will be influenced by the quality of pedestrian connections to area destinations such as the Walker Art Center and Dunwoody Institute.

Perimeter residential areas are stable and are composed of primarily single-family residences, with a small amount of intermingled multi-family. Industrial and commercial uses are present on 2nd and Glenwood Avenues.



Transit

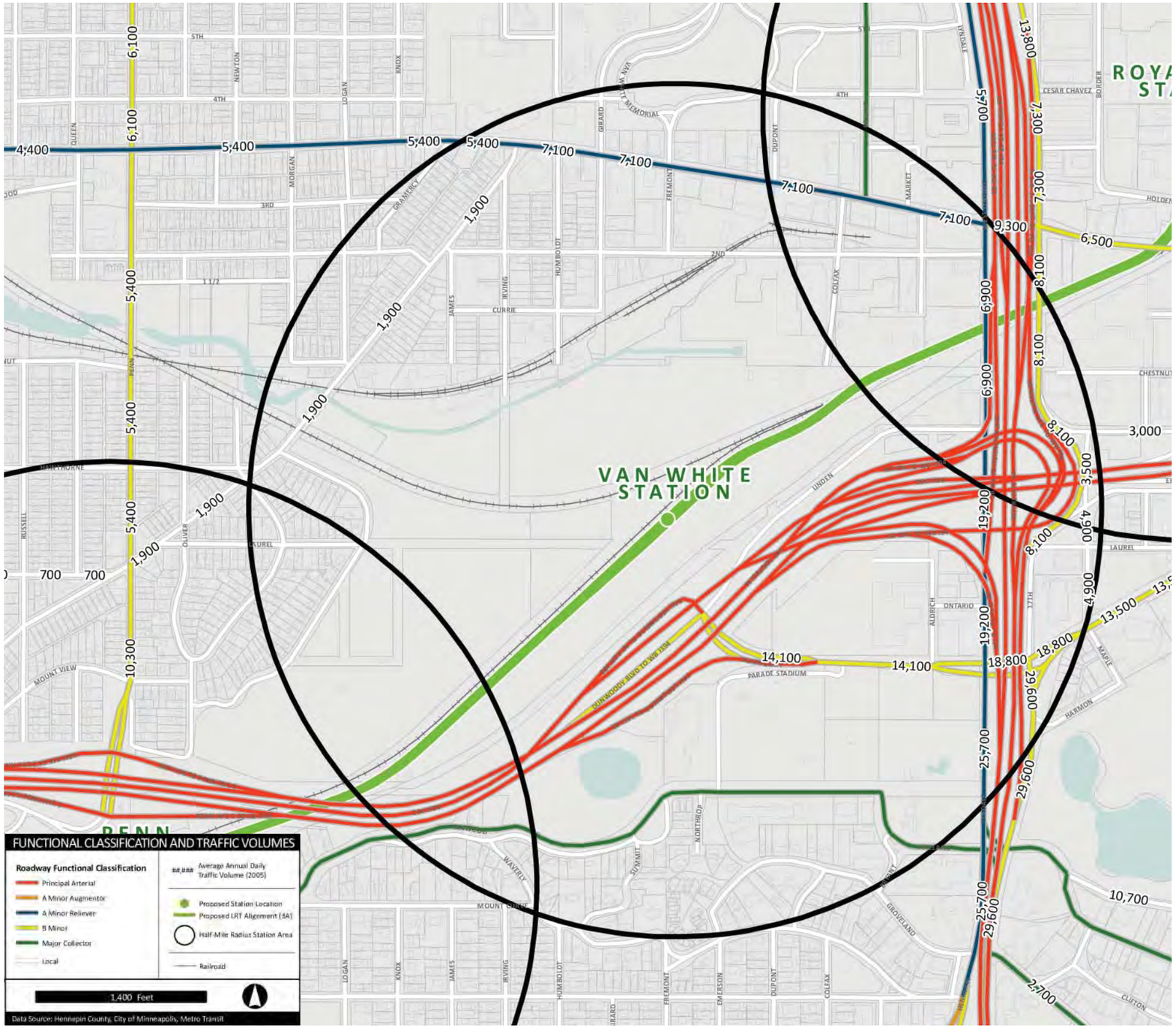
There are no existing or planned bus routes serving the Van White station location. The closest bus stop along an existing sidewalk or roadway is approximately a half-mile away. Glenwood Avenue has bus service, but no direct access from the station location (as it exists today). Dunwoody Boulevard does not have an existing transit route between I-394 and Lyndale Avenue.



Roadways & Parking

The existing roadway network is limited due to the condition and use of the land in the station area. The area has been identified for redevelopment as part of the Bassett Creek Valley Master Plan (BCVMP). There is no existing roadway network in the immediate area of the potential station location. Dunwoody Boulevard is the closest roadway providing access to downtown Minneapolis, the Lowry Hill neighborhood and I-394. Moderate traffic volumes allow this roadway to operate well. I-394 is a major roadway bordering the southern station area. For this station, I-394 is a contributing factor to providing quality regional access via Dunwoody Boulevard. Lyndale Avenue on the eastern edge of this area carries heavy traffic on a portion of its one-way southbound roadway, causing it to operate near capacity during peak hours. Future Van White Memorial Boulevard will connect Dunwoody Boulevard to the existing alignment of Fremont Avenue and north crossing SH 55, extending to Plymouth Avenue. This future connection will alleviate some of the congestion currently on Lyndale Avenue.

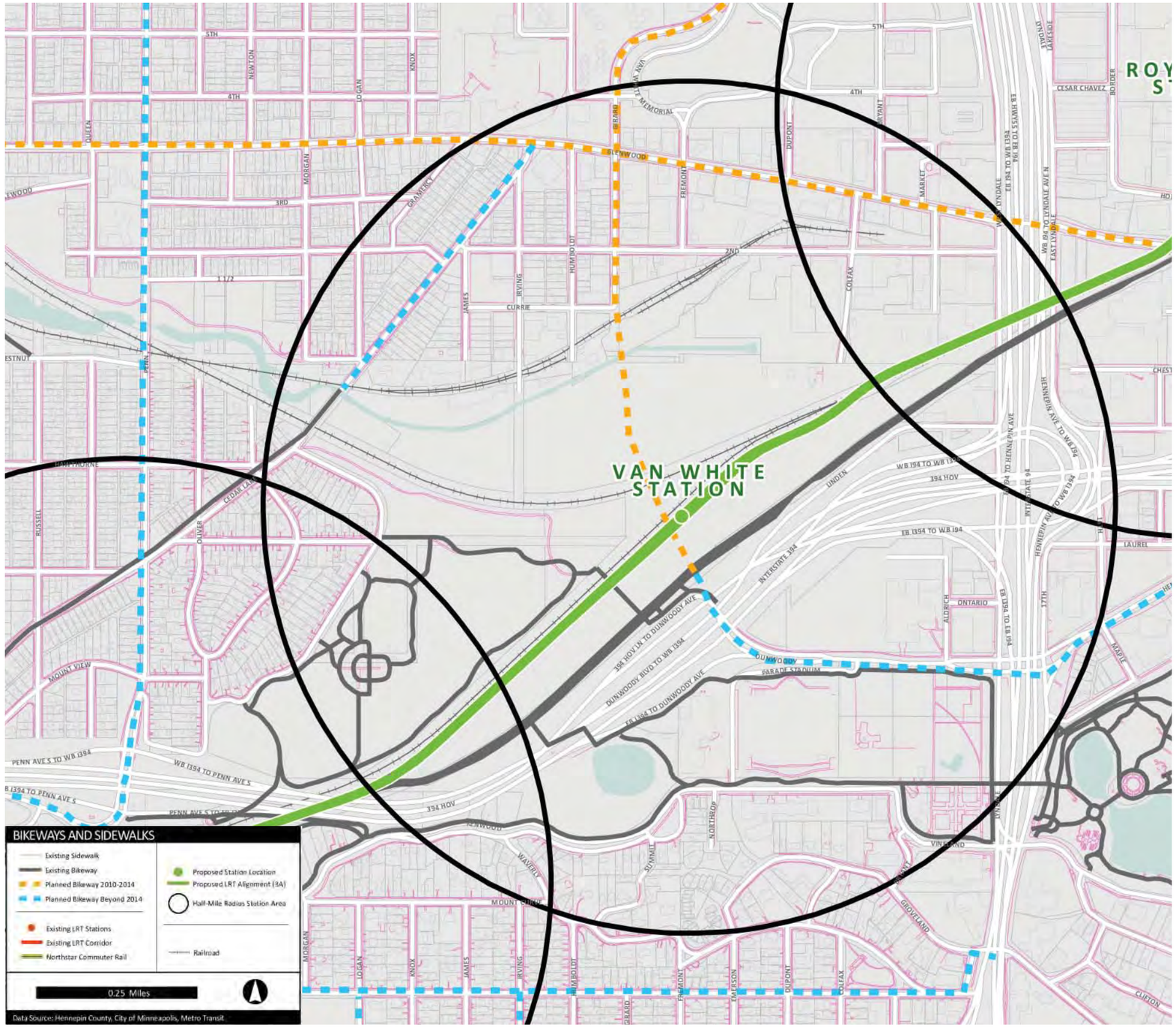
The residential areas within the half mile station radius have on street parking allowed with some restrictions near the parks.



Sidewalks & Trails

The existing sidewalk network is limited due to the lack of development in the immediate area. However, the trail network in this area is extensive with the Cedar Lake Trail on the southern boundary of the station area. Additional connections to other city trails exist through Bryn Mawr Meadows and Parade Park, providing access into the Bryn Mawr and Lowry Hill neighborhoods, which have comprehensive sidewalk networks throughout. There is an existing pedestrian bridge crossing the freight rail line with vertical circulation provided via two helix style ramps. This provides an existing safe crossing of the freight rail line for both pedestrians and bicyclists.

Van White Memorial Boulevard will be constructed with sidewalk facilities. These linkages will provide north-south access for pedestrians and bicyclists from points further north to the proposed station location.

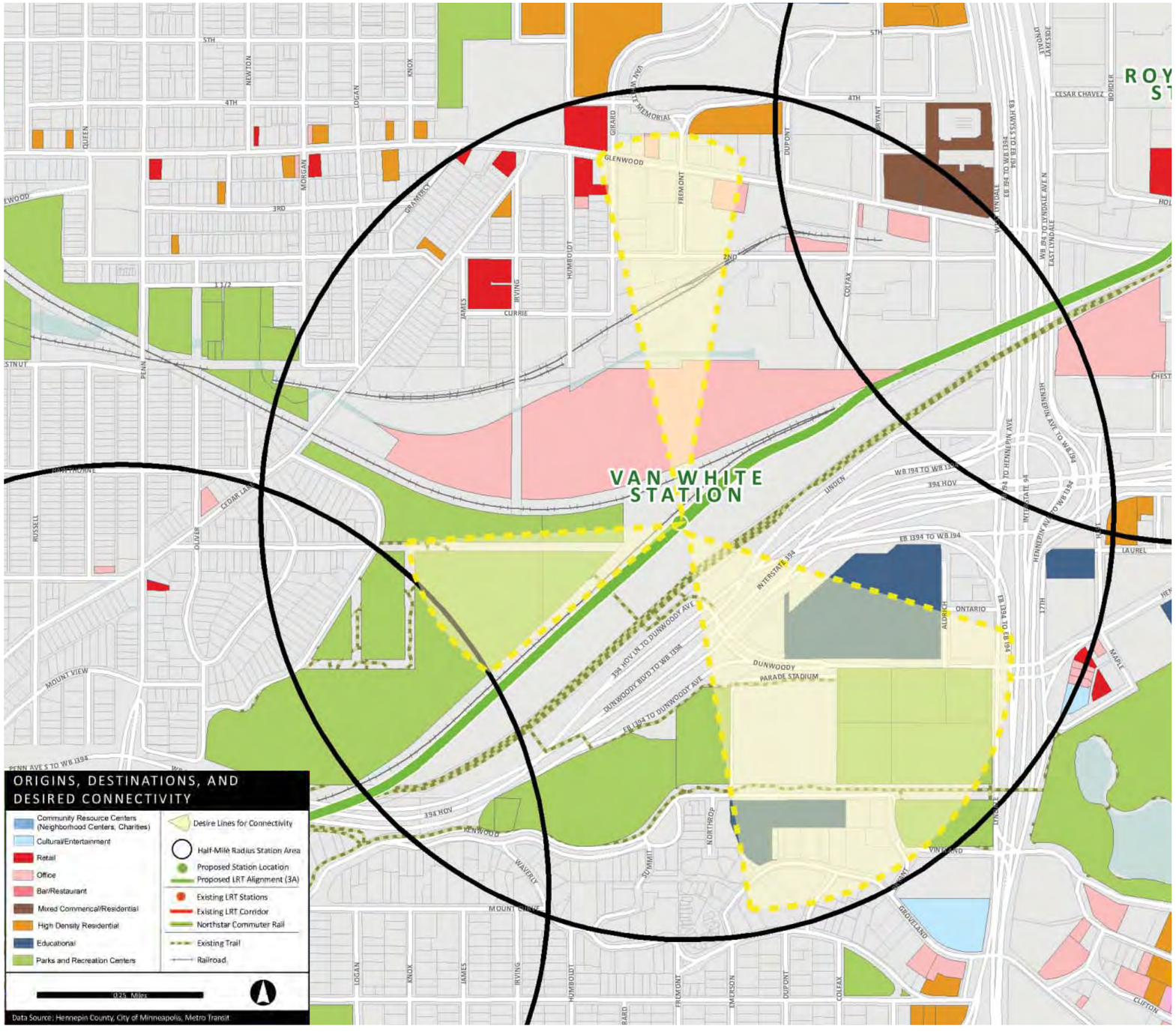


Origins, Destinations & Connectivity

Van White station has potential to function as both a destination and an origin station. To the east of the station, Dunwoody Institute and the Walker Art Center are both within walking distance of the station. Dunwoody Boulevard will be the primary connection to both these destinations. Dunwoody offers both daytime and evening classes and may produce riders across both these timeframes. While the Walker is open during the day, ridership for this destination is likely to be greatest during evening and weekend special events, when parking is at a premium.

To the west, Bryn Mawr Meadows is heavily used for organized sporting activities such as youth soccer and may also serve as a destination. The existing pedestrian bridge connects the station to this open space amenity, as well as to the Bryn Mawr neighborhood beyond. User demand in this direction is likely to be heaviest on weekends for Bryn Mawr Meadows, and on weekdays for neighborhood residents.

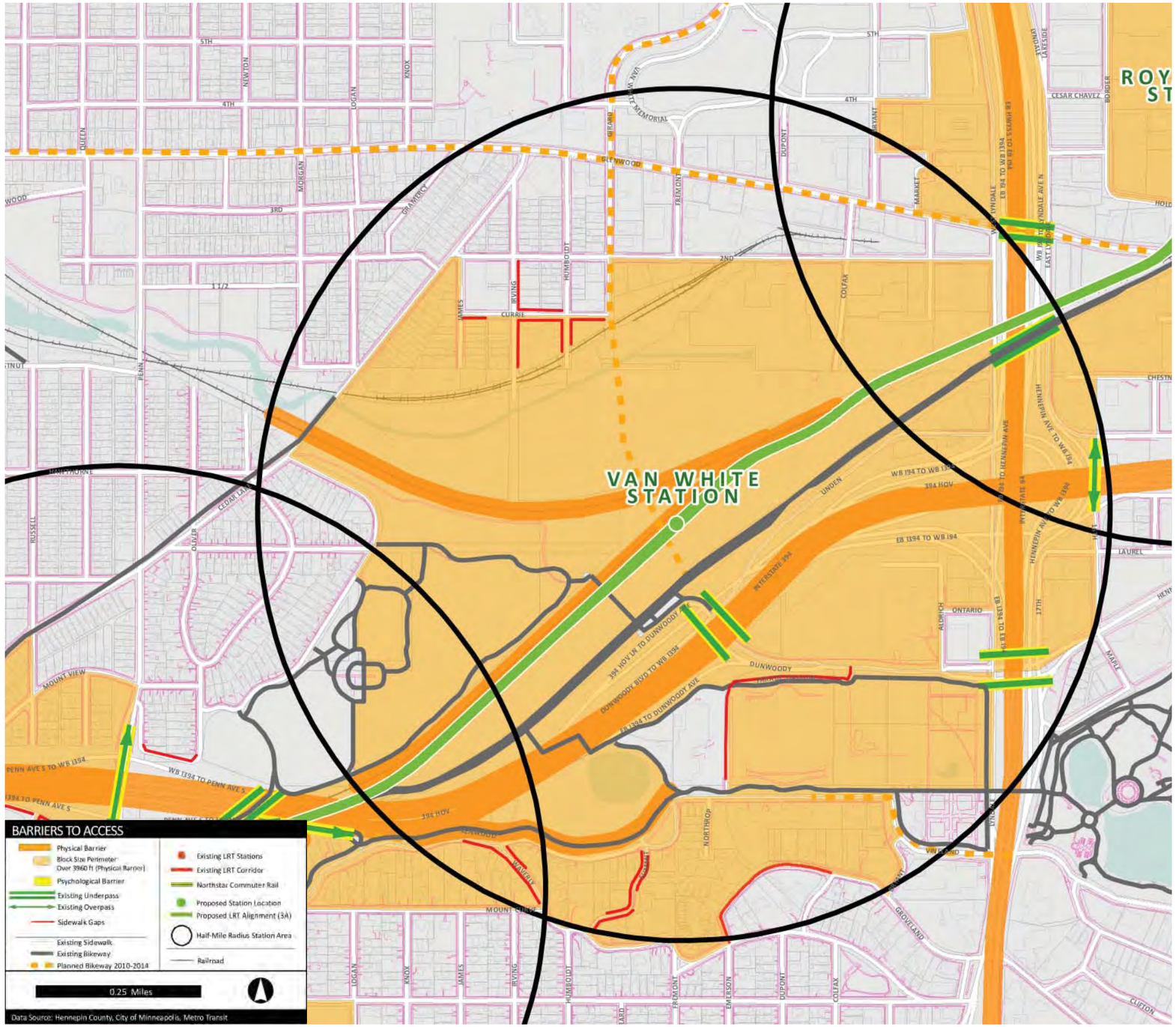
Harrison neighborhood residents will access the station via the Van White Boulevard Memorial Bridge, scheduled to open in 2012.



Barriers to Access

The Van White station area is currently inaccessible by vehicle due to existing industrial land uses occupying the bulk of the site. Even with a rearrangement or relocation of uses, the station area remains minimally accessible with a single access point at Linden Avenue. The proximity of I-394 interchanges and direction-changing on/off ramps further complicates intuitive understanding of the area.

This industrial character and vehicle-focused land uses acts as a psychological barrier for pedestrians and cyclists, as well. This group of users, likely to desire station access from the neighborhood west of the station, must also overcome the significant physical barrier of the freight rail line. This active railroad corridor can be crossed on foot or bike via the existing pedestrian overpass just south of the proposed station platform, but it should be noted that the extra effort involved in negotiating this elevated bridge can be discouraging to some users and has been shown to promote illegal, at-grade crossings.



Previous & Current Planning Efforts

Bassett Creek Valley Master Plan (BCVMP), 2007

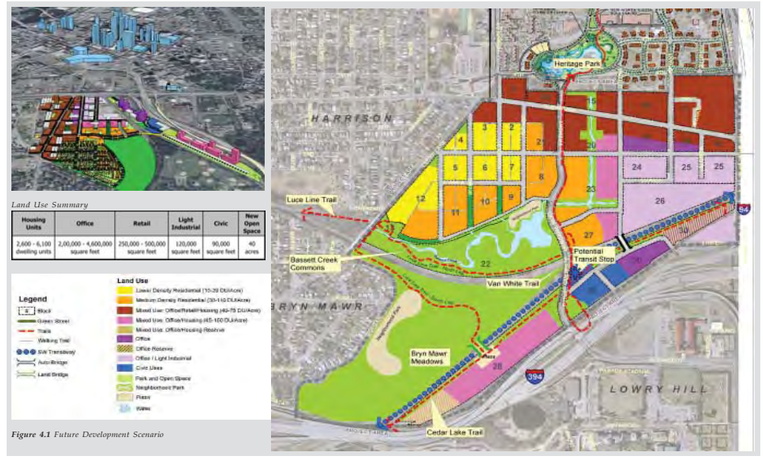
The Bassett Creek Valley Master Plan offers a 25-year, two-phase map for future redevelopment of the Van White Station Area. The plan provides a thorough examination of community goals, planning alternatives, financial feasibility, phasing and implementation responsibility. The Plan is supportive of Southwest Transitway alignment through the project area, and of the creation of a station within the project area.

With the depth of market, financial, traffic and infrastructure analysis included in the Plan, the prime goal of current station area strategic planning activities is to support and refine the vision and conclusions contained in the BCVMP document. Specifically, the current effort also identifies transit elements (such as the potential introduction of a railcar layover facility on the Linden Yards site) that could positively or negatively impact specific elements of the BCVMP, or the implementation of the plan as whole.

Ryan Companies Development Concept, 2009

This graphic concept plan illustrates anticipated building footprints and site yields for Ryan Companies' anticipated Phase I development, which includes the Linden Yards site as well as a small portion of the existing impound lot. This plan represents the designated Master Developer's first refinement of the general land use distributions shown in the Bassett Creek Valley Master Plan.

For station area planning purposes, this plan is considered the 'base condition'. Options presented in this document evaluate and refine the Ryan Companies plan in terms of transit relationship and interface.



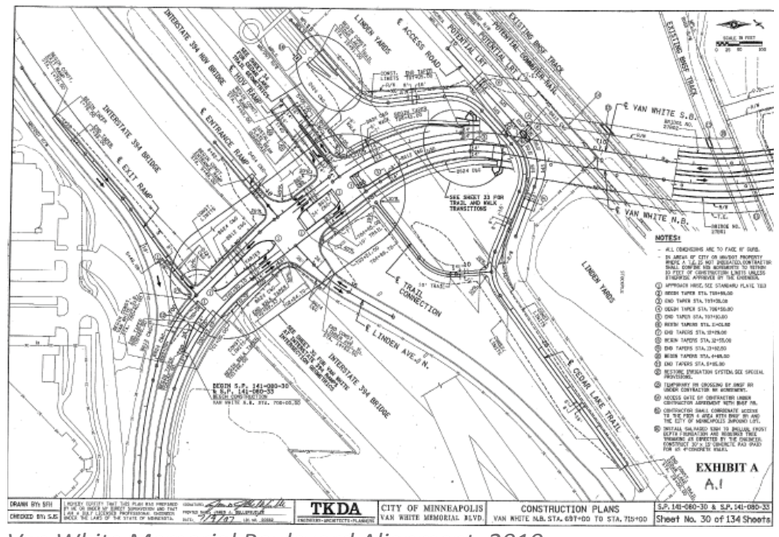
Bassett Creek Valley Master Plan, 2007.

Linden Yards Concept Plan, Ryan Companies, 2009.

Van White Memorial Boulevard Engineering Documents, 2010

These documents show the vertical and horizontal alignment of the proposed Van White Memorial Boulevard.

The roadway 'touchdown' (where the elevated roadway comes to grade on the Linden Yards parcel) shown in the 2009 Ryan Companies development concept does not match the location shown in the 2010 engineering documents. Further coordination of the Van White bridge and the Ryan Companies development plans will be necessary.

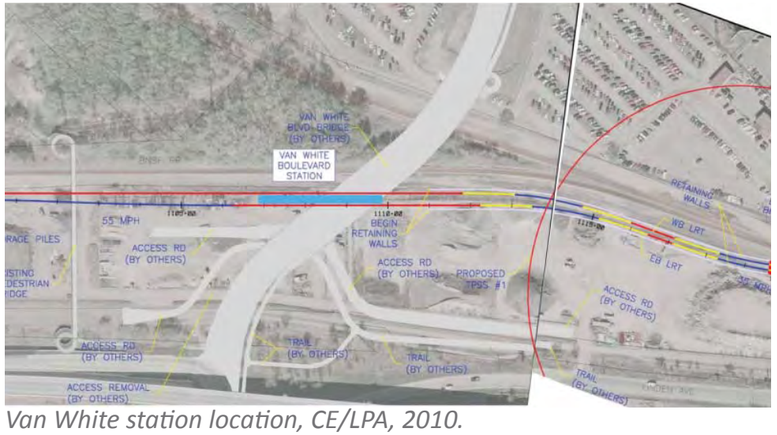


Van White Memorial Boulevard Alignment, 2010.

Conceptual Engineering & Locally Preferred Alternative (CE/LPA), 2010

Conceptual Engineering (CE), included in the Locally Preferred Alternative (LPA) selected by the Metropolitan Council in 2010, represents a preliminary step in design of the actual transit infrastructure itself. Portions of this document most important to station area planning are transit alignment, station location, and at-grade/elevated/sunken crossings; these elements will have a direct bearing on future station area character and development opportunity.

CE/LPA drawings show the Van White station platform directly below the proposed Van White Memorial Boulevard, supported at this point on an elevated structure. This station area planning effort proposes that the station shift southward to a point equidistant between the existing pedestrian overpass and the proposed Van White Memorial Boulevard structure. Station area planning further recommends vertical access, on the west side of the Linden Yards parcel, from both structures.



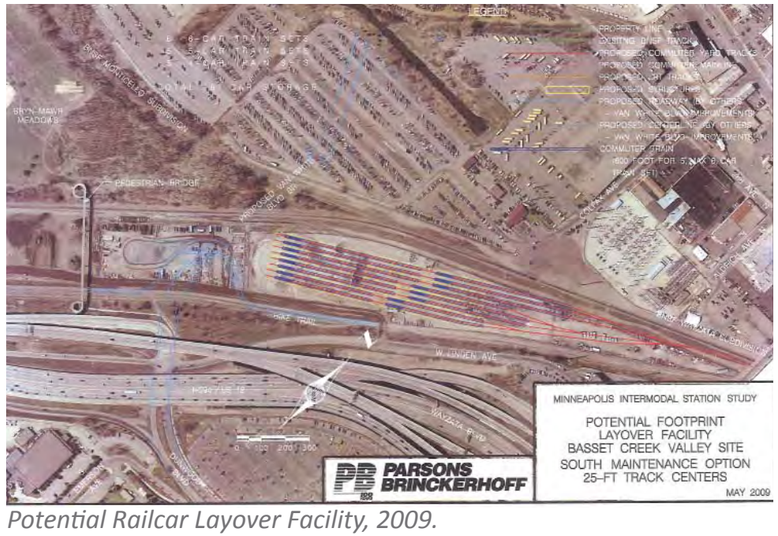
Van White station location, CE/LPA, 2010.

Draft Environmental Impact Statement (DEIS), 2010

The DEIS documents the possible impacts of the LRT project on both the natural and built environments. As of the writing of this document, the DEIS is currently under FTA review.

Hennepin County Rail Layover Facility Study, 2009

Hennepin County is currently conducting a study of potential sites for a passenger rail layover facility. Two sites near the Southwest LRT alignment, Linden Yards and Cedar Lake Yards, are under evaluation. It is not within the scope of this Station Area Strategic Planning to evaluate the merits of the sites, and there has been no official selection of the preferred site to date. However, the City of Minneapolis has negotiated with Hennepin County and has indicated a wilingness to sell the Linden Yards site for the purposes of a rail layover facility.



Potential Railcar Layover Facility, 2009.

Additionally, the study notes several major advantages of the Linden Yards site:

- There is no vehicular access to the Cedar Lake Yards site
- There are no utilities to the Cedar Lake Yards site
- In order for passenger trains to be stored at Cedar Lake Yards, they must pass through the Linden Yards West development on an additional track
- The additional track would not fit under the as-proposed Van White Boulevard Bridge

For the reasons cited above, the station area planning study illustrates development over the top of the rail layover facility at the Linden Yards site. This accommodation is responsive to the City of Minneapolis adopted Bassett Creek Valley Master Plan, the City of Minneapolis resolution to sell Linden Yards for the purposes of the rail layover facility, as well as the ongoing Hennepin County rail layover facility study.

Summary Analysis

Community Assessment

Community members exhibited a high level of comfort with redevelopment in general, and with increased development densities in particular, as laid out in this station area's adopted master vision plan, the Bassett Creek Valley Master Plan (BCVMP). This plan directs redevelopment to the City-owned parcels on either side of the LRT alignment. In regards to the station itself, residents were interested in station access, particular for bikes and pedestrians. Community members would like to see a formal connection between Bryn Mawr Meadows and the Cedar Lake trail, noting that current 'informal' access across the freight rail line is unsafe. Residents also stressed the need for adequate separation between freight and LRT lines, and the heavily-used Cedar Lake Trail.

Design Team Assessment

The BCVMP provides an excellent roadmap for future development and redevelopment throughout the station area, and station area planning does not propose to re-write this plan in any way. Rather, station area planning will look to refine those elements of the plan that represent immediate and interim station area needs, in advance of full implementation of the plan.

Access will be the single most important element requiring refined planning in advance of station opening, particularly in light of uncertain redevelopment timelines for properties immediately adjacent to the station itself. Opening-day station facilities must provide, at a minimum, bike and pedestrian access, as well as kiss-n-ride dropoff.

Van White Station

Van White Station is an opportunity to integrate LRT into a major new mixed-use development. The station will serve employees and residents, and provide access to nearby parks and trails.

Top Issues

- **Ridership depends on redevelopment**
- **Narrow parcel depths immediately adjacent to station platform**
- **Site access to Linden Yards parcel**
  - **emergency vehicles**
  - **traffic volume**
- **Potential railcar storage**

Principles

- **No park-n-ride**
- **Support and refine BCVMP**
- **Provide adequate emergency access to immediate station area**
- **Provide appropriate traffic level-of-service to immediate station area**
- **Provide pedestrian and bike access over freight rail**

Opening Day Recommendations

The following recommendations identify elements essential to the safe, efficient function of the transit station: pedestrian and bike connections, multi-modal transfer, passenger drop-off/pick-up, and wayfinding. These elements are the minimum recommendations of this station area strategic planning study, for implementation on opening day. It should be noted that these recommendations are outside the current Southwest Transitway LRT project as defined in the conceptual engineering drawings. While some elements may be constructed as part of the LRT project itself, other elements must be funded, designed and constructed by other entities, and will require close coordination between the City, the County, and Metro Transit, as well as local stakeholders and neighborhood groups. Further recommendations contributing to a larger transit-oriented district, projects and enhancements that may take many years to fully realize, are contained in the next section.

At Van White, the station area planning process seeks to build on the vision of the Bassett Creek Valley Master Plan (BCVMP). As such, the actions and recommendations detailed below should be considered refinements, not replacements, of the direction contained in the BCVMP. Construction of the Van White Memorial Bridge will be critical to providing both vehicular and non-vehicular station access to the larger community.

Roadway

- Establish two points of entry to both portions (east and west) of Linden Yards parcel

Alternate access is critical for emergency operations, such as fire and ambulance. Varied access may often help ease vehicular congestion during peak travel periods.

- Design new street cross-section (on western portion of Linden Yards parcel) to accommodate auto drop-off/pick-up function as well as bus stops directly in front of the station platform, both sides of street

Anticipated development at the station on opening day is extremely limited, as is the station area's connectivity to adjacent areas. Given these two limitations, auto drop-off/pick-up will be important to establishing ridership at this station on opening day and beyond.

- Introduce wayfinding signage at:
  - Dunwoody Blvd.
  - Van White Memorial Blvd/Dunwoody Blvd intersection
  - foot of existing pedestrian bridge

- Introduce pedestrian lighting

Pedestrian lighting should be included on the access roadway in front of the mixed-use office building.

Pedestrian Connection (sidewalk)

- Create ADA-compliant, vertical circulation between existing pedestrian bridge and station, at platform area

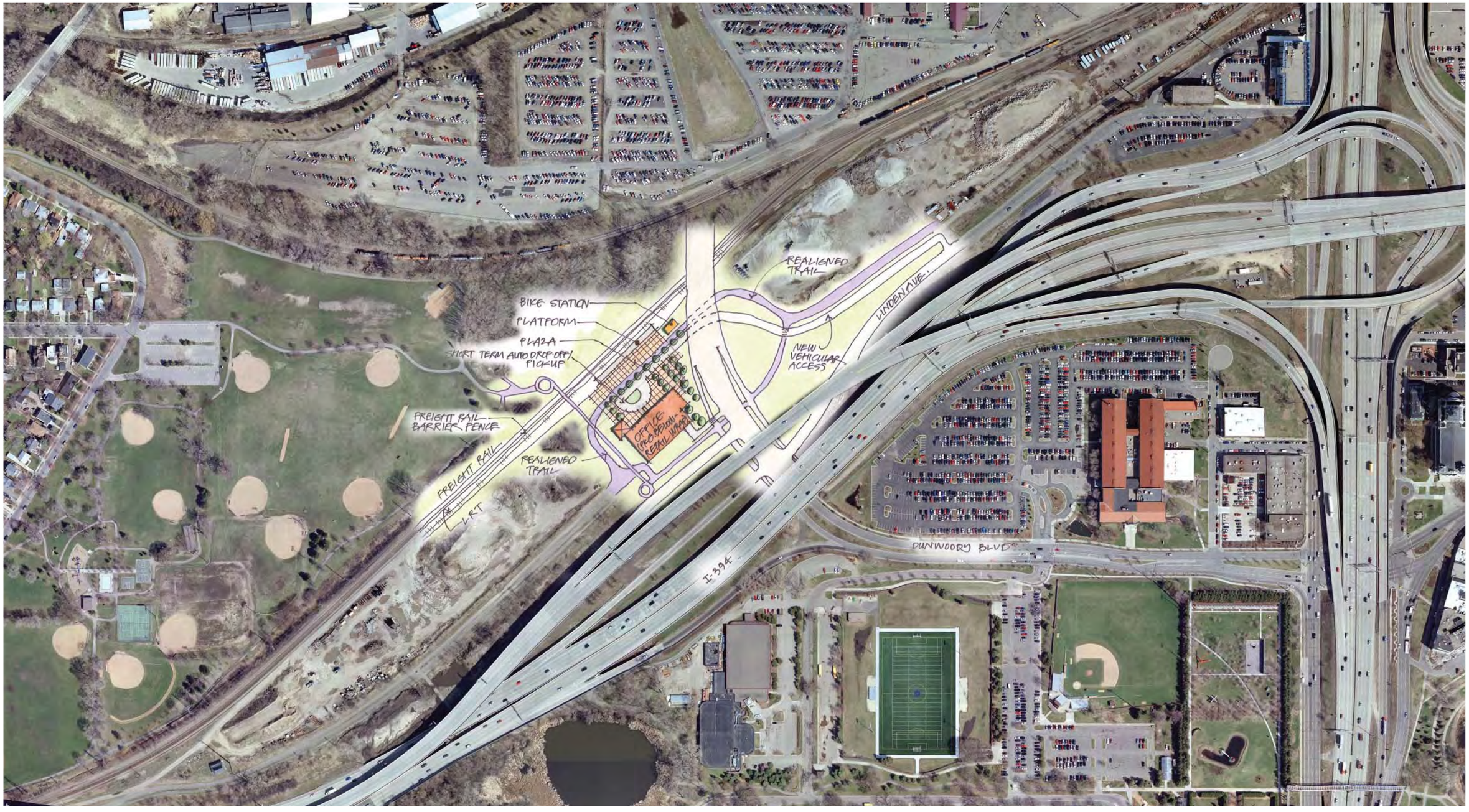
If this access cannot be accommodated, the site plan will have to accommodate pedestrian circulation from east side of parcel (where the existing ped/bike bridge touches down) to west side of parcel (station platform)

- Create ADA-compliant, vertical circulation between Van White Memorial bridge, at platform area

This connection complements but does not replace pedestrian connection between the bridge landing and the station area (see next recommendation.)

- Create ADA-compliant station access between Van White Memorial bridge landing and platform area.

Pedestrians and cyclists accessing the station from the northern portions to Bryn Mawr and across the Van White Memorial Blvd bridge will need to cross from the Linden Yard's east to west sides. Additional land use changes may also be necessary to allow this connection (see "Land Use" on this page).



Van White Station: Opening Day Recommendations. Building orientation ensures that development faces and integrates with the transit station. Cedar Lake Trail is re-routed to promote easy, efficient bike-LRT transfer. Trail and roadway are horizontally aligned to minimize the number of bike-vehicular crossings.

Bicycle Connection (trail/bike lane)

- Relocate a portion of the bike path parallel to station

This routing is critical to enable LRT-bike transfer. If the potential railcar storage facility is in place on opening day, or constructed at any time in the future, the bike path will likely need to transition to the south side of the parcel to accommodate the railcar facility. In this case, the path should transition north of the LRT platform, in order to maintain direct bike-LRT interface at station.

- Install NiceRide station

A bike share station on the station platform will enhance connectivity and mobility within the station area.

Transit Connection

There are no existing or planned bus routes serving the station platform. Given current adjacent land uses, this station area strategic planning process identified no immediate transit changes necessary for LRT introduction.

Van White Station: Sample Transit-Oriented District. Conceptual view looking north toward Van White Memorial Boulevard bridge.

Parking Management

Given current City policy, proximity to downtown and neighborhood preference, this station area strategic planning process does not recommend development of parking facilities in tandem with LRT introduction.

Platform

- Slide platform south of the location shown in the LPA drawings.

This change reduces the walk distance between the existing pedestrian bridge and the station, and also introduces the possibility of direct vertical pedestrian connection with the bridge at this or some future date.

Land Use

- Modify or relocate existing uses which impede station access.

Existing land uses will need to be curtailed or relocated to the degree necessary to allow for vehicular, pedestrian and bike access to the station, as described in the preceding recommendations.

Public Comment

Public comment centered on the need to follow the Bassett Creek Valley Master Plan (BCVMP). While the potential Rail Layover Facility is still a concern, the majority of citizens offering input felt comfortable that the opening day and sample TOD recommendations did reflect the vision of the BCVMP.

Questions & Comments

- **There should be no park-n-ride at this location.**
  While the final decision of whether or not to provide transit parking will be made in the Preliminary Engineering (PE) process, this station area planning process recommends that this station NOT include park-n-ride facilities. The DEIS does not include parking at this station
- **There should be no railcar storage at this location.**
  This decision is beyond the scope of station area planning. This process seeks only to show how the BCVMP and Ryan Companies vision might be integrated with such a facility.
- **There is concern that redevelopment will not move past the single building shown in the short-term option.**
  Timeframe and ultimate build-out is beyond the scope of station area planning. Planning is meant only to establish guidelines for transit-oriented development; market forces will ultimately determine the type and density of development
- **Incorporate the historical railroad character of the area.**
  Platform character, plaques and monumention will all be a part of preliminary and final engineering.
- **We need to keep our 'bike freeway'; keep the curves and stops to a minimum.**
  Final trail alignment will be determined in the preliminary engineering process, but this process recommends that the bike trail parallel the light rail alignment rather than be routed to the eastern side as the Linden Yards parcel, as shown in the DEIS.

Sample Transit-Oriented District

The graphic at right illustrates one of many ways the Van White station area might look in the future, embodying transit-oriented development principles. This drawing is not a plan, per-se, but simply a graphic representation of the physical form that could evolve within a framework of pedestrian-focused, transit-supportive policies.

The goal of this station area strategic planning process is not to decide which parcels will redevelop, when they will redevelop, or even what specific land use they will have. All of these particulars will be decided by market demand, and by the private landowner. Rather, the goal of this process is to identify the land use and planning principles most relevant to this particular station area, and to begin to formulate a framework of visioning principles that will act as a base for future, more detailed planning efforts.

As stated in regards to the Opening Day Recommendations, it is important to note that this station area planning process seeks to build on the vision of the Bassett Creek Valley Mater Plan (BCVMP). As such, the actions and recommendations detailed below should be considered refinements, not replacements, of the direction contained in the BCVMP.

Roadway

Station area strategic planning identified no additional, long-term roadway recommendations beyond those identified in the preceding 'Opening Day Recommendations.'

Pedestrian Connection (sidewalk)

- Site development should emphasize pedestrian movement and priority over vehicular movement.

Bicycle Connection (trail/bike lane)

- Prioritize City-proposed bikeway on Dunwoody Blvd

As of the writing of this document, updates on the City's Bicycle Master Plan can be found on the web at: http://www.ci.minneapolis.mn.us/bicycles/bicycle-plans.asp

Transit Connection

- If bus service is introduced on adjacent roadways, bus stops should be located as close to the station platform as possible, preferably within the transit plaza area.

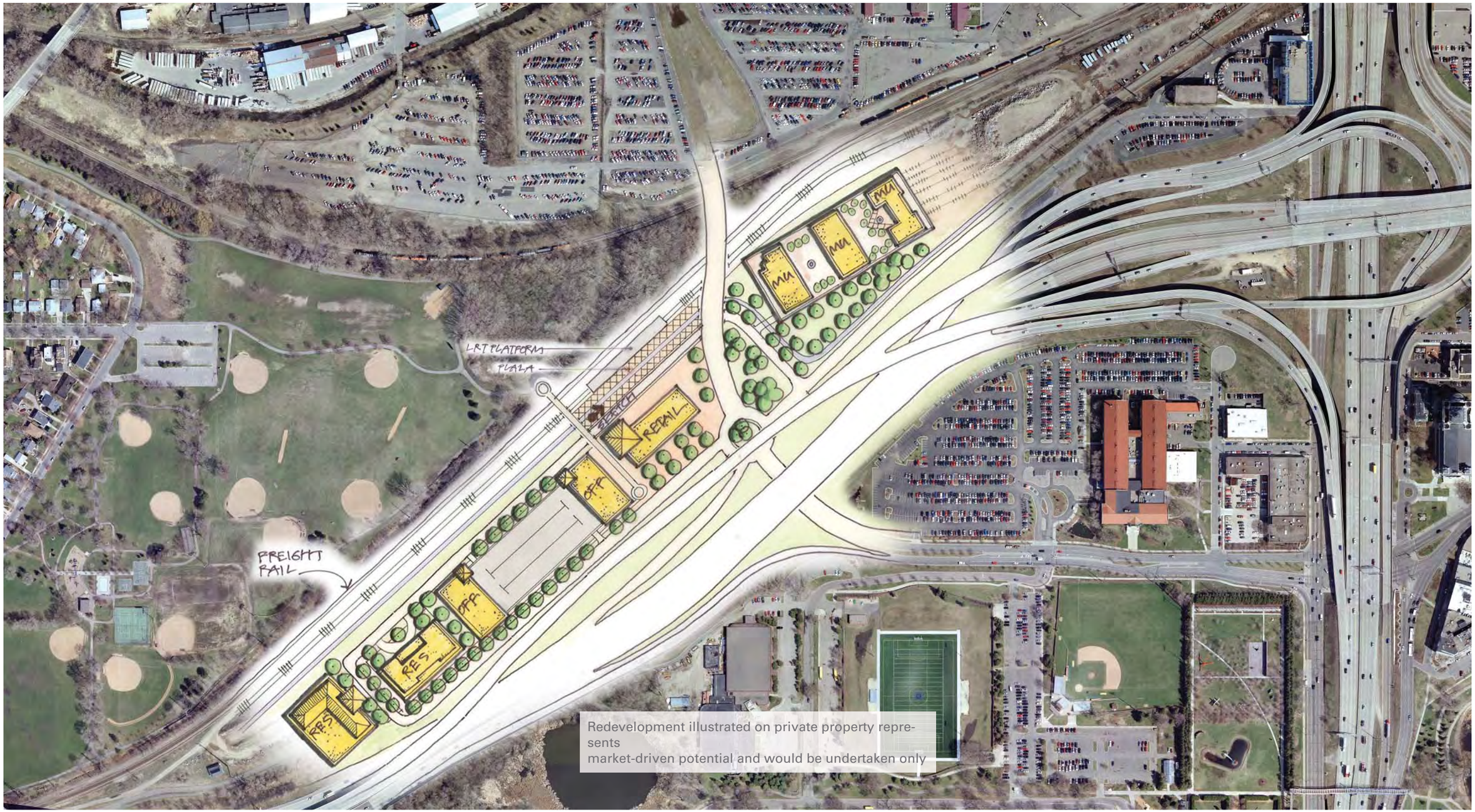
Parking Management

- Consider reduced parking requirements, shared parking and other parking management tools.

In order to promote density and capitalize on transit connectivity, reduced parking requirements, shared parking, parking caps (maximums instead of minimums) or phased parking requirements (a lower parking cap or lower parking requirements as the area reaches redevelopment build-out) should be considered.

The City of Minneapolis's zoning code already sets parking maximums for most uses. In station areas in particular reduced parking numbers should be encouraged. In addition, application of the Transit Station Pedestrian Oriented Overlay District should be considered. This zoning overlay further reduces the minimum and maximum parking requirements. It also allows for parking to be located an additional 500' from the use served and reduces parking lot dimensions.

Care should be taken that parking policy is not so stringent as to discourage market-based development. Enforcement will be required.



Van White Station: Sample Transit-Oriented District. Connectivity and pedestrian-level detail are key to a successful development around the Van White station .

Platform

Station area strategic planning identified no additional, long-term transit platforms beyond those identified in the preceding Opening Day Recommendations.

Land Use

- Development immediately adjacent to (facing) the platform should:
  - have active ground floor uses
  - orient its primary façade to the platform
  - include vertically mixed-uses, with transit-supportive retail uses on the ground floor

- Development on and above the railcar storage facility should have an appropriate southern (platform-facing) façade.

Usable, active ground floor space is preferred. If not possible, the façade should come to ground, in order to screen railcar storage, and offer an appropriate level of pedestrian detail. If the area southeast of railcar storage is developed as open space/park/amenity, same façade guidelines as above apply.

- Development on and above the railcar storage facility should utilize area between railcar storage/development and Linden Avenue to create new open space/park.

A new park can act as both a catalyst and amenity for the high-density uses envisioned for this area. The very urban, hardscape-dominated context of the station area suggests that green space would serve the area well, and continue Minneapolis's tradition of integrating nature within the urban environment.

- All development should ensure an appropriately detailed, pedestrian-oriented ground floor.

- All development should promote active ground floor uses

An interesting, human-scaled public realm encourages pedestrian activity and activates an area. Active ground floor uses with a high degree of transparency (ie, windows) create an inviting walking district. This recommendation applies to parking ramps as well, which should be 'wrapped' with commercial or retail spaces at ground level. Current conceptual planning efforts illustrate the use of podium-type residential buildings. Often designed with substantial blank walls, few pedestrian entrances/exits and lack of detail at the pedestrian level, these structures are not a preferred building type for pedestrian-oriented areas. If these buildings are used, ground floor should be scaled and detailed for pedestrian interest.

Zoning

- Rezone properties to transit-friendly districts, and apply appropriate overlays, as development proposals are submitted.

In 2007 many properties in the Basset Creek Valley area were rezoned in order to set the stage for the type of development envisioned in the Bassett Creek Valley Master Plan. The most notable changes were to the Linden Yards parcels which were zoned Office Residential 3, a high density mixed use district. The impound lot and several parcels just to the north were left Industrial, but the Industrial Living Overlay district was added, which allows for the development of housing in industrial districts. In the future the zoning of the impound lot in particular should be revisited, but this should be done when a development proposal is presented.

Next Steps

Context & Planning Assumptions

- Van White Memorial Boulevard will be constructed before Southwest LRT opens
- The Van White station area will be developed according to the adopted Bassett Creek Valley Master Plan; City uses will be relocated, though the timeframe is uncertain
- Rail layover facility, if constructed in Linden Yards, will be designed in a way that does not preclude the development proposed in the Bassett Creek Valley Master Plan
- No park and ride allocation in LRT project; station area strategic planning also does not recommend park and ride at the Van White Station.

Planning Process

The tables at right summarize the recommendations contained in the preceding 'Opening Day Recommendations' and "Sample Transit Oriented District' sections. A number of broader steps, listed below, will be needed to set the framework for the more specific steps identified at right.

- Provide input to preliminary engineering for LRT effort with Met Council
- Prepare site for development (relocate County/City uses, construct roadways on parcel, construct VW Memorial Pkwy)
- Adopt appropriate transit-area policies (refine/advance BCVMP) at the County/City level
- Identify master developer (done)
- Identify funding mechanisms, incentives & public participation

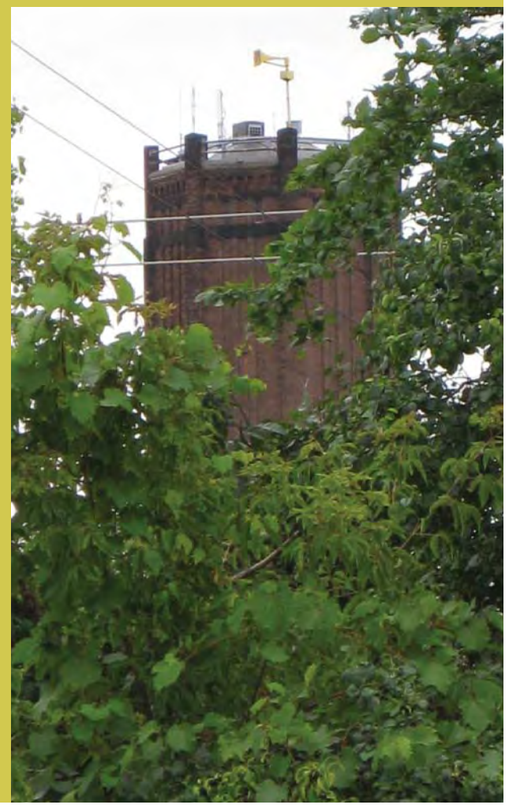
Specific Recommendations to be Implemented by LRT Opening Day	Additional Study & Design during Preliminary Engineering	Policy Change	Lead Jurisdiction
Patron drop-off/pick-up in new roadway	x		SW LRT Project
Wayfinding signage	x		SW LRT Project
Vertical circulation between existing ped bridge and station platform	x		SW LRT Project, City
Station access between Van White bridge and station platform	x		SW LRT Project, City
Relocate (a portion of) bike path to parallel station	x		SW LRT Project, City
NiceRide station	x		City
Modify station platform location	x		SW LRT Project

Specific Recommendations to be Implemented as Needed	Additional Study & Design during Preliminary Engineering	Policy Change	Lead Jurisdiction
Bikeways	x		City
New park/open space east of railcar storage facility	x		City, private developer
Modify/relocate existing, impeding uses on Linden Yards parcel	x		City
Site-wide pedestrian circulation		x	City
Parking mangement tools	x		City
Orient station-adjacent buildings to the station		x	City
active ground-floor uses in station-adjacent buildings		x	City
Vertically-mixed uses in station-adjacent buildings		x	City
Screen railcar storage from station		x	City
Appropriate detail at the ground floor for all buildings		x	City
Active ground floor uses		x	City

Penn Station

Station Area Strategic Planning

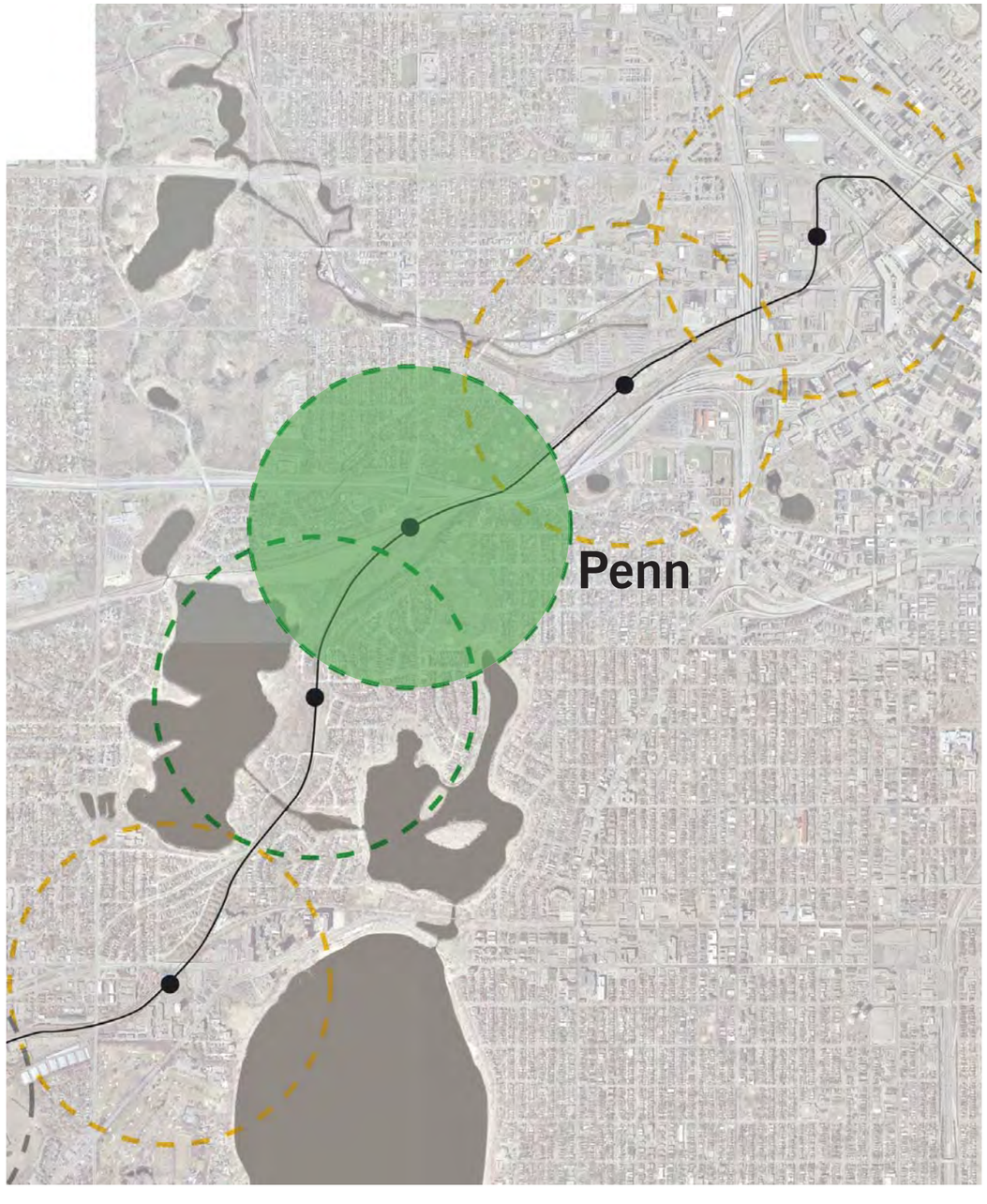
- Existing Conditions
- Previous & Current Planning Efforts
- Summary Analysis
- Opening Day Recommendations
- Sample Transit-Oriented District
- Next Steps



Existing Conditions

Penn Station is located in a valley just south of I-394, with neighboring residential and office uses located high on bluffs to the east and west. The Cedar Lake Trail and Kenilworth Trail join at this point, and Cedar lake is just south and west of the station platform.

This station will provide transit access to the stable residential communities of Bryn Mawr, Lowry Hill and Kenwood, as well as recreational access to neighboring Cedar Lake, the Minneapolis Chain of Lakes, and the Grand Rounds trails.



Land Ownership

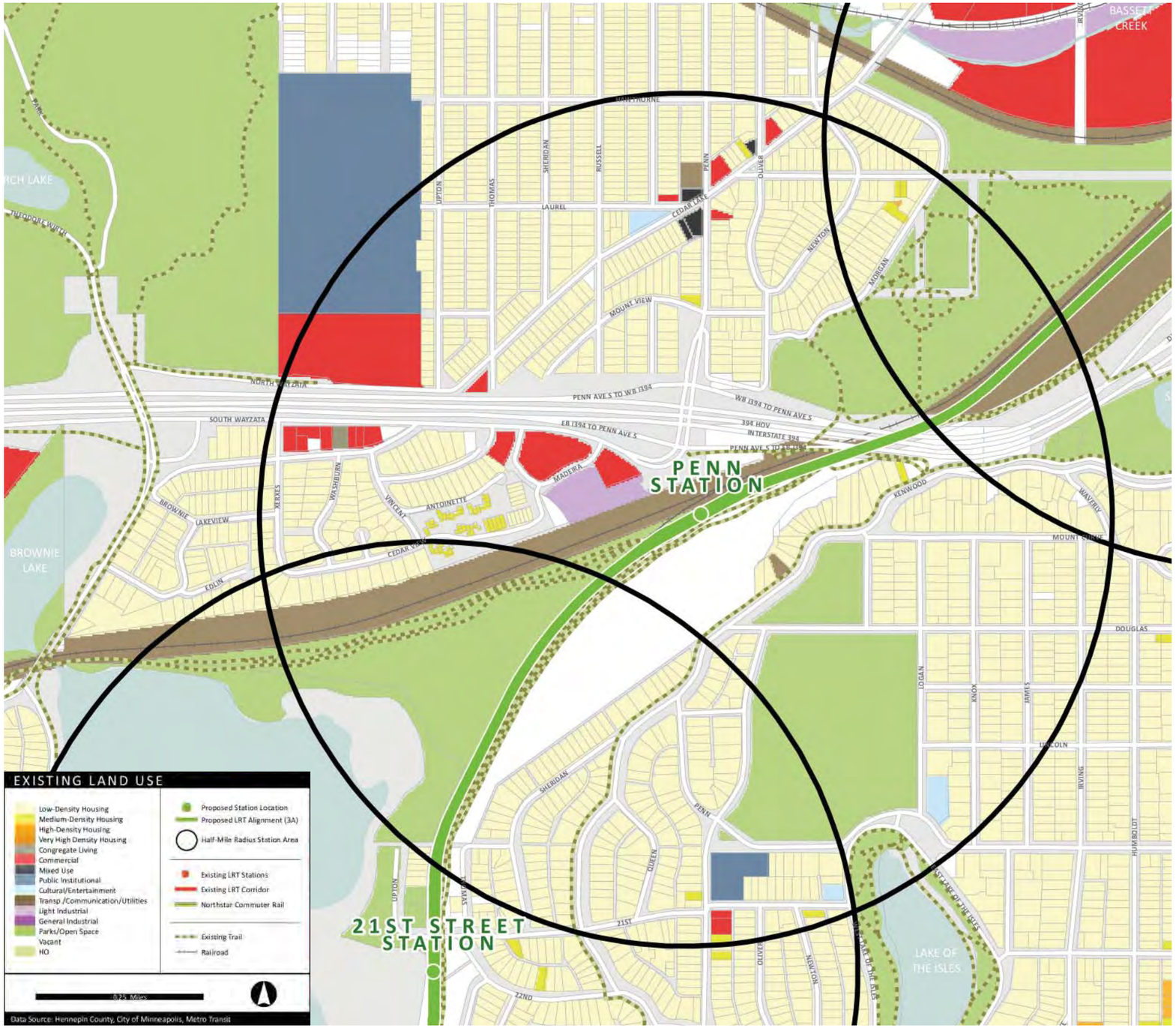
The Penn station is surrounded by public property owned by the Hennepin County Regional Railroad Authority (HCRRA), Burlington Northern Santa Fe Railway (BNSF) and the Minneapolis Park and Recreation Board (MPRB). MPRB owns several parks within the station area.

The remainder of the station area is dominated by private residential parcels, with a small number of commercial and educational owners in the western part of the station area.

Land Use

The majority of parcels within the Penn station area are single-family residential or park/open space. Residential areas are stable and predominantly owner-occupied. There is a small cluster of commercial and light industrial uses on the western portion of the station area.

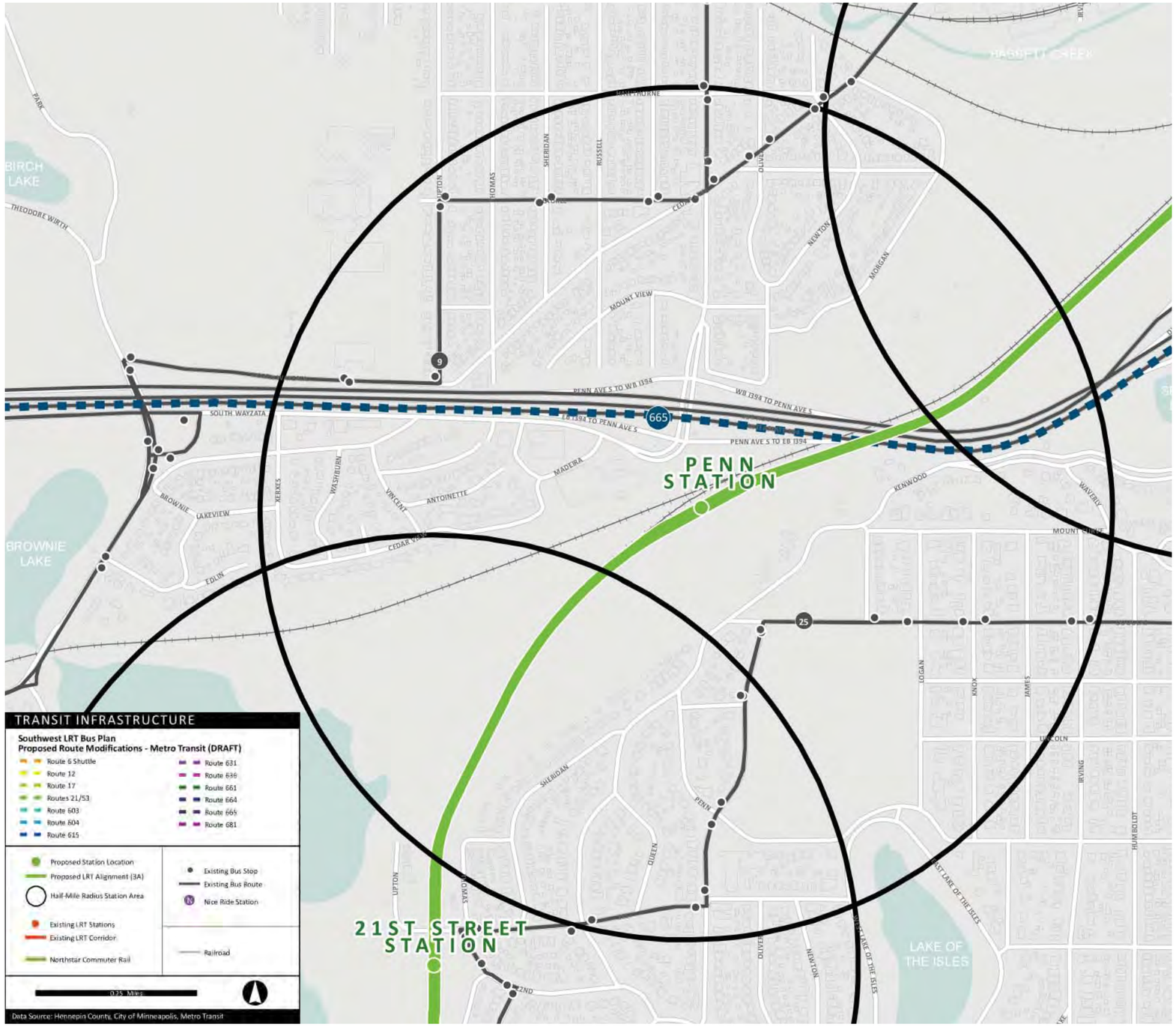
Uses immediately abutting the station on the valley floor are passive open space and multi-use trails, including the HCRRA-owned parcel (white on the accompanying graphic) shown as 'vacant.' The active freight-rail corridor (brown) and I-394 are a significant, limiting uses that are unlikely to change.



Transit

Existing transit connectivity within the proposed station area is limited. Bus Routes 9 and 25 travel within a half-mile of this area. Route 9 runs along North Wayzata Boulevard to Upton Avenue, then northeast of the station. Route 25 runs along Douglas Avenue to Oliver Avenue, then southwest of the station through the Kenwood neighborhood. Many express routes operate on I-394, but do not stop near the Penn Station.

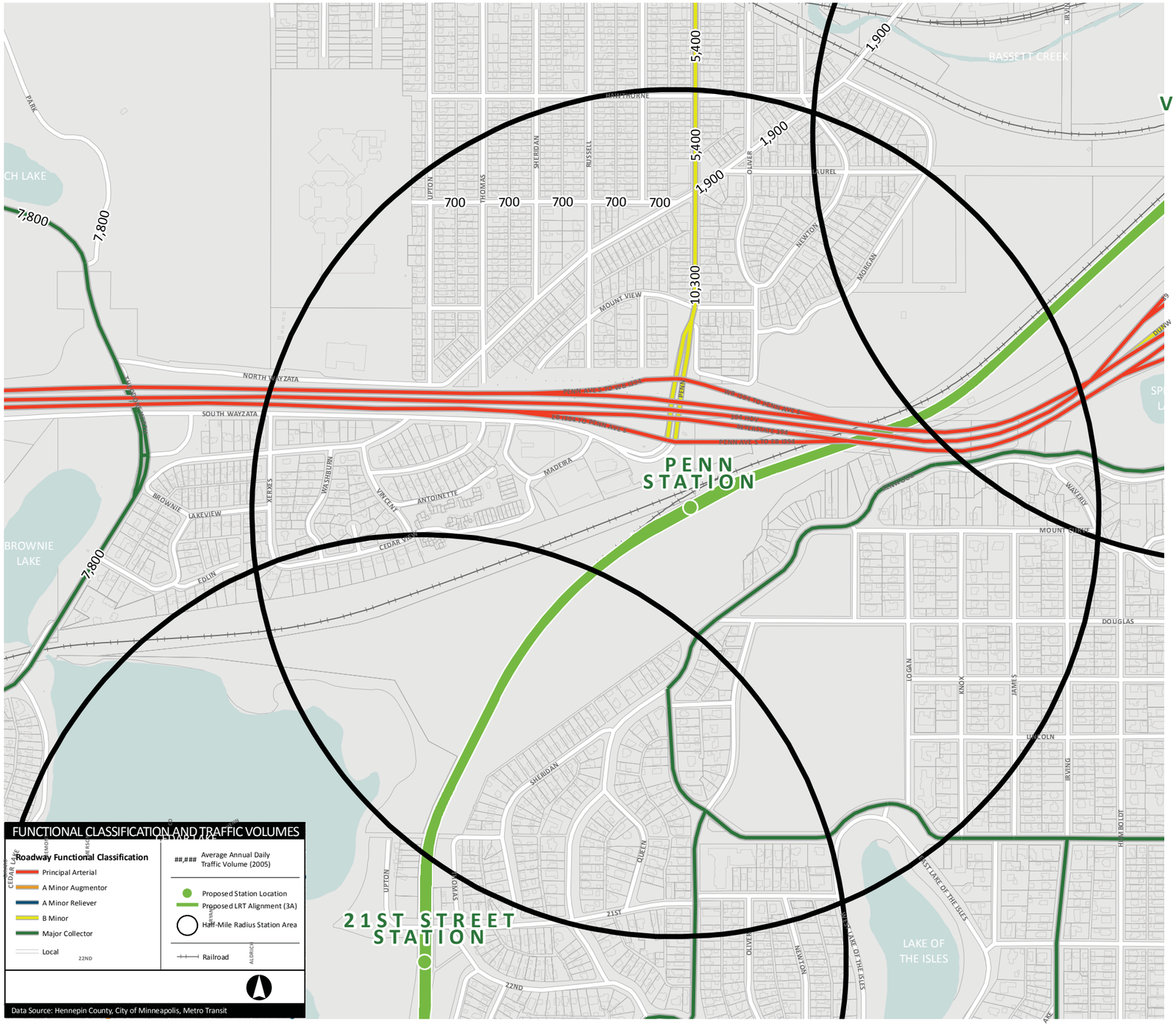
As stated in the Existing Conditions introduction, Penn station will be on the valley floor; existing bus service runs at bluff level above this valley.



Roadways & Parking

Based on the existing traffic volumes, the majority of the surrounding local roadway network operates well below its capacity. However, the Penn Ave/I-394 interchange area is highly congested as peak hour volumes on the interstate, freeway ramp segments and bridge section of Penn Ave exceed its capacity resulting in heavy queues across the Penn Ave Bridge. The congestion negatively impacts the pedestrian and bicycle experience in the immediate area. There is currently no public roadway access to the station area. The bluffs and freight rail in this area are physical barriers that limit the ability to complete a roadway connection.

The station area is located between the Penn I-394 interchange and Kenwood Pkwy and has poor access by vehicle. The residential areas within the half mile station radius have on street parking allowed with some restrictions near the parks.

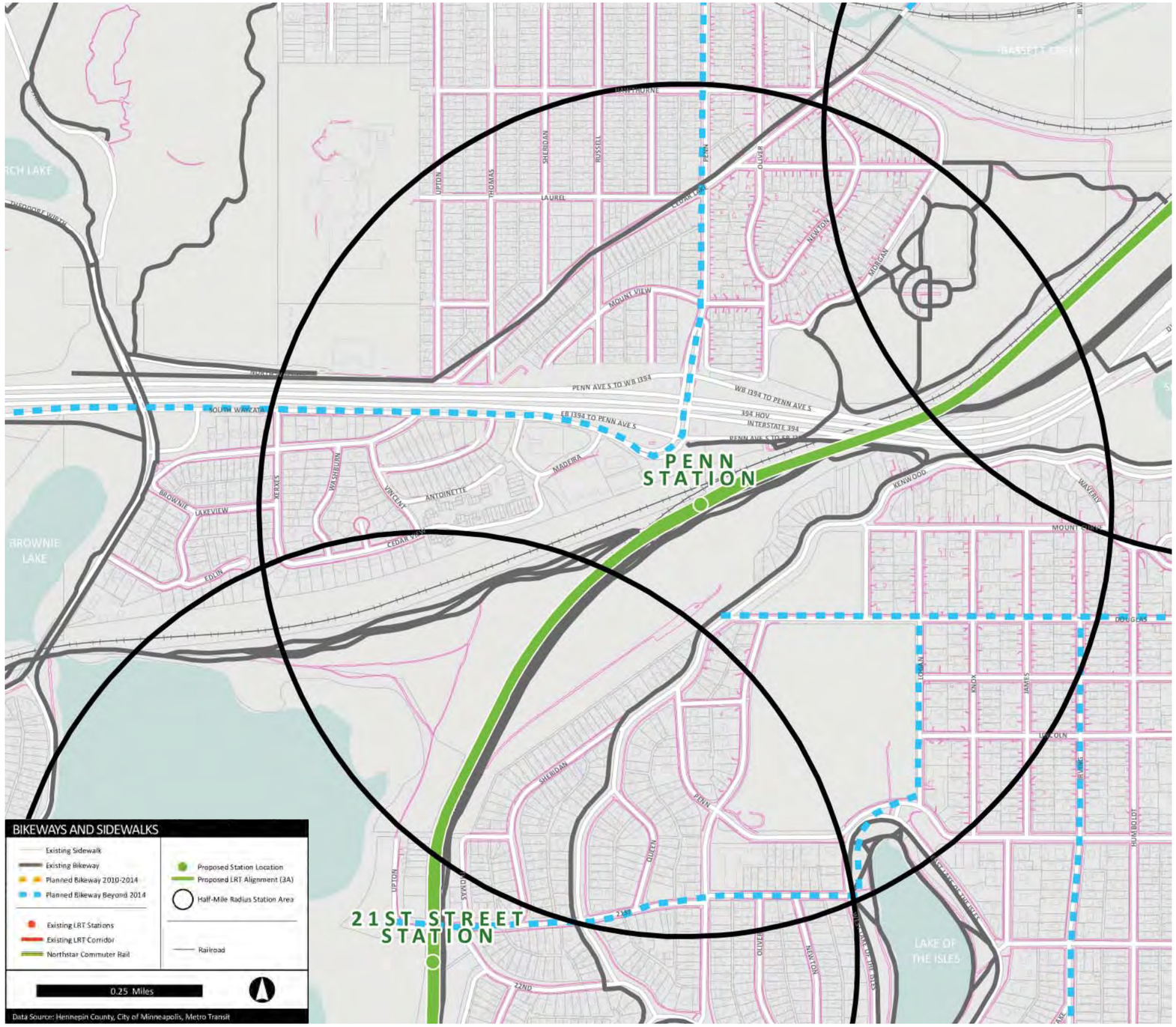


Sidewalks & Trails

The majority of the adjacent roadway network within the Bryn Mawr and Kenwood neighborhoods has adequate sidewalks. The trail network through the station area is significant as the junction point of the Cedar Lake Trail and Kenilworth Trail. The Kenwood neighborhood has a bike route along Kenwood Pkwy and Lake of the Isles. A direct pedestrian connection is lacking from the Kenwood or Bryn Mawr neighborhoods to this station area.

Pedestrian and bicycle connectivity to the Bryn Mawr and Kenwood neighborhoods may be achieved via the existing helix pedestrian/bike ramp and/or a new connection to the Kenwood neighborhood at approximately Douglas Avenue. It should also be noted that a significant number of pedestrians and cyclists choose to access the Cedar Lake Trail illegally in this area, by walking across the freight tracks at grade.

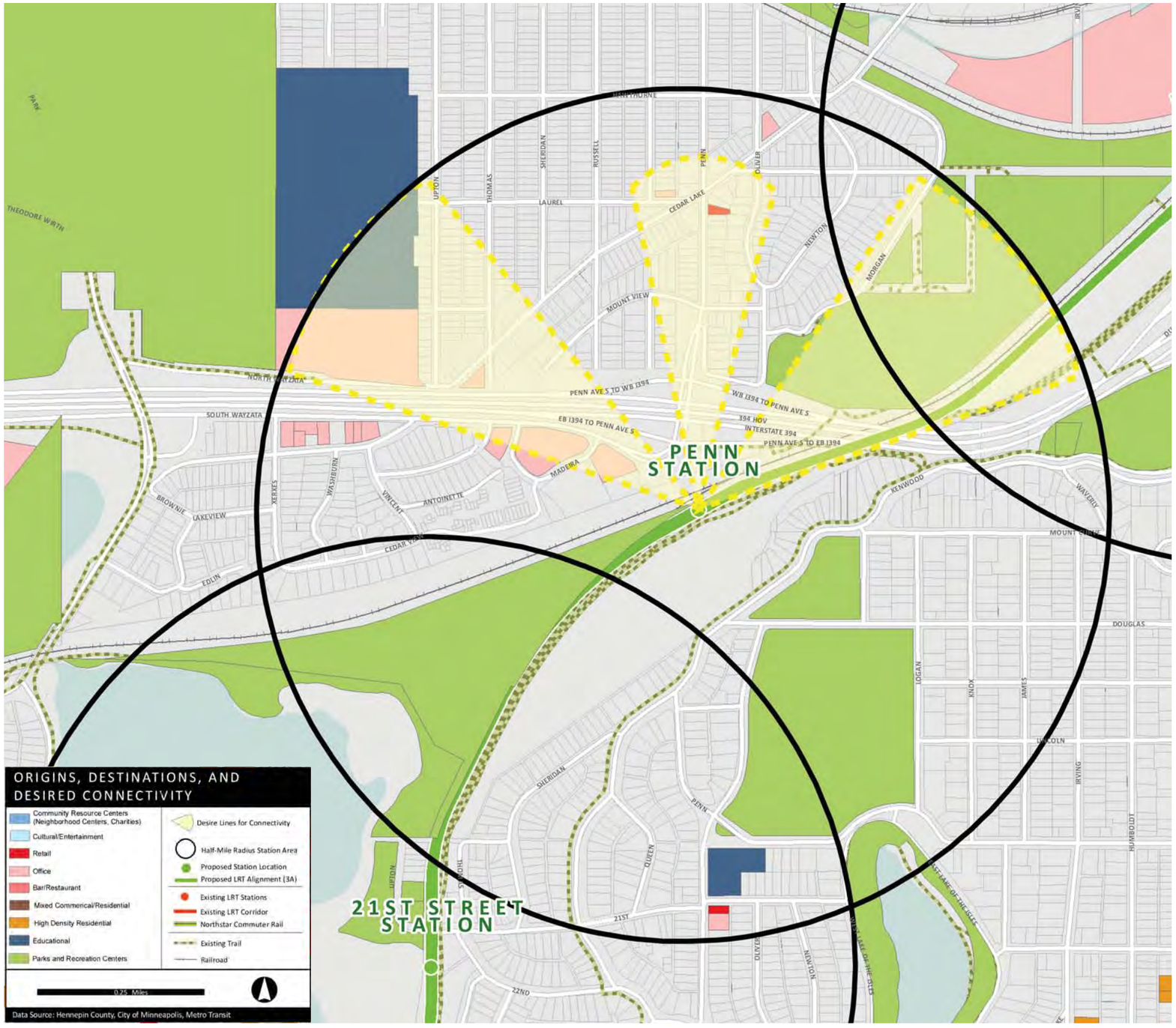
The bluffs on the east and west sides of the station area are significant impediments to pedestrians and cyclists. "Cow paths" exist in these areas, indicating an intuitive travel route between the bluffs and the proposed location of the station platform that could be formalized (and made ADA-accessible) during station construction.



Origins, Destinations & Connectivity

This station will likely generate origin-based ridership. Regardless of whether riders are headed to downtown Minneapolis or to suburban employment nodes served by a reverse commute, peak travel hours will be weekday a.m. and p.m. peak. A small number of riders may use this station to access the handful of commercial uses arrayed along I-394, most notably the Quest employment center on the station area's perimeter.

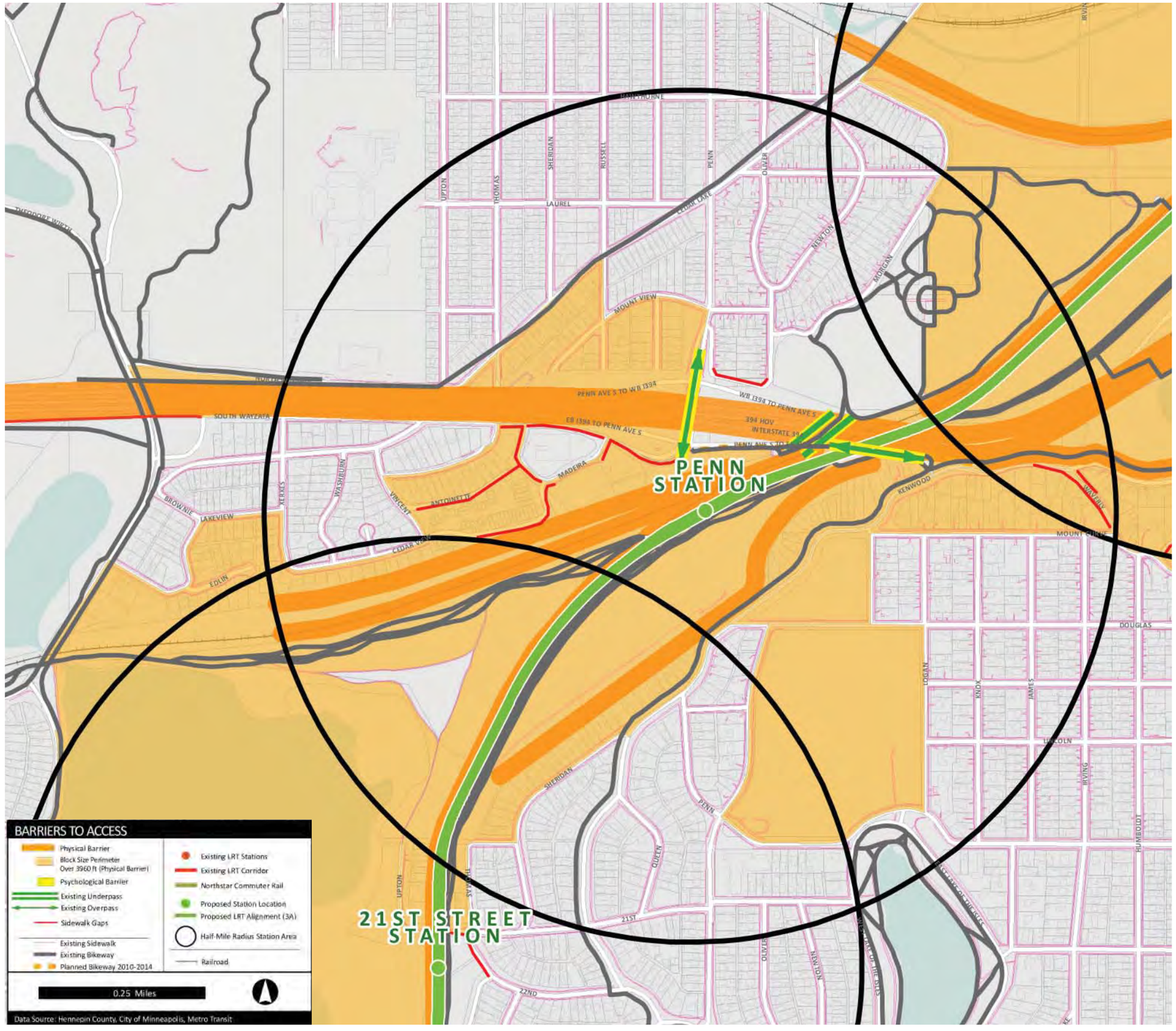
The station area's central destinations are Bryn Mawr Meadows, Anwatin Middle School and Bryn Mawr Elementary school, and a small enclave of neighborhood-serving retail. Given their scale (retail) and user base (schools), however, these destinations are unlikely to generate significant transit ridership. Bryn Mawr Meadows may provide limited destination riders, but these riders are likely to use the closer Van White station.



Barriers to Access

The station area's most significant barrier for both vehicular and pedestrian traffic is topography. Located in a narrow valley and bounded by stable uses, the site has little opportunity for vehicular access to the station itself. This condition means that all users, regardless of whether they arrive by foot, bus or car, will have to walk some distance to the station. Related to topography is the site's minimal visibility from adjacent roadways and properties.

As at Van White station, the active freight rail line act and I-394 act as additional barriers requiring grade-separated crossing for all users.

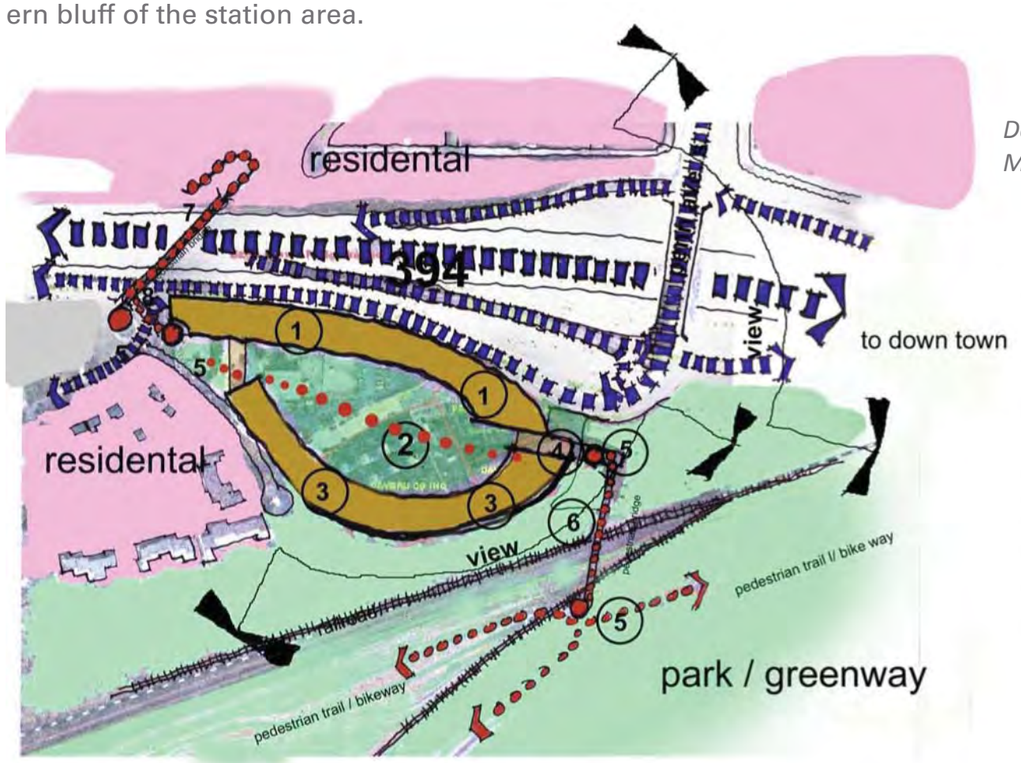


Previous & Current Planning Efforts

Bryn Mawr Neighborhood Land Use Plan, 2003

This community-generated document outlines existing conditions and priorities for the Bryn Mawr Neighborhood. The plan identifies nine goals for neighborhood design and development; these goals are generally consistent with pedestrian- and transit-oriented development principles.

The document identifies nine redevelopment 'opportunity' sites, one of which (South Gateway) falls within the Penn station area. The sketch plan for this site is shown below, and includes multi-level retail and plaza space on the western bluff of the station area.



Development concept on western bluff, Bryn Mawr Neighborhood Land Use Plan, 2003.

Hennepin County Rail Layover Facility Study, 2010

Hennepin County Public Works is currently conducting a study of potential sites for a passenger rail layover facility. Two sites near the Southwest LRT alignment, Linden Yards and Cedar Lake Yards, are under evaluation. It is not within the scope of this Station Area Strategic Planning to evaluate the merits of the sites, and there has been no official selection of the preferred site to date. However, the City of Minneapolis has entered into an agreement with Hennepin County to sell the Linden Yards site for the purposes of a rail layover facility.

Additionally, the study notes several major advantages of the Linden Yards site:

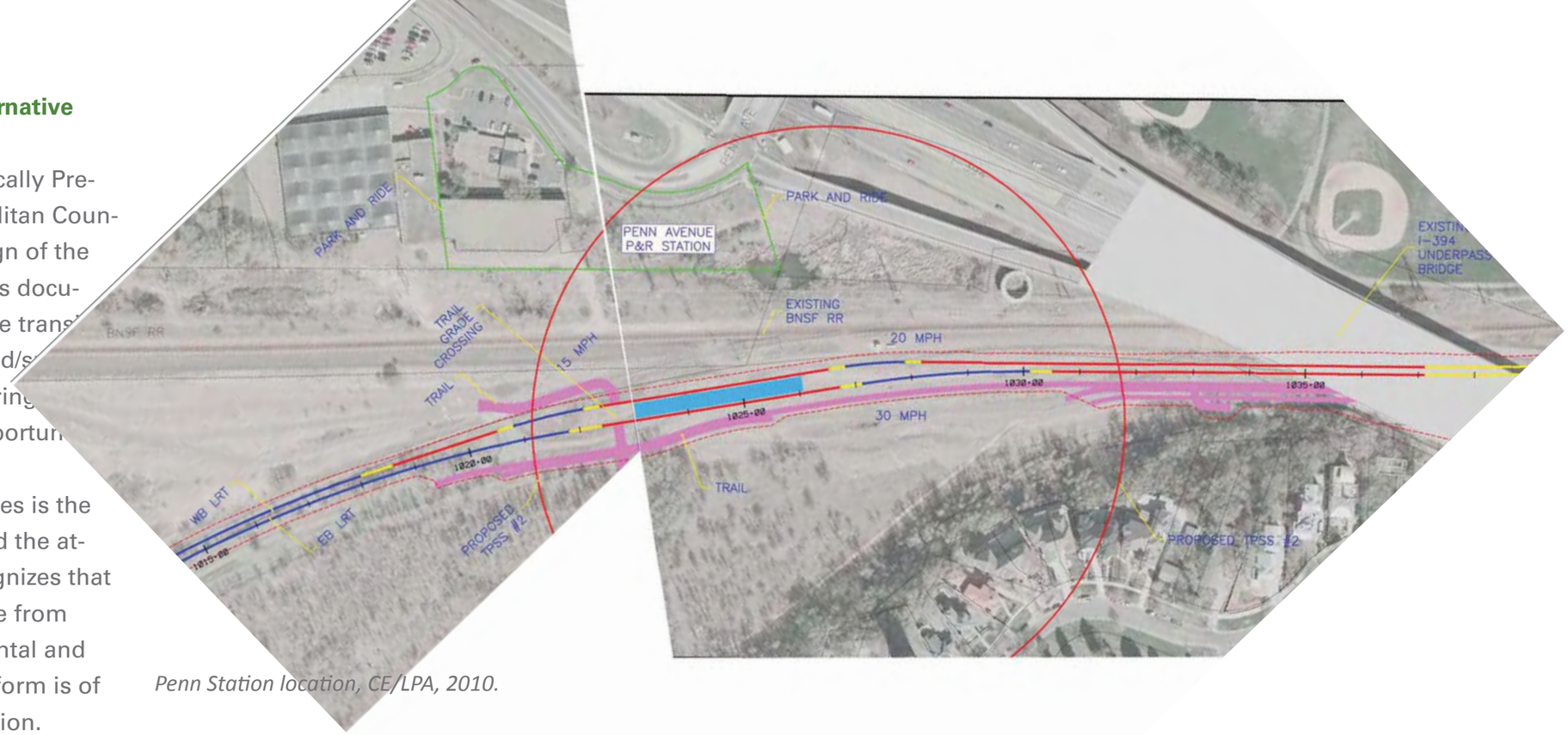
- There is no vehicular access to the Cedar Lake Yards site
- There are no utilities to the Cedar Lake Yards site
- In order for passenger trains to be stored at Cedar Lake Yards, they must pass through Linden Yards on an additional track
- The additional track would not fit under the as-proposed Van White Boulevard Bridge

For the reasons cited above, the station area planning study illustrates development over the top of the rail layover facility at the Linden Yards site. This accommodation is responsive to the City of Minneapolis adopted Bassett Creek Valley Master Plan, the City of Minneapolis resolution to sell Linden Yards for the purposes of the rail layover facility, as well as the ongoing Hennepin County rail layover facility study.

Conceptual Engineering & Locally Preferred Alternative (CE/LPA), 2010

Conceptual Engineering (CE), included in the Locally Preferred Alternative (LPA) selected by the Metropolitan Council in 2010, represents a preliminary step in design of the actual transit infrastructure itself. Portions of this document most important to station area planning are trans alignment, station location, and at-grade/elevated/s crossings; these elements will have a direct bearing ture station area character and development opportun

Most important for station area planning purposes is the platform location in relation to Penn Avenue, and the at-grade trail crossing. Station area planning recognizes that a large portion of station users are likely to come from Bryn Mawr north of I-394; minimizing the horizontal and vertical distance between Penn Avenue and platform is of high importance to reduce travel time to the station.



Penn Station location, CE/LPA, 2010.

Draft Environmental Impact Statement (DEIS), 2010

The DEIS documents the possible impacts of the LRT project on both the natural and built environments. As of the writing of this document, the DEIS is currently under FTA review.

Summary Analysis

Community Assessment

Community members appear split regarding the future function and ridership at this station, noting that access issues may mean that many adjacent residents choose to use Van White or 21st Street stations instead.

Residents are also concerned with maintaining not only access to, but efficient function of, the existing regional trail system in this area. Some stakeholders have stated a very strong desire for grade separation between bike and rail, so that heavily-used commuter trails are not negatively impacted. The community also has a very strong desire for the LRT process to provide better, safer connections to the Cedar Lake Trail from the north side of the existing freight rail line.

Design Team Assessment

The design team views station access, and its impacts on future ridership, as the single most critical issue at the Penn Station. With little opportunity for direct vehicular access to the platform itself, pedestrian connections from the north, south and east are critical. Connections must be ADA-compliant, and must minimize the distance to the station to the greatest degree possible. Looking particularly at grade-separated crossing of freight rail, the team is concerned with the cost of such necessary improvements contrasted against potential ridership.

Penn Station

Penn Station is an opportunity to improve the Bryn Mawr Neighborhood's access to transit, lakes, trails and the Minneapolis parks system.

Top Issues

- **Southwest LRT project assumes park-n-ride at this station**
- **Difficult to access station area, for all modes**
- **Pedestrian & bike access across freight rail**

Principles

- **No LRT parking**
- **Provide safe crossing of freight rail and LRT**
- **Minimize impact of any new development**
  visual
  traffic
-
-

Opening Day Recommendations

With Pedestrian Underpass

The following recommendations identify elements essential to the safe, efficient function of the transit station: pedestrian and bike connections, multi-modal transfer, passenger drop-off/pick-up, and wayfinding. These elements are the minimum recommendations of this station area strategic planning study, for implementation on opening day. It should be noted that these recommendations are outside the current Southwest Transitway LRT project as defined in the conceptual engineering drawings. While some elements may be constructed as part of the LRT project itself, other elements must be funded, designed and constructed by other entities, and will require close coordination between the City, the County, and Metro Transit, as well as local stakeholders and neighborhood groups. Further recommendations contributing to a larger transit-oriented district, projects and enhancements that may take many years to fully realize, are contained in the next section.

The station area planning effort identified two alternatives for pedestrian access across the freight rail tracks. A pedestrian underpass utilizing the existing pedestrian/bike helix to bring patrons from highway grade to valley floor offers a lower-cost solution than the alternative pedestrian overpass shown on the next pages. An underpass pushes the station platform slightly further north. This location may be more convenient for some residents and less convenient for others, but is generally less centrally located in respect to the adjacent eastern neighborhoods.

Roadway

- Construct auto drop-off/pick-up pull off on bluff south of Penn Ave/Wayzata Blvd intersection

- Sign existing parking area at Kenwood Pkwy, adjacent to Kenwood Trail spur, as auto drop-off/pick-up

This parking area could potentially be reserved for transit use at a.m. and p.m. peak hours only, with other hours open to general parking. Changes to Kenwood Pkwy should be minimized.

Pedestrian Connection (sidewalk)

- Correct existing breaks in the sidewalk system.

Sidewalks are missing in the following locations, and are necessary to ensure safe pedestrian access to the station:

- Wayzata Blvd, south side only, from pedestrian bridge to Penn Ave intersection
- Madeira Ave, both sides

- Install pedestrian wayfinding signage.

This station's depressed location in the valley, not visible from adjacent neighborhoods, makes wayfinding signage particularly important. Signage should be installed at the following locations:

- Kenwood Trail & Kenwood Pkwy
- Penn Ave & Wayzata Blvd
- Top of helix @ Penn Ave
- Bryn Mawr Park—Morgan Ave South
- Bryn Mawr Park –under I-394 trail

- Construct fence prohibiting illegal, at-grade crossing of freight rail line

The introduction of light rail could increase the frequency of unsafe, illegal freight rail crossings by pedestrians and cyclists.

Bicycle Connection (trail/bike lane)

- Construct trail underpass at Cedar Lake/Kenilworth Trail

As a federally-funded bicycle commuter freeway, the Cedar Lake Regional Trail is heavily used by commuters and recreationalists alike. It is important to maintain the highest, most efficient level of service possible on this key bike corridor.

Transit Connection

- Reroute bus 25 to create stop on Kenwood Parkway, at top of Kenwood Trail spur

This route change will ensure the shortest walking distance to the platform, promoting transit ridership.

Parking Management

Station area strategic planning does not recommend transit parking at this location.

Platform

- Slide platform location north of the position shown in the LPA documents.

This more-northern location, still on tangent track, minimizes walking distance to the station, for patrons coming from the ped/bike helix as well as the Kenwood Trail spur.

Land Use

Station area strategic planning identified no immediate land use changes necessary for LRT introduction. Strategic, long-term land use recommendations are contained in the 'Sample Transit-Oriented District' section.

Penn Station: Opening Day Recommendations. Pedestrian access across the freight rail tracks is critical to transit ridership. This option illustrates a pedestrian underpass at the foot of the existing ped/bike helix.

Opening Day Recommendations

With Pedestrian Bridge

The following recommendations identify elements essential to the safe, efficient function of the transit station: pedestrian and bike connections, multi-modal transfer, passenger drop-off/pick-up, and wayfinding. These elements are the minimum recommendations of this station area strategic planning study, for implementation on opening day. It should be noted that these recommendations are outside the current Southwest Transitway LRT project as defined in the conceptual engineering drawings. While some elements may be constructed as part of the LRT project itself, other elements must be funded, designed and constructed by other entities, and will require close coordination between the City, the County, and Metro Transit, as well as local stakeholders and neighborhood groups. Further recommendations contributing to a larger transit-oriented district, projects and enhancements that may take many years to fully realize, are contained in the next section.

As noted on the previous page, the station area planning effort identified two alternatives for pedestrian access across the freight rail tracks to the station. This option, a pedestrian overpass, would costs singificantly more than the previous alternative. This cost would need to be evaluated against the station's potential ridership, to determine ultimate feasibility. With a slightly more southern station location, station access is more central for eastern bluff residents.

Roadway

- Construct auto drop-off/pick-up pull off on bluff south of Penn Ave/Wayzata Blvd intersection

- Sign on-street auto drop-off/pick-up area on Kenwood Pkwy, adjacent to new ped/bike access trail (Douglas Ave intersection)

This parking area could potentially be reserved for transit use at a.m. and p.m. peak hours only, with other hours open to general parking. Changes to Kenwood Pkwy should be minimized.

Pedestrian Connection (sidewalk)

- Correct existing breaks in the sidewalk system.

Sidewalks are missing in the following locations, and are necessary to ensure safe pedestrian access to the station:

- Wayzata Blvd, south side only, from pedestrian bridge to Penn Ave intersection
- Madeira Ave, both sides
- south side of Douglas Ave, from Logan to Oliver

- Construct fence prohibiting illegal, at-grade crossing of freight rail line

The introduction of light rail could increase the frequency of unsafe, illegal freight rail crossings by pedestrians and cyclists.

- Install pedestrian wayfinding signage.

This station's depressed location in the valley, not visible from adjacent neighborhoods, makes wayfinding signage particularly important. Signage should be installed at the following locations:

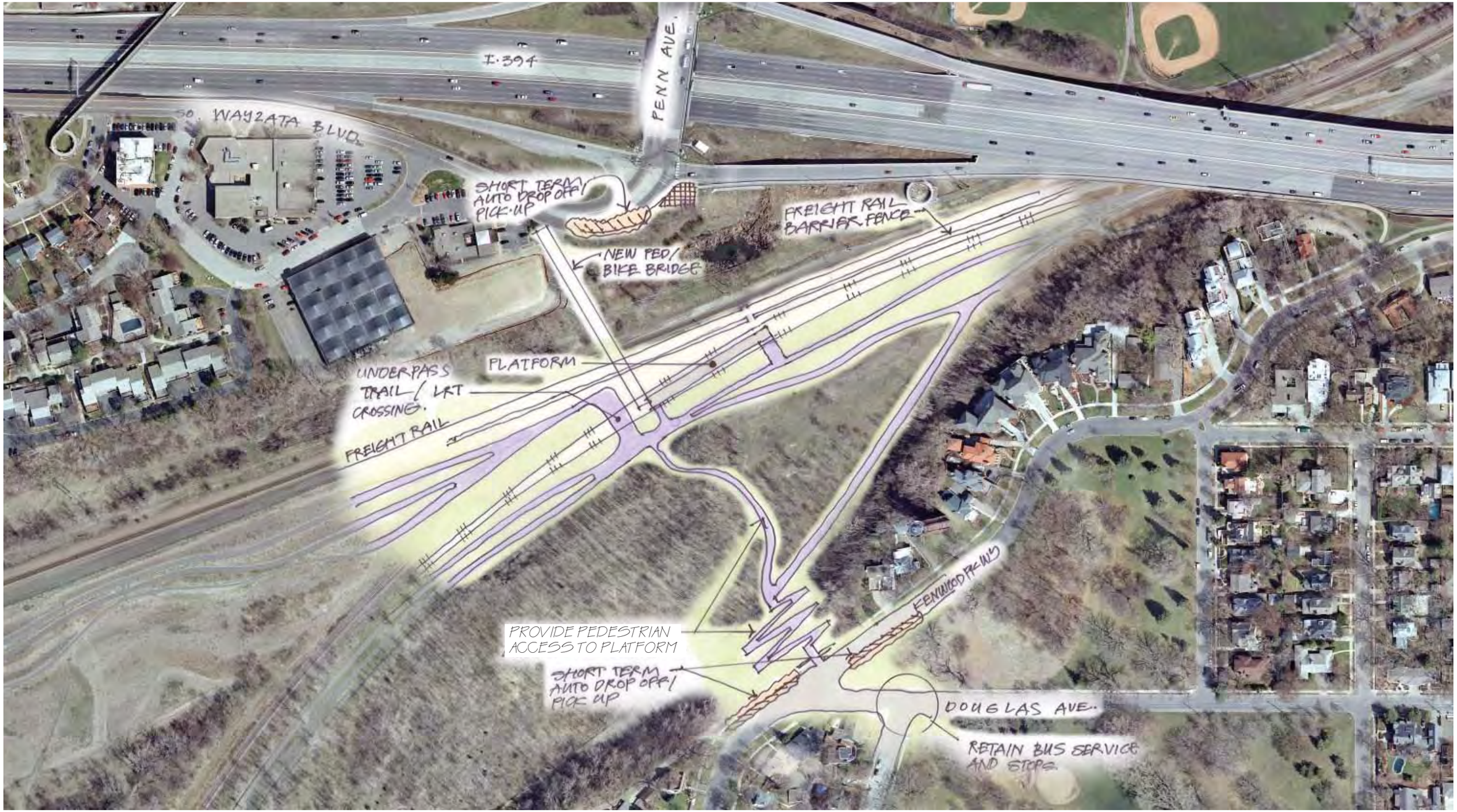
- Kenwood Trail & Kenwood Pkwy
- Penn Ave & Wayzata Blvd
- Kenwood Ave & Douglas Ave (new pedestrian/bike trail)

- Construct pedestrian bridge over freight rail line

Bridge should provided ADA-compliant access for pedestrians and cyclists, and must be open 24 hours a day, 7 days a week. Bridge can land on light rail platform, or immediately adjacent to it.

- Construct ADA-compliant pedestrian access from Douglas Ave (east bluff) to station.

This multi-use trail is critical for providing station access from the Kenwood neighborhood. Access from the existing Kenwood Trail spur provides adequate service for the Lowry Hill neighborhood and the northern portions of the Kenwood neighborhood, but would be out-of-direction and unreasonably distant from the station for a significant portion of the station area.



Penn Station: Opening Day Recommendations. Pedestrian access across the freight rail tracks is critical to transit ridership. This option illustrates an elevated pedestrian bridge.

Bicycle Connection (trail/bike lane)

- Construct trail underpass at Cedar Lake/Kenilworth Trail intersection

As a federally-funded bicycle commuter freeway, the Cedar Lake Regional Trail is heavily used by commuters and recreationalists alike. It is important to maintain the highest, most efficient level of service possible on this key bike corridor.

- Install NiceRide station

A bike share station on the station platform will enhance connectivity and mobility within the station area.

Transit Connection

Station area strategic planning identified no immediate transit changes necessary for LRT introduction.

Parking Management

Station area strategic planning does not recommend transit parking at this location. Parking management on neighborhood streets may be implemented at some point in the future, if residents feel transit parking is an issue.

Platform

The platform location identified in the LPA documents is in alignment with station area planning goals.

Land Use

Station area strategic planning identified no immediate land use changes necessary for LRT introduction. Strategic, long-term land use recommendations are contained in the next section.

Development in the Valley?

This station area strategic planning process did evaluate the potential for development on publicly-owned property on the valley floor, southeast of the LRT platform. In keeping with the neighborhood character and views, low-rise residential was judged to be the most likely opportunity.

Roadway access to the valley floor, particularly for emergency vehicles, would be difficult and place an unacceptably high level of new traffic on existing local streets. This option was discarded.

Penn Station: Conceptual Sketch. Opening Day with pedestrian underpass to station, looking north to downtown from base of western bluff

Penn Station: Conceptual Sketch. Opening Day with pedestrian bridge to station, looking north to downtown from base of western bluff

Public Comment

Open house attendees emphasized the need for the existing bike path, heavily used by downtown commuters, and future LRT to be grade separated at their Penn Station crossing.

Questions & Comments

- **The LRT-bike path crossing should be grade-separated.**
  Current DEIS drawings illustrate an at-grade crossing. Public comment, however, indicates that this process should consider recommending a separated crossing.
- **This is a good place for a Nice Ride station.**
- **Reduce walk-time by moving pedestrian bridge closer to Penn Avenue.**
- **There is plenty of room for a park-n-ride on the western bluff.**
- **There should not be a park-n-ride.**
  Final decision regarding the inclusion of park-n-ride facilities will be made during the preliminary engineering (PE) process.
- **How will the Kenwood neighborhood access the station?**
- **Maintain the prairie character of the area.**
- **This station should be eliminated.**
  Final decision regarding constructing or eliminating specific stations will be made during the preliminary engineering (PE) process.

Sample Transit-Oriented District

The graphic at right illustrates one of many ways the Penn station area might look in the future, embodying transit-oriented development principles. This drawing is not a plan, per-se, but simply a graphic representation of the physical form that could evolve within a framework of pedestrian-focused, transit-supportive policies.

The goal of this station area strategic planning process is not to decide which parcels will redevelop, when they will redevelop, or even what specific land use they will have. All of these particulars will be decided by market demand, and by the private landowner. Rather, the goal of this process is to identify the land use and planning principles most relevant to this particular station area, and to begin to formulate a framework of visioning principles that will act as a base for future, more detailed planning efforts.

Roadway

Station area strategic planning identified no additional, long-term roadway recommendations beyond those identified in the preceding Opening Day Recommendations.

Pedestrian Connection (sidewalk)

- Enhance the Penn Ave pedestrian experience through improved streetscape, including the Penn Avenue bridge.

Enhancements might include, but not be limited to pedestrian lighting, wider sidewalk on Penn Ave bridge, street trees on block prior to Penn Ave bridge.

Bicycle Connection (trail/bike lane)

Station area planning identified no additional, long-term bicycle recommendations beyond those identified in the preceding Opening Day Recommendations.

Transit Connection

Station area planning identified no additional, long-term transit recommendations beyond those identified in the preceding Opening Day Recommendations.

Parking Management

- Consider reduced parking requirements, shared parking and other parking management tools.

In order to promote density and capitalize on transit connectivity, reduced parking requirements, shared parking, parking caps (maximums instead of minimums) or phased parking requirements (a lower parking cap or lower parking requirements as the area reaches redevelopment build-out) should be considered.

The City of Minneapolis's zoning code already sets parking maximums for most uses. In station areas in particular reduced parking numbers should be encouraged. In addition, application of the Transit Station Pedestrian Oriented Overlay District should be considered. This zoning overlay further reduces the minimum and maximum parking requirements. It also allows for parking to be located an additional 500' from the use served and reduces parking lot dimensions.

Care should be taken that parking policy is not so stringent as to discourage market-based development. Enforcement will be required.

Penn Station: Sample Transit-Oriented District.. Mixed-use development on the bluff above the station may promote additional ridership.

Platform

Station area planning identified no additional, long-term transit platforms beyond those identified in the preceding Opening Day Recommendations.

Land Use

- Redevelop western bluff with higher-density, more transit-supportive uses.

Development should ideally include horizontally and vertically mixed uses. A single tenant, such as a corporate headquarters, would also be a transit-appropriate use.

Zoning

- Rezone properties to transit-friendly districts, and apply appropriate overlays, as development proposals are submitted.

The western bluff sites abutting the station (and most likely to redevelop) are currently zoned I1 (light industrial, mixed use not allowed) and OR2 (office-residential). While this zoning is not ideal for future transit oriented development, a full scale rezoning study (typically the analysis of 40 acres or more) is not warranted. In addition, zoning changes made before redevelopment is proposed could result in making some existing businesses non-conforming. Instead transit-friendly (existing or new, depending upon redevelopment timing) zoning districts should be considered when a development is proposed.

Next Steps

Context & Planning Assumptions

- Park and ride allocation currently in LRT project; station area strategic planning does not recommend park and ride at Penn Station.

Planning Process

The tables at right summarize the recommendations contained in the preceding 'Opening Day Recommendations' and "Sample Transit Oriented District' sections. A number of broader steps, listed below, will be needed to set the framework for the more specific steps identified at right.

- Provide input to preliminary engineering for LRT effort with Met Council
- Carry out station area, but non-LRT infrastructure enhancements such as close gaps in pedestrian & bike circulation
- Adopt appropriate transit-area policies at the City/County level
- Create a development-friendly environment
  - Discuss disposition toward redevelopment with owners of vacant parcels on western bluff
  - Explore parcel assembly & acquisition
  - Consider RFP's
  - Identify funding mechanisms, incentives & public participation

Specific Recommendations to be Implemented by LRT Opening Day	Additional Study & Design during Preliminary Engineering	Policy Change	Lead Jurisdiction
Auto pick-up/drop-off	x		SW LRT Project
Wayfinding signage	x		SW LRT Project
Fence prohibiting illegal freight rail crossing	x		SW LRT Project
Trail underpasses: south of station	x		SW LRT Project
Trail underpass at existing ped helix (underpass option)	x		SW LRT Project
Re-route bus 25 (underpass option)	x		Metro Transit
Modify station platform location (underpass option)	x		SW LRT Project
Missing segments of sidewalk system (ped bridge option)	x		City
ADA-compliant access from east bluff to station (ped bridge option)	x		SW LRT Project, City
Ped/bike bridge (ped bridge option)	x		SW LRT Project
NiceRide station	x		City

Specific Recommendations to be Implemented as Needed	Additional Study & Design during Preliminary Engineering	Policy Change	Lead Jurisdiction
Improve streetscape on Penn Ave bridge	x		City
Redevelop western bluff with higher density,mixed-use building	x		private developer

21st Street Station

Station Area Strategic Planning

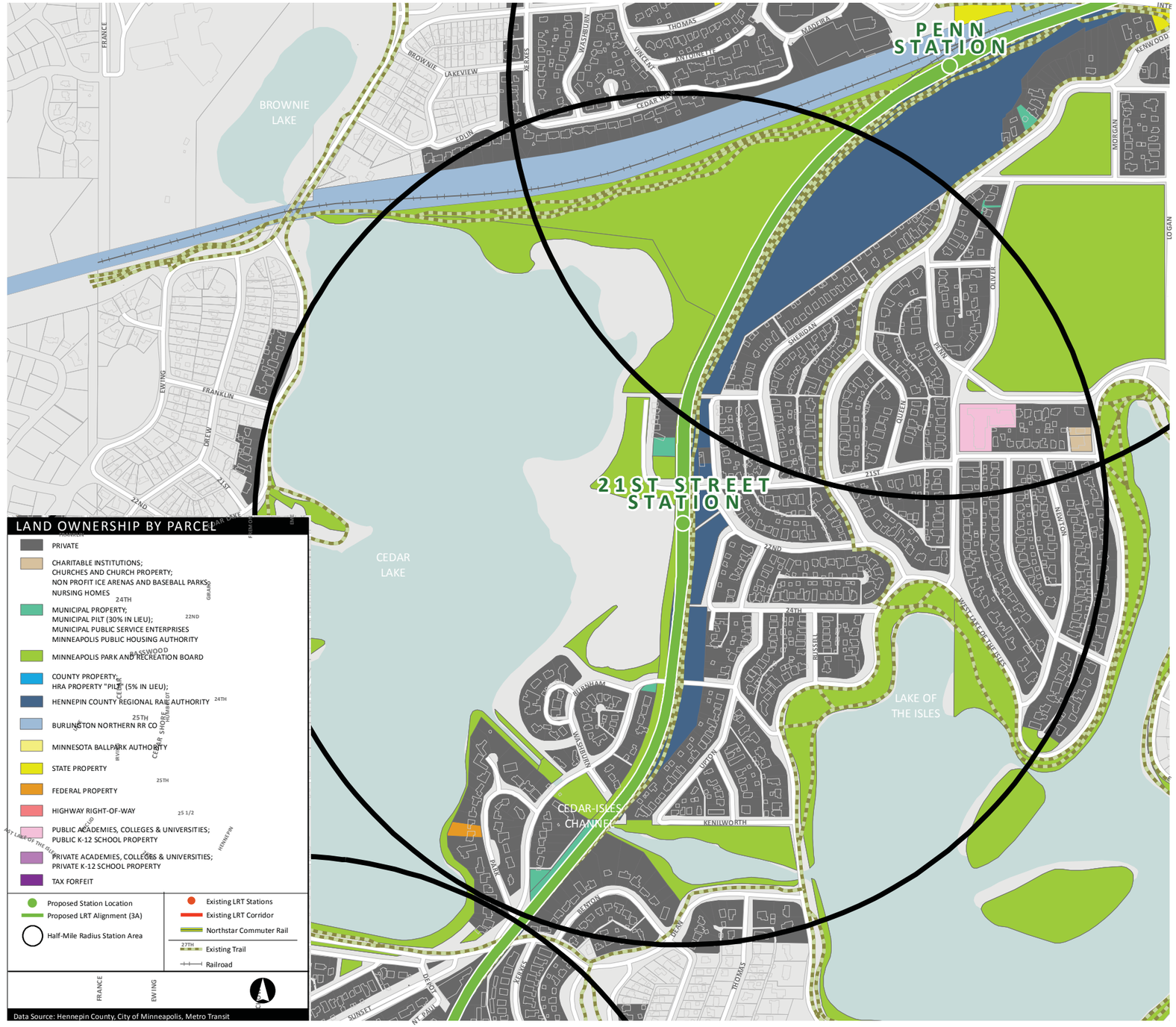
- **Existing Conditions**
- **Previous & Current Planning Efforts**
- **Summary Analysis**
- **Opening Day Recommendations**
- **Next Steps**

Existing Conditions

The 21st Street station is located between Cedar Lake and the stable Kenwood neighborhood. The station is anticipated to serve primarily local residents commuting to the downtown core for work or special events. The station also has potential to serve as a recreational destination for users of Cedar Lake, as well as users of the adjacent regional trails.

Land Ownership

The 21st Street station area is composed almost exclusively of private residential properties, with a corridor-adjacent strip of property owned by the Hennepin County Regional Railroad Authority (HCRRA). Area within the ½-mile radius that does not fall into the above two categories is park property, including a significant amount of lake area.

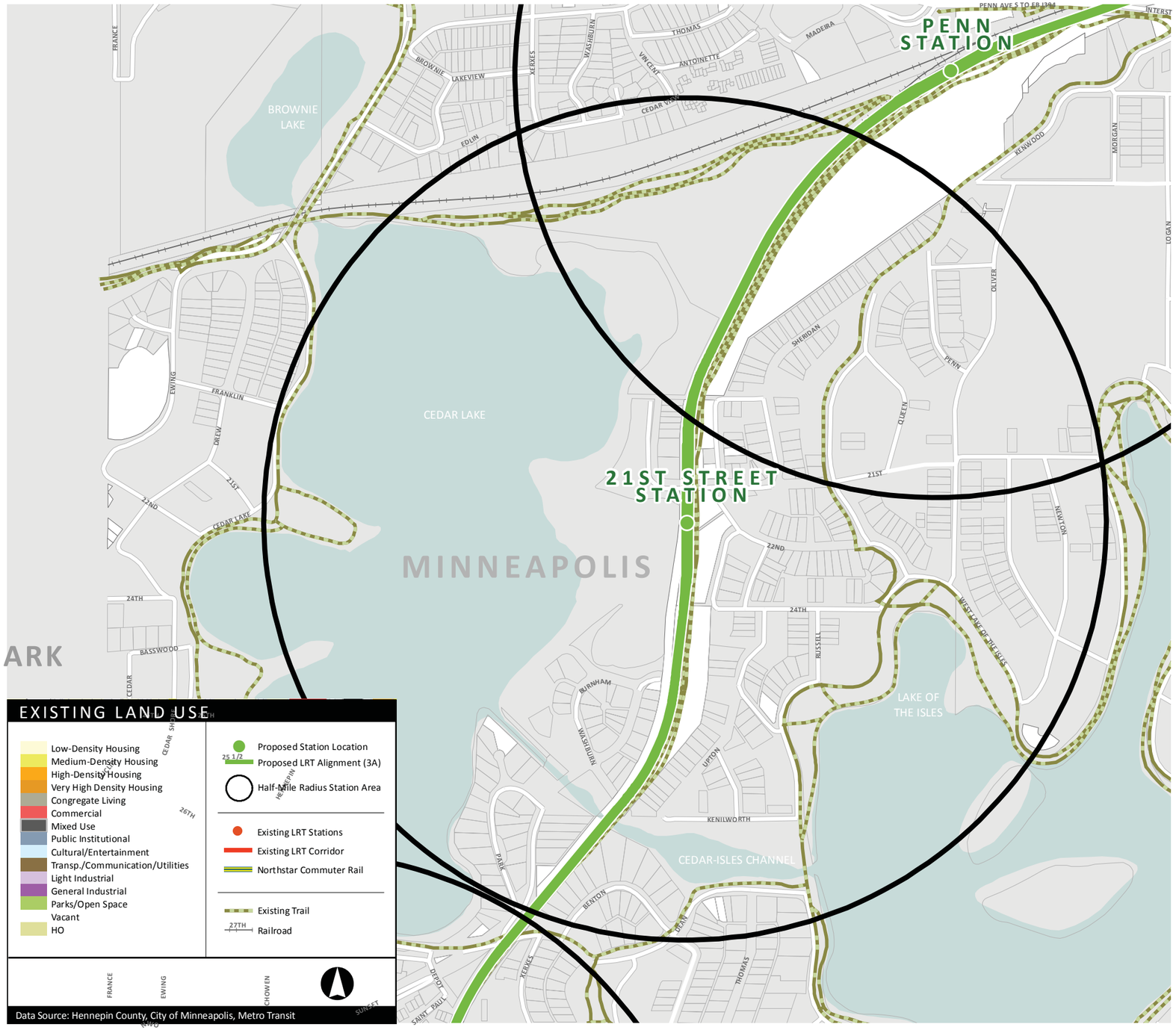


Land Use

As suggested by ownership patterns described on the preceding page, land uses within the area are predominantly split between single family residential and parkland, including actual lake surface. Residential properties are very stable, and are some of the most sought-after addresses in the City. The community is tightly-knit and committed to maintaining its character, amenities, and property values.

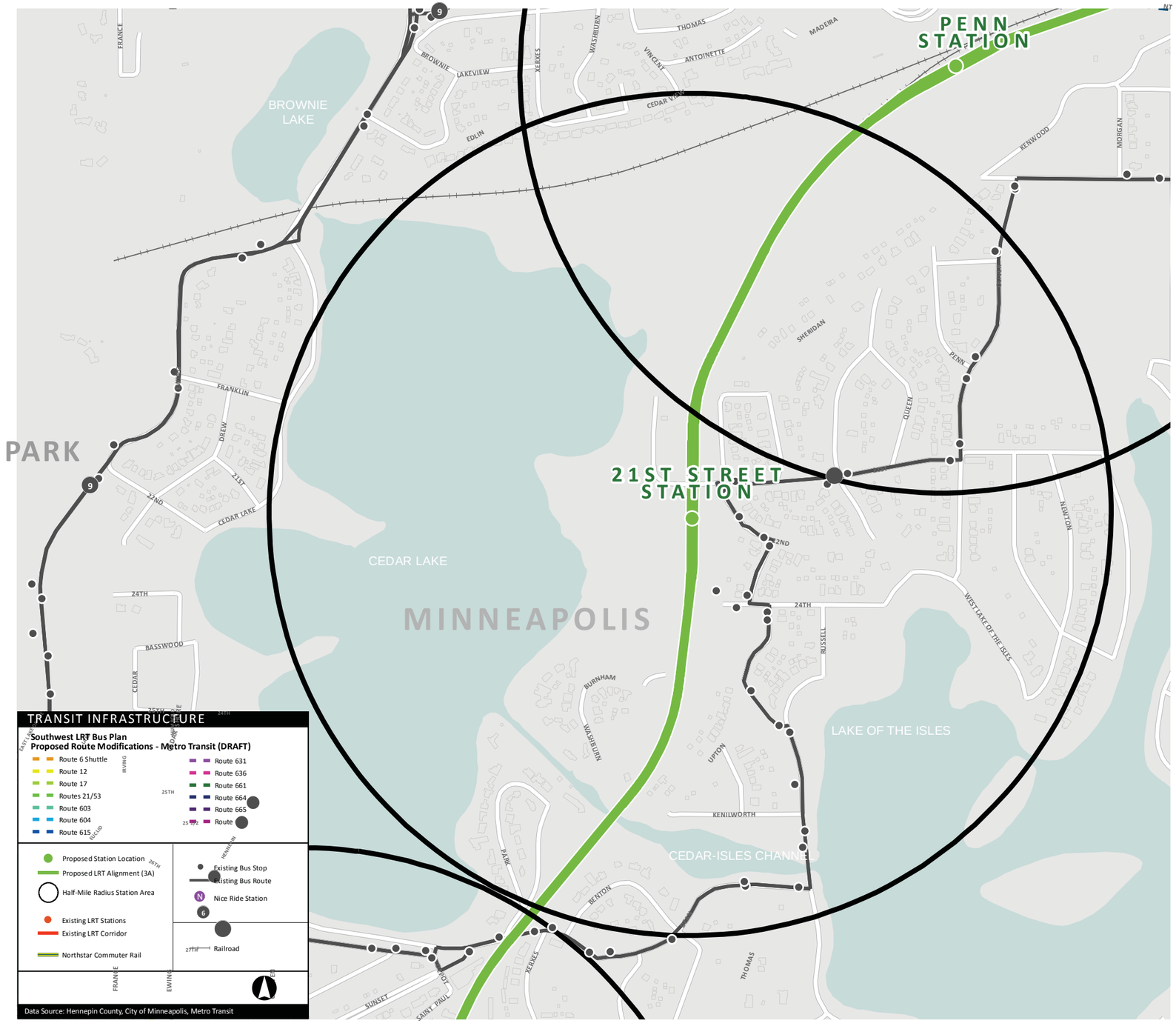
The LRT corridor is bordered to the east by the well-used Kenilworth multi-use trail. Homes adjacent to the corridor on both the west and east side back to the corridor.

It should be noted that a historic rail depot did exist in this location during Minneapolis's early years. 'Hidden Beach' on Cedar Lake directly west of the proposed station is a quiet beachfront area.



Transit

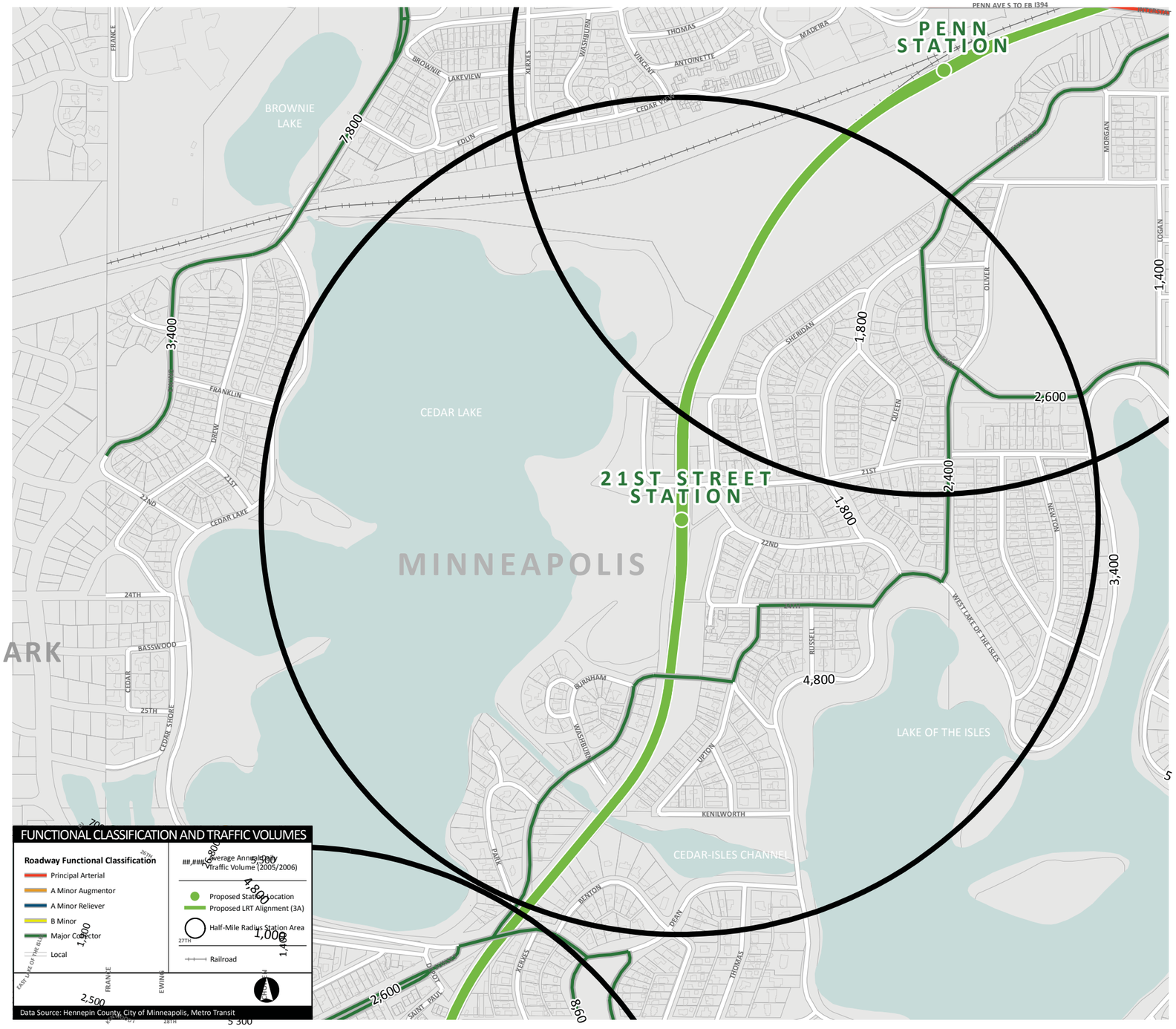
The station area is served by a single bus route, route 25, which operates on Douglas Ave, Oliver Ave, 21st St, 22nd St and Sheridan Ave. The closest existing bus stop is approximately 300 feet from the proposed station. This proximity suggests that no major routing changes would be necessary in response to light rail introduction.



Roadways & Parking

The station area does not have direct highway access, and the irregular nature of the land between the adjacent Cedar Lake and Lake of the Isles means that local streets are curvilinear and not gridded. This circuitous vehicular access suggests that the station will be used primarily by local residents; riders from the larger community will likely choose one of the more intuitively accessible stations immediately north or south of 21st Street Station.

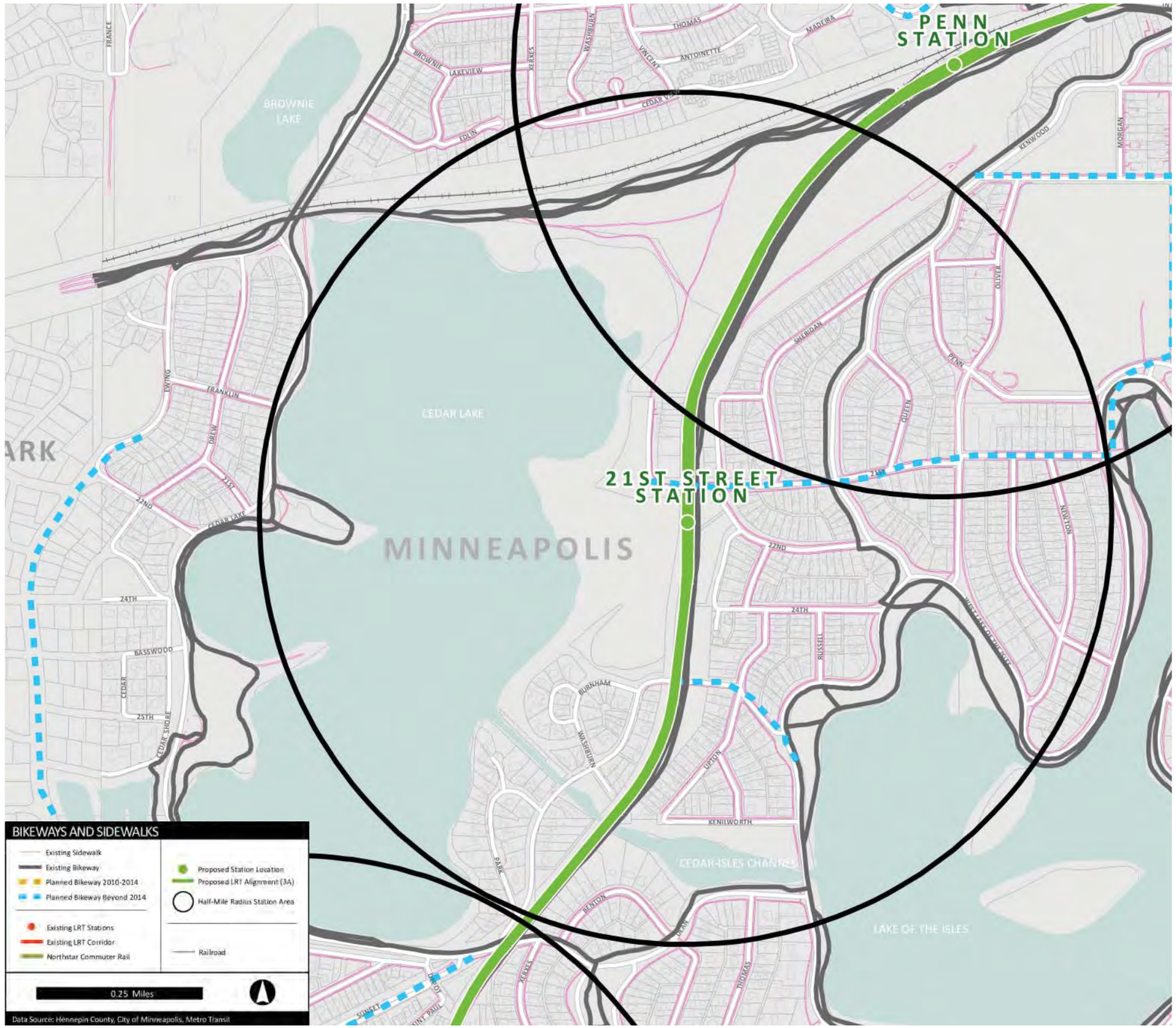
On-street parking is available on most local streets within the neighborhood, and is not restricted by residential permits or time limits.



Sidewalks & Trails

The Kenilworth multi-use trail runs north-south through the station area, sharing the future LRT corridor with existing freight rail (which will be removed from this section of the corridor when light rail is constructed). The trail is heavily used by both recreationalists and commuters, on foot and on bikes. This bike trail connects to the Cedar Lake trail just north of the station area, as well as to Minneapolis' renowned Grand Rounds bike trail circling adjacent Cedar Lake and Lake of the Isles, as well as the entire Chain of Lakes. Two east-west bike routes on 21st St and Sheridan Ave are planned by the City of Minneapolis in the long term (after 2014).

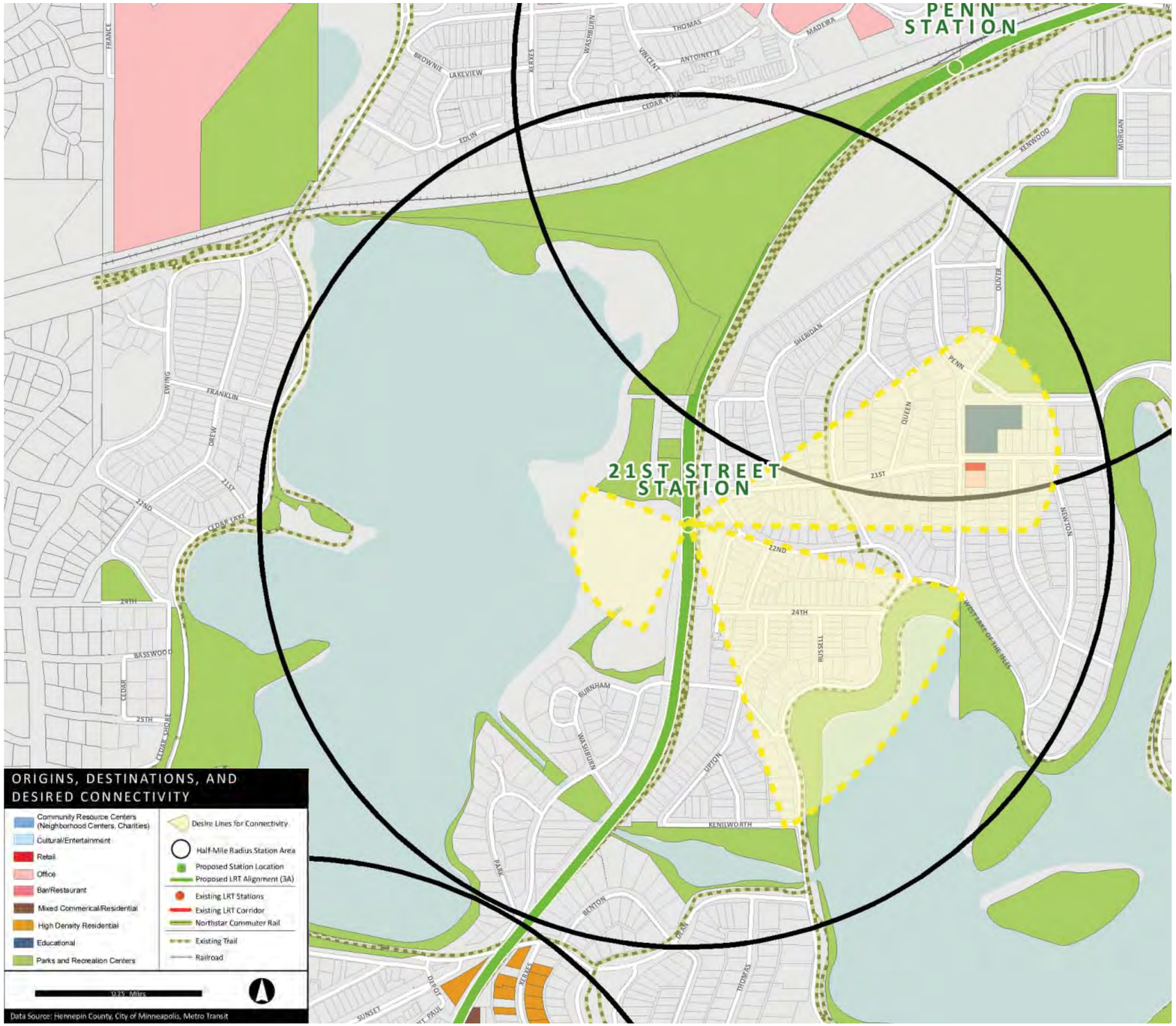
Sidewalks within the adjacent neighborhood form a nearly complete system, with only a few gaps of no more than a block or so.



Origins, Destinations & Connectivity

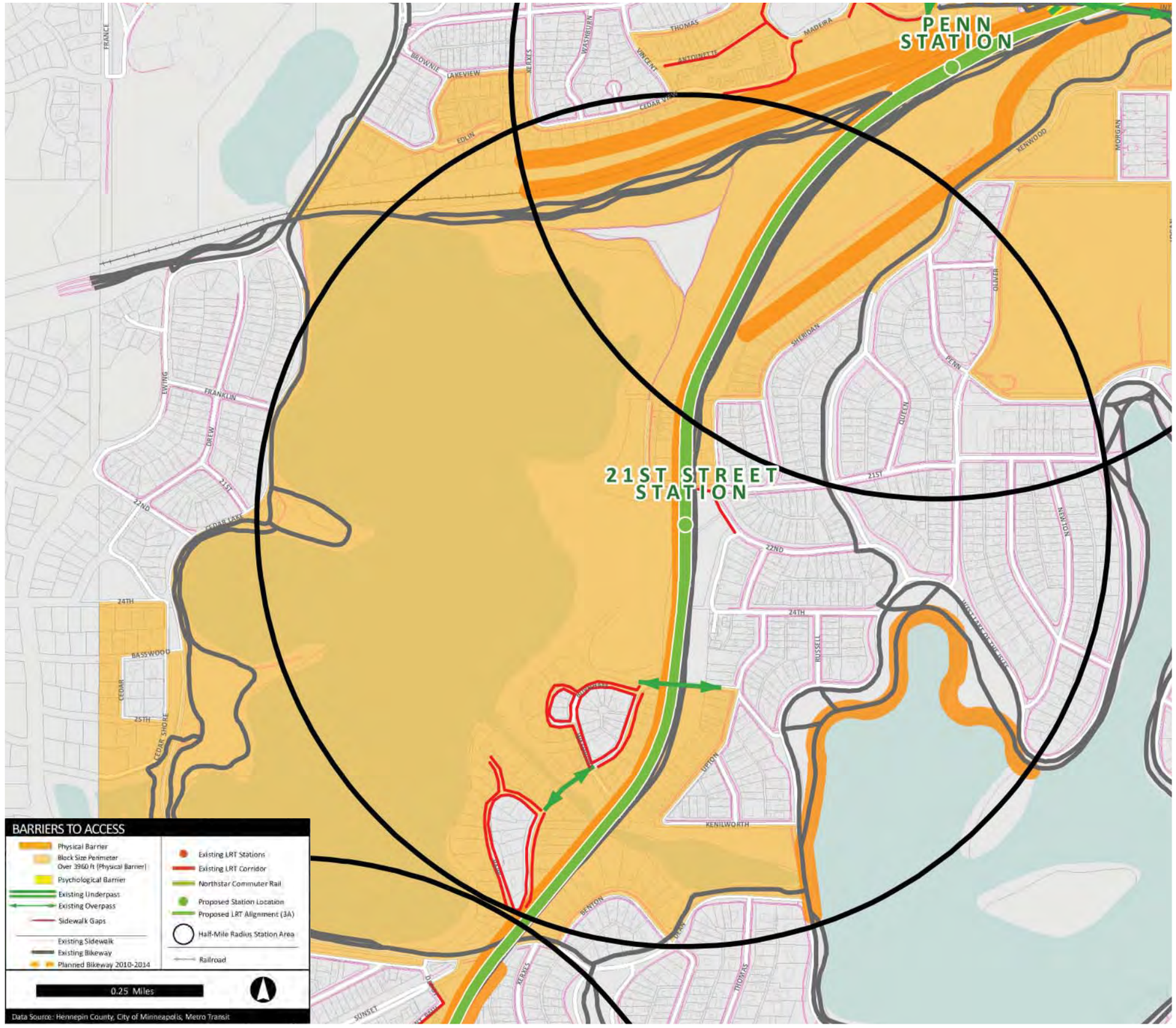
21st Street will be an almost exclusively origin-driven station, providing amenity for local residents to travel into downtown Minneapolis for business or leisure. While Hidden Beach will be accessible from this station, the majority of recreational uses on Cedar Lake take place on the Lake's western shore; this portion of the lake offers more recreational amenity and is part of the City's Grand Rounds bike system.

Access will be the single most important element requiring refined planning in advance of station opening. Opening-day station facilities must provide, at a minimum, bike and pedestrian access, as well as kiss-n-ride drop-off.



Barriers to Access

Occupying almost the entire western half of the ½-mile radius station area, Cedar Lake is the most significant barrier to station access. As noted in the preceding discussion on Roadways, the circuitous nature of local streets within the station area are also likely to reduce the number of riders from outside the immediate station area who use this station.



Previous & Current Planning Efforts

No neighborhood-specific planning efforts have taken place in the 21st Street Station area. Broad-level planning guidance for this and all station areas contained in this strategic station area planning effort is contained in the Minneapolis Comprehensive Plan (2000) and the Minneapolis Plan for Sustainable Growth (2009). The latter is an update to the year 2000 document.

Conceptual Engineering & Locally Preferred Alternative (CE/LPA), 2010

Conceptual Engineering (CE), included in the Locally Preferred Alternative (LPA) selected by the Metropolitan Council in 2010, represents a preliminary step in design of the actual transit infrastructure itself. Portions of this document most important to station area planning are transit alignment, station location, and at-grade/elevated/sunken crossings; these elements will have a direct bearing on future station area character and development opportunity.

CE/LPA drawings show the 21st Street station platform directly south of the existing rail intersection with 21st Street. The station area planning process does not recommend any changes to this location.

Draft Environmental Impact Statement (DEIS), 2010

The DEIS documents the possible impacts of the LRT project on both the natural and built environments. As of the writing of this document, the DEIS is currently under FTA review.

21st Street Station location, LPA, 2010.

Summary Analysis

Community Input

Community concerns center primarily around technical engineering issues, including visual/noise impacts and at-grade crossings (citing safety reasons at 21st Street and traffic congestion concerns at Cedar Lake Parkway.) These concerns will be addressed during the DEIS comment period and the preliminary engineering (PE) phase of design.

From a land use and planning point of view, stakeholders oppose any change in existing land uses to privately and publicly owned parcels, including the HCRRA-owned parcel abutting the station.

Design Team Analysis

As noted in the background chapter, not every station can or should be a town center. Some station areas may experience only modest redevelopment in response to LRT introduction, while others may see no development at all and be best served by introducing only the minimum infrastructure needed to offer transit service. The 21st Street station is of this latter category, and planning efforts should focus on pedestrian- and bicycle-oriented enhancements such as closing gaps in the sidewalk system and signage to assist in wayfinding to the station.

21st Street

21st Street Station is an opportunity to provide neighborhood LRT service while preserving local character and neighborhood connections to the natural features of the area.

Top Issues

- **Southwest LRT project assumes park-n-ride at this station**
- **Stable, desirable residential**
  - **not likely or desired to change**
- **Traffic, parking on neighborhood streets**

Principles

- **This process recommends no park-n-ride at this station**
- **Maintain neighborhood character**
- **Minimize neighborhood impact: visual, traffic**

Opening Day Recommendations

The following recommendations identify elements essential to the safe, efficient function of the transit station: pedestrian and bike connections, multi-modal transfer, passenger drop-off/pick-up, and wayfinding. These elements are the minimum recommendations of this station area strategic planning study, for implementation on opening day. It should be noted that these recommendations are outside the current Southwest Transitway LRT project as defined in the conceptual engineering drawings. While some elements may be constructed as part of the LRT project itself, other elements must be funded, designed and constructed by other entities, and will require close coordination between the City, the County, and Metro Transit, as well as local stakeholders and neighborhood groups. Further recommendations contributing to a larger transit-oriented district, projects and enhancements that may take many years to fully realize, are contained in the next section.

Existing neighborhood context and comment do not favor development or redevelopment beyond the minimum amenities needed for providing safe and efficient LRT service at this station. For this reason, no sample transit oriented district and was prepared for this station.

Roadway

- Create auto drop-off/pick-up on 22nd Street, both sides, between Thomas and 21st St

On the east side of the street, use signage to designate 3 – 4 spaces for drop-off only. These spaces may be reserved during a.m. and p.m. peak hours only, with other hours for general parking. On the west side of the street use signage or construct pull-off spaces to reserve 3-4 spaces for transit use. Again, these spaces may be restricted during peak transit hours, with other hours for general parking.

Pedestrian Connection (sidewalk)

- Construct 'missing' pieces of sidewalk.

The following gaps in the sidewalk system must be completed in order to provide full, uninterrupted station access

- 24th St, north side of street from midblock between Sheridan and Thomas, to Kenilworth Trail
- 24th St, south side of street from Sheridan to Kenilworth Trail (north and south sidewalks may merge west of 24th street terminus)
- 22nd St, west side between Thomas & 21st
- 21st St, from 22nd to Kenilworth Trail

- Introduce wayfinding signage at:
  - Penn Ave & 21st St
  - Penn Ave & Lake of the Isles Pkwy (2 locations)

Bicycle Connection (trail/bike lane)

- Maintain trail stop signs at Kenilworth Trail/21st St intersection

- Install signage on trail, at both ends of LRT platform, advising cyclists of heavy pedestrian crossings

Transit Connection

Station area strategic planning does not recommend transit parking at this location. Parking management on neighborhood streets may be implemented at some point in the future, if residents feel that transit parking is an issue.

Parking Management

Station area planning identified no immediate parking management necessary for LRT introduction.

Platform

The platform location identified in the LPA documents is in alignment with station area planning goals.

Land Use

Station area planning identified no immediate land use changes necessary for LRT introduction.

Zoning

The 21st street station is surrounded by low density residential zoning. Since redevelopment is not envisioned, rezoning is not necessary.

New Development at 21st?

This station area strategic planning process did evaluate the potential for development on HCRRA-owned property immediately east of the LRT alignment.

The narrow width of the parcel would accommodate townhomes with parking 'tucked' into the first floor of each unit. Garages would be accessed from existing Thomas Avenue.

Neighborhood residents strongly opposed the introduction of any additional development of any type. This option was discarded.

21st Street Station: Conceptual Sketch looking south along Kenilworth Trail.

Public Comment

There is strong neighborhood concern regarding LRT's potential impact on neighborhood character, traffic and property values. Residents have also voiced significant concern over the potential volume and frequency transit bells, whistles and horns.

Questions & Comments

- **LRT will increase crime and drugs in our neighborhood.**
- **We need to protect the beauty of our neighborhood and the Cedar Lake area.**
- **There should be no park-n-ride here.**
- **This station will bring too much drive-through traffic and daytime parking on our streets.**
- **There should be no new development.**
- **LRT should tunnel under Cedar Lake Pkwy.**
  Current CE/LPA drawings illustrate a structure over Cedar Lake Pkwy. Final vertical alignment will be decided during the preliminary engineering (PE) process.
- **LRT will create noise all night, and residents will not be able to sleep.**
- **We need an exemption to bells at 21st St.**
- **Can the bells not ring at night?**
  Volume and operating procedures for audible warning devices will be made by the transit operator as part of the engineering process.
- **This station should be eliminated.**
  Final decision regarding constructing or eliminating specific stations will be made during the preliminary engineering (PE) process.

Next Steps

Context & Planning Assumptions

- Park and ride allocation currently in LRT project; station area strategic planning does not recommend park and ride at 21st Street Station.

Planning Process

The table at right summarizes the recommendations contained in the preceding 'Opening Day Recommendations' section. A number of broader steps, listed below, will be needed to set the framework for the more specific steps identified at right.

- Provide input to preliminary engineering for LRT effort with Met Council
- Monitor trail usage & potential user conflict
- Monitor neighborhood parking and implement parking management measures if necessary

Specific Recommendations to be Implemented by LRT Opening Day	Additional Study & Design during Preliminary Engineering	Policy Change	Lead Jurisdiction
Auto pick-up/drop-off	x		SW LRT Project
Missing segments of sidewalk system	x		City
Wayfinding signage	x		SW LRT Project
Trail signage indicating heavy pedestrian crossings	x		SW LRT Project, City
NiceRide station	x		City

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West Lake Station

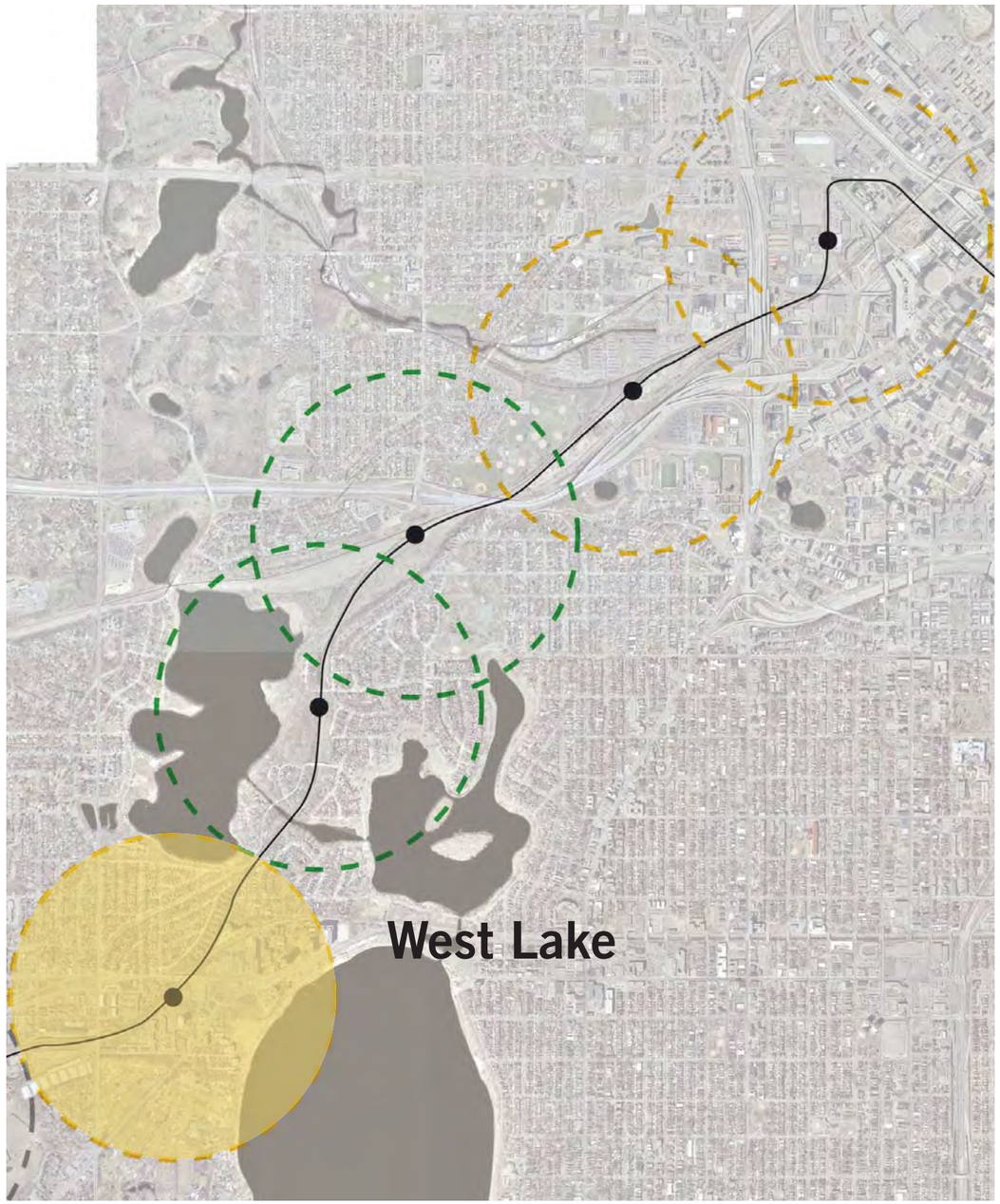
Station Area Strategic Planning

- Existing Conditions
- Previous & Current Planning Efforts
- Summary Analysis
- Opening Day Recommendations
- Sample Transit-Oriented District
- Next Steps

Existing Conditions

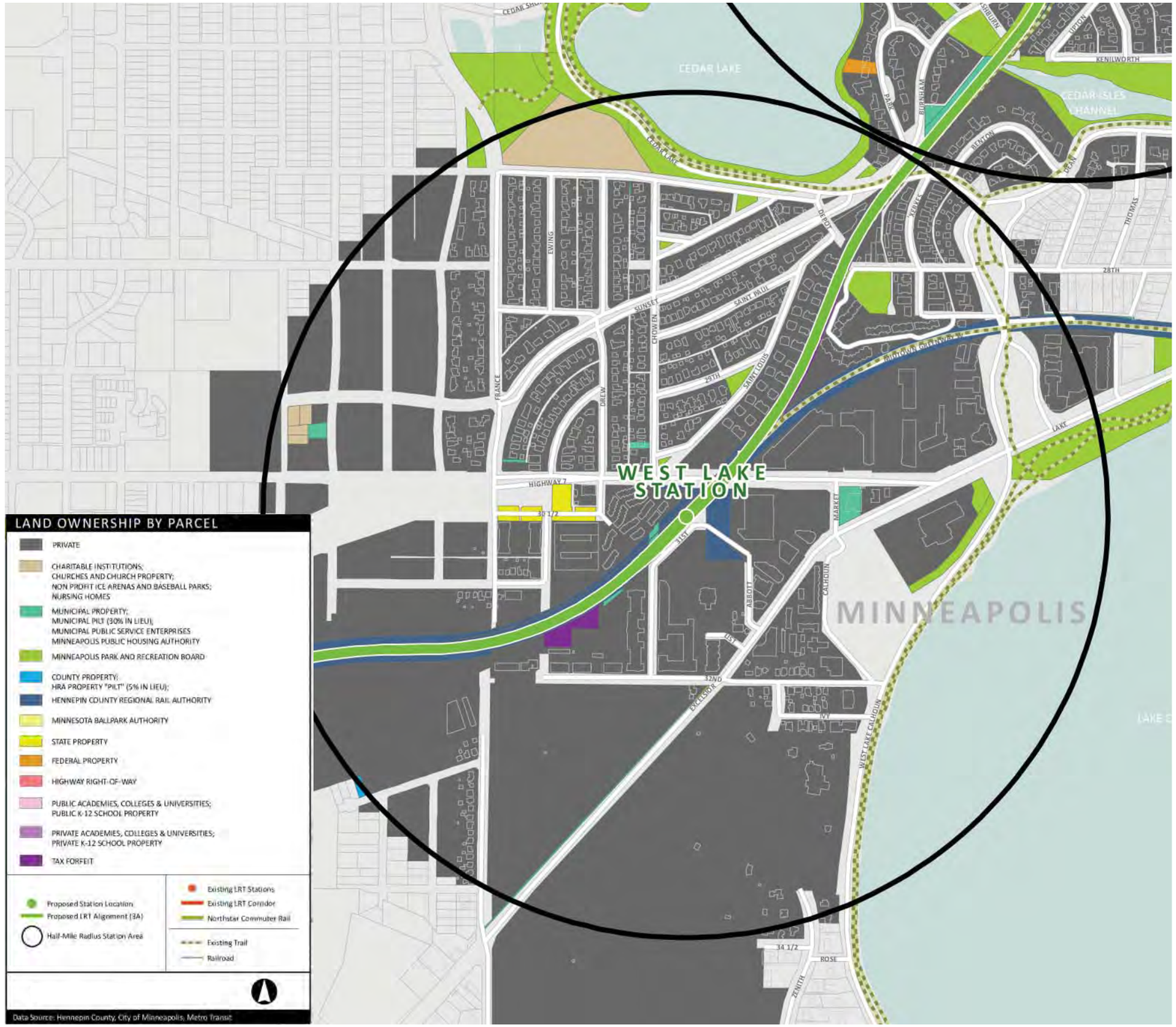
The West Lake station is located within an active, very successful mixed use area. Land uses are dominated by commercial and residential, with some office uses on the perimeter of the station area. Tenants are varied, and include a grocery store, liquor store, drug store, bookstore, and various quick and sit-down eateries. Housing is predominantly medium- and high-rise buildings, with both for-rent and for-sale products. Some townhome development is also within the station area.

The variety and intensity of uses within this successful mixed-use node lends well to LRT introduction, but is also responsible for congestion on the existing roadway system. While LRT introduction stands to enhance and intensify existing uses, roadway capacity and potential enhancements will also be a chief concern in planning for future development.



Land Ownership

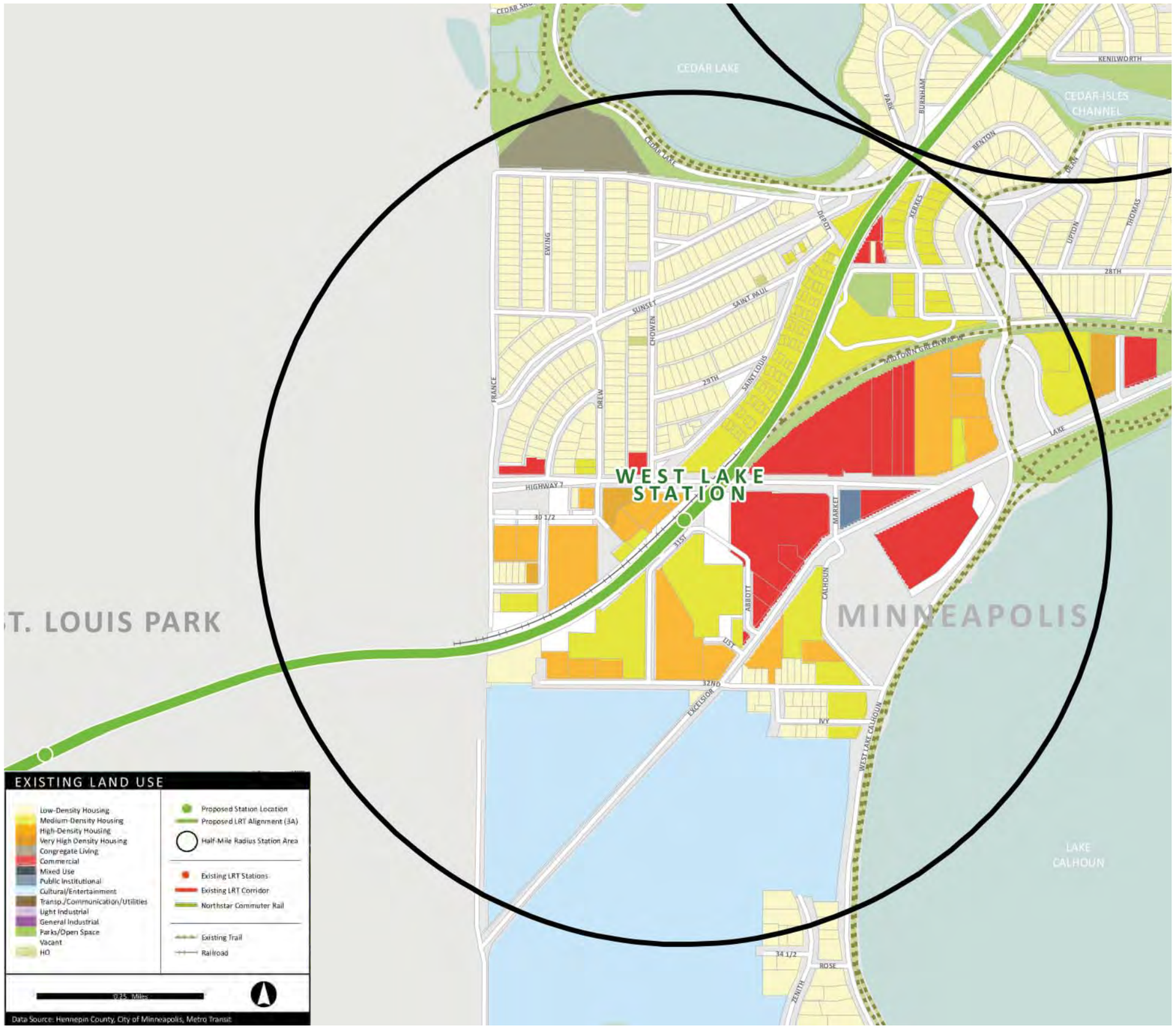
The bulk of parcels within the West Lake station area are privately owned, with a small number of properties owned by municipal, parks and charitable interests. The station area also includes portions of Cedar Lake and Lake Calhoun.



Land Use

Of the five Minneapolis stations, West Lake claims the most varied land use, with a mix of low-density residential, medium- and high-density residential, commercial, and recreational uses (including the Minikahda golf club, the Midtown Greenway, and Cedar Lake and Lake Calhoun). The area immediately adjacent to the station is dominated by medium- and high-density residential, as well as strip-type commercial and retail.

The station is located behind (west of) existing retail, and east of dense townhouse properties with internal circulation. In the immediate station area, 31st St/Abbott Ave form a loop road providing access to the eastern side of the LRT alignment. Ground-level uses abutting the Abbot Ave portion of the loop are structured residential parking, retail and retail parking. Properties abutting the 31st St portion of the loop are medium-rise residential.

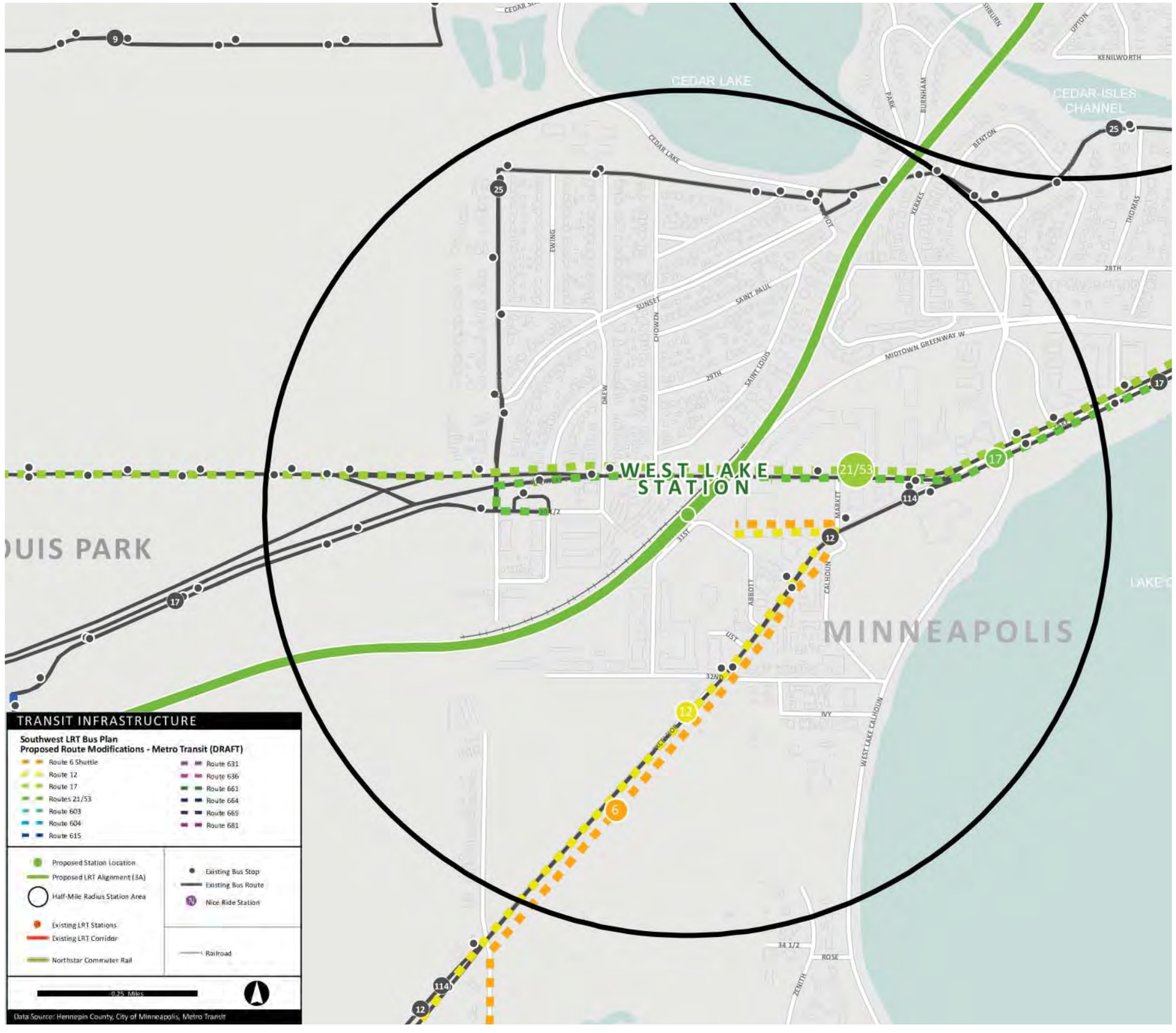


Transit

The station area is currently served by a number of major bus routes on both Lake St and Excelsior Blvd. From the west, Route 17 runs along West Lake St through the Excelsior Blvd intersection, continuing further east. From the south, Route 12 runs along Excelsior Blvd through the West Lake St intersection, continuing further east. Route 114 also runs along Excelsior Blvd on a limited basis. Route 25 runs along France Ave, connecting this area to the north, through the Kenwood neighborhood and beyond. Bus stops are located in close proximity to the proposed station area, providing good connectivity.

Also shown on the map at right are proposed route changes/extensions that will serve the West Lake station. Route 6, currently operating along France Ave and turning east at 39th St, will instead continue along France Ave and onto Excelsior Blvd, in order to serve the station. Route 12, already operating on Excelsior, will turn into the station itself. Routes 21 and 53, currently terminating at the Uptown Transit Center, will also extend westward along Lake Street to serve the new transit station.

Additional future plans include local streetcar service running parallel to the Midtown Greenway trail. The streetcar route is planned to terminate near the proposed West Lake LRT station, in order to provide the opportunity for a LRT-streetcar connection.

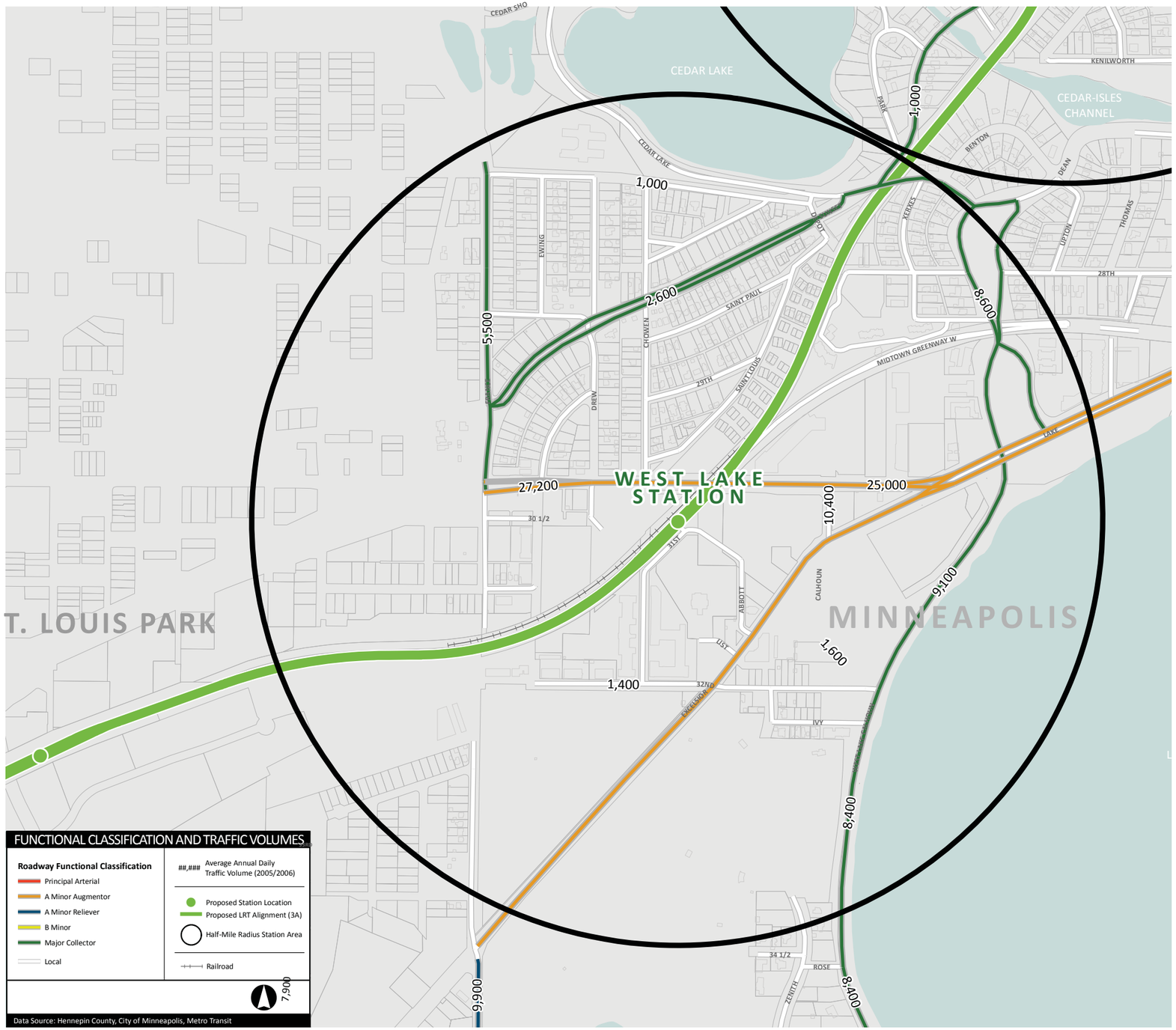


Roadways & Parking

The West Lake station area is in a mixed-use zone of residential, office and retail uses. The adjacent roadway network is comprised of two major roadways with a major junction point at the heart of the area, West Lake St and Excelsior Blvd. The land uses at this junction point are intense retail uses, which contribute to the congestion of this intersection. Overall, the roadway network adjacent to this station area experiences heavy peak hour congestion. Based on the existing daily traffic volumes, Excelsior Blvd is nearing capacity today. West of the station, West Lake St has some excess capacity given its daily traffic volume. The West Lake St / Excelsior Blvd intersection is the controlling factor for this areas capacity, with signifi cant volumes on West Lake St east of this intersection. The confluence of traffic at the intersection causes peak hour congestion. In addition, the unique roadway configuration around the intersection causes patterns that result in varying turns and numerous conflicts. The area is overwhelmed due to the intersection configuration and high levels of pedestrian and bicycle activity.

There are other secondary roadways in this area that contribute to the circulation of traffic. In the neighborhood northwest of the station area, Sunset Blvd provides northerly access to Lake of the Isles and Cedar Lake. France Ave provides northerly access into Minneapolis and southerly access into St. Louis Park. West of the station area, regional access is provided as SH 7 connects with West Lake St.

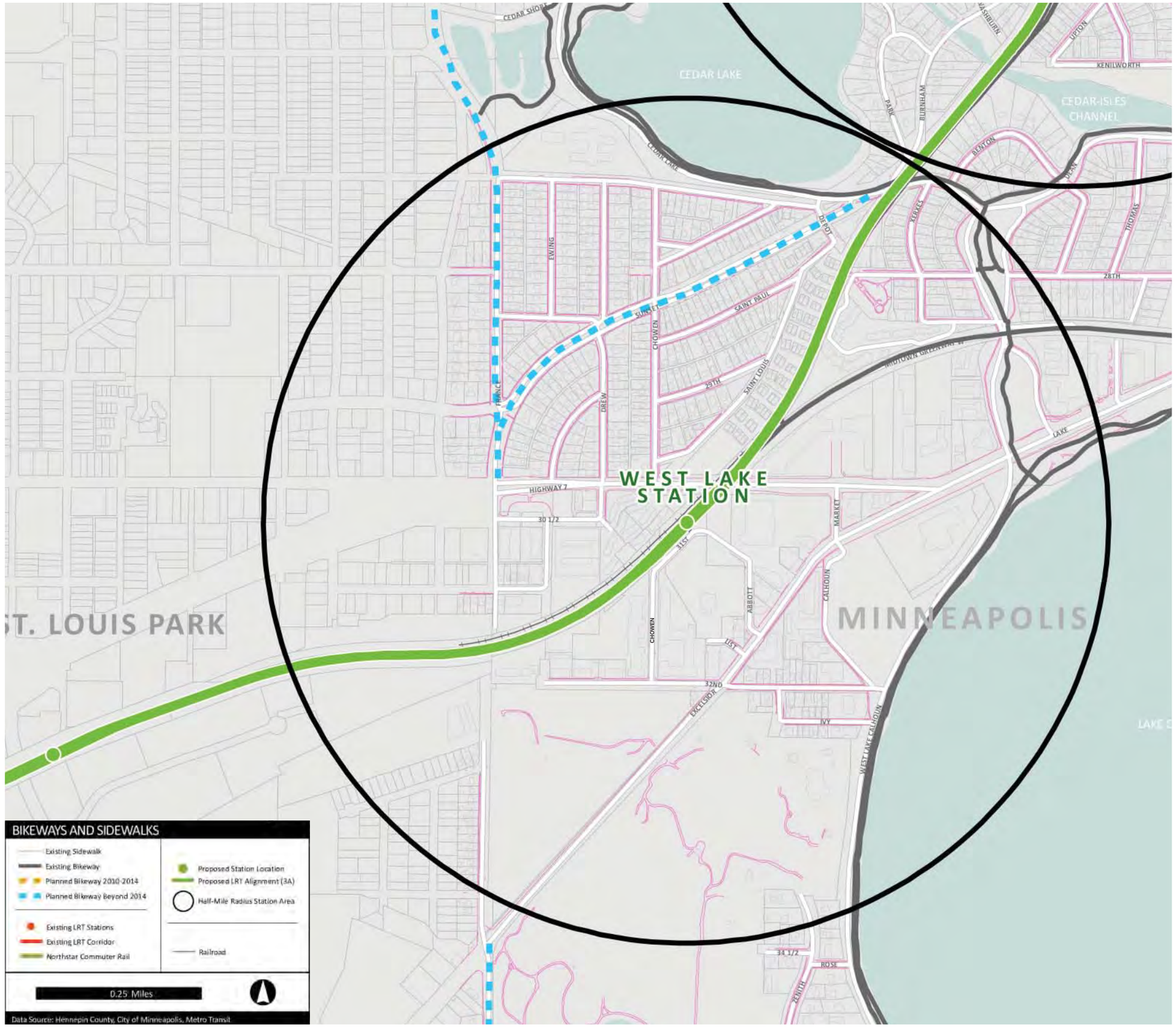
Access for the retail uses in the area is oriented to the major roadways, West Lake St and Excelsior Blvd. Closely



spaced access points contribute to operational and safety issues. The station area is located offset from the major roadways on local streets (Abbott Ave/Chowen Ave). This may provide an opportunity for controlled access via a signalized intersection at Excelsior Blvd and Abbot Ave.

Sidewalks and Trails

Sidewalk connections in the immediate station area are sporadic, largely due to land use and parcel configuration and size. As with other stations, the Kenilwork trail shares the future LRT corridor with existing freight rail. Residents north of Lake St, in particular, have noted that existing access to the Kenilworth trail is informal and dangerous, users often (illegally) cross the active freight rail tracks at grade. The Midtown Greenway also terminates in the station area, joining the Kenilworth trail just north of the proposed station and offering east-west pedestrian and bicycle amenity.

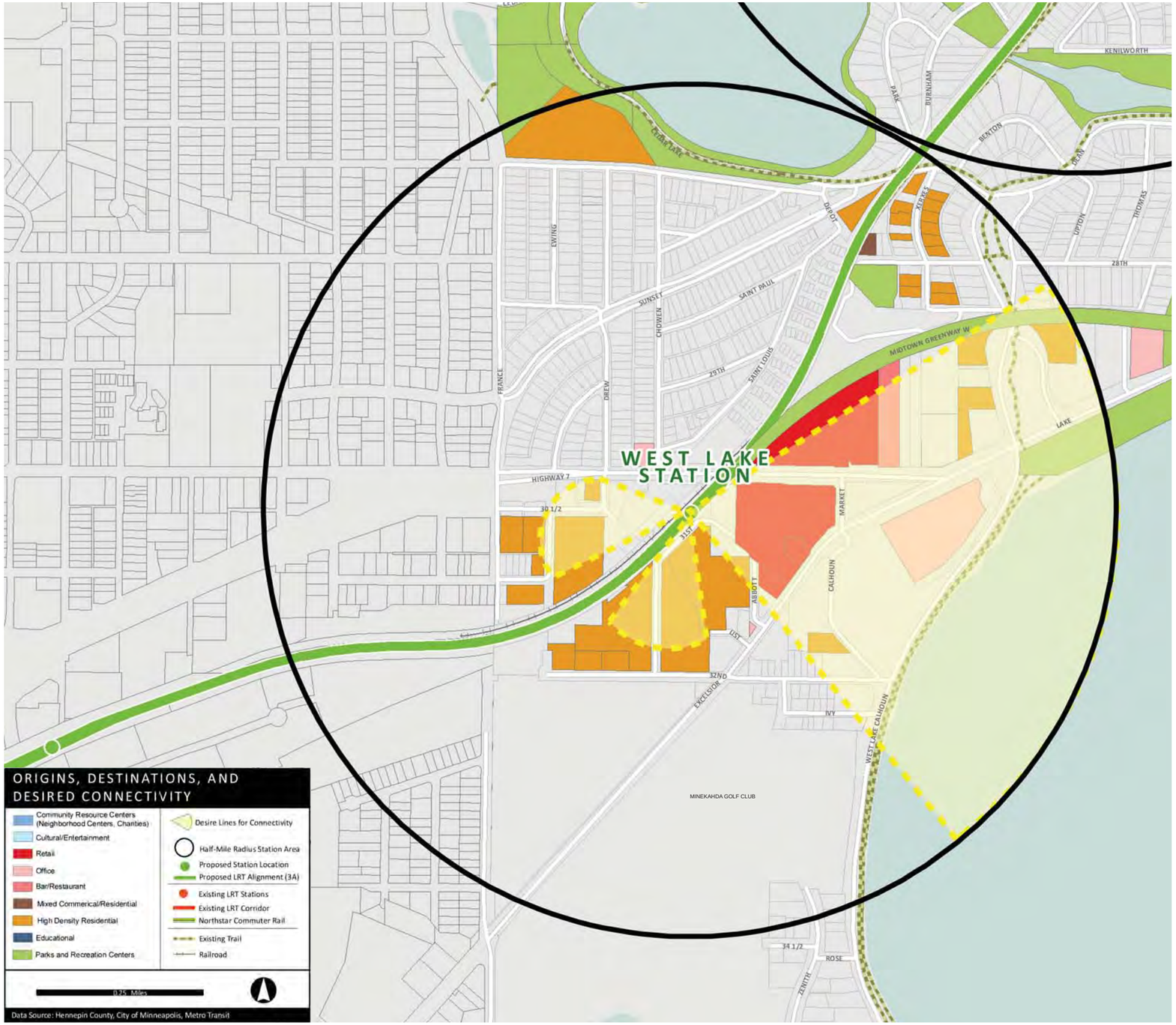


Origins, Destinations & Connectivity

The West Lake station area has a significant amount of residents living in both multi-family and single-family housing, which will generate LRT ridership. Uses are well-arranged, with multi-family properties closest to the station, and lower density single family properties further from the station.

Nearby parks, most notably Lake Calhoun and the Minekahda Golf Club, provide recreational amenity and act as local destinations.

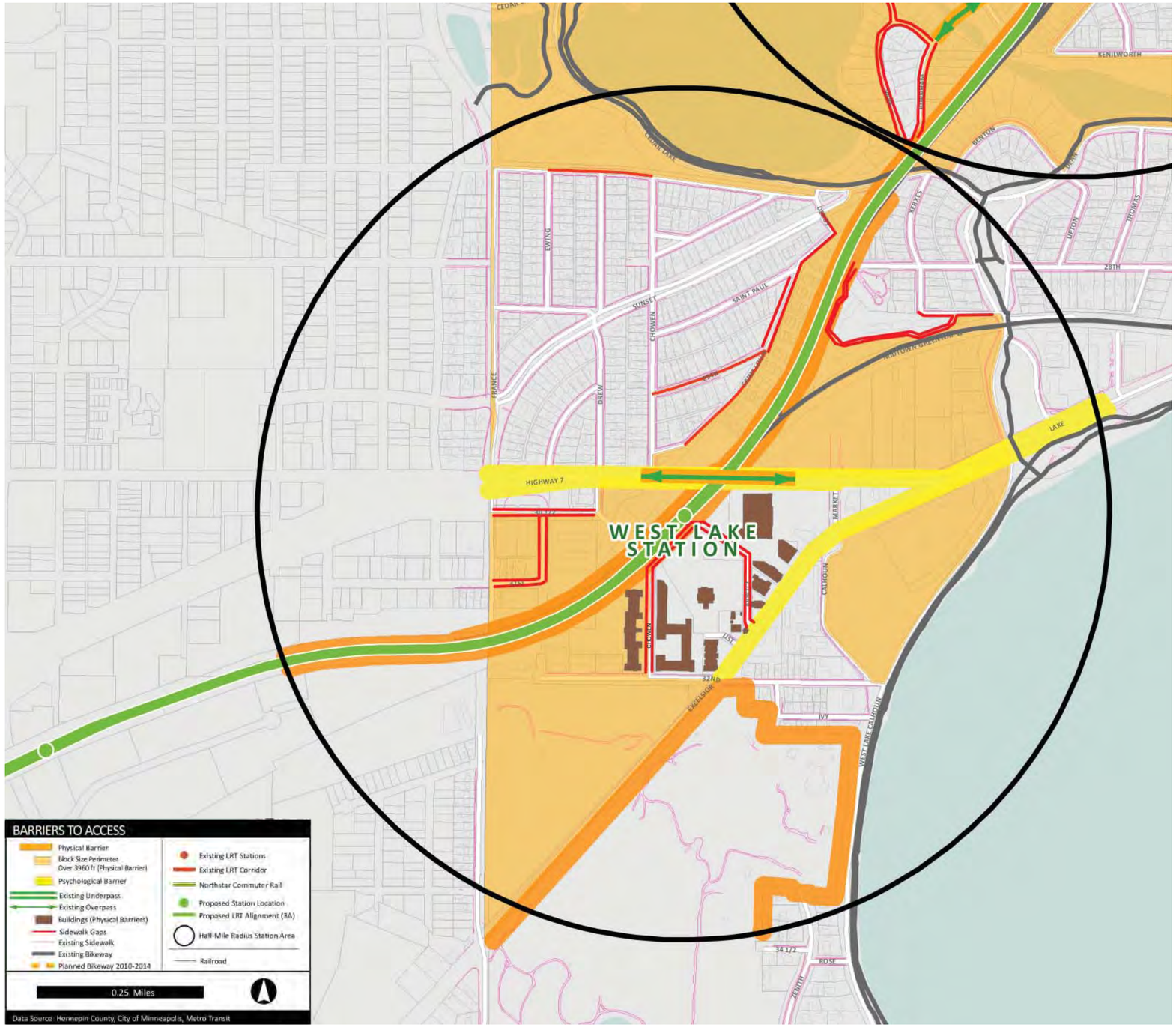
The Calhoun Village and Calhoun Commons retail nodes are extremely well-used local retail destinations, and may influence transit riders' choice of origin station by providing a convenient combination of work commute and errand/shopping on the way home.



Barriers to Access

Roadway congestion is the station's most significant vehicular barrier. The introduction of denser land uses or transit parking would both require formal analysis and mitigation of resulting traffic impacts. There is also the potential for signficiant conflict between vehicles and buses, as the number of drivers seeking to drop off or pick up transit riders increases along the primary station-serving bus route of Chowen Ave and Abbott Ave.

Primary pedestrian barriers include wayfinding (the station is non-intuitively located at the 'back of house' of existing retail nodes) and sidewalk connectivity (sidewalks are entirely absent on the two roadways, Chowen and Abbott, immediately abutting the station.) Pedestrians seeking to access the station from the west and north will also encounter difficulty finding formal routes through large, privately owned blocks.

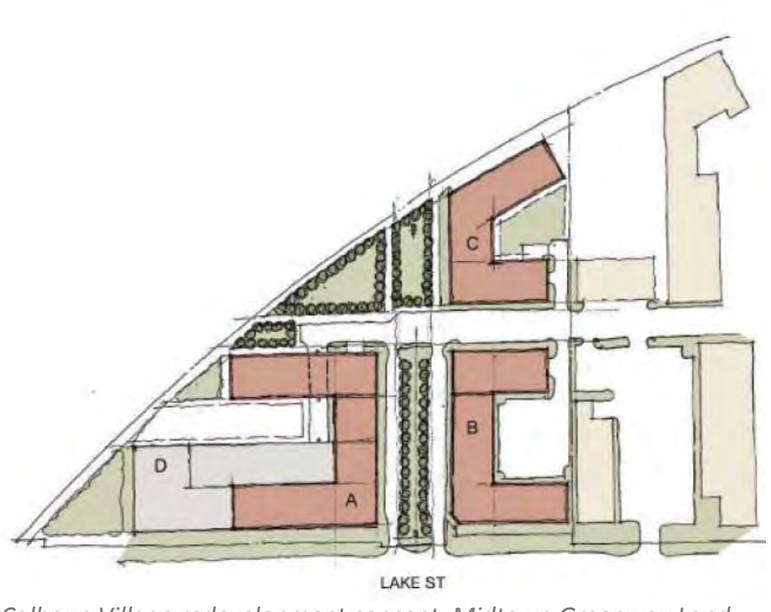


Previous & Current Planning Efforts

Midtown Greenway Land Use Development Plan, 2007

This visioning document provides policy direction for land use and development in the Midtown Greenway corridor for the next 10-20 years. Within the West Lake station area, the document illustrates a plan of how Calhoun Village, an existing commercial strip within the study area and directly northeast of the station platform, could redevelop into a mixed-use, pedestrian-friendly development fronting on the Greenway.

For planning purposes, the conceptual plan is evaluated in terms of station area planning principles. The plan aligns with station area goals, and is included in the station area

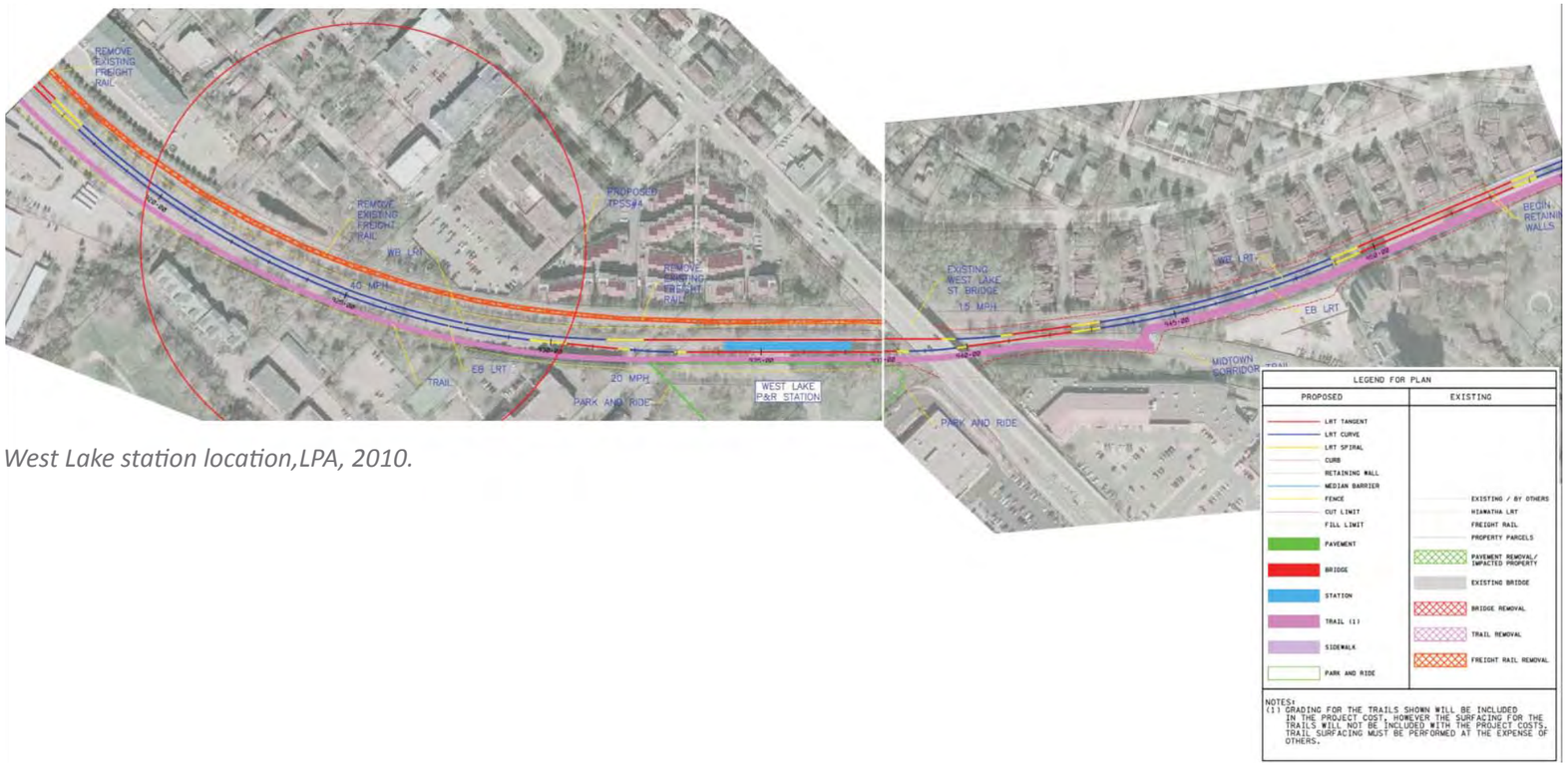


Calhoun Village redevelopment concept, Midtown Greenway Land Use Development Plan, 2007.

Conceptual Engineering & Locally Preferred Alternative (CE/LPA), 2010

Conceptual Engineering (CE), included in the Locally Preferred Alternative (LPA) selected by the Metropolitan Council in 2010, represents a preliminary step in design of the actual transit infrastructure itself. Portions of this document most important to station area planning are transit alignment, station location, and at-grade/elevated/sunken crossings; these elements will have a direct bearing on future station area character and development opportunity.

CE/LPA drawings show the West Lake station platform located just south of the West Lake Street bridge. This station area planning process recommends that the platform be shifted slightly north, and that vertical circulation be added between the West Lake St bridge and the platform. The change in platform location will minimize the distance between the proposed vertical circulation and the station platform, as well as improve accessibility from both north and south of West Lake Street.



West Lake station location,LPA, 2010.

Draft Environmental Impact Statement (DEIS), 2010

The DEIS documents the possible impacts of the LRT project on both the natural and built environments. As of the writing of this document, the DEIS is currently under FTA review.

Summary Analysis

Community Input

Local stakeholders identified three key issues for the West Lake station: traffic congestion, parking, and preservation of existing businesses. As discussed in more detail in the Existing Conditions section, the West Lake/Excelsior intersection is the limiting factor for traffic flow in this area. Residents note that this junction is already unacceptably delayed at peak hours, and stressed that the area cannot support any land use changes that would add additional traffic without also adopting mitigating measures.

Residents and business owners also expressed concern that unrestricted on-street parking, and off-street retail and commercial parking will prove attractive for transit users. Stakeholders underlined a need for a parking management strategy to ensure that local businesses do not suffer from transit introduction.

Design Team Analysis

The existing densities and mix of uses suggest that the West Lake station has great potential as a true, transit-oriented node. With a framework of uses and density already in place, the station area's greatest need, aside from (and not to downplay the importance of) a traffic management plan, is a true pedestrian-orientation. Planning efforts should promote a redevelopment vision that emphasizes non-vehicular connectivity and pedestrian-scale design.

This station area strategic planning process is not intended to yield a final answer on whether there will be a need for a park-n-ride facility at this station, and it is clear that more analysis of parking issues, existing and future, will be needed before a determination can be made.

West Lake

West Lake Street Station is an opportunity to serve a major commercial and residential node as well as the Minneapolis Chain of Lakes.

Top Issues

- **Southwest LRT project assumes park-n-ride at this station**
- **high-value, stable retail**
- **congested station area roadways**
- **potential for LRT connector in Midtown Greenway**

Principles

- **This process recommends further analysis before a park-n-ride decision is made**
- **This process recommends that any LRT parking be integrated with development**
- **Plan for increased density**
- **Maintain/enhance traffic level of service (LOS)**
- **Accommodate potential LRT connector**

Opening Day Recommendations

The following recommendations identify elements essential to the safe, efficient function of the transit station: pedestrian and bike connections, multi-modal transfer, passenger drop-off/pick-up, and wayfinding. These elements are the minimum recommendations of this station area strategic planning study, for implementation on opening day. It should be noted that these recommendations are outside the current Southwest Transitway LRT project as defined in the conceptual engineering drawings. While some elements may be constructed as part of the LRT project itself, other elements must be funded, designed and constructed by other entities, and will require close coordination between the City, the County, and Metro Transit, as well as local stakeholders and neighborhood groups.

Further recommendations contributing to a larger transit-oriented district, projects and enhancements that may take many years to fully realize, are contained in the next section.

Roadway

- Construct pull-out or sign curbside space for auto drop-off/pick-up on Chowen Ave curve

Drop-off must be designed to minimize vehicular conflict with buses.

Pedestrian Connection (sidewalk)

- Construct 'missing' pieces of sidewalk.

The following gaps in the sidewalk system must be completed in order to provide full, uninterrupted station access

- Chowen Ave, both sides
- West 32nd St, south side
- 31st St/Abbott Ave

Access from the station to Lake Calhoun should also be considered.

- Improve existing sidewalk to meet a minimum City standards.

Existing sidewalk on the west side of Excelsior Blvd, between 32nd & Abbott, is narrow and obstructed with poles in the center of the sidewalk. This sidewalk should be widened, and obstructing poles relocated.

- Introduce wayfinding signage at:
  - West Lake St bridge bus stops
  - Chowen & 32nd
  - Excelsior & 32nd
  - Excelsior & 31st/Abbott

Bicycle Connection (trail/bike lane)

- Install NiceRide station

A bike share station on the station platform will enhance connectivity and mobility within the station area.

Transit Connection

- Construct at-grade sidewalk connection from West Lake street to platform.

This connection will be critical for intermodal transfer between West Lake Street buses and LRT.

Parking Management

Current LPA documents identify West Lake station as a park-n-ride location. The decision to provide or not provide transit parking is beyond the scope of this station area strategic planning effort; this effort only provides complementary land use direction for each of these parking or a no-parking scenarios.

West lake Station: Opening Day Recommednations. Multi-modal transfer and clear station access are important to promoting ridership.

Park-n-Ride at West Lake

The mid-process presentation materials at the September open house did not show a park-n-ride lot, based in part on input received from nearby residents. These residents voiced concerns about how a park-n-ride might attract more cars to an area that already experiences difficult traffic conditions.

Following the September open house, the City and County received additional input from local businesses in the West Lake area who support a park-n-ride. These stakeholders believe that park-n-ride will be needed to make this station work for their customers and employees. While this input does not outweigh the concerns of nearby residents, both points of view must be taken into account.

The City and County also considered the goals of this station area planning process in relation to the CE/LPA. The City and County feel that it is important to show a concept that aligns with the park-n-ride assumptions in the LPA document, which is the most recent technical description of how a light rail line could reasonably be built and operated in this area. Having some level of park-n-ride was deemed essential in the DEIS, based on demand for parking and the need to respond to that demand in order to generate ridership and, ultimately, qualify for federal funding to build the project.

- If transit parking is provided, a district approach is preferred.

A parking district would provide a shared reservoir of parking for commercial and transit use in a single, central location. Parking should be thoughtfully located; optimal location is within the mixed-use district, rather than immediately adjacent to the station, to provide convenient location to all land uses and to promote local business by routing transit patrons by these retail establishments.

Interim surface parking may be an opening day option to provide parking prior to site redevelopment and parking district formation.

- If transit parking is not provided, provide parking management and enforcement of adjacent residential streets and commercial lots

Management tools for on-street parking may include resident-only (permit) parking or time-restrictions (such as a 2-hour limit). Commercial off-street parking may be similarly time-restricted. Enforcement is critical to the efficacy of these management tools.

Platform

- Move platform north to better serve the larger station area.

Platform location must be decided during transit engineering, and cannot be changed after LRT construction. The optimal station location would be directly under the West Lake Street Bridge, to better serve all four quadrants (bisected by the rail corridor and West Lake Street) of the station area. This station location would also facilitate both sidewalk and future vertical connectivity with West Lake Street bridge bus stops and the proposed Midtown Greenway streetcar, currently envisioned to terminate just north of the West Lake Street bridge.

Land Use

Station area planning identified no immediate land use changes necessary for LRT introduction. Strategic, long-term land use recommendations are contained in the next section.

West Lake Station: Conceptual Sketch, looking north at LRT platform toward West Lake Street bridge.

Public Comment

Open House participants expressed concerns regarding station parking and pedestrian connections. Many participants felt that the existing roadway network could not support the additional traffic that a park-n-ride would bring, but were also concerned about transit riders using retail spaces or parking on neighborhood streets, if no parking is provided. Residents also identified specific pedestrian connections that should be prioritized.

Questions & Comments

- **Improve pedestrian access to platform from north of Lake Street.**
- **No park-n-ride; traffic is already congested.**
- **Need vertical connection between Lake Street and LRT platform.**
- **Need to protect retail parking; make sure it is not used by transit riders, and that it remains free.**
- **Opening France Avenue between Lake Street and 32nd Street is a great idea and will ease congestion.**
- **Maintain the bikeway.**
- **We are concerned about light and noise impacts on the townhomes adjacent to the alignment.**

Sample Transit-Oriented District

The graphic at right illustrates one of many ways the West Lake station area might look in the future, embodying transit-oriented development principles. This drawing is not a plan, per-se, but simply a graphic representation of the physical form that could evolve within a framework of pedestrian-focused, transit-supportive policies.

The goal of this station area strategic planning process is not to decide which parcels will redevelop, when they will redevelop, or even what specific land use they will have. All of these particulars will be decided by market demand, and by the private landowner. Rather, the goal of this process is to identify the land use and planning principles most relevant to this particular station area, and to begin to formulate a framework of visioning principles that will act as a base for future, more detailed planning efforts.

Roadway

- Relieve roadway congestion and increase roadway capacity in order to support increased density.
  - Reconnect France Ave
  - Mitigate West Lake/Excelsior intersection
  - Straighten Abbott/31st and signalize intersection at Excelsior

An infrastructure solution should be developed for the West Lake Street / Excelsior Boulevard intersection in order to improve traffic operations and access in this area. To alleviate pressure, France Avenue should be investigated for a possible north-south connection from Randall Avenue on the south to 31st Street on the north. This may relieve pressure from the West Lake Street / Excelsior Boulevard intersection. It should be noted that consideration of this connection may have regional travel impacts beyond the City of Minneapolis.

Monitor access to the station area to determine if Abbott Avenue needs traffic control improvement. Consider realignment of 31st Street to connect Abbott Avenue and Chowen Avenue.

Also consider realignment of the Excelsior Boulevard/32nd St intersection to create shorter, more direct pedestrian crossings. To do so, Minikahda Club access would be moved south of the intersection and changed to a right-in/right-out 'T" intersection configuration. This change would create a 4-way, instead of the current 5-way, intersection. Any changes to the Minikahda access would need to take into account the character of the existing entrance drive

- Widen Lake Street bridge to accommodate bus stops and vertical circulation

Pedestrian Connection (sidewalk)

Station area strategic planning identified no additional, long-term pedestrian connection recommendations beyond those identified in the preceding Opening Day Recommendations.

Bicycle Connection (trail/bike lane)

Station area strategic planning identified no additional, long-term bicycle connection recommendations beyond those identified in the preceding Opening Day Recommendations.

Transit Connection

Station area planning identified no additional, long-term transit recommendations beyond those identified in the preceding Opening Day Recommendations.

Parking Management

- Transition parking from surface to structure.

If transit parking is provided at this station, and if an interim surface parking approach was introduced, long-term parking goals should focus on moving parking from a surface lot to a shared, district structure. Land occupied by the interim lot should be developed with transit-supportive uses, with site design conducive to a pedestrian environment. Redevelopment of surface parking is particularly important if the surface lot abuts the transit station.

West lake Station: Sample Transit-Oriented District. Increased residential density promotes LRT ridership. Redeveloped retail nodes places buildings against the street and structures parking within the lot in order to create a pedestrian-scale, walking environment.

- Consider reduced parking requirements, shared parking and other parking management tools.

In order to promote density and capitalize on transit connectivity, changes to policy that allow parking tools such as reduced parking requirements, shared parking, parking caps (maximums instead of minimums) or phased parking requirements (a lower parking cap or lower parking requirements as the area reaches redevelopment build-out) should be considered. Care should be taken that parking policy is not so stringent as to discourage market-based development. Enforcement will be required.

Platform

Station area planning identified no additional, long-term transit platforms beyond those identified in the preceding Opening Day Recommendations.

Land Use

- Densify residential development.

National precedent shows high demand for both for-sale and for-rent residential units within walking distance of transit stations. Creating this density, or in the case of West Lake, increasing existing density, is a means to promote ridership and capitalize on the public transit infrastructure investment.

The inclusion of affordable housing in transit districts is important, ensuring that transit-dependent populations have access to public transportation and are not priced out of the area. Densification will likely require structured parking, and it is important to evaluate how this change will impact the supply of affordable housing units. Redevelopment plans should align with City housing policy and goals.

- Redevelop underutilized parcels.

Mixed-use with ground-floor retail/restaurant space would introduce additional vitality to the station area and create a context-consistent land use facing West Lake Street, while ensuring that existing businesses can remain.

- Establish a build-to line on Excelsior Boulevard and Abbott Avenue.

A number of parcels within the station area use a traditional retail format, with parking in front and against the street. This layout is convenient, but does not promote a good street edge or pedestrian scale. As parcels redevelop, they should feature street-fronting retail with parking, preferably structured, to the rear of the parcels. This more pedestrian-friendly style of development would narrow the perceptual width of both Excelsior Blvd and Abbott Ave and uphold the goals of the current pedestrian overlay zoning.

- Promote ped/bike connection to retail parcels

A number of parcels in the station area front the Kenilworth trail and the Midtown Greenway. Introducing clear visual sightlines and physical pedestrian and bike connections from the trails to retail nodes would provide amenity to trail users and promote increased activity in the area's retail.

Zoning

- Consider application of appropriate overlay districts.

In 2009, the City made several zoning changes affecting this area, most notably an increase in allowed residential density and floor area ratio (the relationship of the size of a building to the lot) in the 3CS district. Both retail nodes north and south of West Lake street fall into this zone district. This change allows for a large amount of high density mixed-use development in these areas, uses in keeping with the principles of a successful transit area.

Additional zoning changes in 2010 allowed for the implement the Midtown Greenway Land Use and Development Plan which calls for high-density, mixed-use development in the area.

Given these recent changes, major rezoning is not needed at this time. In the future, the City should consider applying the Transit Station Pedestrian Oriented Overlay District which prohibits auto-oriented uses such as gas stations and sets a minimum floor area ratio for new development. The application of the Transit Station Pedestrian Oriented Overlay District should be considered after further analysis of parking needs for the area is complete.

Next Steps

Context & Planning Assumptions

- Park and ride allocation currently in LRT project; station area strategic planning recommends further analysis before a decision is made on park and ride at West Lake Street Station.

Planning Process

The tables at right summarize the recommendations contained in the preceding 'Opening Day Recommendations' and "Sample Transit Oriented District' sections. A number of broader steps, listed below, will be needed to set the framework for the more specific steps identified at right.

- Provide input to preliminary engineering for LRT effort with Met Council
- Carry out station area, but non-LRT infrastructure enhancements: close gaps in pedestrian & bike circulation, including roadway modifications
- Adopt appropriate transit-area policies at the City/County level
- Create a development-friendly environment
    - Evaluate current land use needs & desires
    - Explore parcel assembly & acquisition
    - Identify catalytic projects (public/private)
    - Consider RFP's
- Identify funding mechanisms, incentives & public participation

Specific Recommendations to be Implemented by LRT Opening Day	Additional Study & Design during Preliminary Engineering	Policy Change	Lead Jurisdiction
Auto pick-up/drop-off	x		SW LRT Project
Missing segments of sidewalk system	x		City
Improve existing sidewalk to meet minimum City standards	x		City
Wayfinding signage	x		SW LRT Project
At-grade sidewalk connection from West Lake to station platform	x		City
Modify station platform location	x		SW LRT Project

Specific Recommendations to be Implemented as Needed	Additional Study & Design during Preliminary Engineering	Policy Change	Lead Jurisdiction
Reconnect France Avenue over rail corridor	x		City
Mitigate West Lake/Excelsior intersection	x		City
Straighten Abbott Ave/31st St and signalize Excelsior intersection	x		City
Widen West Lake St bridge to accommodate bus stops and vertical circulation	x		City
Transition parking from surface to (district) structure	x		City, BID, private developer
Densify residential development	x		private developer
Redevelop underutilized parcels	x		private developer
Build-to line on Excelsior Blvd and Abott Ave		x	City
Ped/bike connection to retail parcels	x	x	City, private developer

The Artery | Community Open House
December 16, 2014

"Never doubt that a small group of thoughtful, committed citizens can change the world. Indeed, it is the only thing that ever has."

-Margaret Mead

Meeting | **Community Open House**

- Project Goals and Objectives
- Project infrastructure and design standards
- Project schedule
- Gather community input

The Artery | Community Open House

Goals of the project:

- Create a multi-modal friendly corridor
- Cultivate a pedestrian ‘seductive’ corridor with a truly unique and creative sense of place
- Develop a project that is sound technically and that can be easily maintained by City staff
- Showcase artwork throughout the corridor in many forms

The Artery | Community Open House

What would you like to see or do in the Artery that would make it a compelling place?

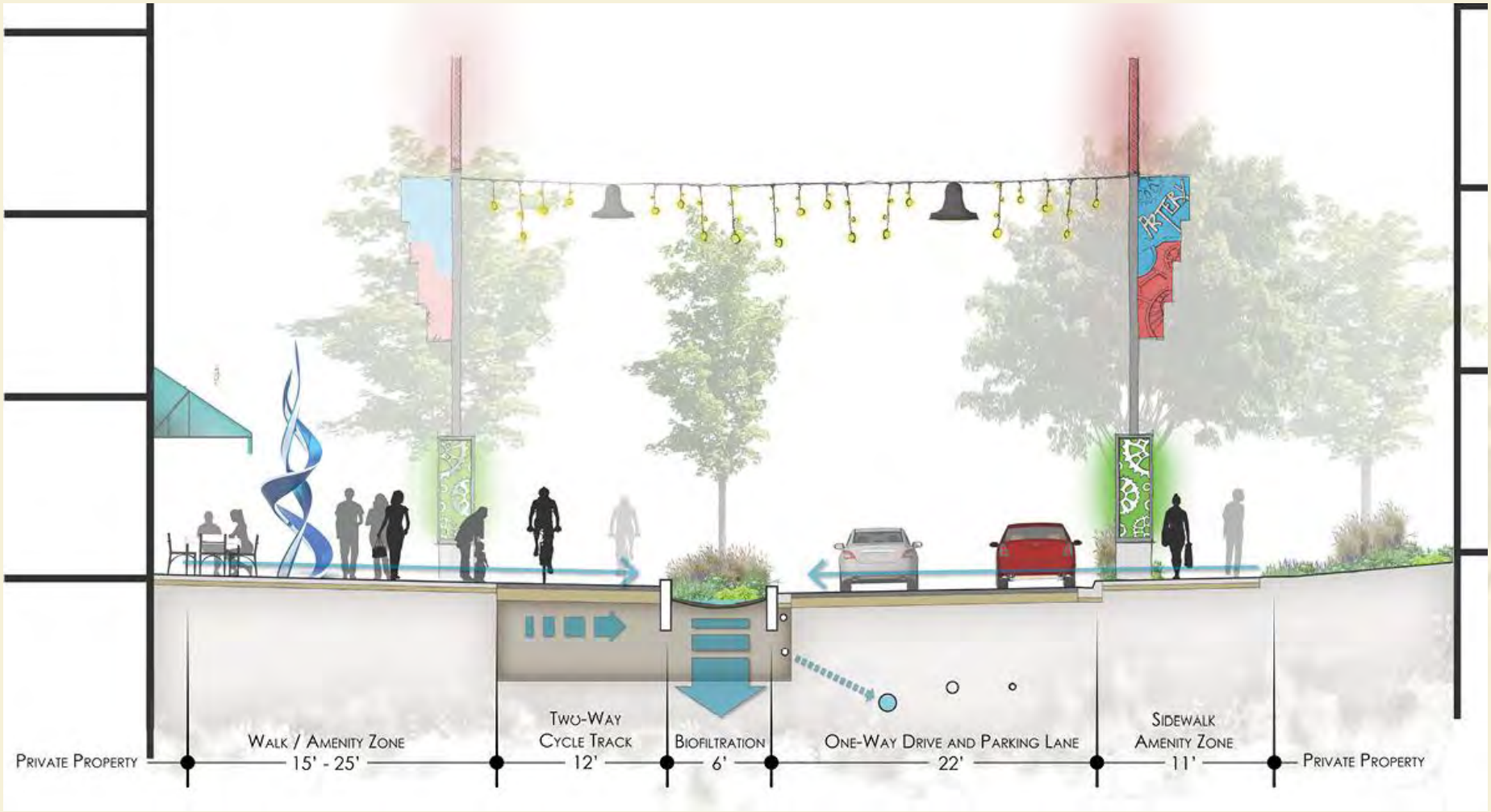
- Integrated Art throughout the corridor?
- Good pedestrian and bicycles facilities?
- Unique character and style?
- Ability to host special events?

The Artery | Balancing the Public Space

- Competing Interests for Space:
  - Open space for pedestrians on West side: 15’-25’
  - Traffic Lanes: 11’ – Each
  - Parking Lanes: 8’ – 10’ Each
  - Bicycle Facility: 12’
  - Stormwater Management Space: 6’
  - Sidewalk & Boulevard on East side: 11’

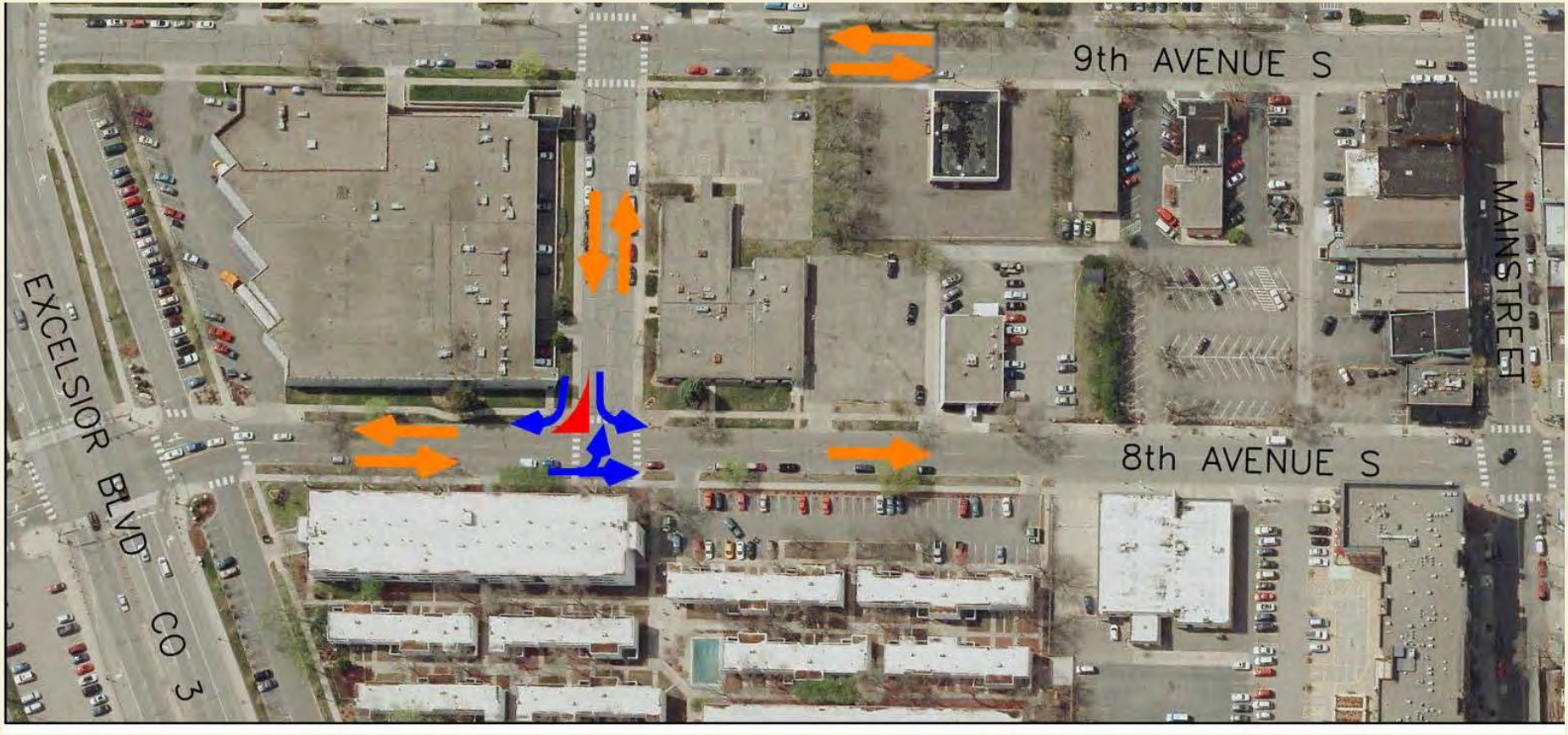
- **Total of 82’ – 98’ but only 66’ to work within**

The Artery | Balancing the Public Space



BOLTON & MENK, INC.
Consulting Engineers & Surveyors

The Artery | Balancing the Public Space



BOLTON & MENK, INC.
Consulting Engineers & Surveyors

The Artery | Overall Corridor Plan

DEVELOPMENT PROJECT SITE PLAN

NORTH 0 40 80

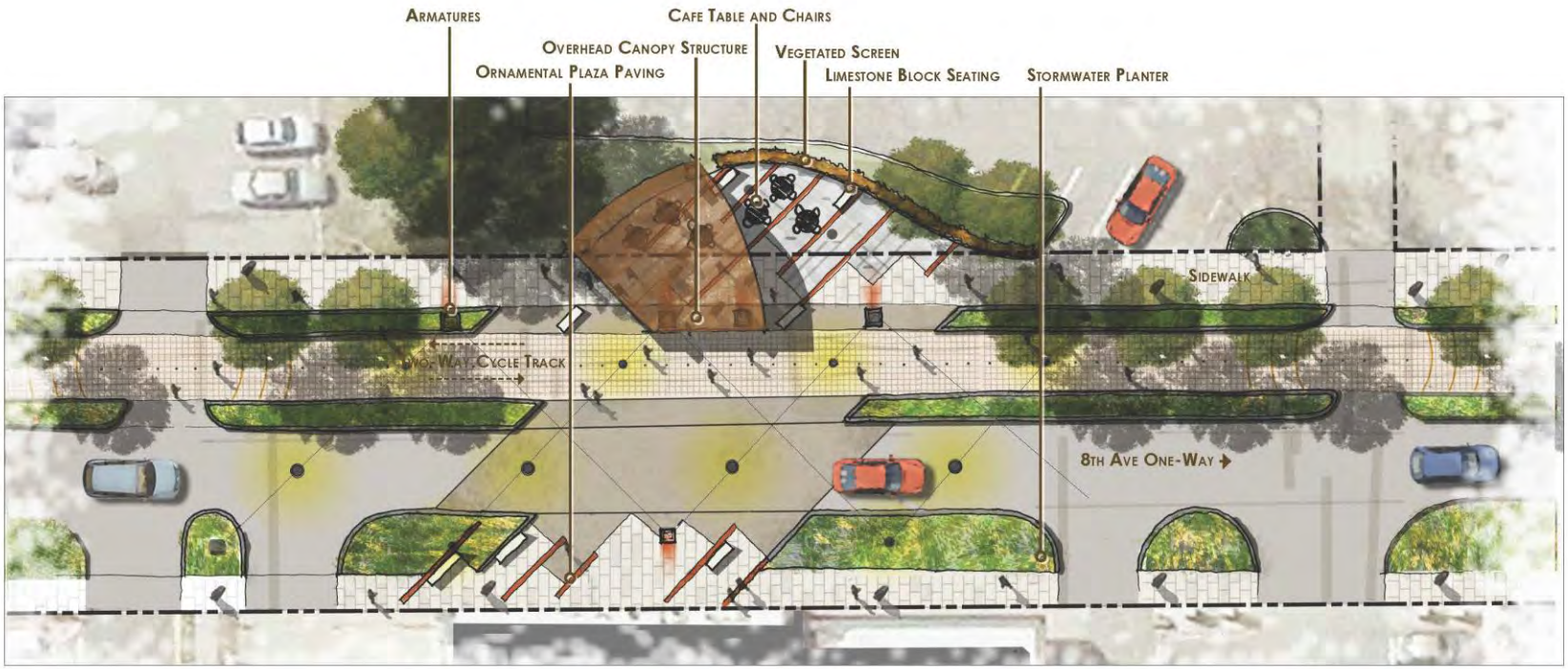
ARTERY CITY OF HOPKINS, MINNESOTA

The Artery | Mainstreet and 8th

ARTERY City of Hopkins, Minnesota

Circulation Coordination: 8th & Mainstreet

The Artery | Artery Plaza



Artery Plaza: Concept Plan

The Artery | Excelsior and 8th

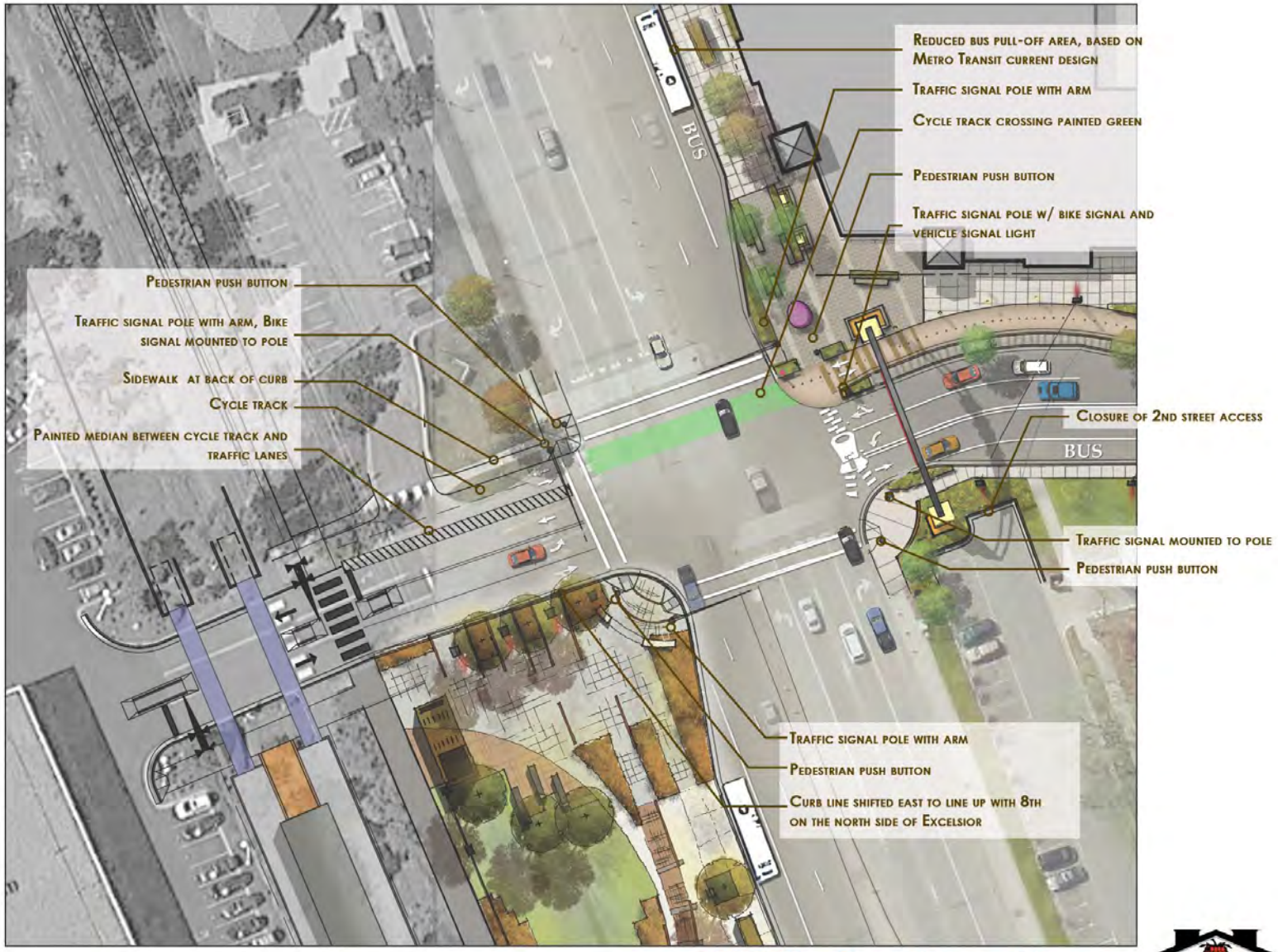
ARTERY City of Hopkins, Minnesota

Circulation Coordination: 8th 2-Way/1-Way

The Artery | Excelsior and 6th/7th

BOLTON & MENK, INC.
Consulting Engineers & Surveyors

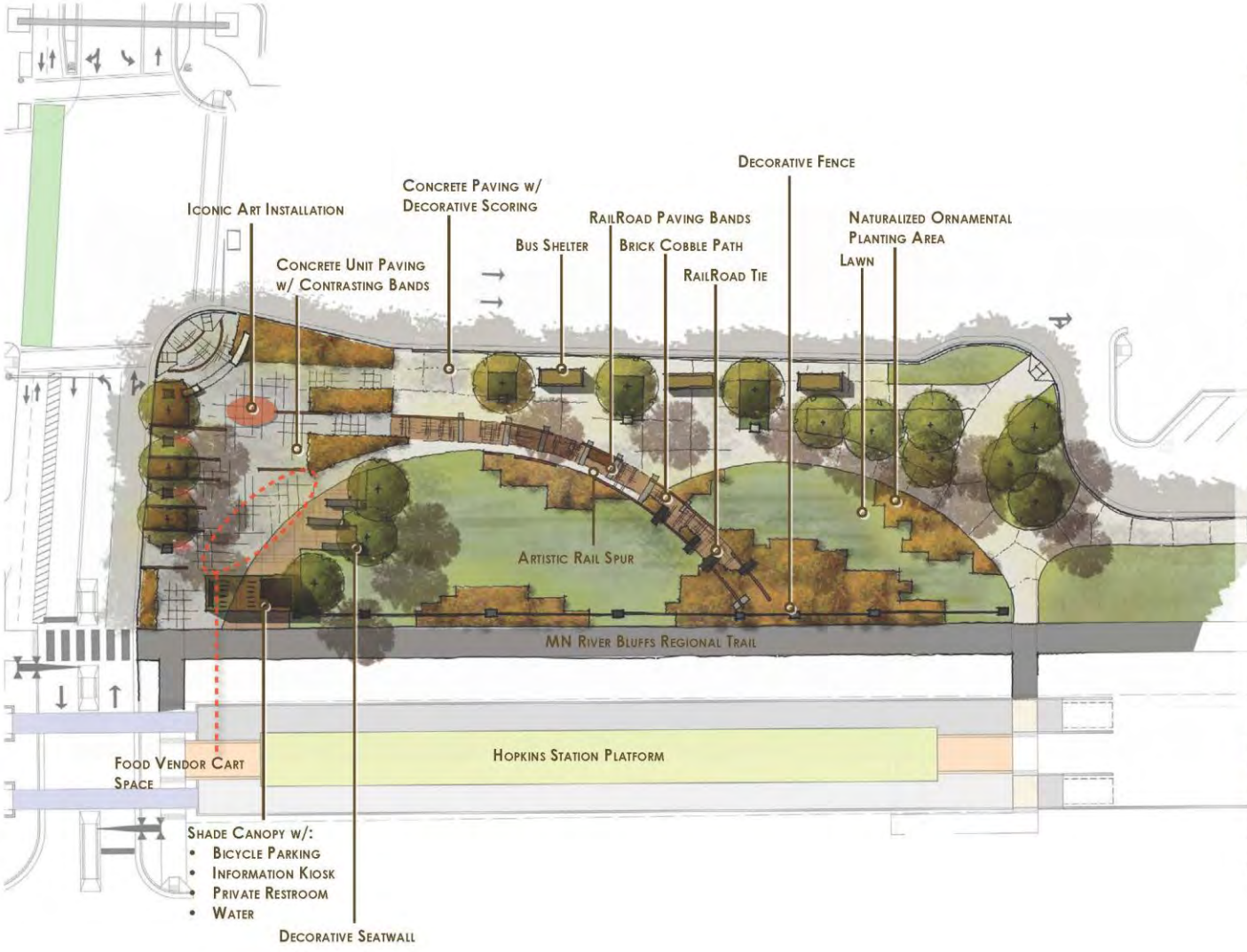
The Artery | Excelsior and 8th



ARTERY City of Hopkins, Minnesota

Circulation Coordination: 8th & Excelsior

The Artery | LRT Plaza



Hopkins Station Plaza: Concept Plan

The Artery | Thematic Styles

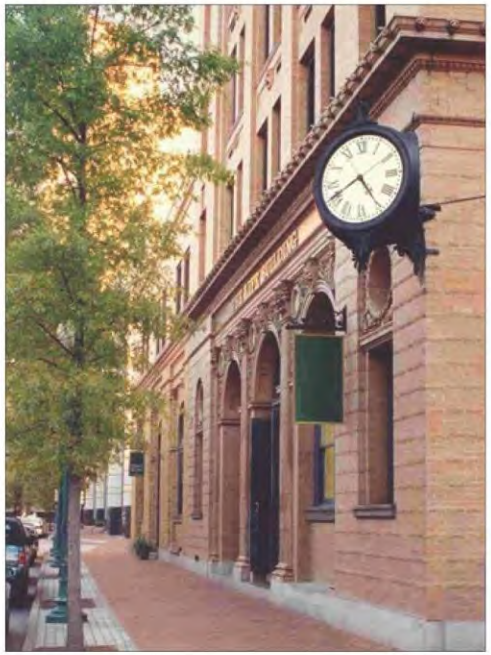
Which thematic style best fits your vision for the Artery?

- Styles can complement or contrast adjacent uses
- Styles can tell a story – history, art, geography
- Styles set a precedent for all elements of the project – small to large scale

The Artery | Whimsical Style

CHARACTER PREFERENCE: WHIMSICAL

The Artery | Historic Style

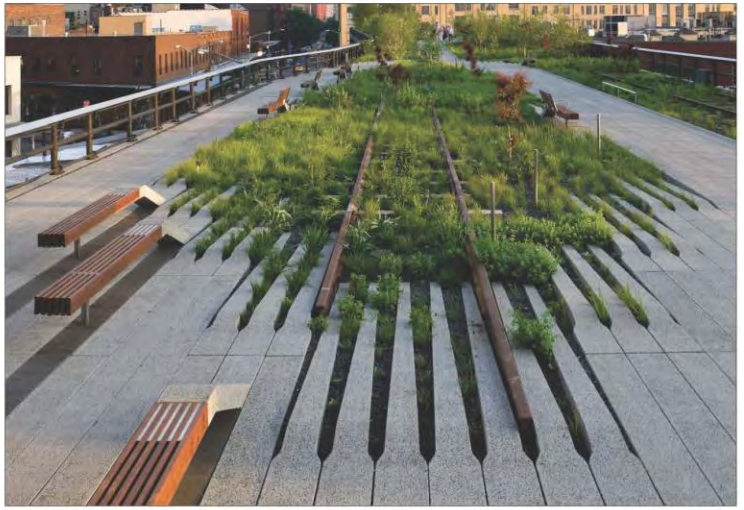


CHARACTER PREFERENCE: HISTORIC

The Artery | Post Industrial Style

CHARACTER PREFERENCE: POST INDUSTRIAL

The Artery | Contemporary Style



CHARACTER PREFERENCE: CONTEMPORARY

The Artery | Integrated Technology

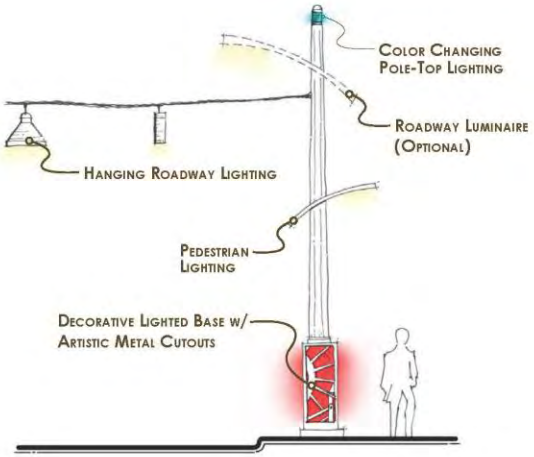
How should technology be incorporated in the Artery?

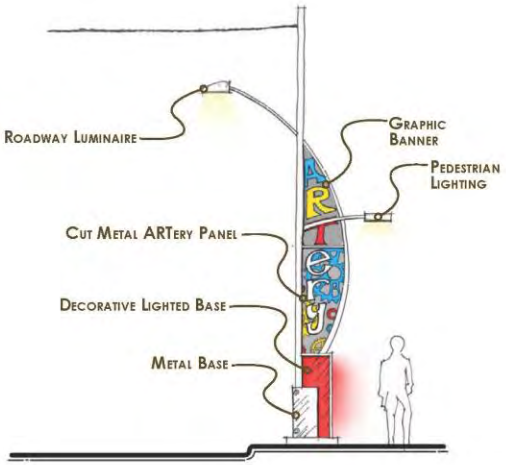
- Interactive wayfinding and kiosks
- Technology for safer pedestrian crossings
- Innovative, dynamic artwork
- Unique and sustainable materials for stormwater, lighting, landscaping, etc.

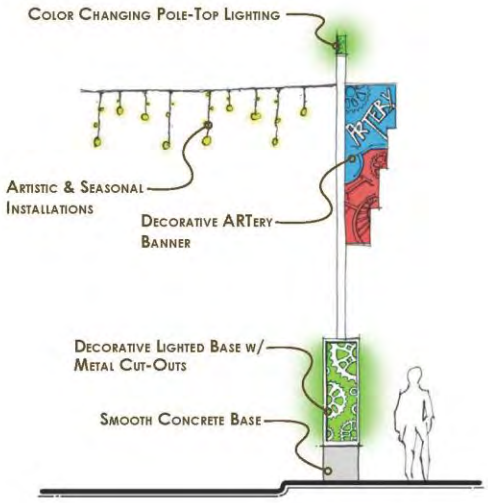
The Artery | Interactive Technology

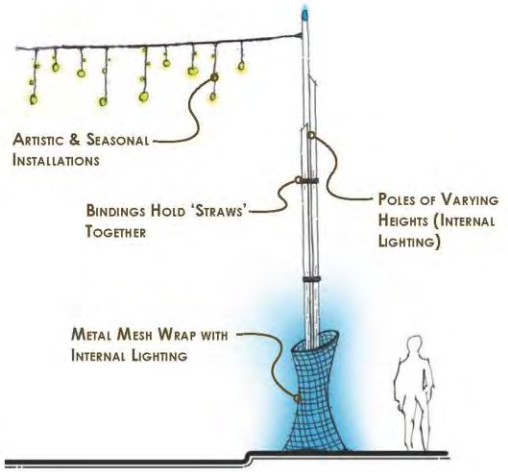
INCORPORATING TECHNOLOGY

The Artery | Street Lighting and Armatures



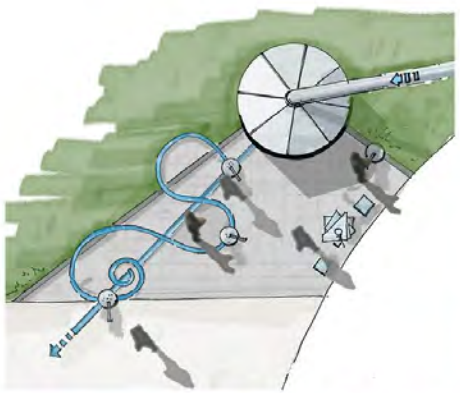


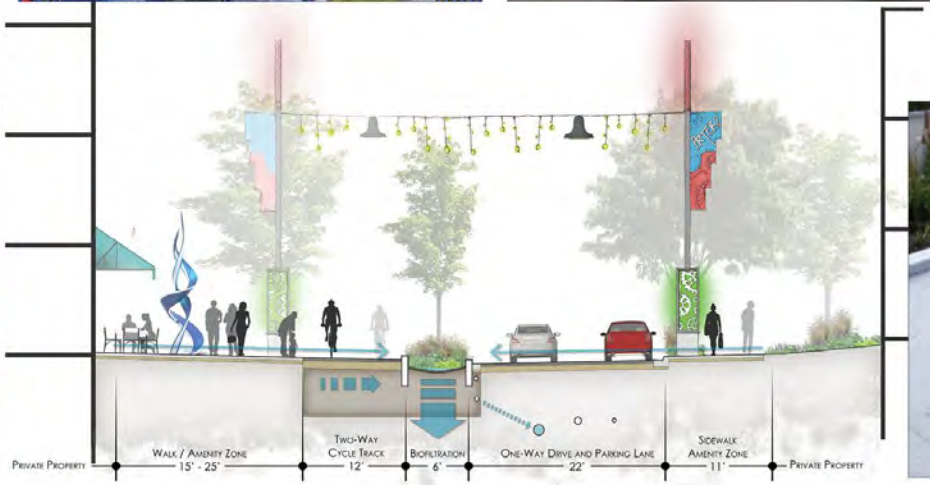


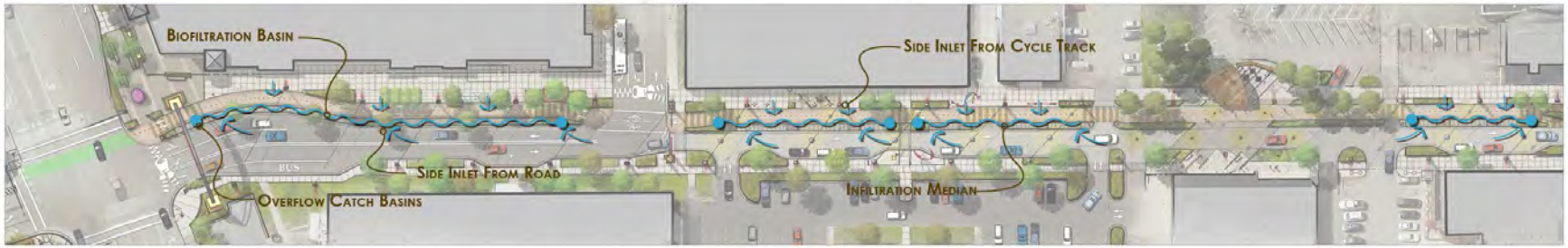


Street Lighting & Armatures

The Artery | Stormwater and Landscaping







ARTERY City of Hopkins, Minnesota

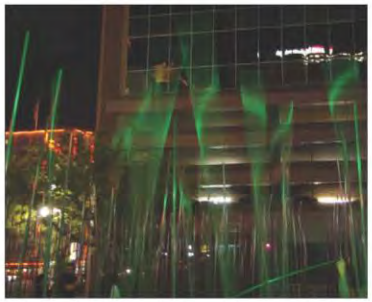
Sustainability: Stormwater & Landscape

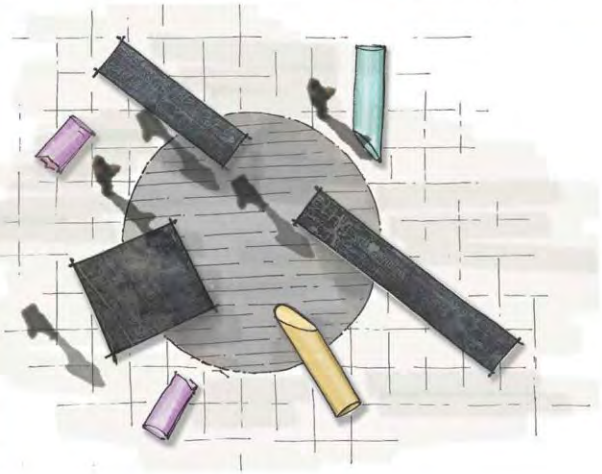
The Artery | Art in the Artery

What type of Art would make the Artery a compelling space?

- Integrate art within streetscape elements?
- Showcase artwork in the corridor?
- The ability for performance and dynamic art?

The Artery | Community Open House





ARTERY City of Hopkins, Minnesota

Art Room Integration

The Artery | Integration of Redevelopment

JOHNSON BUILDING PROPERTY: SOUTH PERSPECTIVE

The Artery | Integration of Redevelopment

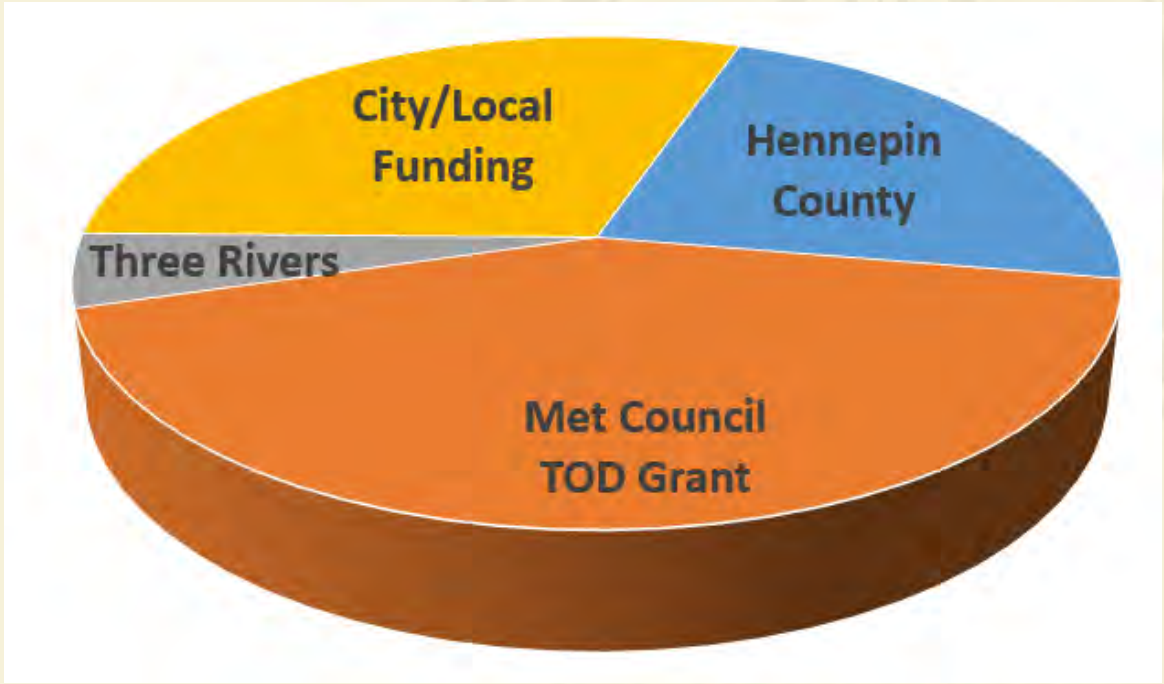
JOHNSON BUILDING PROPERTY: NORTH PERSPECTIVE

The Artery | Public Engagement

- ✓ Art Summit
- ✓ Meeting with 2nd St Commercial Properties
- ✓ Neighborhood Meeting: 6th & 7th Avenue Properties
- ✓ Meeting(s) with 8th Avenue Properties
- ***Public Open House***
- Artist Outreach
- Artery Experiment (Summer, 2015)

The Artery | Project Costs & Funding

- Estimated Project Cost of Artery is $3.1 million
  - $695,000 Hennepin County Funding
  - $1,325,000 Met Council TOD Grant
  - Three Rivers Park District Participation
  - City Funds



Project Next Steps

- Input from the Dec 16 Open House will be analyzed and compiled
- Preliminary plans will be finalized based on comments
- Final design technical plans developed
- Final design art input sought out as technical plans are developed

The Artery | Project Update

Mike Waltman, P.E.
Project Manager

Jim Harbaugh, PLA
Landscape Architect

Casey Byers, PLA
Landscape Architect

BOLTON & MENK, INC.
Consulting Engineers & Surveyors

City of Hopkins, MN

Hopkins Station Area Plan
Final Report

Submitted to
Hennepin County Works
& City of Hopkins, MN

by IBI Group

with
Hoisington Koegler Group Inc.

October 2007

ACKNOWLEDGMENTS

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Chair

Steve Stadler, City of Hopkins MN

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01 October 2007

Katie Walker, Project Manager
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417 North Fifth Street
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Hopkins Station Area Plan

Dear Ms. Walker

IBI Group is pleased to forward the final report regarding the Hopkins Station Area Plan, a study made possible by consideration of Light Rail Transit (LRT) service for the proposed Southwest Corridor.

Over the past year, we have worked to devise station area plans that serve to:

- Identify the preferred locations for each LRT station;
- Ensure the resultant stations are accessible in support of transit ridership;
- Support Transit-Oriented Development (TOD); and
- Contribute to the delivery well-designed public spaces in support of pedestrian friendliness.

Included in our report are a series of recommendations that the consultant team feels should be considered to establish TOD as the backbone of transit service within the City of Hopkins. Perhaps the recommendation with the most immediate benefit to the City is the suggestion that the Hopkins Station Area Plan form the basis for the upcoming its Comprehensive Plan update.

In closing, we thank you for your contribution to our work and wish you the best in your future endeavors in the quest for transit-supportive development within your City.

Regards,
IBI Group

Andy McNally
Director

Gary Andrishak
Associate

Cc Steve Stadler

Contents

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2.0 Study Inventory	5
3.0 Issues Identification	7
4.0 Future Land Use	9
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To date, the proposed Southwest Corridor LRT transit stations have only been presented as "dots on a map". This study deals both with how LRT riders will access the transit station service and how development patterns could possibly change surrounding each transit station.

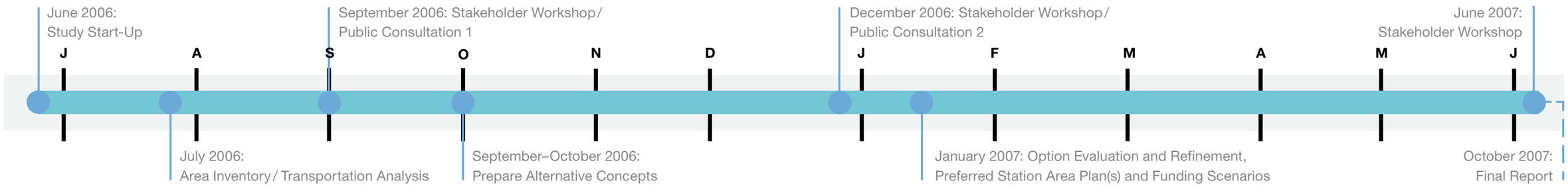
In July 2006, IBI Group was selected jointly by Hennepin County Works and the City of Hopkins to undertake a preliminary planning exercise for three Light Rail Transit (LRT) Station Areas, as identified in the SW Alternative Analysis Study. Minneapolis-based Hoisington Koegler Group Inc. served as sub-consultant to the Consultant team, specifically to provide "local knowledge".

The purpose of the Study was to develop Station Area Plans for the Shady Oak, Downtown and Blake Road LRT stations and to provide the first elements of a "road map" to guiding future integrated transportation, land use planning and development initiatives within the City of Hopkins.

Study objectives sought to:

- Develop strategies and recommendations for three proposed station areas within the City of Hopkins that consider integrated solutions regarding environmental, transportation, land use and economic impacts;
- Emphasize the City of Hopkins commitment to improving the quality of life of its residents by further demonstrating the importance of the transit station sites;
- Ensure linkages between the Hopkins' Station Area and the Downtown core complement and enhance future development;
- Foster Transit-Oriented Development (TOD) at each of the proposed Station Areas;
- Identify "next steps" in the planning process to ensure that the thrust of this initial Station Area planning exercise is not lessened in the near term.

Schedule



1.0 Study Purpose

1.2 Goal of the Study

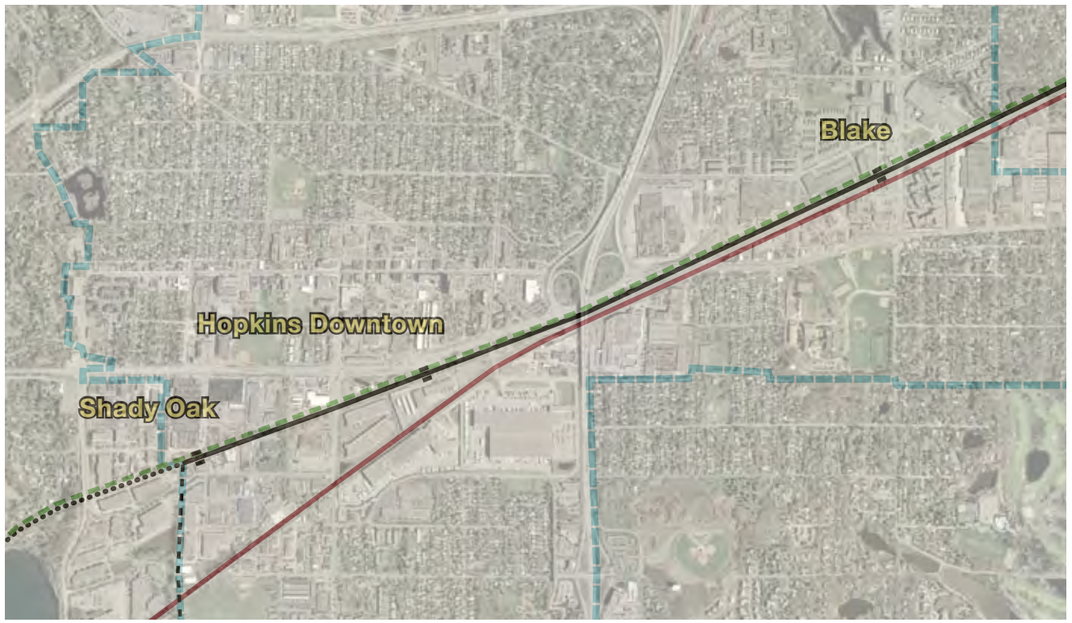
The Study will develop Station Area Plans for the Shady Oak, Downtown and Blake LRT stations and provide the first elements of a "road map" to guide future integrated transportation and land use planning initiatives within the City of Hopkins.

1.3 Land Use and Transportation Analyses Included in the Study

- Development/Redevelopment Opportunities & Constraints Mappings
- Access and Circulation Plans
- Downtown Connectivity Options
- Parking Demand and Supply
- Funding and Implementation Strategy

Light Rail Corridor

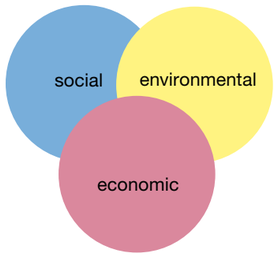
The prospect of efficient, high-speed public transit connecting southwest communities to downtown Minneapolis, brings with it the possibility of a major shift in how local Hopkins residents move to-and-from their community.



- Light Rail (LRT) Route
- LRT 1A Route
- LRT 3A or 3C Route
- LRT Station
- Heavy Rail
- City of Hopkins Boundary
- Regional Trail

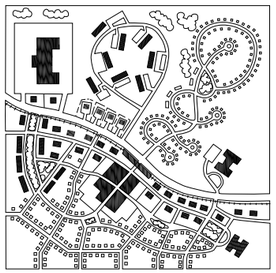
2.0 Study Inventory

2.1 Study Components



As specified within the consultant contract, the study team was tasked with the following work program in pursuit of program goals and objectives:

- Study Inventory
- Issues Identification
- Future Land Use
- Access/Circulation Plan
- Downtown Connectivity
- Traffic/Parking Impact
- Funding Issues
- Public Involvement
- Implementation
- Next Steps

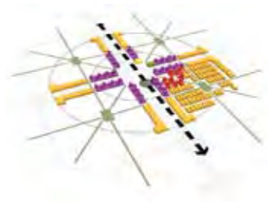


Duany Plater Zyberk & Company

Guiding Study Principle: Sustainability

Meeting the needs of the present without compromising the ability of future generations to meet their subsequent needs by balancing the social, environmental and economic spheres of influence in the decision-making process.

Guiding Study Principle: Complete Communities



Neighborhood self-sufficiency and reduction of sprawl realized by the integration of transportation and land use planning, as well as other elements—such as market demands, environmental constraints/opportunities, community input, and technical efficiencies—in a 'seamless' planning process.

Guiding Study Principle: Transit-Oriented Development

"Compact, mixed-use and pedestrian-friendly neighborhoods containing a range of housing types, workplaces, shops, entertainment, schools, parks and civic facilities essential to the daily lives of residents—all within an easy 5 to 10 minute walk from a transit station."

2.2 Official Proposal

As indicated on the Southwest Transitway Alternatives Assessment (AA) Corridor Map, the Hennepin Country Regional Railroad Authority is currently proposing three transit stations within the City of Hopkins. They are referred to on the map above as Shady Oak, Hopkins Downtown, and Blake.

Transit Station Area Planning

The Consultant team investigated Future Land Use Impacts/Development Opportunities adjacent to each transit station. It is suggested that development of TOD urban villages be pursued in response to this task.

One of the goals of the Hopkins Station Area Planning Study is to begin to add insight and character to each of the proposed station areas. To date each has existed solely as a "dot on a map". To better comment on the appropriateness of each proposed LRT transit station site, the City of Hopkins needs to know the following information:

- Where in relationship to existing conditions will the transit station be located? How will its platform be expanded, downstream, to accommodate longer trains?
- Where will Park-and-Ride ramps be located in relation to transit stations to make the transfer from the parking ramp to the station platform as simple as possible?
- How will convenient Kiss-and-Ride drop-off be accommodated adjacent the station?
- What form will the transit plaza take regarding the need to serve both transit riders and site redevelopment?
- What land is available near the transit station to support TOD mixed-use residential communities?

3.0 Issues Identification

3.1 Issue

The prior SW Alternative Analysis Study identified three transit stations along the proposed LRT corridor within the City of Hopkins. The Consultant team sought, first, to confirm the intention of the service provided to consider the inclusion of all three stops within the City. Second, if the stops were proposed, to determine if they were to be located within the optimum locations from the standpoint of promoting TOD.

3.2 Analysis

Andy McNally, Transportation/Transit Planner with IBI Group confirmed in a meeting with representatives of Parsons Brinckerhoff on 27 July 2007, that it was the intention of the corridor planners to consider the three proposed transit stations collectively within the City of Hopkins. It was not an issue of choosing, for example, the "preferred two out of three."

That said, the next issue was to determine whether or not the three transit stations were properly located in relation to the needs of the City. While there was general agreement from the Consultant team and client alike that both the Shady Oak (west) and the Downtown (central) stations were properly located, the Consultant team questioned whether the Blake (east) station was sited in the best location from the standpoint of site access, given its considerable distance from the north/south freeway, Interstate 169.

3.3 Action

The Consultant team looked at two alternative station locations, both at Jackson Avenue and Tyler Avenue, to consider station access, availability of Park-and-Ride and potential TOD mixed use development in both the site plan and the 3-dimensional massing studies. In the end, the team concluded that the initial proposal to site the Hopkins' East transit station at Blake Road represented the proper decision.

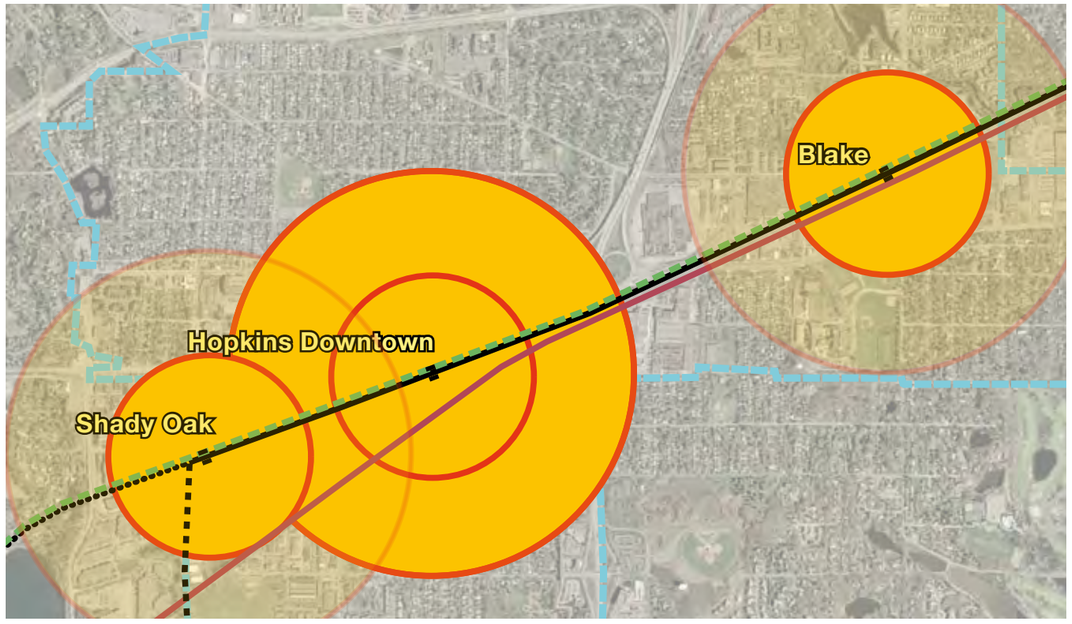
3.4 Recommendation

The three designated LRT transit stations on the SW Corridor within the City of Hopkins should be located as follows:

- Shady Oak (west)
- Downtown (centre)
- Blake (east)

Transit-Oriented Development

The Southwest LRT service would represent a major investment by the Hennepin County Regional Railroad Authority. The City of Hopkins can capitalize on this fact by intensifying land use surrounding designated transit stations.



Light Rail (LRT) Route
LRT 1A Route
LRT 3A or 3C Route
LRT Station
Heavy Rail
City of Hopkins Boundary
Regional Trail
5 Minute Pedestrian Shed
1/4 Mile
10 Minute Pedestrian Shed
1/2 Mile

The benefits of TOD—compact, mixed-use developments—are that they:

- Complement the large capital investment of the LRT system;
- Promote more sustainable land uses than is currently the case;
- Increase transit ridership with development of pedestrian-friendly streets and transit plazas;
- Add "critical mass" to the City Center and with it the prospect of more and better community amenities;
- Foster improvements in community health and well-being by building pedestrian and cycle friendly environments.

4.0 Future Land Use

4.1 Issue

Transit-Oriented Development (TOD) is described as "… the integration of transportation and land use planning, as well as other elements, into compact, dense, mixed-use development, where all residents can live, work, shop, learn, and play in a pedestrian-friendly environment—one where the automobile is an option, not a necessity!"

The issue regarding future land use was the assurance that the selected transit station areas were poised to influence a more transit-supportive planning model, one aimed at leaving a lighter ecological footprint on future urban development within the City of Hopkins. Specifically, land use patterns were sought to support:

- Compact, dense TODs
- Pedestrian-friendliness
- Community connections
- Urban design "placemaking"
- Increased local transit ridership
- Transit accessibility, Park-and-Ride and Kiss-and-Ride facilities

4.2 Analysis

As stated in Task 1.0, alternative Station Areas were analyzed by the Consultant team regarding:

- Transit station location
- Transit plaza development/Kiss-and-Ride "drop-off"
- Required roadway access to stations
- Location and size of Park-and-Ride ramps
- Short term "catalyst" mixed-use development
- Long-term, extended TOD in each case, prospective developments on a station-by-station basis were analyzed against a TOD Criteria Checklist.

Mixed-Use Design

… combines several different functions—residential space above a retail establishment or an entire development combining commercial, residential and public accommodations—within a single land use. It results from emerging urban patterns that encourage compact, dense and pedestrian-friendly design at the street level.

4.3 Action

"High Level" estimates of mixed-use development in gross square footage were drawn and calculated as follows:

1. Shady Oak
   - Near-term development
   - Long-term development

2. Downtown
   - Near-term development
   - Long-term development

3. Blake
   - Near-term development
   - Long-term development

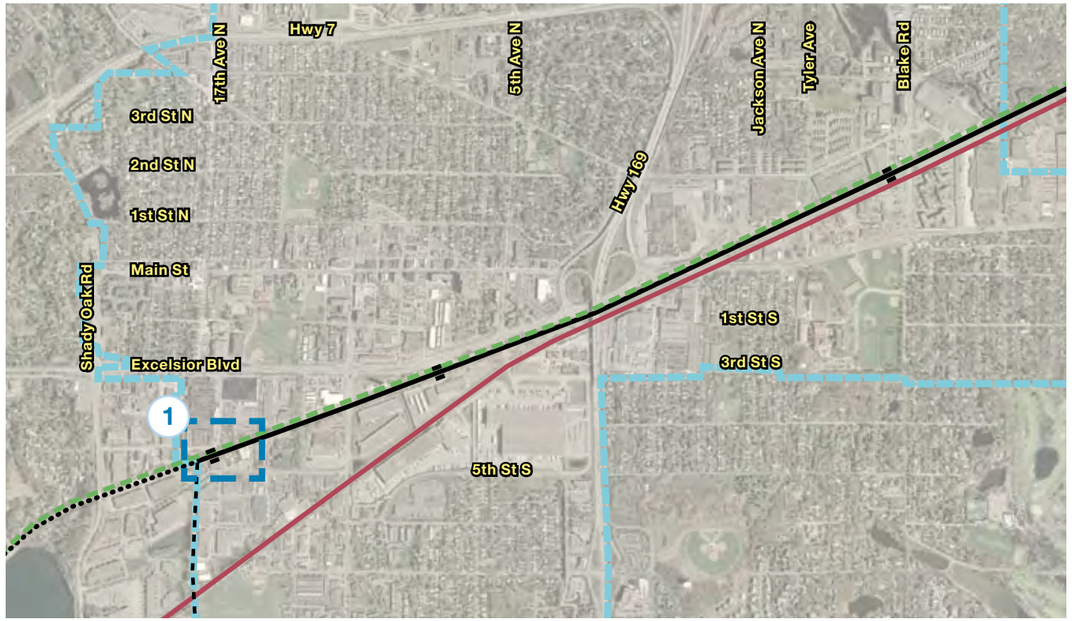
4.4 Recommendation

The three Transit Station Area land use plans, as developed by the Consultant team, should form the basis both for the downtown land use component of the upcoming Community Plan Update (2007), and for subsequent, individual TOD master plans, one for each of the three specified transit station areas.

Station Area Planning

The following five pages look specifically at station area planning options in both the mid- and long-term to consider the possible efforts by the City of Hopkins and private industry to introduce the concept of TOD, which seeks to promote new compact patterns of pedestrian-friendly community building in support of the proposed LRT service.

1 Shady Oak Station Area



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Area view from South-West

Station view from North-East

Shady Oak Station Area Highlights

Station Area Estimates	
Main Floor Commercial	102,406
Main Floor Live/Work	23,664
Upper Floor Commercial	58,082
Residential Units (177 units @ 1000sf/unit)	177,000
Total Est. Built Area (sf)	**361,152**

- Station isolated amidst existing development away from existing streets.
- Street grid must be extended to station.
- 280 car Park-and-Ride structures on 17th Ave.
- Parking structure screened from new streets by mixed-use development.
- Mixed-use development at extended 16th Ave and extended 47th St.
- As many north-south pedestrian connections as possible to be encouraged across old RR r.o.w.
- Existing streetgrid should eventually be extended through the large existing properties between Excelsior Boulevard, Shady Oak Road and the LRT line.

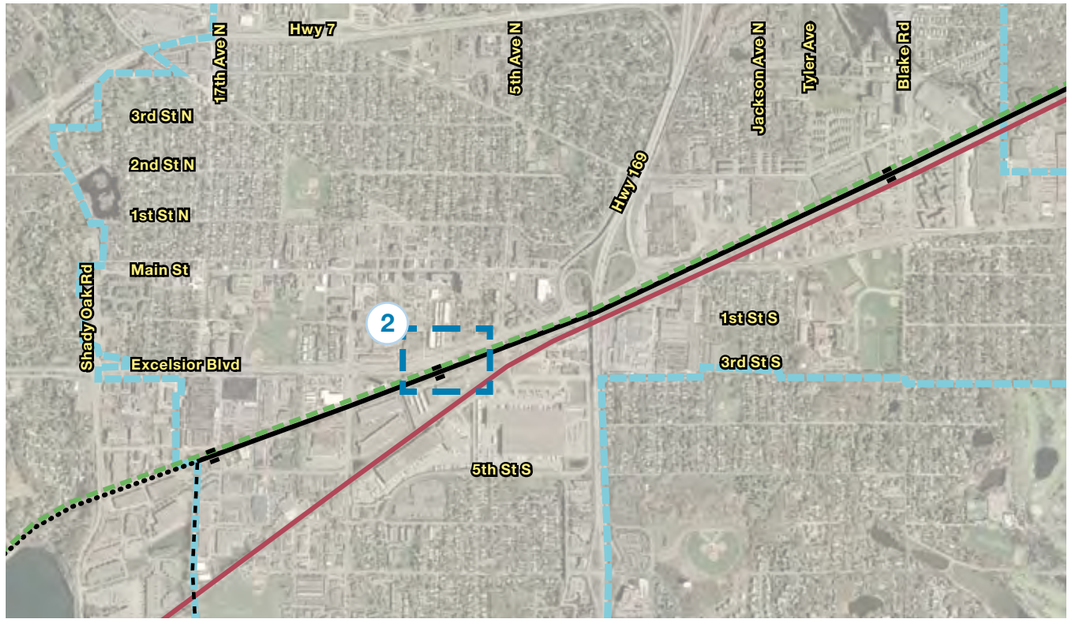
Shady Oak Station Developable Area

Long Term (20–40 Years) TOD

Estimated Gross Developable Site Area: 2,432,610 sf

IBI GROUP

2 Hopkins Downtown Station Area



Area view from South-West

Station view from North-East

Station Area Estimates	
Main Floor Commercial	39,200
Main Floor Live/Work	30,580
Upper Floor Commercial	–
Residential Units (177 units @ 1000sf/unit)	200,000
Total Est. Built Area (sf)	**269,780**

Hopkins Downtown Station Area Highlights

- Station sited close to intersection of Excelsior Boulevard and 8th Ave to allow easy pedestrian access.
- Kiss-and-Ride accessed from this intersection.
- 100 car Park-and-Ride located at grade in front of station.
- Station held back from 8th Ave intersection to allow possible streetcar Main Street shuttle and access to new development in the south.
- Main Street shuttle strengthens connection to the existing downtown.
- Mixed-use developments situated along Excelsior Boulevard, at the intersection with 8th Ave.
- Retail development limited to reduce competition with Main Street retail.
- Possible live/work development, especially along Excelsior Boulevard.

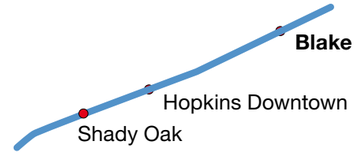
Hopkins Downtown Station Developable Area

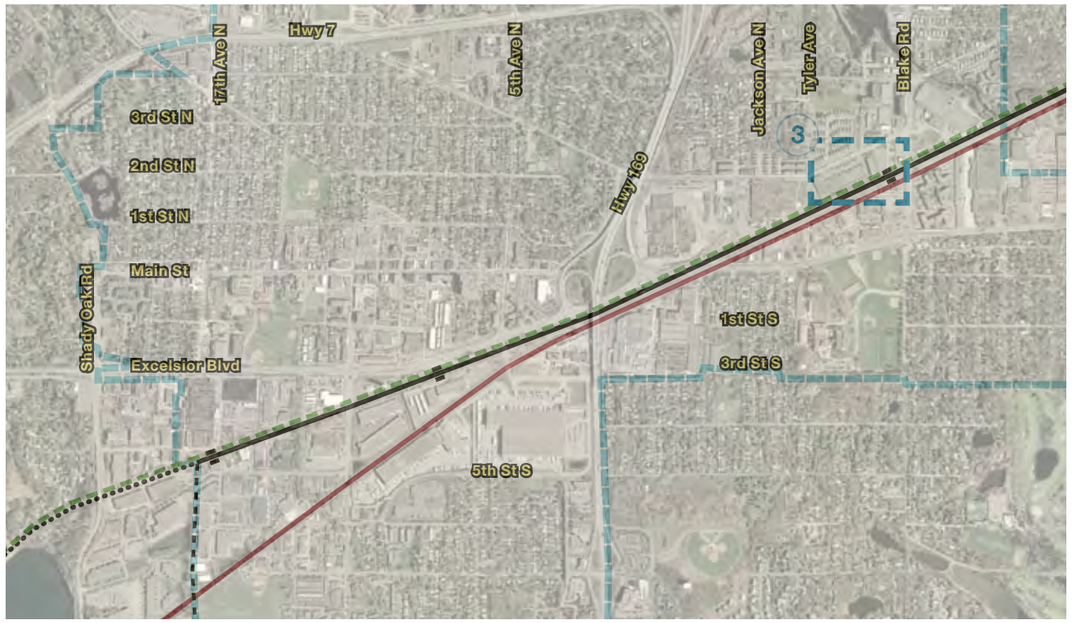
Long Term (20-40 Years) TOD

Estimated Gross Developable Site Area: 891,760 sf

IBI GROUP

3 Blake Station Area





Area view from South-East

Station view from East

Blake Station Area Highlights

Station Area Estimates	
Main Floor Commercial	64,000
Second Floor Office	32,000
Residential Units (194 units @ 1000sf/unit)	194,000
Total Est. Built Area (sf)	**290,000**

- Station sited close to Blake Road to allow easy pedestrian access.
- Kiss-and-Ride located on Blake Road.
- 280 car Park-and-Ride structure, plus 250 cars for development.
- Parking structure located adjacent RR and LRT r.o.w. and screened from existing residential by new townhouse development.
- Mixed-use development at Blake Road and 2nd St NE.
- Existing RR tracks make connections south difficult, thereby limiting opportunities for TOD.

Blake Station Developable Area

Long Term (20-40 Years) TOD

Estimated Gross Developable Site Area: 1,266,992 sf

5.0 Access/Circulation Plan

5.1 Issue

Transit Accessibility is described as the degree of ease with which transit riders can access a transit station, either on foot or on bicycle, by feeder or local bus, or by private automobile, either Park-and-Ride or Kiss-and-Ride (drop off). As most riders are likely to arrive by automobile, at least until the surrounding TOD "takes hold", access to-and-from Interstate highways and arterial roadways was deemed of primary importance.

It is important that commercial and residential uses be situated so as to increase the number of "eyes on the street and the station". Locating at least some development between the station and Park-and-Ride facilities will help make the walk from one to the other a more enjoyable experience, even though it may be slightly longer.

5.2 Analysis

It was reasoned that commuters coming into Hopkins from the northwest, west or southwest would most likely frequent the Shady Oak Station, while commuters arriving from the northeast/east, or southeast would most likely frequent the Blake Station. Commuters from within the central core of Hopkins, in turn, would be most likely to frequent the Downtown Station.

5.3 Action

Care and consideration was taken to ensure that each of the three designated transit station locations has clear and logical connections from adjacent freeways, and to Park-and-Ride and Kiss-and-Ride facilities. The client group, relying upon their "local knowledge", commented upon community "shortcutting" that would likely prevail. Circulation: Feeder and local buses.

5.4 Recommendation

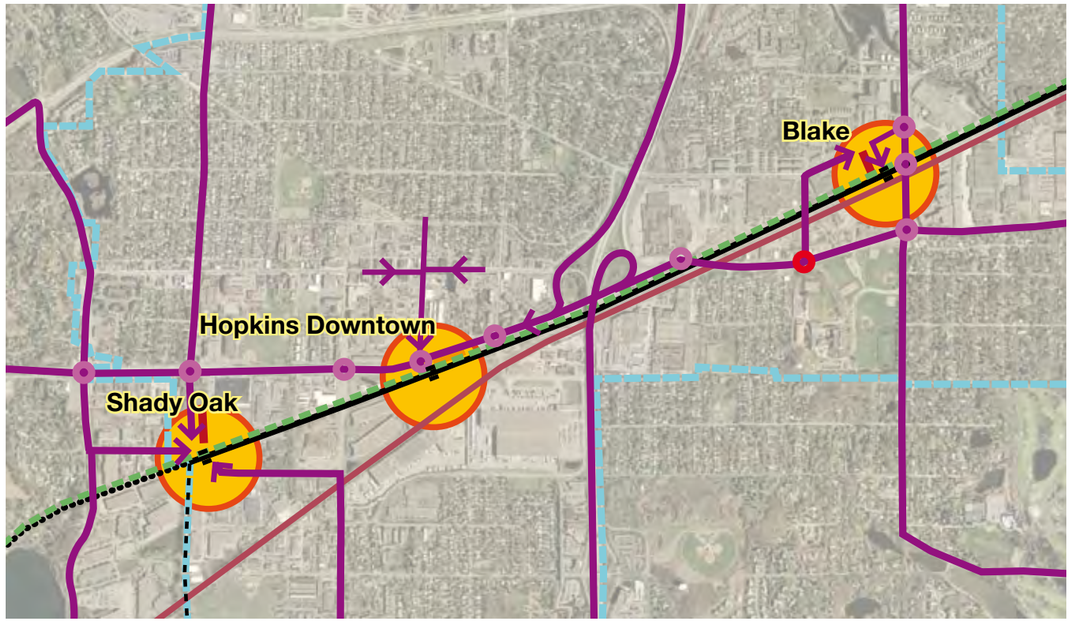
As the SW Corridor LRT station moves ever closer to construction and commissioning, it is suggested that the proposed roadways to-and-from each of the three designated transit stations be looked at in closer detail.

The finer grain of local roadways will need to be scrutinized to ensure that possible problems stemming from community "shortcutting" are mitigated.

Finally, given the proximity of the heavy rail corridor adjacent the LRT corridor (specific to Hopkins' east), it is acknowledged that the client group will need to initiate dialogue with the rail providers regarding existing and proposed street crossing, crossing arms and whistle zones, and safety fencing.

Transit Station Access

A task of the Station Area Development Plan Study regards the development of "Access/Circulation Plans" to better understand how transit users will get to-and-from designated transit stations.



- Light Rail (LRT) Route
- LRT 1A Route
- LRT 3A or 3C Route
- LRT Station
- Heavy Rail
- City of Hopkins Boundary
- Regional Trail
- Park-and-Ride: Structured
- Park-and-Ride: Surface
- Existing Signalized Intersection
- Proposed Signalized Intersection
- Preferred Access
- 2.5 Minute Pedestrian Shed
- 1/8 Mile

Park-and-Ride

- One of the benefits within the City of Hopkins as the site of multiple LRT transit stations, is the ability of the two "outlying" stations to service commuter traffic from adjacent communities. Accordingly, Park-and-Ride parking ramps are proposed for both the Shady Oak and Blake Road (or Jackson Avenue) stations. Each ramp would hold 280 cars.
- The Consultant team sees no benefit for a similar Park-and-Ride facility for the Hopkins Downtown Station as it would tend to draw "downstream" traffic into the community center to no apparent benefit. However, a 100-car surface parking lot is proposed for the convenience of local Hopkins' residents.

Preferred Access

- The purple arrows indicate the likely access routes that commuters will take to the respective City of Hopkins transit stations. These arrows help to illustrate the routes to ensure that the stations are conveniently located and to determine where problems might potentially exist regarding "community shortcutting".

IBI GROUP

6.0 Downtown Connectivity

6.1 Issue

The City of Hopkins had, initially, lobbied for an LRT alignment that would move off of the designated rail corridor at 5th Avenue, just west of the I-169 overpass, traveling throughout downtown Hopkins along Main Street before rejoining the existing rail corridor at Shady Oak Road. This rerouting proved unworkable, so the Consultant team was instructed by the client to pay particular attention to ways in which the City's historic Main Street could be strongly linked to the downtown Hopkins' LRT Station.

6.2 Analysis

The Consultant team looked at a number of options, covering a wide range of cost and user impacts, as follows:

1. **8th Avenue Promenade:** The re-designation of the sidewalks along 8th Avenue between Main Street and Excelsior Boulevard as a quality pedestrian environment—tree lined boulevards, sidewalk pavers, enhanced street lighting, complete with banner arms, etc. This action is suggested to visually and physically improve the link between the City's Main Street "heart" and its transit connection to points beyond Hopkins.
2. **Streetcar-type Bus:** A rubber-tired bus fit out to look like a traditional streetcar or trolley, to shuttle back and forth along 8th Avenue between Main Street and the Downtown LRT Station just south of Excelsior Boulevard.
3. **Retrofitted Trolley Car:** Gemaco Trolley, of Ida Grove, Iowa, is in the business of restoring old trolleys, at a fraction of the cost of a new fixed rail streetcar. It is proposed that they be contracted to supply a bi-directional car to shuttle back-and-forth between Main Street and the Downtown LRT Station.
4. **Local Bus Loop:** Last, it is suggested that a short wheelbase, high frequency local bus service could be initiated to run eastward along Main Street, turning south on 8th Avenue, turning west again at Excelsior and northward along Shady Oak Road, with the prospect of new mid-density development in the northwest sector of Hopkins.

6.3 Action

The concepts analyzed are not mutually exclusive of one another. For example the 8th Avenue Promenade and either the Retrofitted Trolley or the Street-Car type bus could work in combination with the Local Bus Loop.

6.4 Recommendation

The Consultant team thinks that the investment in the 8th Avenue Promenade, linking Main Street to the Downtown LRT Station just south of Excelsior Boulevard is the minimum action to be taken by the City of Hopkins. In addition, it recommends that every effort possible be taken to pursue the feasibility of the "Retrofitted Trolley Car", with the knowledge that the City of Hopkins' well appointed Main Street would be greatly enhanced by this action. It would provide the opportunity for an instantly recognizable icon as a source for "placemaking" and community pride.

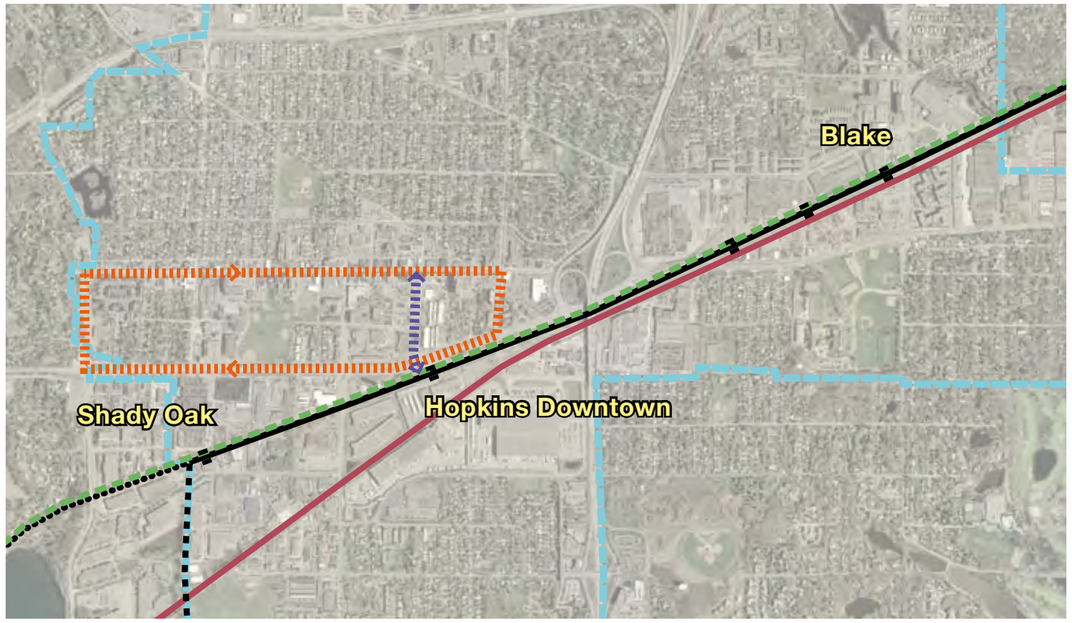
Downtown Urban Design "Connectivity" Preliminary Cost Estimates

The need to firmly establish a positive environment for transit-supportive development with Hopkin's City Centre requires an "order of magnitude" costs to connect the Hopkins Downtown Station area to the City's Main Street with a refurbished street car, combined with an enhanced, pedestrian-friendly streetscape environment as developed by the Consultant team. In the realization that this study component will require much more detailed future study, the cost of this potential design initiative is noteworthy as the City of Hopkins contemplates its "next moves". A summary of those costs appear below.

Summary

1.0 Road Surface Items:	$60,000
2.0 Concrete Items:	$400,000
3.0 Electrical Work:	$400,000
4.0 Architectural/Structural Work:	$350,000
5.0 Pavement Marking and Signage:	$40,000
6.0 Streetcar Items:	$4,000,000
Subtotal	$5,250,000
25% Contingency	$1,350,000
Total (2007 Dollars)	**$6,600,000**

One task of the Study regards suggestions of how best to link the Hopkins Downtown Station to the City's Downtown Core. The proposed solution offers to add urban character and unique identity to the downtown.



Light Rail (LRT) Route
LRT 1A Route
LRT 3A or 3C Route
LRT Station
Heavy Rail
City of Hopkins Boundary
Regional Trail
Circulator Bus
Shuttle Tram

A major issue of concern for the City of Hopkins is that of "connectivity" to the downtown core. Had the LRT corridor run down Main Street this would not have been an issue, but as it passes by diagonally along Excelsior Boulevard, connections to the downtown are crucial, given that Hopkins' unique, largely intact traditional Main Street can be used as a marketing "point of difference" on the merits of living or working within the City.

In response to this issue, the Consultant team proposes two options:

- A traditional-type fixed-rail street car "shuttling" back and forth between Main Street and the Hopkins Downtown Station, along the west side of 8th Ave. The east side of the street would be developed as a generous, tree-lined boulevard to encourage pedestrian traffic between the two points or;
- A short wheelbase "circulator" bus running in a one-way loop from Shady Oak North, eastward along Main Street, turning south along 5th Ave, running westbound along Excelsior Boulevard and northbound along Shady Oak to complete the circuit. In this manner, the "circulator" could connect to anticipated development, and subsequent ridership, along Shady Oak North.

View North on 8th Avenue Promenade

8th Avenue Promenade

7.0 Traffic / Parking Impact

7.1 Issue

At issue is the anticipation of the future need for additional traffic lanes as the transit system and TOD opportunities surrounding the three transit stations approach maturity.

7.2 Analysis

IBI Group has produced a high-level traffic analysis of the system at maturity, based upon estimated commuter traffic to and from the Park-and-Ride parking ramps, as well as TOD in close proximity to each station.

Working from estimated Land Use Statistics generated by the earlier IBI Group instigated TOD planning process, combined with agreed-upon Park-and-Ride stalls, IBI Group used peak hour AM & PM trip rates by land use category from the Institute of Traffic Engineers (ITE) to estimate peak hour trips entering and leaving each of the TOD areas. The following is a description of the land use estimates at each station, the trip generation rates and estimated peak hour trips and lane requirements.

Land Use

Exhibit 7.1 presents the estimated land use statistics for each of the station areas, in terms of the parcel area, the potential units that might be developed within this area, the commercial floor space that might be developed within the area, the associated commercial and residential parking, as well as the estimated number of Park-and-Ride spaces at each of the stations.

This chart estimates the long term opportunity to introduce 4,216 new residential units and 1.5 million square feet of commercial space, with requisite parking, within TOD precincts, as well as the previously identified 660 Park-and-Ride parking stalls at the three transit stations.

Exhibit 7.1 – Estimated Land Use Statistics

Traffic Zone	Parcel Area (acres)	Medium Density Residential (Dwelling Units)	Commercial Floor Space (sq feet)	Commercial Parking	Residential Parking	Park & Ride
Shady Oaks	55.85	2234	837,676	2,513	1,675	280
Hopkins DT	20.47	819	307,080	921	614	100
Blake	29.09	1163	436,292	1,309	873	280
Total	**105.40**	**4216**	**1,581,048**	**4,743**	**3,162**	**660**

Trip Generation Rates

Trip generation rates were derived from the Institute of Traffic Engineers 7th Edition for each of the three land use categories—residential, commercial and Park-and-Ride. These trip rates are shown in Exhibit 7.2. The exhibit indicates the total vehicle trip generation rate by each of the land use types during the AM and PM peak hours, the proportion inbound, and then the daily trip rates.

Exhibit 7.2 – Trip Generation Rates

Time Period	Multi-Family (Dwelling Units)	Commercial Retail (1000sq ft)	Park & Ride Lot (Parking Spaces)
Source	ITE 7th Edition: Low Rise Apt 221	ITE 7th Edition: Shop Centre 820	ITE 7th Edition: Park & Ride Lot
AM Rate	0.46	1.03	0.75
AM In	0.21	0.61	0.80
PM Rate	0.58	3.75	0.62
PM In	0.65	0.48	0.23
Daily Rate	6.59	42.94	4.50
Daily In	0.50	0.50	0.50

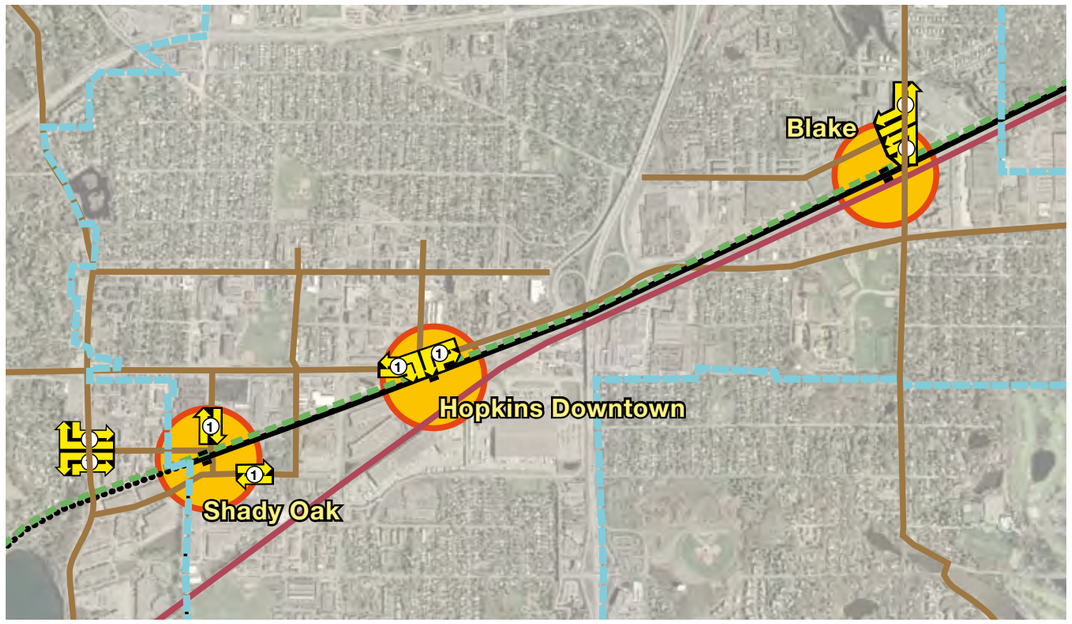
7.3 Action

Exhibit 7.3 presents the combined trips generated inbound and outbound from each of the three station areas during the AM and PM peak hours. This exhibit also indicates the lane requirements at each of the adjacent intersections to serve the TOD generated traffic, some portion of which may be accommodated by available capacity in the existing road system.

- Shady Oak—Approximately 2,400 vehicles per hour in the peak direction will be spread over West 47th Avenue and 5th Street to access Shady Oak Road, as well as on 16th Avenue to access Excelsior Boulevard, requiring a total of four inbound and four outbound lanes at these intersections.
- Hopkins Downtown—Approximately 850 vehicles per hour in each direction will require two lanes from the station to access Excelsior Boulevard, and then split into 425 vehicles per hour in each direction on Excelsior Boulevard.
- Blake—Approximately 1,250 vehicles per hour in each direction will require one lane in each direction on Blake Road, and one or possibly two lanes in each direction on 2nd Street.

Exhibit 7.3: Peak Hours Trips & Lane Requirements

Time Period	AM Peak Hour			PM Peak Hour			Intersection Lanes Required (600–700vphpl)		
Zone	Inbound	Outbound	Total	Inbound	Outbound	Total	Inbound	Outbound	Total
Shady Oaks	910	1,190	2,100	2,390	2,221	4,610	4	4	8
Hopkins DT	332	436	768	876	813	1,688	2	2	4
Blake	555	640	1,195	1,264	1,221	2,484	2	2	4
Total	**1,797**	**2,266**	**4,063**	**4,529**	**4,254**	**8,783**	**8**	**8**	**16**



These lane requirements have been calculated to accommodate the estimated traffic entering and leaving the stations precincts; these requirements may be accommodated on the existing lanes or require additional lanes depending on available road capacity and the amount of other purpose traffic on these roads.

7.4 Recommendation

The City of Hopkins and Hennepin County need to undertake more detailed traffic analysis in the observation that additional roadway capacity may need to be added at each station.

Parking

Another concern regarding TOD is that of parking.

Parking Maximums

Conventional wisdom suggests that parking restrictions can be relaxed—proposing parking "maximums" for new developments rather than parking "minimums", as reliable, high speed and efficient public transit becomes available for the daily commute. It is suggested that this "maximum" reflect a figure at, or below, one car per residential unit.

De-bundling Parking

Recent residential developments in major urban areas are looking at the concept of "de-bundling" parking, where the parking stall is sold separate from the housing unit. This serves to a) make the housing unit more affordable, and b) to not obligate purchasers to buy a car simply because they now own a parking stall.

Car Co-ops

Other devices in support of reduced parking stalls include such items as "Car Co-ops", described as transport schemes whereby drivers share use of a pool of cars or vehicles on a cooperative basis.

8.0 Funding Issues

8.1 Issue

For the purposes of this study, the issue of Funding is defined as sources of available monies for subsequent studies related to TOD and/or LRT Station Area Planning studies within the City of Hopkins.

8.2 Analysis

Funding sources for subsequent planning studies are available from a number of sources—Hennepin County, the Hennepin Regional Rail Road Authority or the FTA.

8.3 Action

A request for additional funding could be made by the City of Hopkins or the SW Policy Committee directly for a Hennepin County FTA–Community Works Planning Grant that is to focus on the relationship between transit investments and community development.

A request by the City of Hopkins for additional planning funds could be made to the Hennepin Regional Rail Road Authority through the SW Corridor Policy Board.

Another possibility would be a request to the Metro Council for a planning grant, possibly through the Livable Communities Program. However, this carries with it a low probability of success.

A long-range opportunity may be a request to the State for SW Corridor planning funds by the SW Policy Board, similar to the funding awarded to the Roberts Street project.

The City also needs to address how it plans to deal with the future of the station areas in the required update of its comprehensive plan. Since this is a local cost responsibility, the CIty could suggest cost sharing between the County and the City of Hopkins on the needed station area planning.

8.4 Recommendation

Key members of the City of Hopkins should solicit the agencies listed above for funding opportunities for additional Comprehensive Plan and Station Area Planning funds.

Hopkins Station Area Planning
Comment Sheet

Hopkins Station Area Planning Open House 2
December 2006

Comment Sheet

Thank you for attending today's Open House regarding the Hopkins Station Area Planning Study. Please take a moment to add your "local knowledge and insight" to the following questions. In all cases, please state your reasons, if possible.

1. Do you agree with the proposed Shady Oak station location?

2. Do you agree with the proposed Hopkins Downtown station location?

3. Of the optional locations for stations in eastern Hopkins, do you prefer the Jackson Avenue* or Blake Road station location?

Your Name

Your Address

Your Email

Hennepin County Minnesota

*As of Open House #2 (December 2006), Jackson Avenue was an optional station location. It was subsequently removed from consideration.

9.0 Public Involvement

9.1 Issue

High-profile initiatives such as rapid transit projects demand a high-level degree of public consultation to ensure that the community as a whole understands the general concept of what, exactly, is being proposed and what impact it will have upon the community's future. The flip side of the "consultation coin" is the need to ensure that both the civic administration and its Consultant team have the benefit of "local knowledge" as provided by Hopkins residents, who are the best stewards of their own community.

9.2 Analysis

It was determined that a public outreach model consisting of two Stakeholder Workshops and three Open Houses would best serve the function of community interface with the Consultant team.

9.3 Action

Three Open Houses were undertaken. The first, titled "Issues & Ideas" was held on Thursday, September 07, 2006, at the City of Hopkins Downtown Fire Hall. It began with a Technical Advisory Committee (TAC) meeting from 11:30 AM to 1:00 PM, followed by a Stakeholder Workshop, consisting of community leaders, local business and land owners, as well as property developers, who were collectively led through the benefits of TOD, and the opportunities associated with proposed LRT service in and through the City of Hopkins. The day ended with a Public Open House in the City of Hopkins Council Chambers from 4:30 PM to 7:00 PM.

The second Open House, titled "Concepts" was held on December 14, 2006. Both the Stakeholder Workshop and the Public Open House were held in the City of Hopkins Council Chambers. The content for both resulted from a prior, TAC teleconference held the previous week, on Thursday, December 07, 2006.

The third, and last Open House, titled "Solutions" will focus upon the Preferred Recommendations for the City of Hopkins Station Area Planning Process. It's date has yet to be selected.

9.4 Recommendation

It is proposed that Open House presentation boards be assembled and presented to serve as a record of both the planning process and the decision-making process.

10.0 Implementation / Next Steps

10.1 Issue

It is important that the energy of thought undertaken as part of this initial City of Hopkins Station Area Planning process move forward in parallel to subsequent steps undertaken by the larger SW LRT Planning process.

10.2 Analysis

At the start of the Station Area Planning Process, representatives of both the City of Hopkins and Hennepin County had a number of questions in need of resolution, such as the preferred number and location of LRT stations within the City of Hopkins. In addition, economic potential regarding TOD opportunities, like “placemaking” concerns regarding community connections to the downtown and transportation impacts concerning traffic generated by trips to-and-from LRT stations, were also in need of resolution.

10.3 Action

The City of Hopkins Station Area Planning process added to a local understanding and general acceptance of the concept of LRT service generally, and TOD opportunities specifically, moving the combined concept one step closer to reality.

10.4 Recommendation

The Consultant team stresses the importance that TOD Station Area Planning strategies outlined within this report heavily favour in the actions of the revised Community Plan, soon to be implemented. Downstream, the City of Hopkins will undertake development of more detailed, individual Station Area Plans for the Shady Oak, Downtown and Blake Road LRT stations.

IBI Group is a multi-disciplinary consulting organization offering services in four areas of practice:

Urban Land, Facilities, Transportation and Systems.

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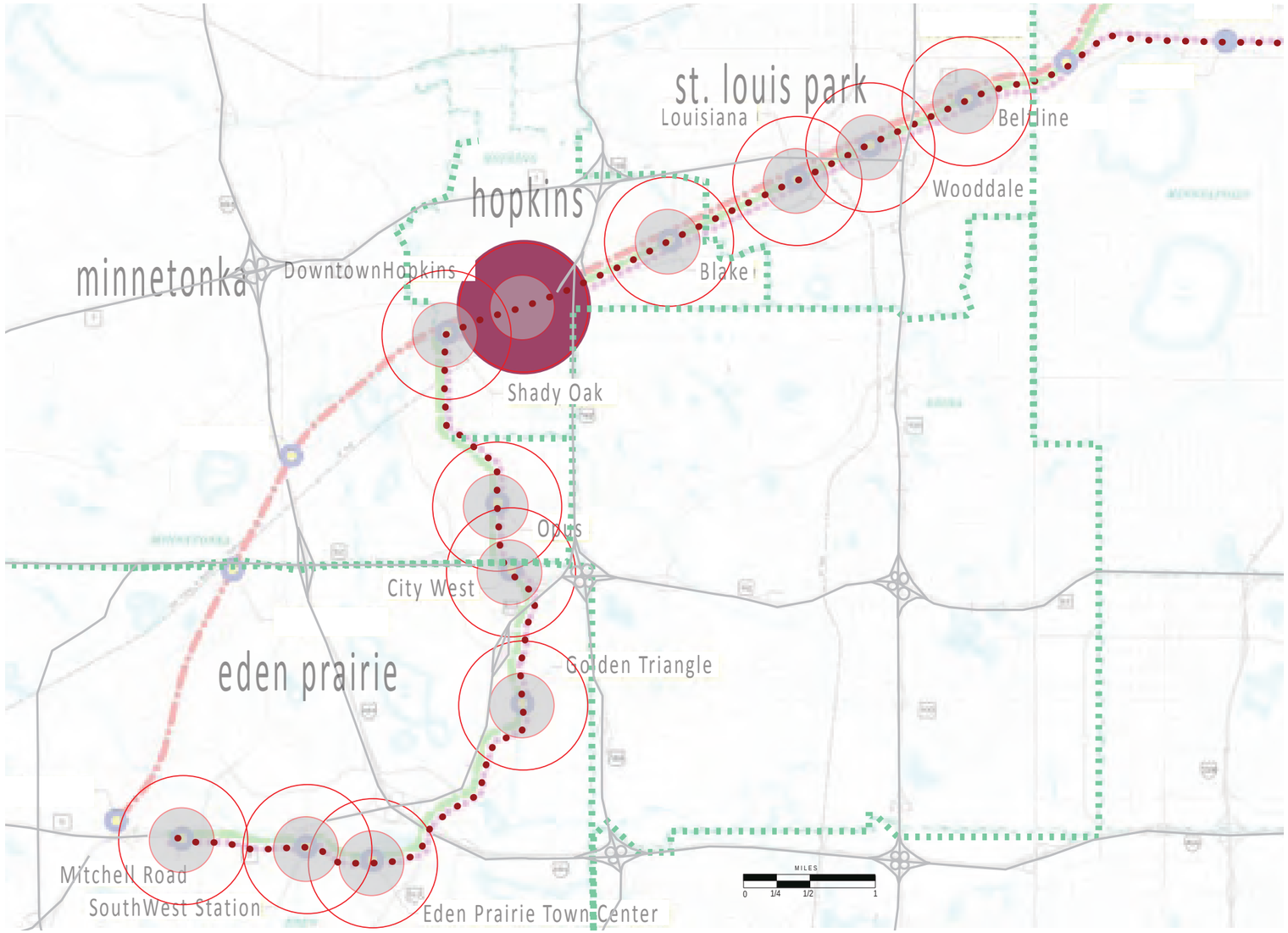
SOUTHWEST transitway

STATION AREA PLANNING



Hennepin

City of Hopkins

December 2009

www.southwesttransitway.org

HAY DOBBS

Bonestroo

Blake,
Downtown Hopkins,
Shady Oak

5

DOWNTOWN HOPKINS

HOPKINS

Chapter 5. Downtown Hopkins

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6. Special Features.....15

5

HOPKINS
DOWNTOWN
HOPKINS

DOWNTOWN HOPKINS | Shady Oak

HOPKINS | Blake

Approach

A Vision for the future, unique to each city and tailored to each community

Southwest station area planning is grounded in the belief that the Southwest LRT line connects a series of unique, yet related station areas. The primary objective of the planning process is to define each station area according to its existing character, and realize the unique opportunities for development and infrastructure changes over the next 25-30 years with the introduction of LRT to the area. Some stations are focused on employment, some on housing or entertainment, while others are focused around a specific large-scale existing use, like a hospital. Using this unique identifier, recommendations for land use, roadways, infrastructure, trails, parks and greenspace, public realm improvements, transit supportive development, and development typology were created for each of the station areas, defined as a half-mile radius (ten minute walk) from the station. Station area planning during the LRT planning process assures future land use changes and infrastructure improvements are supportive of people using transit.

An Authentic Downtown

The Downtown Hopkins Station has the advantage of being just two blocks away from Hopkins' Mainstreet. Mainstreet has an authenticity, scale, and patina that is rarely found. This is a distinct competitive advantage over other station areas that are newly formed or require redevelopment and all new construction. Efforts should be made to celebrate this unique sense of place and the proximity of the station to this historical and traditional development pattern.

Future public and private investment in the Downtown Hopkins Station Area must focus on connecting the station area into the city grid to the north of the station via 8th Avenue. Over the long term, this traditional city block scale and pattern should extend south and west of the station to create a cohesive integrated station area.

Connections should also be sought to the Shady Oak Station located within walking distance to the west.

The goal is to create a rich mix of transit supportive uses rather than a scattering of automobile oriented uses.

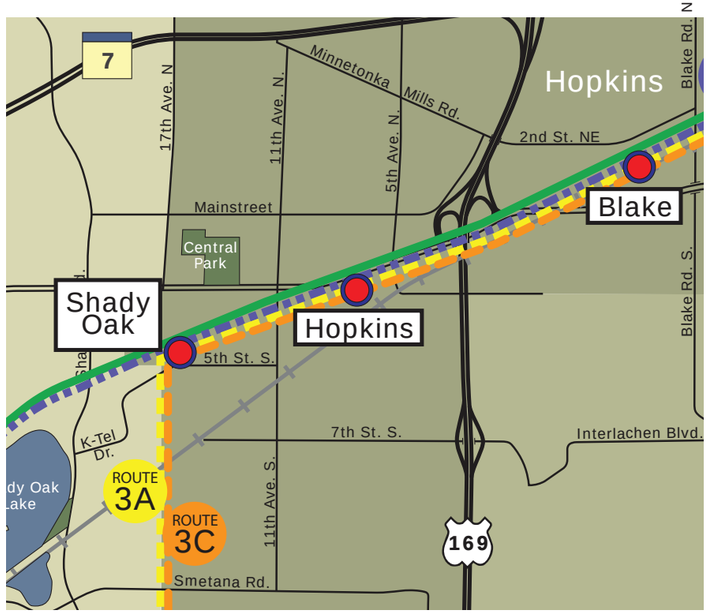
Aerial View of the Downtown Hopkins Station Area

Site Orientation

The proposed Downtown Hopkins station is located on the existing Hennepin County Regional Rail Authority (HCRRA) Right-of-Way, at the southeast corner of Excelsior Blvd and 8th Avenue.

The Downtown station is approximately 1/4 mile south of Mainstreet--about a five minute walk.

Map of proposed LRT Line in Hopkins



Map of proposed stations in Hopkins

Existing mixed-use retail and housing on Mainstreet. Redevelopment is expected to create additional housing and retail/businesses in the Downtown area.

View of the Hopkins Cinema on Mainstreet

A redeveloped 8th Ave will provide a safe and lively connection to Mainstreet, shown above, the main retail corridor in Hopkins

The Downtown Hopkins Vision

A redeveloped 8th Ave will create a lively connection to Mainstreet

A Center for Family, Entertainment, Dining, Shopping and the Arts.

The Downtown Hopkins Station Area is envisioned as the "Face of Hopkins", with the station itself serving as a symbolic gateway to Downtown Hopkins. The intention of the station area planning is to extend the existing city grid southward from Mainstreet towards the station in support of a mixed-use, pedestrian friendly station area that is well-connected to Downtown Hopkins. Arts, entertainment, retail, dining and additional housing uses are envisioned for the area to support the existing uses in Downtown Hopkins.

Land Use types are important; a mix of uses with ground floor activities and upper floor housing and offices is recommended. However the placement, form and scale of future development is equally, or even more, important. Specifically, 8th Avenue is envisioned as the primary pedestrian spine connecting the station to Mainstreet. Future mixed-use development will frame both sides of each street with bustling restaurants, coffee shops, live music and arts venues, unique shops and other uses that create an exciting place to live, work, and play.

Illustrative Plan

Creating a transit supportive place

Continuation of the existing city grid to create a mixed-use district surrounded by a variety of housing choices is the key idea behind the planning for the Downtown Hopkins Station Area. Strategies in support of this include:

• Transform 8th Avenue into the primary connection between the LRT Station and Mainstreet. Seek to develop 4-5 story mixed-use development linking Excelsior Boulevard and the station to Mainstreet. Include wide sidewalks, pedestrian scaled lighting and supportive street furnishings on 8th Avenue. Consider doing the same on other primary streets near the station.

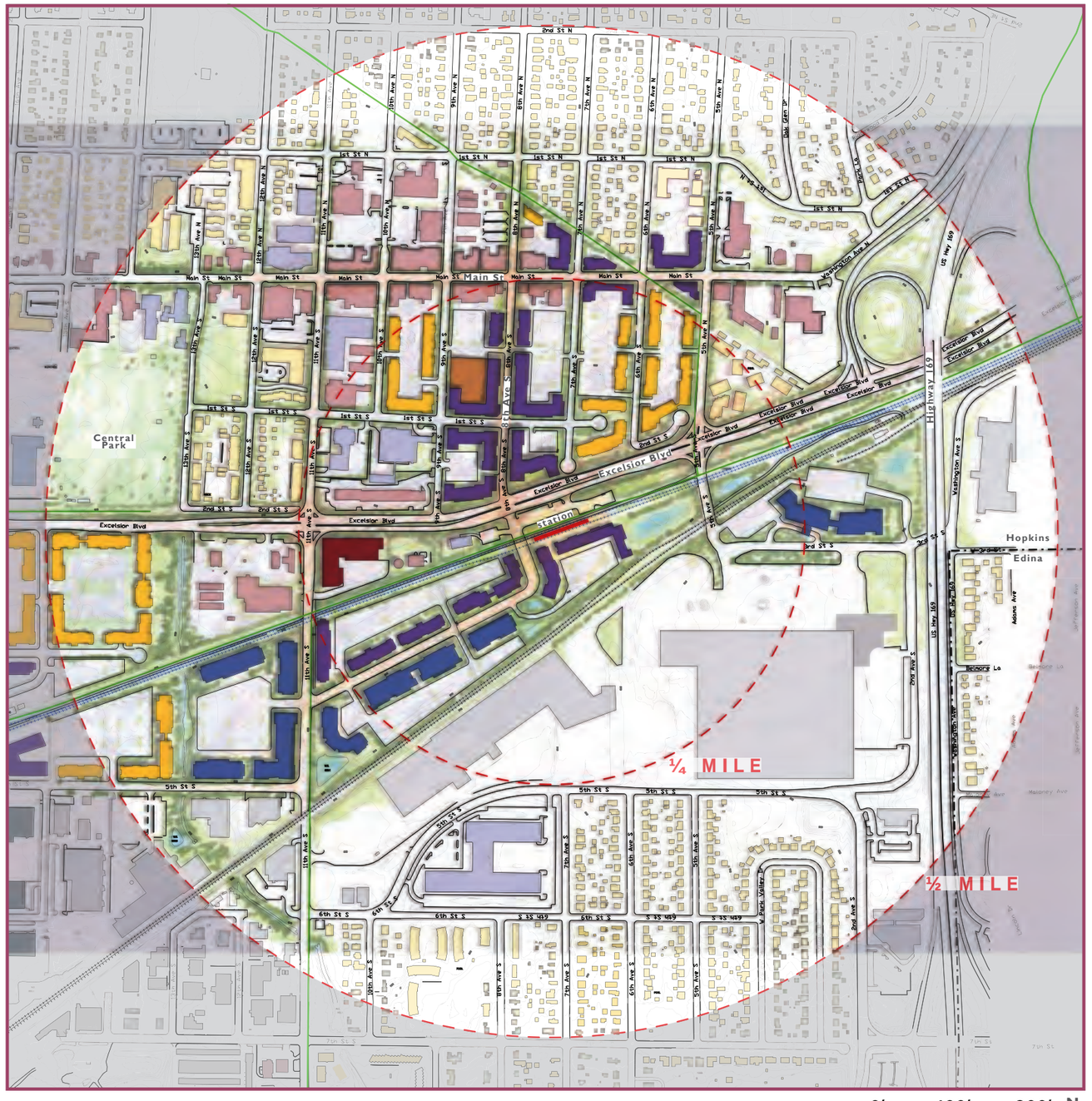
• Support the introduction of a variety of uses within the study area including housing, retail, office and mixed-use. Seek to create a vertical mix of uses with active ground floor uses, such as retail and services, on primary steets.

• Minimize Park-and-Ride and surface parking near the station. Provide on-street parking throughout the station area. Consider a shared parking structure at the northwest corner of 8th Ave and 1st Street to serve transit riders as well as Downtown Hopkins businesses and residents.

• Allow for new office and mixed-use uses south of the station as a buffer to the remaining light industrial uses.

• Plan for a strong residential community of 4-5 story development north of Excelsior Boulevard that is close to the LRT station, Mainstreet and 8th Avenue.

•Provide safe and easy crossing of Excelsior Boulevard



DOWNTOWN HOPKINS CONCEPTUAL SITE DEVELOPMENT PLAN

Recommendations

1. Land Use

Building on existing strengths

The Downtown Hopkins Station Area should be walkable and connected. It **should provide variety and choices.**

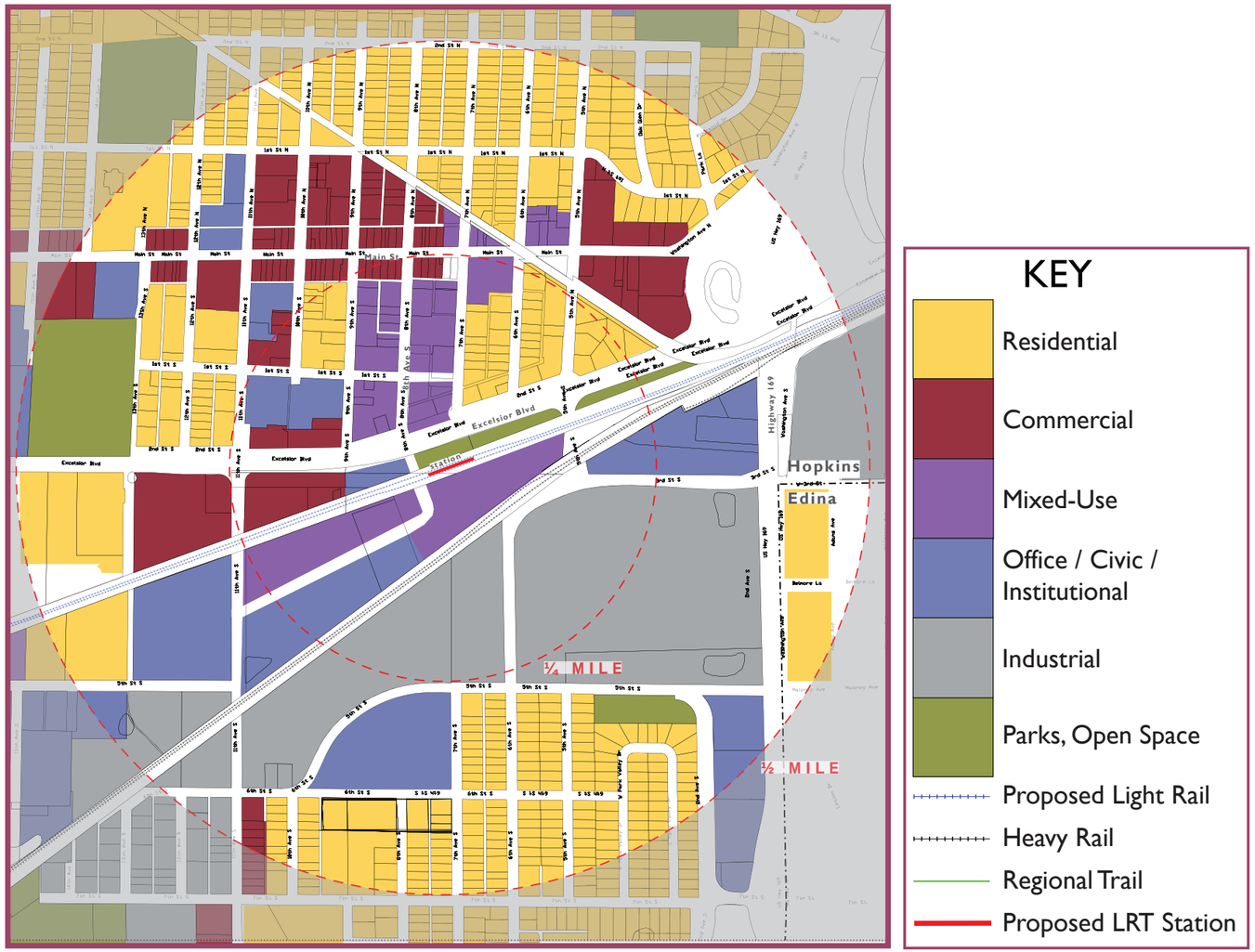
a. Along 8th Avenue and Mainstreet, streetwalls comprised of 3-5 story mixed-use development should frame the space and create a strong pedestrian oriented district. Along 8th Ave, buildings should step down from 5 stories at Excelsior down to 3 stories at Mainstreet.

b. Block faces on other streets and avenues north of Excelsior Boulevard should frame the pedestrian environment and should be activated with residential porches and patios and potentially live/work uses

c. Land use near the station should include ground floor uses that are active and connected to the pedestrian environment.

d. Large format “big box” retail should be avoided within this Station Area. Retail should only be permitted as a secondary use within a mixed-use development and should not exceed more than 25% of the gross square foot floor area of new buildings.

e. Parking should be accommodated with structured parking where possible. When surface parking is required it should occur behind buildings that front on principal streets. Shared parking is encouraged.



LAND USE PLAN

2. Movement and Connections

Enhancing Multi-modal movement

The Downtown Hopkins station area has a relatively complete and connected sidewalk system north of Excelsior Boulevard. Going forward, the most important task will be to ensure a safe crossing at Excelsior Blvd and to enhance 8th Ave from Excelsior Blvd up to the Regional Trail just north of Mainsteet. As redevelopment occurs, it is critical to plan for complete streets that safely and comfortably accommodate pedestrians, bicyclists, motorized vehicles, and everything in between. See page 13 for a sketch of proposed changes at the intersection of Excelsior and 8th Ave.

A new city trail is proposed along Washington Ave that will connect downtown to an existing regional trail as well as over to the east side of Hwy 169--to the Blake station area including Excelsior Crossings (Cargill).

A proposed multi-use trail would parallel the south side of the LRT tracks between 5th Ave and 11th Ave and would help to link the residential area that lies south of the station. This residential area, near Buffer Park, has no existing sidewalks. Pedestrian connections should be created along 6th St S, 7th St S, 7th Ave S, and 5th Ave S in order to provide safe access to 11th Ave to allow these residents to reach the Downtown Hopkins Station.

CIRCULATION PLAN

Recommendations, Continued

3. Traffic Analysis

Conceptual Transportation Assessment

Access to Station Site

The Downtown Hopkins station will have direct access off of Excelsior Boulevard via 8th Avenue. Currently, there is a small Metro Transit Park & Ride lot on the site, which also provides parking for the regional trail. Vehicular access via 8th Avenue is shared with an existing car dealer adjacent to and immediately south of the trail. An existing traffic signal at 8th Avenue/Excelsior Boulevard controls traffic on Excelsior Boulevard and vehicle/pedestrian movements to and from the site. A secondary right-in/right-out access point could be maintained at an existing driveway east of 8th Avenue. Eighth Avenue also provides a direct connection to Mainstreet and the city's downtown district. Figure 5 shows general access routes to the Downtown Hopkins Station.

General Roadway Capacity

A general roadway capacity analysis of projected average daily traffic volumes indicates that existing roadway capacity would be sufficient to handle anticipated traffic volumes resulting from the implementation of the light rail line. However, there are some exceptions where projected 2030 traffic conditions may exceed existing roadway capacities. These roadway segments include Mainstreet west of 13th Avenue and between 5th and 8th Avenues. Fifth Avenue north of Excelsior Boulevard is projected to reach capacity in 2030 with the Southwest LRT project in place. Figure 5 depicts these projected 2030 over-capacity segments. See Appendix 5, Table A-1 for a listing of Year 2030 average daily traffic compared to daily threshold capacities, with and without the Southwest LRT project.

Potential Constraints

The station site is small and space will be very limited. A circulation road with drop-off space, station platforms, and a re-located regional trail will need to be accommodated. It is likely that parking for transit riders may need to be provided north of Excelsior Boulevard, possibly as a shared parking arrangement with lots serving downtown Hopkins.

Possible Transportation Improvements

The following potential transportation improvements (also shown in Figure 5) should be considered:

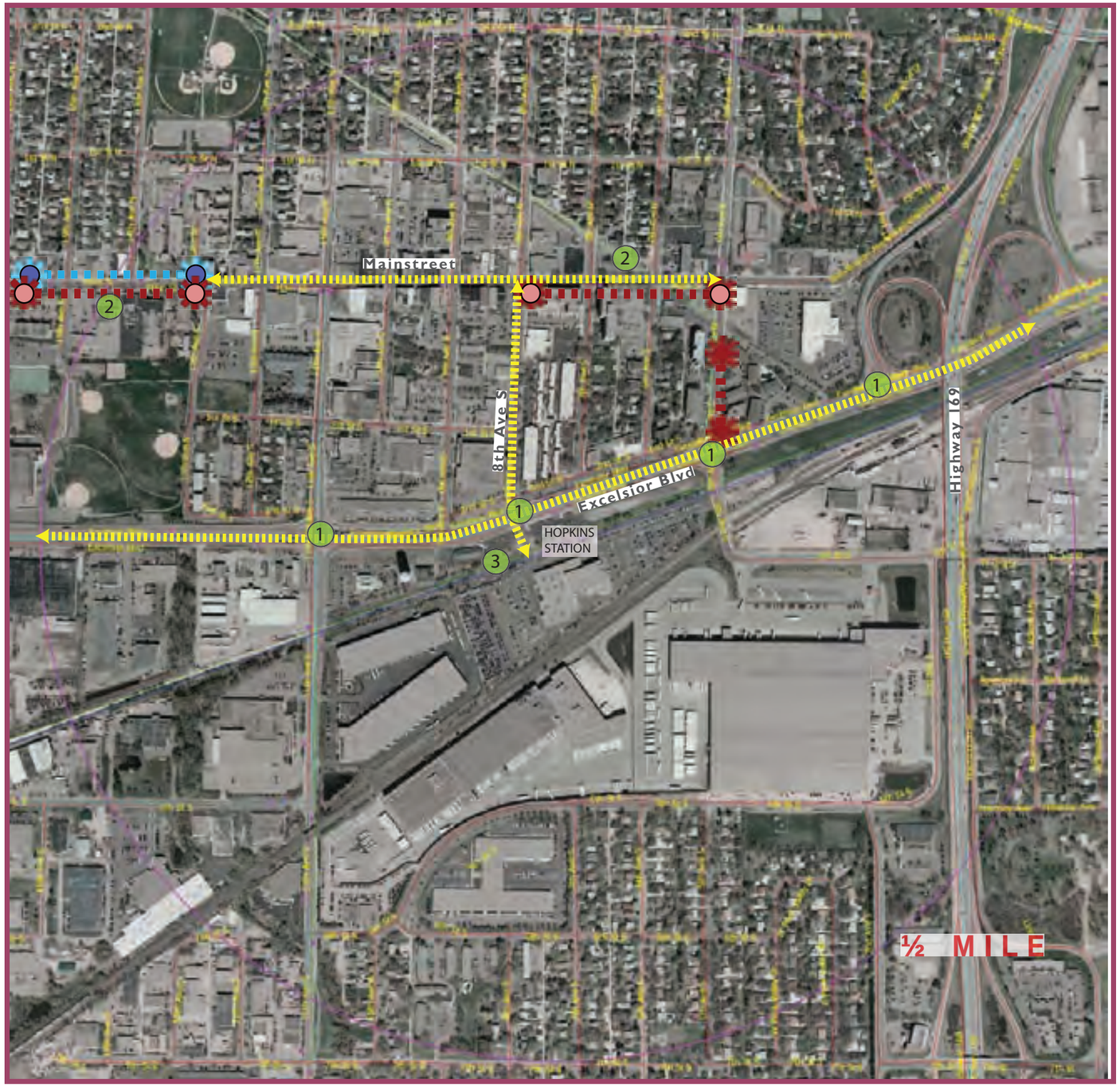
- Revising signal timing at Excelsior Boulevard signals to handle peak hour station vehicle traffic and provide safe pedestrian crossings of Excelsior Blvd
- Provide alternate east-west access route on 1st St N to alleviate congestion on Mainstreet
- Re-construct regional trail within the existing corridor

Special Parking Considerations at Downtown Hopkins

In the Alternative Analysis, the forecasted unconstrained demand for LRT Park & Ride at Downtown Hopkins was 210 spaces. However, under guidance from city staff to limit parking at this station, the number of Park & Ride spaces that was planned for in this study was reduced to 100 spaces. The remaining balance of the parking demand (110 spaces) was then accomodated by increasing capacity of the Shady Oak and Blake station Park & Rides by 100 spaces and 50 spaces respectively.

Despite increasing Park & Ride capacity at the adjacent stations to shift the parking demands away from Downtown Hopkins, there is still concern of "hide & ride" parking around the station area; both in residential and commercial areas.

There is not a complete consensus regarding the number of spaces (if any) that should be provided at the Downtown Hopkins station or regarding the specific location north of Excelsior Boulevard that could accomodate a shared-use Park & Ride ramp for transit riders and downtown Hopkins businesses and residents.



Access & Circulation

- Over Capacity 2030 Baseline
- At Capacity 2030 w/LRT
- Over Capacity 2030 w/LRT
- Primary Access Route
- Trails
- Sidewalks
- LRT Route
- Half Mile Radius
- Bus Route
- Bus Stop
- Existing Roads

IMPROVEMENT OPPORTUNITIES

1. Signal timing revisions to handle peak hour traffic flows
2. Remove parking and restripe to create left turn lanes on Mainstreet
3. Reconstruct regional trail nearby

FIGURE 5 - STATION ACCESS PLAN

Recommendations, Continued

4. Building Scale & Type

Projected New Development

DOWNTOWN HOPKINS

0′ 400′ 800′ N

A vital, connected, urban district is envisioned at the core of Downtown Hopkins.

Wide sidewalks and an enhanced streetscape will support strong connections between the LRT station and Mainstreet.

Ground floor shopping, dining and entertainment uses will flank 8th Avenue with office and residential uses on the upper floors.

This will support the ability to “live, work, and play” within walking distance of the LRT station.

Downtown Hopkins - BUILDING SCALE AND TYPE RECOMMENDATIONS*

Land Use Type	Building #	Footprint Area (SF)	# Floors	Total
Residential	1	9,000	4	36,000 sf
	2	28,800	4	115,200 sf
	3	18,000	4	72,000 sf
	4	10,800	8	86,400 sf
	5	12,600	8	100,800 sf
	6	14,100	8	112,800 sf
	7	14,400	8	115,200 sf
	8	12,600	8	100,800 sf
	9	10,800	8	86,400 sf
	10	28,800	8	230,400 sf
	11	21,800	8	174,400 sf
Commercial	33	48,200	1	48,200 sf
Mixed Use	12	22,500	3	67,500 sf
	13	12,600	3	37,800 sf
	14	20,500	5	102,500 sf
	15	28,800	3	86,400 sf
	16	10,800	3	32,400 sf
	17	14,400	3	43,200 sf
	18	10,800	3	32,400 sf
	19	10,800	3	32,400 sf
	20	32,400	5	162,000 sf
	21	32,400	5	162,000 sf
	22	27,400	5	137,000 sf
	23	25,200	5	126,000 sf
	28	30,700	5	153,500 sf
	29	14,100	5	70,500 sf
	30	25,075	5	125,375 sf
	31	18,800	5	94,000 sf
	32	28,600	5	143,000 sf
Civic/Instituional/Office	24	56,800	3	170,400 sf
	25	25,600	3	76,800 sf
	26	60,500	3	181,500 sf
	27	27,500	3	82,500 sf
Industrial		-		-

Land Use Type Summary	
Residential Development	1,230,400 sf
Commercial	48,200 sf
Mixed Use	1,607,975 sf
Civic/Institutional/Office	511,200 sf
Industrial	-
Job Growth Potential (@ 350 sf per worker)	2,747 Jobs
# of Housing Units @ 1200sf each (2 BR)	1,695 Housing Units
Park & Ride	100 Cars

*plans and calculations are conceptual, based on projections for beyond the year 2030, and may shift as a result of on-going station area planning efforts.

View of redeveloped 8th Avenue looking north

The intersection of Excelsior Boulevard and 8th Ave is expected to see significant changes as parcels redevelop, including eliminating the frontage road on the north side of Excelsior Boulevard between 5th Ave and 9th Ave, and shifting the build-to line about 50 feet closer to Excelsior Boulevard. By bringing the building faces closer to Excelsior, a sense of compression, significance, and activity are created as one arrives at the main entrance to downtown Hopkins and the LRT station.

Bird's eye view of existing conditions looking west down Excelsior Blvd at the instersection with 8th Ave

The existing Park & Ride lot at the proposed station site is envisioned as transforming into a transit plaza. This will provide an opportunity for a new icon and help to reinforce this as the gateway to Hopkins.

These two changes will have the dramatic effect of reducing the perceived length of crossing Excelsior Blvd by about half. Along with this, the intersection should include a high degree of comfort and safety for non-motorized travelers.

Illustration showing the Downtown Hopkins transit plaza and redevelopment at the station, along Excelsior Blvd, and up 8th Ave.

Recommendations, Continued

5. Connecting to Nature

There are few opportunities for large open spaces or green spaces within the Downtown Hopkins Station Area due to the existing street grid and pattern. However, there are several strategies that may be employed to subtly connect users to the natural environment.

a. Connect to the existing regional trail system that runs through the station area

b. Orient buildings and sidewalk cafes, plazas and other open space to take maximum advantage of solar access and seasonal conditions.

c. Introduce street trees, boulevard trees and trees on private property to enhance the urban forest.

d. Introduce planters, planting beds, planter boxes and other opportunities for seasonal and perennial plantings.

e. Introduce new rainwater gardens and greenspaces where possible

f. Preserve existing green amenitites including existing trails and the Downtown and Central parks

g. Create a greenspace buffer between Excelsior Boulevard and the regional trail

h. Integrate natural elements, water features, and sustainable systems into the transit plaza

6. Special Features

Complete Streets, Livable Communities, Public Art

Bikeshare programs and secure bicycle lock/parking at the stations will greatly increase the mobility of transit riders while at the same time expanding ridership for **the Southwest Transitway line.**

Special attention should be paid to promote biking at the Downtown Hopkins station--in part because of the limited Park & Ride, and in part because of the large population centers and employment centers that would benefit from flexible access. A bikeshare program at the Downtown Hopkins station would allow transit riders to easily connect between stations and beyond, and the city should seek partnerships and/or sponsorships that could provide cyclists with amenities such as showers and maintenance/repair facilities.

Streetscapes along 8th Ave, Mainstreet, and beyond should be upgraded and redesigned with the pedestrian, bike, car, and rail transit in mind. As the opportunities arise, make improvements to better and more safely integrate pedestrian, bike, auto, and rail movements.

Examples of bike lockers and bikeshares for increased mobility. Transit riders should be able to lock-and-leave bikes, bring their bicycles on the train, or even rent bicycles at the station.

Public Art is an important aspect of creating communities and establishing neighborhood icons. The greatest opportunity to establish a new icon for Hopkins is at the Downtown Hopkins transit plaza where a large-scale sculptural element is recommended.

End of Section

Meeting Title: SWLRT Section 106 Consultation

Date: 9/23/2015 **Time:** 1:00 PM **Duration:** 2.0 hrs

Location: Southwest LRT Project Office , Conference Room A
6465 Wayzata Boulevard, Suite 500
St Louis Park, MN 55426

Meeting called by: Greg Mathis, MnDOT CRU

Attendees: Minneapolis: Brian Schaffer
MPRB: Michael Schroeder
KIAA: Jeannette Colby, Tamara Ludt
Hennepin County: Dave Jaeger, Kim Zlimen
CIDNA: Craig Westgate
SPO: Nani Jacobson, Ryan Kronzer, Mark Bishop, Sophia Ginis, Dan Pfeiffer, Jenny Bring, Kelly Wilder, Kelcie Campbell
MnDOT: Jon Vimr

Purpose of Meeting: Meeting with consulting parties to continue Section 106 consultation process

--- Agenda & Discussion ---

1. **Welcome & Introductions**

   Greg Mathis from the Minnesota Department of Transportation (MnDOT) Cultural Resources Unit (CRU) welcomed attendees, led introductions, and provided a brief overview of the agenda.

2. **Kenilworth Bridge Design**

   Greg thanked everyone for the written comments received following the consultation meeting in July and provided a brief update on the bridge design:

   - On behalf of the Federal Transit Administration (FTA), MnDOT CRU has been working with the Southwest Project Office (SPO) to consider those comments and, as a result, has determined that a three-bridge concept based on Design 1 will best minimize the effect to the waterway portion of the Kenilworth Lagoon. The freight rail bridge will have five spans and a thin deck, and the LRT and trail bridges will be clear-span concrete arches. Comments from the State Historic Preservation Office (SHPO) and consulting parties informed the determination that a clear-span concrete arch would best minimize impacts from the trail bridge. This crossing configuration will

be included in the 60 percent (%) plans which FTA will use to make its final determination of effect. Consultation will continue on design details.

3. Traffic Assessment

- Greg explained that under Section 106, only traffic effects from operations, which would be permanent, could affect characteristics that qualify a property for the National Register of Historic Places (NRHP).
    - Temporary impacts from construction traffic are considered under NEPA, but FTA does not consider temporary construction traffic impacts to be adverse effects that could impact the characteristics that qualify a property for the NRHP.
    - Nani Jacobson from SPO explained that as part of the NEPA traffic analysis, the Project is committed to not making traffic worse. During construction, the Project will coordinate with municipalities on detours, communicate with neighborhood groups, and minimize the length of time for closures.
    - Greg stated that this will be documented in the Final EIS, but that for Section 106 the focus is on permanent effects.
- Mark Bishop from SPO explained the traffic analysis done for the 21st Street and West Lake stations (see handout *Traffic Changes from Southwest Light Rail Transit Operation at Historic Properties within the 21st Street Station and West Lake Station Areas of Potential Effect*). SPO analyzed existing traffic impacts compared with anticipated impacts from the Project. The analysis combines information on impacts specific to certain locations with an understanding of broader impacts to the entire area. Overall, impacts to specific properties are negligible.
    - 21st Street Station:
        - Some drop-off and walk-up passenger traffic at this station; however, there is no park and ride, so few transfers are expected;
        - Minor increases in traffic volumes on 21st Street are expected by 2040 compared to the no-build scenario. This is due to no major arterial roadways serving the station, it has limited parking, it is difficult to access via car, and the station is designed primarily for walk-up riders.
    - West Lake Station:
        - Little walk-up or drop-off traffic is expected – only 50 additional drop offs per day on top of the 29,000 cars that currently drive through daily. There is no park and ride, so parking impacts will be minimal due to the existing parking constraints. However, it is anticipated that there will be substantial traffic from transfers.
- Craig Westgate from the Cedar Isles Dean Neighborhood Association (CIDNA) asked where the traffic numbers used in the analysis originated. Mark said the Metropolitan Council Regional Travel Demand Forecast Model was used. Greg added that parking issues are also addressed in the report.
- Jeannette Colby of the Kenwood Isles Area Association (KIAA) thanked SPO for undertaking the study in response to KIAA's comments on the Draft EIS and asked if they are assuming bus routes will be the same in 2040 as they are currently. Mark responded that the models includes

anticipated possible future routes (based on Metro Transit's service concept plan), so while Route 21 will likely remain the same, the West Lake Station will be served by additional routes coming to and from the station area, with a layover. Jeannette clarified she was asking about future transit at the 21st Street Station and whether the traffic models take into account potential transit changes. Mark confirmed they did but that it is based on currently anticipated route changes and there is always the possibility that plans will change in the interim.

- Jeannette noted that Kenwood Park is contributing to the Grand Rounds Historic District and is located within the APE and asked whether significant changes to nearby bus routes are proposed in the concept plans. Mark confirmed there are none currently. Greg further explained that SPO modeled effects caused by the Project from operation of the 21st Street and West Lake stations. Kenwood Park is outside the APE for the 21st Street Station, so it is considered to be too far away from the station to experience effects from changes in transit caused by operation of the station. Jeannette pointed out that more frequent bus traffic along Franklin Avenue could have an effect on the park. Nani stated that the Project relies on the bus concept plans, but recognizes that plans can change. She explained that the Title VI process will ensure a fair and equitable process, and the opportunity for public comment on proposed changes to bus routes closer to operations beginning.
- Jeannette asked for clarification whether the 21st Street Station is essentially serving pedestrians and bicyclists coming to the station from a one-mile radius. Mark confirmed that is the model, with the service area representing the source of riders. Jeannette noted that the 21st Street Station shows more walk ups than the West Lake Station, even though the West Lake Station is surrounded by dense housing. Mark explained that the assumptions are all built off the models. Jeannette acknowledged this, but questioned the validity of the model from that respect, and asked for clarification that there is expected to be little drive-up traffic and parking at the 21st Street Station. Mark confirmed this was correct.
- Craig expressed several comments and concerns related to LRT in general and the 21st Street Station.
    - On a recent Sunday with nice weather, neighbors counted 700 vehicles from outside the neighborhood parked from Hidden Beach to Kenwood Park, so there are already parking issues.
    - The Blue Line has had parking implications on neighborhoods along Hiawatha Avenue, with LRT passengers driving the need for more permitted parking spots for neighborhood residents.
    - The West Lake Multimodal Transportation Study that is in progress does not account for passengers exiting the train onto Lake Street. Since there is no direct route away from the station, they will have to cut through areas towards the Minikahda Club, and since it is currently a traffic and pedestrian "nightmare," he doubts there will be a "minimal impact."
    - There are no signs currently, and there will need to be some way to ensure people are going in the right direction when they leave the station.
- Nani said that is one of the purposes of the multimodal study, which is anticipated to conclude later this year. Craig responded that he is involved in the study, but it has not addressed these issues. Ryan said he did think the study would have recommendations related to how people exit the platforms and head to surrounding destinations. Nani added that the Section 106 process may be ahead of the multimodal study and suggested that this could be a topic of continued

conversation during development of the MOA, or that there could be an MOA stipulation ensuring the study's outcomes are taken into consideration.

- Jeannette expressed her appreciation that the study was undertaken and pointed out that if the models are correct, it is good news for the neighborhoods. She asked if the traffic study is public. Nani responded that it is and to contact Sophia Ginis from SPO with any questions.
- Greg and Mark asked that consulting parties provide any comments on the traffic study by October 19, 2015.
- Jeannette asked whether the historic Kenwood Water Tower could be impacted by vibration from heavy trucks on the Kenwood Parkway. Greg responded that it is unlikely given its distance from traffic, the size of the structure, and road weight limits that inform construction contractors' choice of which roads to use.

4. Section 106 Schedule

Greg provided an update on the Section 106 schedule and consultation process moving forward.

- Identification of historic properties
    - There will be some slight revisions to the APE over the next few weeks to account for shifts in the engineering plans.
    - The APE revisions have resulted in the identification of fewer than 10 new architecture/history properties that will need to be evaluated for the NRHP. If any are eligible, FTA/MnDOT CRU will initiate consultation on those properties.
    - Phase I archaeological survey is in progress for an area near the Royalston sites.
    - Consulting parties will be copied on submissions to SHPO.
- Effects on historic properties
    - FTA will wait until the 60% design plans are ready to make a final determination of effect since they will contain many more details that will be helpful in assessing effects. FTA will make its final determination of effect in November. The information will go to consulting parties, as well as SHPO, which has 30 days to review and comment. A consultation meeting will be held during this period in December to review the materials.
    - Adverse effects will be resolved through development of an MOA. We will begin to develop the MOA today, with the intent of having it finalized in February or March, and executing it in April, although the timeline is somewhat flexible. There will be several consultation meetings between now and early 2016 to develop it.
- Jeannette asked if FTA reviews the MOA closely or defers to the local consulting parties. Greg replied that FTA does defer to the locals, although environmental and legal staff will carefully review the document and mitigation measures.

5. MOA Development

- Greg reviewed several areas from previous consultation meetings, describing the parts of an MOA, clarifying the roles and responsibilities of parties to them, and explaining that MOAs are legally binding agreements that identify measures FTA will implement to resolve adverse effects

on historic properties. Measures will be developed in consultation with consulting parties and an executed copy will be included in the NEPA Record of Decision.

- Given how advanced Project design is, it is appropriate to consider specific stipulations for many of the properties.
    - Today's focus will be on stipulations that are of interest to consulting parties, specifically Construction Protection Plans (CPPs), design, and other broad measures that apply to multiple properties.
    - After FTA makes a final determination of effect, we will consider property specific measures, such as those to mitigate the adverse effects to the Kenilworth Lagoon and the archaeological sites.

Design Review

- Design review will identify specific measures, by property, to avoid, minimize, and/or mitigate effects, through SHPO review of 90% plans, and for some properties, designing Project elements in accordance with the *Secretary of Interior's Standards (SOI's)*.
- Greg went through each property proposed to be included in this stipulation and elements that would be considered during design review.
    - Grand Rounds Historic District (GRHD)
        - Cedar Lake Parkway: Design Project elements within and in the vicinity of the parkway along the Kenilworth Corridor in accordance with the *SOI's Standards* and SHPO review of the 90% plans.
            - Greg asked Michael Schroeder of the MPRB if these measures were in line with their thinking. Michael responded that it is.
            - Greg asked if the neighborhoods had thoughts on the proposed measures. Jeannette asked if the question is whether the Project will have an impact to elements of the GRHD. Greg confirmed she was correct and explained that adverse impacts to this contributing resource will be avoided through designing the new crossing in accordance with the *SOI's Standards*.
            - Craig asked for clarification that the main concern for this property is the effects caused by what is being constructed, rather than from the construction itself. Greg confirmed Craig was correct.
            - Jeannette pointed out that impacts from noise at the tunnel portals came up during the Supplemental Draft EIS. Nani replied that the noise analysis does include noise from the portals, although it is minimal, and in this case, they are considering effects to the parkway itself, which is not a noise sensitive receptor. Jeannette asked about users of the parkway and Nani replied that while humans can perceive a noise change of about three decibels, they are finding there is basically no change in noise level experienced by users due to the dampening effect of the walls.

- Kenilworth Lagoon: Design Project elements within and in the vicinity of the Lagoon along the Kenilworth Corridor in accordance with the *SOI's Standards* and SHPO review of the 90% plans.
    - Jeannette asked if this will take place after the MOA is signed. Greg replied that it may need to happen concurrently, before the MOA is executed, also noting that all Project elements within the Lagoon will be designed in accordance with the *SOI's Standards.* Michael and Brian Schaffer of the City of Minneapolis expressed their support for these measures.
- Cedar Lake: Design Kenilworth Crossing and any improvements to East Cedar Beach trail in accordance with the *SOI's Standards*.
    - Jeannette said she hopes the neighborhood will be consulted on any changes as they have concerns about station impacts on the surrounding area and on the connection to Cedar Beach. She explained that while the Project may not feel further consultation is required from a Section 106 perspective, these concerns need to be addressed. Mark clarified that Jeannette was referring to the sidewalk connection from the beach of which will be constructed as part of the Project.
- Lake of the Isles, Lake of the Isles Parkway, and Park Board Bridge #4: Design the Kenilworth Crossing in accordance with the *SOI's Standards*.

- Lake of the Isles Residential Historic District: Design the Kenilworth Crossing in accordance with the *SOI's Standards*.
- M.&St.L. Rwy. Depot: Design Project elements in the vicinity of the depot (new bridge adjacent to and over track, etc.) in accordance with the *SOI's Standards* and SHPO review of the 90% plans.
- C.M.&St.P. R.R. Depot: SHPO review of the 90% plans to ensure the location of the signal bungalow that was shifted to minimize the effect on the depot does not change and that design of project elements in the vicinity of the depot are compatible with its visual setting.
    - Since the City of Hopkins was not in attendance, further discussion was postponed a future meeting when the City can be present.
- Peavey-Haglin Experimental Concrete Grain Elevator: SHPO review of the 90% plans to ensure the location of the TPSS that was a concern does not change.
- Minikahda Club: Design Project elements within and adjacent to club entrance in accordance with the *SOI's Standards* and SHPO review of the 90% plans.
    - Brian noted that the Project has worked with the City of Minneapolis to eliminate most direct impacts to the resource. Greg clarified that for this resource, it is primarily visual effects that are being considered.
- St.P.M.&M. R.R. / G.N. Rwy. Historic District: Design Project elements within and adjacent to the district in accordance with the *SOI's Standards* and SHPO review of the 90% plans.
- Osseo Branch of the St.P.M.&M. R.R. Historic District: This district parallels the main line, but branches off, so SHPO will review the 90% plans to ensure Project elements in the vicinity of the district are compatible with its visual setting.

- Dunwoody Institute: SHPO review of the 90% plans to ensure compatibility of Project elements in the vicinity of the property with its visual setting.

- Jeannette asked if SHPO will be reviewing the 60% plans. Greg explained that FTA plans to use the 60% plans to make its determination of effect, so they will be provided as supporting documentation with the final determination of effect.
- Jeannette asked when the conversations regarding how to design the Project to avoid and minimize effects will transition to discussing mitigation measures. Nani replied that today is the start of the mitigation discussion.
- Greg reminded the group that right now, an adverse effect is anticipated for four properties, the two archaeological sites, Kenilworth Lagoon, and GRHD. These properties will require mitigation to compensate for the adverse effects, in addition to minimizing the effects as much as possible.
- Jeannette asked if other resources will not experience adverse effects. Nani responded that is correct at this time.
- Greg concluded the discussion by explaining that the properties discussed are the only ones that are adjacent to, or have views to/from the Project, which is why design review is needed. The next step is to develop language for the MOA to reflect the items discussed.

Construction Protection Plans

- Greg explained that CPPs are property-specific instructions to the contractor to ensure effects from construction are minimized and adverse effects are avoided (copies of the Central Corridor Construction Protection Plan were provided to everyone for reference). These plans are also incorporated into the overall NEPA construction mitigation plan. He then went through measures to be included in the CPP for each property.
  - M.&St.L. Rwy. Depot: Limiting pre- and post-construction disturbance, vibration monitoring, and protection from construction storage and staging (fencing).
  - C.M.&St.P. R.R. Depot and Peavey-Haglin Experimental Concrete Grain Elevator: Fencing to limit construction disturbance and protect these properties from construction storage and staging.
  - Minikahda Club: Limit construction disturbance to the landscape.
  - Grand Rounds Historic District: Limiting construction disturbance, implementing sediment protection and erosion control, and property-specific strategies for protection from construction storage and staging
    - Kenilworth Lagoon: Limiting construction disturbance, implementing sediment protection and erosion control, and protection from construction storage and staging through pulling staging areas away from the resource.
      - Jeannette noted that there is not a lot of room for construction staging elsewhere.. Mark responded that the Project will utilize the current corridor to bring materials in and out and that all construction activities will be limited to the construction limits.
      - Jeannette asked about comments made during scoping for the Draft EIS concerning houses two to three lots away from the Lagoon that required

deep pilings during their construction and whether the Project will require deeper pilings as well. Mark responded that the bridge will have pilings similar to the current bridge, but the retaining walls, track, etc. will lie on the ground. The 60% plans will address foundation type and how deep the pilings will need to go. Jeannette asked if those plans will include strategies for minimizing impacts from installation. Mark replied that they do look at methods of installation related to the entire Project, not just for historic properties. Jeannette reiterated that she is most concerned about historic properties. Mark explained that bridge construction will take place within the current footprint and that effects from installing pilings will probably be minimal compared with effects from pouring concrete and other construction activities.

        - Cedar Lake: Limiting construction disturbance, implementing sediment protection and erosion control, and protection from construction storage and staging.
        - Lake of the Isles: Limiting construction disturbance, implementing sediment protection and erosion control to keep soil out of the water, and protection from construction storage and staging.
            - Jeannette asked whether soil contamination will be considered. Nani replied that under NEPA, they have done soil analysis and have found it to be pretty clean in this area; therefore, they do not have concerns about soil toxicity and all soil will be handled properly.
    - Site 21HE0409: Limit construction disturbance and protect the site from construction storage and staging by using fencing.
- Greg explained that CPPs are proposed for properties adjacent to the Project which have the potential to be impacted by construction.
    - Craig asked how the fill will be taken out when the tunnel is dug. Mark explained that it will be transported out along the corridor.
    - Craig asked about vibration effects from heavy construction on historic homes and the Kenwood Water Tower. Mark explained that those resources are pretty far off the corridor, for example, the Neils House is almost a quarter mile from the corridor, so it will not likely experience vibration impacts. The construction contractor might drive down city streets, but heavy hauling will be limited to the Project corridor, through phasing work and using the freight bridge as a haul route.
    - Craig asked whether contractors would use Beltline Boulevard. Mark replied they might use it minimally for West Lake Station, but it would be at the contractor's discretion. Jeannette added that transporting materials through the southern rail corridor would be a better option to avoid construction impacts to historic resources and livability.
    - Greg asked if the discussion adequately addressed concerns about the Neils House and the Kenwood Water Tower. Craig and Jeannette expressed continued concern about the water tower. Mark explained that the water tower is very solid and vibration effects from the Project are less of a concern than at the Neils House. Jeannette asked whether contractors will use Kenwood Parkway, and Mark said that while they do not have the details worked out, they can restrict contractors to certain routes.

- Greg concluded the discussion by telling consulting parties to let him know if they have any additional concerns.

6. Next Steps

- Greg and Nani thanked everyone for attending and reiterated that written comments are due October 19th.

	ACTION ITEMS:	PERSON RESPONSIBLE:	DEADLINE:
1.	Follow up with the City of Minneapolis and begin planning for mitigation through interpretation incorporated into the Royalston Station Design.	Greg Mathis	Complete
2.	Consider the traffic assessment and MOA stipulations of design review and construction protection plans.	Consulting parties	10/19
3.			
4.			
5.			
6.			

- Temporary paving of area to receive traffic prior to final restoration
- Infiltration of stormwater runoff after removal of heavy sediments
- Temporary rerouting of stormwater away from exposed slopes and stockpiles
- Temporary rock construction entrances to remove mud for construction vehicles before they leave the site

When applicable, these BMPS will be installed prior to earthwork and grading activities, and would be kept in good working order for the duration of the project. The project would be monitored under grading permits issued by the watershed districts, water management organizations (WMOs), and the cities in the corridor.

Runoff volume control techniques would be considered during Engineering to minimize the rate, volume, and quality of surface runoff, including green swales, infiltration strips, rainwater gardens, subsurface storage, grit chambers, and sump manholes.

C. Mitigation Measures

The Section 404 permit application will identify compensatory mitigation for unavoidable impacts to wetlands and other aquatic resources. A Compensatory Mitigation Plan will be developed by the Council, and reviewed by USACE, prior to the submittal of the Section 404 permit application.

Mitigation options to off-set permanent wetland impacts include onsite project-specific permittee-responsible mitigation, offsite project-specific permittee-responsible mitigation, and/or the purchase of wetland mitigation bank credits that meet USACE regulatory requirements, as well as state and local regulatory requirements. Wetland impacts will be reduced, as feasible, by continued project design refinements to limit the affected areas within the wetlands, including the placement of construction fencing to control construction limits. The actual mitigation ratio for the loss of wetlands will depend on the location, type, and functional value of the wetland being impacted and permits obtained from agencies with regulatory authority. Compensatory wetland mitigation required for the project will depend on final footprint of wetland fill, as well as ecological value of the wetlands affected. Impacts to waters and wetlands will be detailed in the Final EIS.

Stormwater runoff (both long-term and short-term) will be directed into stormwater detention facilities created as part of the project (see discussion of stormwater above). Temporary impacts on soils and vegetation within and surrounding the wetlands will be restored upon completion of construction.

Impacts on floodplains and public waters shall be mitigated by compensatory storage. During Engineering, the amount of floodplain impacts will be calculated, and coordination with the appropriate entities (WMOs) will occur to determine the type, location, and extent of compensatory floodplain storage (likely in the form of excavation) required. The Council will coordinate with, and obtain permits from, local, state, and federal water resources agencies. Development of permit applications will be completed during the Engineering phase of the project.

3.4.2.3 Noise

This section provides a summary of the existing noise levels around noise-sensitive properties within the St. Louis Park/Minneapolis Segment; an assessment of how those properties would be impacted by the LPA; and how those impacts could be mitigated. As summarized in Table 3.4-1, there would be 67 moderate noise impacts and three severe noise impacts without mitigation.

Background information on how noise is defined, the noise generated by LRT and freight rail, and FTA noise impact guidelines can be found in the Noise Fact Sheet in Appendix H of this Supplemental Draft EIS. Appendix H of the Draft EIS also contains background information on noise and FTA evaluation criteria. In addition, detailed information regarding noise measurements, impact methodology, and the impact assessment can be found in Appendix H of this Supplemental Draft EIS. The Final EIS will contain a comprehensive technical appendix with updated and detailed information regarding all noise-related inputs, measurements, an impact assessment, and mitigation.

A. Existing Conditions

This section describes existing noise-sensitive land uses in the St. Louis Park/Minneapolis Segment and existing noise levels. The existing number and location of sensitive noise receptors in the St. Louis Park/ Minneapolis Segment are the same as those described in the Draft EIS. However, prior to publication of this Supplemental Draft EIS, additional noise monitoring was conducted (July and August 2013) to better reflect existing freight rail operations within the freight rail corridor. As discussed in Section 3.1.2.8, this monitoring represents an update to the monitoring used for the Draft EIS.

Noise-sensitive land uses within the St. Louis Park/Minneapolis Segment were identified based on aerial photography, project drawings, and field surveys. Based on the information from these sources, the noise-sensitive land uses within the St. Louis Park/Minneapolis Segment include a mix of single-family and multifamily residences generally along the south side of the light rail alignment west of West Lake Station. East of West Lake Station and the Kenilworth Lagoon, the noise-sensitive land uses are primarily multifamily residences and single-family residences. Currently, the dominant noise source in the segment is existing freight rail traffic. Other noise sources include vehicle traffic on local roadways and aircraft overflights.

Table 3.4-10 summarizes the results of the existing noise level measurements and Exhibit 3.4-6 shows the location of the four long-term noise monitoring sites for the St. Louis Park/Minneapolis Segment that were monitored after publication of the Draft EIS. At each site, the measurement was conducted at the approximate setback of the building or buildings relative to the alignment adjustment. The results were used to determine the existing noise levels for the noise-sensitive locations in the study area.

TABLE 3.4-10
Summary of Existing Noise Level Measurements – St. Louis Park/Minneapolis Segment

Site No.	Measurement Location	Measurement Start		Measurement Duration	Noise Level (dBA)[b]	
		Date	Time	(hours)	L_{dn}	L_{eq}
N14[a]	Railroad Avenue and 37th Street West	7/23/2013	11:00 a.m.	24	58	54
N15[a]	Calhoun Isle Condos	7/23/2013	11:00 a.m.	24	64	--
N16[a]	Kenilworth Place and Upton Avenue South	7/23/2013	10:00 a.m.	24	61	54
N17[a]	21st Street and Upton Street	7/23/2013	11:00 a.m.	24	56	--

[a] Noise sites from Supplemental Draft EIS measurements conducted during July and August 2013.

[b] L_{dn} is used for Category 2 (residential) land use and L_{eq} is used for Category 1 (highly sensitive) and Category 3 (institutional) land use.

Acronyms: dBA = A-weighted decibel; L_{dn} = 24-hour, time-averaged, A-weighted sound level (day-night); L_{eq} = equivalent continuous sound level.

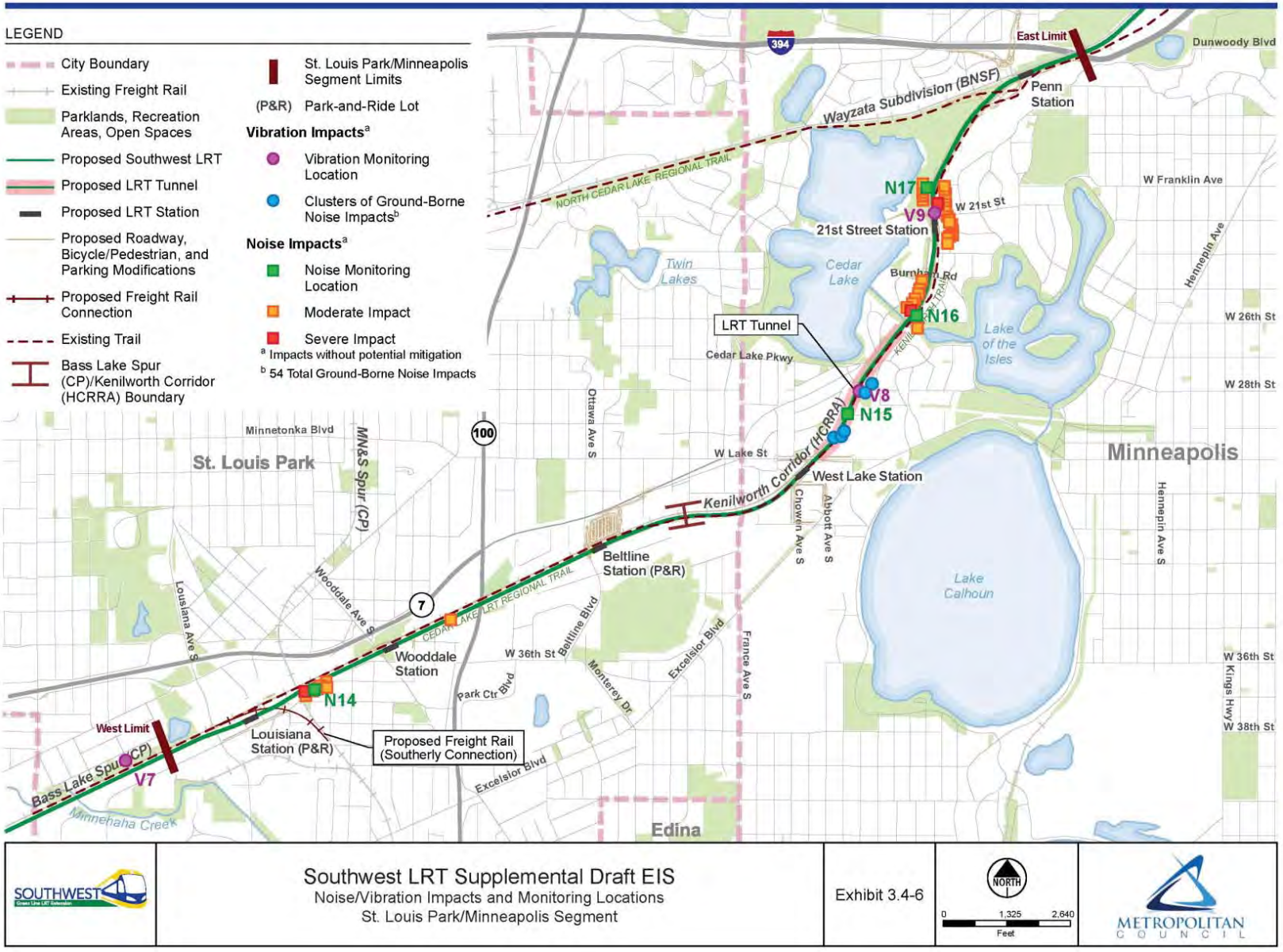
Source: Cross-Spectrum Acoustics LLC, 2013.

Site N14 – Railroad Ave and 37th Street West. The 24-hour, time-averaged, A-weighted sound level (day-night) (L_{dn}) measured at this location was 58 A-weighted decibels (dBA) and the hourly equivalent continuous sound level (L_{eq}) was 54 dBA. The dominant noise source was freight rail activity in the Kenilworth Corridor. Other noise sources included local roadway traffic and bike path activities. Noise levels were measured for 24 hours at a residence facing the corridor. This site is representative of the ambient noise conditions at residences and apartments in the southern portion of the St. Louis Park/Minneapolis Segment.

Site N15 – Calhoun Isle Condos. The L_{dn} measured at this location was 64 dBA. The dominant noise sources were freight rail activity in the Kenilworth Corridor and aircraft overflights. Other noise sources included local roadway traffic and bike path activities. Noise levels were measured for 24 hours at the side of the condominiums facing the corridor. This site is representative of the ambient noise conditions at residences and condominiums in the southern portion of the St. Louis Park/Minneapolis Segment tunnel.

Site N16 – Kenilworth Place and Upton Avenue South. The L_{dn} measured at this location was 61 dBA and the hourly Leq was 54 dBA. The dominant noise sources were freight rail activity in the Kenilworth Corridor and aircraft overflights. Other noise sources included local roadway traffic and bike path activities. Noise levels were measured for 24 hours in the back yard of a residence facing the corridor adjacent to the channel

EXHIBIT 3.4-6
Noise/Vibration Impacts and Monitoring Locations, St. Louis Park/Minneapolis Segment



crossing. This site is representative of the ambient noise conditions at residences and condominiums in the middle portion of the St. Louis Park/Minneapolis Segment tunnel section near the proposed crossing of the Kenilworth Lagoon.

Site N17 – 21st Street and Upton Street. The L_{dn} measured at this location was 56 dBA. The dominant noise sources were freight rail activity in the Kenilworth Corridor and aircraft overflights. Other noise sources included local roadway traffic and bike path activities. Noise levels were measured for 24 hours in the backyard of a residence facing the corridor. This site is representative of the ambient noise conditions at residences and condominiums in the northern portion of the St. Louis Park/Minneapolis Segment tunnel.

B. Potential Noise Impacts

This section identifies and evaluates the potential long-term and short-term noise impacts that would occur in the St. Louis Park/Minneapolis Segment. The long-term noise impact evaluation considers the potential increase in noise levels for sensitive receptors closest to the proposed LRT stations and track as a result of the operation of light rail and freight rail. The assessment of potential long-term noise impacts also considers indirect changes in noise levels, including increased development density anticipated around transit stations that could place sensitive receptors near the noise-generating sources like the LRT and park-and-ride facilities. Short-term noise impacts are those that may occur during construction of the LPA.

Long-Term Direct and Indirect Noise Impacts

This section describes the long-term direct and indirect noise impacts in the St. Louis Park/Minneapolis Segment. The project team conducted a Detailed Noise Analysis in this segment (see Appendix H for more information) and summaries of the analysis results are presented in Tables 3.4-11 and 3.4-12 for residential and institutional (e.g., churches and schools) land uses, respectively.

The results include a tabulation of location information for each sensitive receptor group, the existing noise levels, the projections of future noise levels, the impact criteria, and whether there would be noise impacts. The tables also show the total number of moderate and severe noise impacts for each location, without mitigation measures.

As shown in Table 3.4-11, proposed improvements in the St. Louis Park/Minneapolis Segment would result in 67 moderate noise impacts and three severe noise impacts for residential land uses (Exhibit 3.4-6). The presence of the proposed tunnel in the Kenilworth Corridor eliminates almost all noise impacts relative to an at-grade LRT system within the same segment of the corridor. A summary of each residential location that would experience noise impacts follows.

TABLE 3.4-11
Summary of Noise Impacts for Residential Land Use – St. Louis Park/Minneapolis Segment

Location	Side of Track	Distance from near LRT Track Centerline (feet)	LRT Speed (mph)	Existing Noise Level (dBA)	Project Noise Levels (dBA)			Type and # of Impacts	
						Criteria			
					LRT	Mod	Sev	Mod	Sev
Railroad Avenue	E	50	55	58	64	57	62	6	1
Camerata Way	E	50	55	64	64	60	66	32[a]	0
Highway 7 Service Road	W	125	55	64	58	60	66	0	0
Park Glen Road	E	113	45	64	57	60	66	0	0
Glenhurst Avenue	W	250	45	64	51	60	66	0	0
Ewing Avenue South	W	100	45	64	58	60	66	0	0
Lake Shore Drive	W	88	20	64	52	60	66	0	0
Chowen Avenue South	E	75	35	64	58	60	66	0	0

Location	Side of Track	Distance from near LRT Track Centerline (feet)	LRT Speed (mph)	Existing Noise Level (dBA)	Project Noise Levels (dBA)			Type and # of Impacts	
						Criteria			
					LRT	Mod	Sev	Mod	Sev
St. Louis Avenue	W	63	45	64	58	60	66	0	0
Benton Boulevard	E	88	45	61	56	58	64	0	0
Upton Avenue South	E	100	45	61	57	58	64	0	0
Thomas Lane	E	130	35	56	54	56	62	0	0
Burnham Road South	W	100	45	61	55	58	64	0	0
Burnham Road North	W	50	45	61	64	58	64	6	1
Thomas Avenue South	E	50	35	56	66	56	62	16	1
Sheridan Avenue South	E	135	45	56	55	56	62	0	0
South Upton Avenue	W	125	40	56	59	56	62	6	0
Total:								66	3

Notes: The reported noise levels are rounded to the nearest decibel. The "Type and # of Impacts" column identifies whether the LRT noise level exceeds FTA's moderate or severe noise impact criteria thresholds, which are found under the "Project Noise Levels" column. It also reports the number of units that would experience a moderate or severe noise impact.

The noise levels for each location are the highest levels projected for that location. Noise projections at other receptors within each location would be lower.

The reported noise levels are rounded to the nearest decibel.

[a] 32 units in one apartment complex.

Acronyms: Mod = moderate; Sev = severe

Source: Cross-Spectrum Acoustics LLC, 2013.

TABLE 3.4-12
Summary of Noise Impacts for Category 1 and Category 3 Land Use – St. Louis Park/Minneapolis Segment

Location	Land Use Category	Distance from near LRT Track Centerline (feet)	LRT Speed (mph)	Existing Noise Level (dBA)	Project Noise Levels (dBA)			Type and # of Impacts	
						Criteria			
					LRT	Mod	Sev	Mod	Sev
Lilac Park	3	150	55	54	53	60	66	0	0
Kenilworth Channel	3	40[a]	45	54	60	60	66	1[b]	0
Kenilworth Lagoon Bank	1	225	45	54	53	55	61	0	0

[a]The distance reported is the range of moderate impact for this location. All locations on the channel within 40 feet of the tracks would experience moderate impacts. The distance to severe impact would not extend beyond the right-of-way.

[b]The moderate noise impacts to the channel (Category 3) is at the lowest moderate level at the farthest point from the Southwest LRT line with those levels increasing as you move closer to the Southwest LRT line, but not exceeding the moderate noise threshold.

Note: The reported noise levels are rounded to the nearest decibel.

Acronyms: Mod = moderate; Sev = severe

Source: Cross-Spectrum Acoustics LLC, 2015.

- **Railroad Avenue.** These residences are to the east of the proposed Louisiana Station, located along Railroad Avenue and 37th Street West. One residence is projected to have severe noise impacts and six are projected to have moderate noise impacts, without noise mitigation. The noise impacts would be due to the proximity of the residences to the proposed LRT alignment.

- **Camerata Way.** This apartment complex (Hoigaard Village) is to the west of Highway 100 and is projected to have 32 moderate noise impacts without noise mitigation. The noise impacts would be due to the complex's proximity to the proposed LRT alignment.
- **Burnham Road North.** These residences are located to the west of the proposed light rail alignment, adjacent to the aboveground portion of the corridor to the north of the Kenilworth Lagoon. There would be one severe and six moderate noise impacts, without noise mitigation. The dominant source of projected noise impacts are due to the proximity to the proposed LRT alignment.
- **Thomas Avenue South.** These residences are located to the east of the proposed light rail alignment, adjacent to the aboveground portion of the corridor to the north of the channel crossing in the vicinity of the 21st Street Station and at-grade crossing. There would be one severe and 16 moderate noise impacts, without noise mitigation. The projected noise impacts would be due to the proximity to the proposed LRT alignment, noise from the grade-crossing bells, and station activity.
- **South Upton Avenue.** These residences are located to the west of the proposed light rail alignment, adjacent to the aboveground portion of the corridor to the north of the channel crossing in the vicinity of the 21st Street Station and at-grade crossing. There would be six moderate noise impacts, without noise mitigation. The dominant source of the projected noise impacts would be due to the proximity to the proposed LRT alignment and noise from the grade-crossing bells.

The results in Table 3.4-12 indicate there would be one moderate noise impacts to institutional land uses for the St. Louis Park/Minneapolis Segment.

- **Kenilworth Channel/Lagoon Bank.** A moderate noise impact has been identified at the Kenilworth Channel crossing for the channel itself. The channel is considered a Category 3 sensitive noise receptor due to the presence of noise-sensitive activities that occur on the channel. There would be a moderate noise impact within 40 feet of the tracks on both sides of the channel. The grassy area on the banks of the lagoon is considered a Category 1 land use due to the passive and noise-sensitive recreational activities that occur there (where quietude is essential feature of the park), however there would be no impact to this area because of the distance from the tracks to the sensitive location.[36] These two sensitive noise receptors are also included within the Kenilworth Lagoon and Grand Rounds Historic District, which are Section 106 historic properties (see Section 3.4.1.3 for additional detail on the historic resources).

A potential noise-related indirect effect is that changes in development density anticipated around transit stations might put more people near the noise produced by light rail equipment and park-and-ride facilities. In addition, an increase in light rail ridership might reduce roadway traffic noise elsewhere in the communities served by light rail.

Short-Term Noise Impacts

This section describes the potential short-term noise impacts that would be caused by constructing the LPA. Residents and travelers in the St. Louis Park/Minneapolis Segment would experience noise effects from construction activities and construction vehicles, including truck traffic. Noise generated by construction equipment would vary, depending on equipment type/model/make, duration of operation, and specific type of work effort. Typical noise levels might occur in the 67- to 107-dBA range at a distance of 50 feet. Construction noise impacts are expected to be localized, temporary, and transient. These impacts would increase with proximity to the physical improvements. Additional details regarding potential short-term noise impacts will be evaluated further and provided in the forthcoming Final EIS, based on the equipment, duration, and type of work effort. These details and the respective short-term impact determinations will be provided when additional design and construction information is available.

C. Mitigation Measures

Based on the projected noise impacts identified in the St. Louis Park/Minneapolis Segment and in compliance with FTA guidance, final determinations of noise mitigation measures to be incorporated into the

[36] Land use categorizations were made in consultation with the MPRB and the MnSHPO.

project will be made in a noise mitigation plan and documented in the project's Final EIS. The contents of that plan will include: additional noise monitoring and/or testing where appropriate; documentation of the evaluation of mitigation measures relative to their feasibility, practicability, and project-specific factors used to identify the committed noise mitigation measures; and identification of committed long-term and short-term (construction) noise mitigation measures and their effectiveness. See Section 3.1.2.8 for additional detail on FTA noise mitigation guidance and on the contents of a noise mitigation plan.

3.4.2.4 Vibration

This section provides a summary of the findings of the vibration analysis. This analysis evaluated the project's vibration (motion of the ground or building) and ground-borne noise (reradiated noise generated by vibration of walls and ceiling) impacts on vibration-sensitive properties within the St. Louis Park/ Minneapolis Segment. As summarized in Table 3.4-1, there would be no vibration impacts and 54 ground-borne noise impacts without mitigation.

Background information on how vibration is defined, the vibration generated by light rail and freight rail vehicles, and FTA vibration impact guidelines can be found in the Vibration Fact Sheet in Appendix H of this Supplemental Draft EIS. Appendix H of the Draft EIS also contains background information on vibration and FTA evaluation criteria used to assess vibration impacts. In addition, detailed information regarding vibration measurements and the impact assessment can be found in Appendix H of this Supplemental Draft EIS. The Final EIS will contain a comprehensive technical appendix with detailed information regarding all vibration-related inputs, measurements, impact assessment, and mitigation.

A. Existing Conditions

This section describes existing vibration-sensitive land uses in the St. Louis Park/Minneapolis Segment and existing vibration levels. In the Draft EIS, a general vibration assessment was conducted using FTA procedures. The assessment methodology used generalized information and assumptions to make projections of potential vibration impacts. For this Supplemental Draft EIS, a detailed assessment methodology using FTA procedures was used. The detailed assessment considers the vehicle-specific vibration characteristics, as well as using vibration propagation testing at locations throughout the project corridor. The vibration analysis followed FTA guidelines published in *Transit Noise and Vibration Impact Assessment* (FTA, 2006).

Vibration-sensitive land uses for the St. Louis Park/Minneapolis Segment alignment adjustments were identified based on aerial photography, project drawings, and a site survey. Based on the information from these sources, the vibration-sensitive land uses include a mix of single-family and multifamily residences generally on the south side of the light rail alignment west of West Lake Station. East of West Lake Station and the Kenilworth Lagoon, the land uses are primarily multifamily residences and single-family residences. The freight trains operating in the Kenilworth Corridor are the only source of existing vibration in the area.

Vibration measurements conducted in July 2013 were used to characterize the response of the soil at locations in the St. Louis Park/Minneapolis Segment. No vibration measurements were conducted during the Draft EIS. At each of the measurement sites, a vibration propagation test was conducted by impacting the ground with an instrumented weight and measuring the response of the soil at distances ranging from 25 to 150 feet. The results of the vibration propagation tests were combined with the force density (vehicle input force) to project vibration levels from LRT operations at vibration-sensitive locations near the alignment adjustments. The locations of the vibration measurement sites for the St. Louis Park/Minneapolis Segment are described below and shown on Exhibit 3.4-6. No vibration measurements were conducted as a part of the Draft EIS.

Site V7 – Edgebrook Park. The vibration propagation measurement was conducted at Edgebrook Park near the corner of Edgebrook Drive and Pennsylvania Avenue South. Although outside of the St. Louis Park/ Minneapolis Segment, the measurements at this site are representative of vibration-sensitive land use in the southern portion of the alignment adjustments in this segment.

U.S. Department
of Transportation
Federal Transit Administration

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November 10, 2015

Sarah J. Beimers, Manager
Government Programs and Compliance
MN State Historic Preservation Office
Minnesota Historical Society
345 Kellogg Blvd W
St. Paul, MN 55102

RE: Southwest Light Rail Transit Project, Hennepin County, Minnesota; Final Determination of Effect, SHPO #2009-0080

Dear Ms. Beimers,

The Federal Transit Administration (FTA) is writing to continue the consultation process for the Southwest Light Rail Transit Project (Project), also known as the METRO Green Line Extension, and thank the Minnesota State Historic Preservation Office (MnSHPO) for the comments provided in response to the consultation materials provided on September 18, 2015 and October 7, 2015. Following standard practice, all Section 106 consulting parties for the Project are copied on this letter.

This letter transmits our final determination of effect for the Project. We want to thank MnSHPO and all consulting parties for their participation in the extensive and highly productive consultation process that helped us reach this milestone for the Project.

Consultation Overview

The Metropolitan Council (Council) is seeking federal funding under the Capital Investment Grant program from the FTA; therefore, the Project must comply with Section 306108 of the National Historic Preservation Act of 1966 (NHPA), as amended (54 United States Code [U.S.C.] § 306108) (hereinafter referred to as Section 106) and its implementing regulations, 36 Code of Federal Regulations (CFR) 800 et. seq. In accordance with 36 CRF 800.2(a)(2), the United States Army Corps of Engineers (USACE) has recognized FTA as the lead Federal agency responsible for fulfilling their collective obligations under Section 106. FTA has delegated authority to Minnesota Department of Transportation Cultural Resources Unit (MnDOT CRU) to aide FTA in many aspects of the Section 106 process for the Project per 36 CFR 800.2(a)(3). MnDOT CRU is also assisting FTA with the Section 106 consultation process and with structuring and negotiating the terms of a Memorandum of Agreement (MOA) for the Project.

Pursuant to 36 CFR 800.3, MnDOT CRU, on behalf of FTA, initiated consultation with MnSHPO, local governments and other parties with a demonstrated interest in historic properties that may be affected by the Project in November 2009. In 2010, FTA initiated consultation with the affected Indian tribes in the region. No Indian tribes or Tribal Historic Preservation Offices requested to participate in the consultation. FTA notified the ACHP of the Project in March 2012 and invited the ACHP to participate in the Section 106 process.

As part of its efforts to meet the requirements of Section 106, MnDOT CRU, on behalf of FTA, has held eight (8) consultation meetings with MnSHPO and other consulting parties. The consulting parties for this Project include: MnSHPO; the USACE; Hennepin County; the cities of Eden Prairie, Minnetonka, Hopkins, St. Louis Park and Minneapolis; the Minneapolis Heritage Preservation Commission; the Minneapolis Park and Recreation Board; the Three Rivers Park District; the Cedar-Isles-Dean Neighborhood Association; and the Kenwood Isles Area Association.

In accordance with 36 CFR 800.4, and through the Section 106 consultation process, FTA has identified historic properties that could be potentially affected by the Project. An APE was defined in 2010 and updated on October 7, 2015, with MnSHPO concurrence. Between 2010 and 2015 archaeological and architecture/history surveys were conducted for the properties within the Project's APE to identify and evaluate historic properties and determine their eligibility for the NRHP. As a result of these surveys, a total of 31 NRHP listed and eligible properties were identified and MnSHPO has concurred with these determinations.

Effects Findings

Utilizing the Project's 60 percent design plans, and in accordance with 36 CFR 800.5(a), FTA has made a finding of effect for each property within the Project's APE. These effects assessments and the finding for each historic property are fully described in the attached report entitled *Section 106 Assessment of Effects for Historic Properties*. This report describes the identification process for historic properties that could be potentially affected within the Project's APE, summarizes the Section 106 consultation process to consider effects on the properties, discusses the Project's direct and indirect effects on the properties, assesses the impacts of the effects, and provides a final finding for each property. Table 1 provides a summary of the final effect determination for each property. FTA has found that the Project will have:

- No Adverse Effect on twelve (12) historic properties;
- No Adverse Effect on fourteen (14) historic properties with the implementation of measures that FTA will stipulate in the Project MOA; and
- An Adverse Effect on five (5) historic properties.

Table 1: Finding of Effects on Historic Properties Summary

SHPO Inv. No.	Property Name	Effect Finding
HE-HOC-026	Hopkins City Hall	No Adverse Effect
HE-HOC-027	Hopkins Commercial Historic District	No Adverse Effect
HE-HOC-014	Minneapolis & St. Louis Railway Depot	No Adverse Effect
HE-SLC-008	Chicago, Milwaukee, St. Paul &Pacific Railroad Depot	Adverse Effect
HE-SLC-009	Peavey-Haglin Experimental Concrete Grain Elevator	No Adverse Effect
HE-SLC-055	Hoffman Callan Building	No Adverse Effect
HE-MPC-17102	Minikahda Club	No Adverse Effect
XX-PRK-001	Grand Rounds Historic District	Adverse Effect
HE-MPC-01811	Lake Calhoun	No Adverse Effect
HE-MPC-01833	Cedar Lake Parkway	No Adverse Effect
HE-MPC-01820	Cedar Lake	No Adverse Effect
HE-MPC-01822	Kenilworth Lagoon	Adverse Effect
HE-MPC-01824	Lake of the Isles	No Adverse Effect
HE-MPC-01825	Lake of the Isles Parkway	No Adverse Effect
HE-MPC-06901	Park Board Bridge No. 4 / Bridge L5729	No Adverse Effect

SHPO Inv. No.	Property Name	Effect Finding
HE-MPC-9860	Lake of the Isles Residential Historic District	No Adverse Effect
HE-MPC-01796	Kenwood Parkway	No Adverse Effect
HE-MPC-01797	Kenwood Park	No Adverse Effect
HE-MPC-6475	Kenwood Water Tower	No Adverse Effect
HE-MPC-6068	Frieda and Henry J. Neils House	No Adverse Effect
HE-MPC-6766	Mahalia and Zacharia Saveland House	No Adverse Effect
HE-MPC-6603	Frank W. & Julia C. Shaw House	No Adverse Effect
HE-MPC-18059	Kenwood Parkway Residential Historic District	No Adverse Effect
HE-MPC-8763	Mac Martin House	No Adverse Effect
HE-MPC-16387 (portion of district in Minneapolis)	St. Paul, Minneapolis & Manitoba Railroad / Great Northern Railway Historic District	No Adverse Effect
XX-RRD-002 (district), HE-MPC-16389 (portion of district in Minneapolis)	Osseo Branch of the St. Paul, Minneapolis & Manitoba Railroad / Great Northern Railway Historic District	No Adverse Effect
HE-MPC-6641	William Hood Dunwoody Industrial Institute	No Adverse Effect
HE-MPC-0441	Minneapolis Warehouse Historic District	No Adverse Effect

21HE0436	Royalston North	Adverse Effect
21HE0437	Royalston South	Adverse Effect
21HE0409	Cedar Lake Ice Company Complex Site	No Adverse Effect

Based on effects findings documented in the attached assessment of effects report and summarized above, **FTA has determined that the Project will have an *Adverse Effect* on historic properties.**

In accordance with 36 CRF 800.6, FTA will notify the ACHP of the Project's adverse effect on historic properties and invite the ACHP to participate in the Section 106 process. In addition, FTA looks forward to consulting with MnSHPO and other consulting parties to develop a MOA to document measures the Project will implement to avoid, minimize, and mitigate adverse effects on historic properties. The following is a brief summary of the status of our efforts to resolve the adverse effects on the five (5) historic properties:

- **Chicago, Milwaukee, St. Paul &Pacific Railroad Depot:** The preliminary effect finding for this property, which was based on 30 percent plans, was No Adverse Effect. However, as Project planning advanced, a noise analysis conducted as part of the NEPA process identified a severe noise impact on properties south of the depot (per FTA criteria, the depot itself is not noise sensitive) from LRT bells sounding at a nearby at-grade crossing and from a crossover track that is proposed just north of the depot property near its western limit. FTA and the Council have identified this noise impact requires mitigation. Therefore, the Project is proposing to construct a noise wall within the existing railroad right-of-way, between the depot and LRT alignment. The introduction of this wall, which is shown on the attached 60 percent Project plan sheets, will diminish the integrity of the depot's setting, feeling, and association by obstructing the visual connection between the depot and the railroad with which it is associated. The walls are shown on the attached plan sheets. FTA looks forward to consulting with MnSHPO and other consulting parties to seek ways to avoid, minimize, or mitigate this adverse effect, and develop stipulations to document these measures in the MOA.
- **Grand Rounds Historic District and Kenilworth Lagoon:** The preliminary finding of effect for these two related historic properties (Kenilworth Lagoon is a discrete contributing element of the Grand Rounds Historic District), which were based on 30 percent plans, was Adverse Effect. The adverse effect was based on direct and indirect effects from the construction and operation of the Project over the Kenilworth Lagoon, which will diminish the integrity of the Lagoon's design, materials, workmanship, setting, feeling, and association. Since that time, we have consulted extensively with MnSHPO and other consulting parties to minimize the adverse effect, which resulted in an agreed upon design for the Kenilworth Lagoon crossing that is shown in the attached 60 percent plans. In addition, as shown on the attached plans, the profile of the LRT alignment has been lowered slightly to be closer to the elevation of the existing freight rail and trail elevations, which has reduced the amount of fill required to be placed at the

north end of the lagoon property and reduced the grade of the alignment over the lagoon. While these measures further minimize the effect, the Project will still result in an Adverse Effect on these two historic properties. FTA looks forward to consulting with MnSHPO and other consulting parties to review the proposed stipulations that will document the measures taken to minimize and mitigate the adverse effect in the MOA.

- **Archaeological Sites 21HE0436 and 21HE0437:** These two related archaeological sites will be destroyed due to construction of the Project's Royalston Station, which will result in an Adverse Effect for the properties. To seek ways to avoid the adverse effect, alternative locations for the station were explored during engineering in consultation with the City of Minneapolis and MnSHPO, and found not to be feasible. FTA has consulted with MnSHPO and consulting parties to seek ways to mitigate the adverse effect. The consulting parties have agreed that mitigation to resolve the adverse effect must include completing a Phase III data recovery of both sites prior to initiating Project construction in their vicinity and the incorporation of interpretive design of the sites into the design of the Royalston Station. These measures will be included as stipulations in the Project's MOA. The 60 percent plans show the location of the interpretative panels on the station platforms and elements in the street and sidewalk surfaces adjacent to the station. MnSHPO and other consulting parties have agreed with the measures for mitigating the adverse effect of the Project on these two properties; therefore, no further consultation is required to resolve the adverse effect. FTA looks forward to consulting with MnSHPO and other consulting parties to review the proposed stipulations that will document these measures in the MOA.

Next Steps: Resolution of Adverse Effects
FTA and MnDOT CRU will hold a consultation meeting on December 3, 2015, at 1:30 p.m. – 4:30 p.m. at:

Southwest Light Rail Project Office
6465 Wayzata Boulevard, Suite 500
St. Louis Park, MN

The purpose of this meeting is to review the final findings of effect, consider minimization and mitigation measures for the Chicago, Milwaukee, St. Paul &Pacific Railroad Depot property, discuss the proposed mitigation for the Grand Rounds Historic District and Kenilworth Lagoon, and review draft version of the Project's MOA (to be provided prior to the meeting), which documents the measures the Project will implement to avoid, minimize and mitigate adverse effects on properties.

Enclosed for your review are:

- Section 106 assessment of effects report noted above;
- Plan sheets excerpted from the 60 percent engineering plans that were used to assess effects on historic properties;

- Section 3.4.2.3 from the Project's Supplemental Draft Environmental Impact Statement (EIS), which documents the moderate noise effect on Kenilworth Lagoon and, as a result, the Grand Rounds Historic District;
- Meeting notes from our most recent consultation meeting that was held on September 23, 2015.

Previously provided additional supporting materials that were used to assess effects are not included with this transmittal, but are referenced in the assessment of effects report. As noted in MnDOT CRU's letter of October 7, 2015, two additional Phase I survey reports supporting the final determination of effect finding will follow within the week..

In closing, ***we request that MnSHPO provide its concurrence with FTA's final findings of effect and final determination of effect for the Project in writing by December 14, 2015.***

If you have any questions, please contact Bill Wheeler at (312) 353-2639/William.Wheeler@dot.gov or Maya Sarna at (202) 366-5811/Maya.Sarna@dot.gov.

Sincerely,

Marisol R. Simón
Regional Administrator

Enclosures: *Section 106 Assessment of Effects for Historic Properties* (FTA, MnDOT CRU, and Council, November 2015)
Southwest Green Line LRT Extension, Civil East Construction, 60% Submission, 09/28/15 (AECOM, September 2015; excerpted plan sheets)
Southwest Light Rail Transit Supplemental Draft Environmental Impact Statement, Section 3.4.2.3, Noise (FTA and Metropolitan Council, May 2015)
SWLRT Section 106 Consultation 7/29/2015 meeting notes

ec: Bill Wheeler, FTA
Maya Sarna, FTA
Melissa Jenny, USACE
Brad Johnson, USACE
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David Jaeger, Hennepin County
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SOUTHWEST
Green Line LRT Extension

Section 106 Assessment of Effects for Historic Properties

November 2015

Southwest LRT Project Technical Report

U.S. Department of Transportation
Federal Transit Administration

MINNESOTA DEPARTMENT OF TRANSPORTATION

METROPOLITAN COUNCIL

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Section 106 Assessment of Effects for Historic Properties

Southwest LRT Project Technical Report

Prepared by:

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Region V
200 West Adams Street, Suite 320
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Minnesota Department of Transportation
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Southwest LRT Project Office
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November 2015

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Executive Summary

The Southwest Light Rail Transit (LRT), also known as the METRO Green Line Extension (Project), includes approximately 14.5 miles of new double track that will operate from downtown Minneapolis through the communities of St. Louis Park, Hopkins, Minnetonka, and Eden Prairie, passing in proximity to Edina, in Hennepin County, Minnesota. The proposed alignment includes 16 new light rail stations (including one that is deferred for construction at a later date), one operations and maintenance facility, approximately 2,500 additional park-and-ride spaces, accommodations for passenger drop-off, and bicycle and pedestrian access, as well as new or restructured local bus route connection stations to nearby residential, commercial, and educational destinations. The Southwest LRT Project will operate primarily at-grade, with structures providing grade separation of LRT crossings, roadways, and water bodies at specified locations. For just under one-half mile, it will operate in a shallow LRT tunnel in the Kenilworth Corridor.

The Metropolitan Council (Council) will apply for Federal Transit Administration (FTA) funding for the Project and will seek permits for construction from the United States Army Corps of Engineers; therefore, this project is a federal undertaking and must comply with Section 306108 of the National Historic Preservation Act of 1966, as amended (54 United States Code [U.S.C.] § 306108) (hereinafter referred to as Section 106) and its implementing regulations, 36 Code of Federal Regulations 800 et. seq.; Section 101(b)(4) of the National Environmental Policy Act of 1969, as amended, (42 U.S.C. 4331); and other applicable federal mandates.

The Project will also use funding from the State of Minnesota and political subdivisions of the State and is seeking permits for construction from several state agencies, including Minnesota Department of Transportation, Minnesota Department of Natural Resources, Minnesota Pollution Control Agency, and Minnesota Department of Health. It must also, therefore, comply with Minnesota laws, including the Minnesota Environmental Policy Act of 1973, the Minnesota Field Archaeology Act (Minnesota Statute [MS] 138.31-138.42), the Minnesota Historic Sites Act (MS 138.661-138.669), and the Minnesota Private Cemeteries Act (MS 307.08), as applicable.

This report summarizes the undertaking, describes the Project's Area of Potential Effect (APE), documents efforts to identify historic properties, properties eligible for or included in the National Register of Historic Places, located within the APE, and evaluates the Project's effects on those properties. Based on findings of the effects assessments, the Project will have an adverse effect on five (5) historic properties: the Chicago, Milwaukee, St. Paul & Pacific Railroad Depot; Archaeological Sites 21HE0436 and 21HE0437; the Grand Rounds Historic District; and the Kenilworth Lagoon, which is a contributing element to the Grand Rounds Historic District. Due to the adverse effect the Project will have on these properties, FTA has determined that the undertaking will have an Adverse Effect on historic properties.

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Appendix

Appendix A: List of 60 Percent Plan Sheets Submitted to SHPO

Acronyms and Abbreviations

ACHP	Advisory Council on Historic Preservation
ADA	Americans with Disabilities Act
ADC	Advanced Design Consultant
APE	area of potential effect
BRT	bus rapid transit
BNSF	Burlington Northern Santa Fe Railway
CFR	Code of Federal Regulations
CMStP&P	Chicago, Milwaukee, St. Paul & Pacific Railroad
Council	Metropolitan Council
CP	Canadian Pacific Railway
CPP	Construction Protection Plan
CRU	Cultural Resources Unit
EIS	Environmental Impact Statement
FTA	Federal Transit Administration
GRHD	Grand Rounds Historic District
GN	Great Northern Railway
HCRRA	Hennepin County Regional Railroad Authority
KPRHD	Kenwood Parkway Residential Historic District
LOIRHD	Lake of the Isles Residential Historic District
LOD	limits of disturbance
LRT	light rail transit
LRV	light rail vehicle
M&NW	Minneapolis & Northwestern Railroad
M&StL	Minneapolis & St. Louis Railway
MBPC	Minneapolis Board of Park Commissioners
MN&S	Minneapolis, Northfield & Southern Railway
MnDOT	Minnesota Department of Transportation
MnSHPO	Minnesota State Historic Preservation Officer
MOA	Memorandum of Agreement
MPDF	Multiple Property Documentation Form
MPRB	Minneapolis Park and Recreation Board
MS	Minnesota Statute
NEPA	National Environmental Policy Act of 1969, as amended
NHL	National Historic Landmark
NHPA	National Historic Preservation Act of 1966, as amended
NPS	National Park Service
NRHP	National Register of Historic Places

OCS	overhead contact system
OMF	operations and maintenance facility
PA	Programmatic Agreement
Project	proposed Southwest Light Rail Transit/ METRO Green Line Extension
SDEIS	Supplemental Draft Environmental Impact Statement
Section 106	Section 306108 of the NHPA
SHPO	State Historic Preservation Office
SOI	Secretary of the Interior
StPM&M	St. Paul, Minneapolis & Manitoba Railroad
TC&W	Twin Cities & Western Railroad
TPSS	traction power substation
USACE	United States Army Corps of Engineers
U.S.C	United States Code
VMT	vehicle miles traveled
WPA	Works Progress Administration

1 Introduction

The proposed Southwest Light Rail Transit (LRT), also known as the METRO Green Line Extension (Project), includes approximately 14.5 miles of new double track that will operate from downtown Minneapolis through the communities of St. Louis Park, Hopkins, Minnetonka, and Eden Prairie, passing in proximity to Edina, in Hennepin County, Minnesota. The proposed alignment includes 16 new light rail stations (including one that is deferred for construction at a later date), one Operations and Maintenance Facility (OMF), approximately 2,500 additional park-and-ride spaces, accommodations for passenger drop-off, and bicycle and pedestrian access, as well as new or restructured local bus route connection stations to nearby residential, commercial, and educational destinations. The Southwest LRT will operate primarily at-grade, with structures providing grade separation of LRT crossings, roadways, and water bodies at specified locations. For just under one-half mile, it will operate in a shallow LRT tunnel in the Kenilworth Corridor. This report summarizes the undertaking, describes the Project's Area of Potential Effect (APE), documents efforts to identify historic properties, properties eligible for or included in the National Register of Historic Places (NRHP), located within the APE, and evaluates the Project's effects on those properties.

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2 Section 106 Regulatory Context and Methodology

The Metropolitan Council (Council) will apply for Federal Transit Administration (FTA) funding for the Project and will seek permits for construction from the United States Army Corps of Engineers (USACE); therefore, this project is a federal undertaking and must comply with Section 306108 of the National Historic Preservation Act of 1966 (NHPA), as amended (54 United States Code [U.S.C.] § 306108) (hereinafter referred to as Section 106) and its implementing regulations, 36 Code of Federal Regulations (CFR) 800 et. seq.; Section 101(b)(4) of the National Environmental Policy Act of 1969 (NEPA), as amended (42 U.S.C. 4331); and other applicable federal mandates.

The Project will also use funding from the State of Minnesota and political subdivisions of the state and is seeking permits for construction from several state agencies, including Minnesota Department of Transportation (MnDOT), Minnesota Department of Natural Resources, Minnesota Pollution Control Agency, and Minnesota Department of Health. It must also, therefore, comply with Minnesota laws, including the Minnesota Environmental Policy Act of 1973 (Minnesota Statute [MS] 116D), the Minnesota Field Archaeology Act (MS 138.31-138.42), the Minnesota Historic Sites Act (MS 138.661-138.669), and the Minnesota Private Cemeteries Act (MS 307.08), as applicable.

Section 106 requires federal agencies to consider the effects of their actions on historic properties before undertaking a project. The USACE has recognized FTA as the lead federal agency for the Section 106 process. Therefore, the FTA is responsible for fulfilling their collective Section 106 responsibilities for the Project.[1]

As described in 36 CFR 800, the lead Federal agency establishes the undertaking and, in consultation with the State Historic Preservation Officer (SHPO) in the state in which the project is located, develops the APE, identifies historic properties (properties eligible for or listed in the NRHP) in the APE, makes a determination of the proposed project's effect on historic properties in the APE, and resolves any adverse effects on historic properties in the APE. Regulations contained in 36 CFR 800 further require that the lead federal agency consult with the SHPO, Indian tribes and Tribal Historic Preservation Officers, and other identified parties with a demonstrated interest in historic properties during planning and development of the proposed project. The Advisory Council on Historic Preservation (ACHP) may participate in the consultation or may leave such involvement to the SHPO and other consulting parties. The SHPO, and the ACHP if it chooses to participate in the consultation, are provided an opportunity to comment on the proposed project and its effects on historic properties. If the project will have an adverse effect on historic properties, they will participate in the development of a Memorandum of Agreement (MOA) or Programmatic Agreement (PA) that will include measures the lead federal agency will implement to avoid, minimize, and/or mitigate adverse effects to historic properties, as applicable. Stipulations included in an MOA or PA are legally binding and must be implemented.

The FTA designated the MnDOT Cultural Resources Unit (CRU) to carry out many aspects of the Section 106 review for this project in consultation with the Minnesota SHPO (MnSHPO), including initiating the consultation process, defining the Project's architecture/history and archaeological APEs, identifying and evaluating historic properties, and assessing effects of the Project on historic properties listed in or eligible for inclusion in the NRHP. The FTA will make the final determination of effect and, with assistance from MnDOT CRU and in consultation with the MnSHPO, will resolve adverse effects on historic properties.

2.1 Identification of Historic Properties

Historic properties are those that have been listed in or that have been determined eligible for listing in the NRHP, either individually or as part of a historic district, by applying the NRHP Criteria for Evaluation (36 CFR 60.4) to evaluate a property's historical significance. To qualify for the NRHP, a property must possess significance under one or more of the following criteria:

A. Is associated with events that have made a significant contribution to the broad patterns of our history; or

B. Is associated with the lives of persons significant in our past; or

[1] In a letter dated January 15, 2015, the USACE recognized FTA as the Lead Federal Agency pursuant to 36 CFR 800.2(a)(2), to act on its behalf for meeting the requirements of Section 106. The USACE will remain a consulting party during the review process for the Project.

C. Embodies the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; or

D. Has yielded, or may be likely to yield, information important in prehistory or history.

Under the criteria considerations, properties such as cemeteries, birthplaces or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures moved from their original locations, reconstructed historic buildings, commemorative properties, and properties that have achieved significance within the past 50 years are not considered eligible unless they are integral parts of historic districts that do meet the criteria, or if they fall under one of the categories below:

A. A religious property deriving primary significance from architectural or artistic distinction or historical importance; or

B. A building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event; or

C. A birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building directly associated with his productive life; or

D. A cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events; or

E. A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived; or

F. A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own exceptional significance; or

G. A property achieving significance within the past 50 years if it is of exceptional importance.

If a property is determined to possess historic significance under one of these criteria, its integrity is evaluated using the seven aspects of integrity. The National Register Bulletin *How to Apply the National Register Criteria for Evaluation* (National Parks Service [NPS], 1997) identifies the aspects of integrity, summarized as follows:

- **Location.** The place where the property was constructed or the place where the historic event occurred.
- **Setting.** The physical environment/character of the place where the property played its historical role.
- **Design.** How well the property retains combinations of elements creating its form, plan, space, structure, and style.
- **Materials.** How physical elements were combined at specific time periods and in particular patterns to create the property.
- **Workmanship.** How well a property retains physical evidence of the crafts of a particular time period in history.
- **Feeling.** The combination of the property's physical features that express the historic sense of a particular time period.
- **Association.** The direct link between an important historic event or person and a historic property.

If a property is determined to possess historical significance under one or more criteria, retains sufficient integrity to convey its significance, and meets the above criteria considerations, the property is determined to be eligible for listing in the NRHP.

2.2 Assessment of Effects

The criteria that must be used to assess effects of federal undertakings on historic properties that are listed in or are eligible for listing in the NRHP are set forth 36 CFR 800.5(a)(1):

An adverse effect is found when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably

foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance, or be cumulative.

An adverse effect can occur if any aspect of a historic property's integrity is diminished. Examples of adverse effects are identified in 36 CFR 800.5(a)(2) and include, but are not limited to, the following:

- Physical destruction of or damage to all or part of the property
- Alteration of a property that is not consistent with the Secretary of the Interior's (SOI's) *Standards for the Treatment of Historic Properties* (36 CFR 68) and applicable guidelines
- Removal of the property from its historic location
- Change of the character of the property's use or of physical features within the property's setting that contribute to its historic significance.
- Introduction of visual, atmospheric, or audible elements that diminish the integrity of the property's significant historic features
- Neglect of a property that causes its deterioration

It is important to note that an effect on a historic property does not necessarily constitute an adverse effect. For example, project elements may be visible from a historic property without the effect rising to the level of an adverse effect. In this example, factors to consider when assessing whether the visual effect is adverse would include proximity of project components to the historic property, the nature of the element being introduced to the setting, the significance of viewsheds to the historic property, and the overall importance of integrity of setting to the historic property's ability to convey its significance and maintain its eligibility for the NRHP. Direct effects to historic properties, however, are more likely to result in adverse effect determinations, with the notable exception of rehabilitation projects completed in accordance with the SOI's Standards for the Treatment of Historic Properties (36 CFR 68).

2.3 Resolving Adverse Effects

If an adverse effect to one or more historic properties is found, 36 CFR 800.6 requires the agency "to continue consultation to develop and evaluate alternatives or modifications to the undertaking that could avoid, minimize, or mitigate adverse effects on historic resources."

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3 Description of the Project

The Southwest LRT Project is an approximately 14.5-mile line with 16 new stations (including one deferred station); one OMF; approximately 2,500 additional park-and-ride spaces; accommodations for passenger drop-off; and bicycle and pedestrian access; as well as new or restructured local bus route connection stations to nearby residential, commercial, and education destinations. Roadway, streetscape, landscape, pedestrian/bicycle, utilities, and guideway profile improvements are also part of the Project. Exhibit 1 depicts the proposed Southwest LRT alignment, including the locations of major Project elements. A more detailed description of Project elements is included below.

3.1 Light Rail Alignment

The Southwest LRT Project is an approximately 14.5-mile-long double track light rail proposed as an extension of the METRO Green Line (Central Corridor LRT). The line's southwestern terminus will be the SouthWest Station in Eden Prairie, with a station at-grade within SouthWest Transit's existing SouthWest Transit Center. The alignment will begin an ascent from the station onto a new bridge that will first run parallel to Prairie Center Drive and then cross over Technology Drive and Prairie Center Drive. The alignment will remain at-grade and then cross over I-494 on a new bridge, parallel to and west of the existing Flying Cloud Drive bridge over I-494. After crossing I-494, the alignment will continue northeast on the north side of Flying Cloud Drive and cross Valley View Road and a Highway 212 off-ramp and on-ramp, on a new bridge. After passing existing development between Highway 212 and Flying Cloud Drive, the alignment will cross Nine Mile Creek and Flying Cloud Drive on a new bridge.

Upon leaving the Golden Triangle Station, the alignment will be grade separated on a bridge crossing Flying Cloud Drive, Shady Oak Road, and Highway 212. The bridge will slowly drop to grade on the western side of the Shady Oak Road off-ramp from Highway 212 North. The bridge will continue to follow Highway 212 to Highway 62 at-grade, where it will turn west to the City West Station, which is at-grade along West 62nd Street.

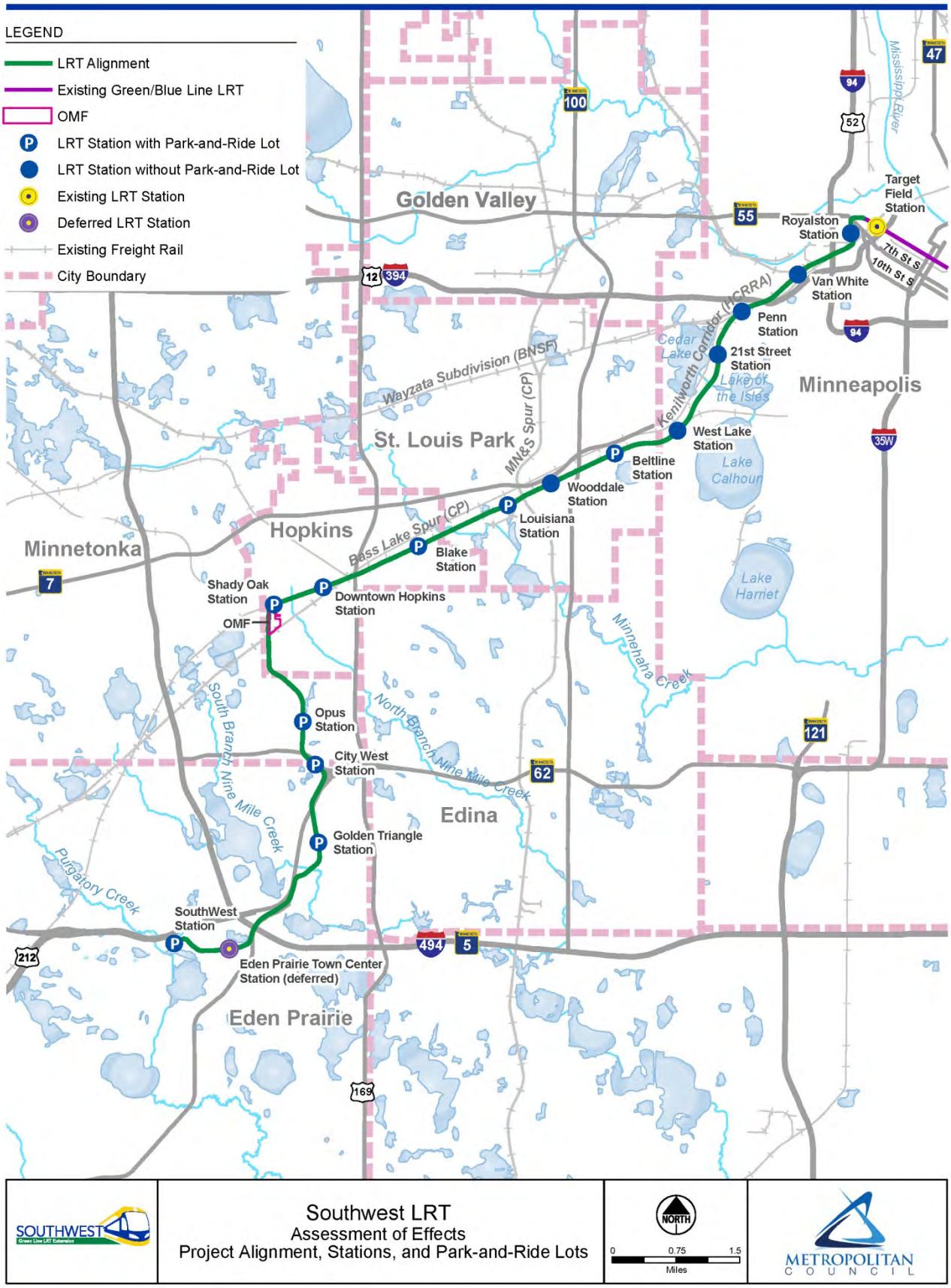
Leaving City West Station, the light rail alignment will continue north through a cut-and-cover tunnel under Highway 62. The tunnel will end at the intersection of Red Circle Drive and Yellow Circle Drive, where the alignment will continue north at-grade. The alignment will turn northwest and cross under Feltl Road and Smetana Road within a grade-separated crossing. The alignment will head directly north between undeveloped land and existing housing developments, located on an approximately 3,000-foot-long new bridge crossing wetlands and an existing freight rail alignment. After crossing the freight rail alignment, the LRT alignment will descend to grade, with connections to the OMF, which will be located immediately east of the alignment.

In Hopkins, a light rail bridge over Excelsior Boulevard will be constructed to allow for the LRT alignment to be located south of the Canadian Pacific (CP) Bass Lake Spur freight tracks (i.e., the freight rail tracks will be located north of the light rail tracks and the Cedar Lake LRT Regional Trail located north of the freight rail tracks).

In St. Louis Park, the light rail alignment will follow the Cedar Lake LRT Regional Trail and CP Bass Lake Spur for several miles at-grade, crossing Minnehaha Creek, Louisiana Avenue South, Xenwood Avenue South, and Highway 100 on new LRT bridges. To reach the Louisiana Station, the alignment will curve slightly to the south, closer to Oxford Street and off the existing embankment. Immediately east of the station, the alignment will continue east, under the new freight rail Southerly Connector, and back up onto the existing embankment.

Leaving West Lake Station, the alignment will travel under West Lake Street, then begin a grade-separated descent into a shallow cut-and-cover tunnel. For just under one-half mile, the alignment will be located in this shallow tunnel, from approximately 400 feet north of West Lake Station, and will return to grade approximately 500 feet south of the Kenilworth Lagoon. The alignment will continue north at-grade and cross the Kenilworth Lagoon on a new LRT bridge, until it reaches the at-grade 21st Street Station. Continuing north of the Penn Station at-grade, the alignment will cross under I-394, diverging slightly northwest from the trail alignment to run parallel to and east of existing Burlington Northern Santa Fe Railway (BNSF) Wayzata Subdivision freight rail tracks. The alignment will continue over a new LRT bridge for approximately 900 feet, crossing over the BNSF Wayzata Subdivision and then cross the intersection of Royalston Avenue North and Holden Street at-grade. After Royalston Station, the LRT alignment will extend north and then east, crossing over North 5th Avenue and North 7th Avenue on a new LRT bridge that will be generally located parallel to and south of North 5th Avenue. The LRT bridge will join the existing METRO Green Line light rail alignment immediately west of the existing Target Field Station.

EXHIBIT 1
Project Alignment, Stations, and Park-and-Ride Lots



3.2 Light Rail Stations and Park-and-Ride Lots

The proposed light rail alignment from Eden Prairie to Target Field Station will have 16 new stations (including the Eden Prairie Town Center Station that is deferred for construction at a later date). The west terminus will include an LRT station at the existing SouthWest Transit Center and will extend to the east terminus of the LRT alignment, connecting to the existing METRO Green Line immediately west of the existing Target Field Station, which was previously evaluated as the Intermodal Station during the Interchange Project. Major elements that will be incorporated onto the platforms include shelters, lighting, furniture, and fencing and railing. All stations will include accessible connections to local street networks and sidewalks. There will be 14 center stations and one split station (SouthWest). The configuration of the Eden Prairie Town Center Station is not yet known because its construction has been deferred.

The Project includes nine park-and-ride lots. Many stations will include physical bus improvements. Table 1 describes the location of each station and associated park-and-ride or passenger drop-off facilities. Exhibit 1 provides an illustration of the LRT alignment, including the locations of stations and park-and-ride lots described in this section.

TABLE 1
Light Rail Stations and Park-and-Ride Lots

Stations by City	Location	Park-and-Ride Lots
Eden Prairie		
SouthWest	West of existing SouthWest Transit Center	450 parking spaces; three-level structured parking located immediately west of SouthWest Station, sharing vehicular connections with the existing SouthWest park-and-ride lot
Eden Prairie Town Center[a]	South of Technology Drive and north of Singletree Lane	None
Golden Triangle	North of West 70th Street and east of Hwy 212	200 spaces; surface lot east of the station platform on existing parking lots; a portion of the lot is to be leased
City West	Adjacent to the Optum Corporate Headquarters, west of Hwy 212 and south of Hwy 62 at West 62nd St	160 spaces; surface park-and-ride lot south of the station platform
Minnetonka		
Opus	South of Bren Road West and east of Bren Road E.	80 spaces; surface park-and-ride lot on property to be leased east of the platform; all of the lot is to be leased
Hopkins		
Shady Oak	South of Excelsior Boulevard and east of Shady Oak Road	700 spaces; surface park-and-ride extending from Excelsior Boulevard to K-tel Drive / 5th Street South
Downtown Hopkins	East of 8th Avenue South, south of Excelsior Boulevard and west of 5th Avenue South	190 spaces; structured parking north of Excelsior Boulevard
Blake	West of Blake Road North at Excelsior Boulevard	89 spaces; surface park-and-ride south of the platform
St. Louis Park		
Louisiana	East of Louisiana Avenue South, north of Oxford Street	350 spaces; surface lot
Wooddale	East of Wooddale Avenue South	None
Beltline	East of Beltline South	268 spaces; surface lot
Minneapolis		
West Lake	South of West Lake Street on Cedar Lake Trail	None
21st Street	21s Street on Cedar Lake Trail	None
Penn	South of I-394 / Penn Avenue South interchange	None
Van White	Van White Memorial Boulevard adjacent to North Cedar Lake Trail	None
Royalston	Royalston Avenue North, south of North 5th Avenue	None

[a] The Eden Prairie Town Center Station has been deferred for construction and is not expected to be in place when the Project opens in 2020.

Source: Appendix A

The Project will include an OMF within the southwestern portion of Hopkins along the border with Minnetonka. The OMF will be located approximately 1,000 feet south of the proposed Shady Oak Station, on an approximately 15-acre site roughly bounded by the CP's Bass Lake Spur to the south, 5th Street South / K-Tel Drive to the north, 15th Avenue South on the east, and the LRT mainline to the west. When the OMF is constructed, 16th Avenue South will be permanently vacated between Fifth and Sixth Streets South, and a cul-de-sac will be constructed on Sixth Street South, south of Sixth Street. A new street (5½ Street) will be constructed between Fifth Street and Sixth Street. The partial acquisition of the parcel at 510 15th Avenue South will eliminate one access point to the property on 16th Avenue South, and this will be replaced from the new 5½ Street South. The parcel will continue to have one access on Sixth Street South and one access on 15th Avenue South.

The current land use is an industrial park with an existing 223,000-square-foot building; there is a small wetland immediately adjacent to the location. The OMF building will be a two-story concrete and steel frame structure with a total area of 162,356 square feet. The main building will be finished with precast concrete, glazing, polycarbonate board, and metal panels. The site will include a network of light rail switching track, an approximately 110-space surface parking lot for employees and visitors, storage and maintenance of nonrevenue vehicles, and office space for employees. The light rail vehicle (LRV) storage barn will include five storage bays (with six vehicles per bay) to accommodate a total of 30 vehicles. The storage barn will be designed to accommodate future expansion, which includes a sixth storage bay on the west side of the facility to accommodate a total of 36 vehicles (adequate land exists for the expansion). In general, light maintenance activities and the storage of vehicles not in service will occur within enclosed structures, although some maintenance activities, including moving vehicles between functional areas within the OMF, will occur outside of buildings. The proposed OMF site will be in operation 24 hours a day, 365 days a year.

3.3 Traction Power Substations, Signal Bungalows, and Signaling and Warning Systems

The Project will require facilities to provide signaling and power to the light rail alignment and LRVs, including 20 traction power substations (TPSS) and 10 signal bungalows. Table 2 identifies TPSS and signal bungalow locations along the alignment, and Exhibit 2 depicts a typical co-located TPSS and signal bungalow.

TPSS are electrical substations to convert electric power from the form provided by the electrical power industry for public utility service to an appropriate voltage, current type, and frequency to supply light rail with traction current. They provide power for the LRVs through the overhead wire system. Spacing of less than 5,000 feet is preferred between TPSS locations. The TPSSs are typically 15 feet by 40 feet and prefabricated. They will be located on parcels approximately 80 feet by 120 feet in size, completely enclosed with perimeter fencing. These facilities will be sited in fully developed areas, including surface parking lots, existing roadway right-of-way, and vacant parcels where feasible. TPSS locations may change several feet during engineering but are selected to minimize impacts to residential areas and other sensitive receptors.

Signal bungalows are small prefabricated sheds, typically 10 feet by 30 feet in size, that house equipment to operate and monitor the signals that regulate train movement on the alignment. As such, they are typically placed near special trackwork.

Active devices, such as traffic signals, railroad-type flashers, and bells, are proposed to control traffic at locations where the light rail alignment will cross public streets. In some locations there will be small, prefabricated metal relay houses to house the control equipment. The overhead wire system will be supported by messenger or catenary wires, set in tension and strung between support structures.

EXHIBIT 2

Example of Co-located Traction Power Substation (larger building) and Signal Bungalow (smaller building)

Source: Council

TABLE 2
Traction Power Substation and Signal Bungalow Locations

LRT Facilities	Location
Traction Power Substation	At north end of SouthWest Station
	At west end of Proposed Eden Prairie Town Center
	At west end of Valley View Road Bridge
	At south end of Nine Mile Creek Bridge
	At south end of Shady Oak Road Bridge
	At south end of City West Station
	At north end of opus Station
	At intersection of Smetana Road and Feltl Road
	Within the OMF
	At west end of Shady Oak Station on Cedar Lake LRT Regional Trail
	At east end of Downtown Hopkins Station
	On east end of Excelsior Boulevard Bridge
	1,500 feet east of Blake Station
	At east end of Louisiana Station
	East of Highway 100 overpass
	East of Cedar Lake Trail Bridge
	At north end of Kenilworth Trail
	Midpoint between 21st Street and Penn Station
	East of alignment and Highway 394
	Near I-94
Signal Bungalow	At SouthWest Station
	At west end of Valley View Road Bridge
	At proposed W 70th St extension on Golden Triangle Station
	At north end of Opus Station
	At north end of Minnetonka/Hopkins Bridge
	North of proposed OMF
	At west end of Shady Oak Station on Cedar Lake LRT Regional Trail
	800 feet west of Wooddale Station
	At north end of Beltline Station
	East of the alignment and Highway 394, midway between Penn Station and Van White Station

Source: Appendix A

3.4 Light Rail Vehicles

The LRVs will be similar to those in use on the existing METRO Green Line (Exhibit 3), which are Siemens S70 LRVs. The LRVs will be designed to operate independently or as a multiple-unit train of up to three vehicles. A pantograph located on the roof of the LRV will collect power from the overhead catenary wires. Each car will be equipped with level boarding for Americans with Disability Act (ADA) accessibility and will be able to accommodate bicycles. LRV speeds will generally range from approximately 20 to 65 miles per hour, except for entry and exit from station areas and inside the OMF.

EXHIBIT 3
Light Rail Vehicle Example

Source: Council

3.5 Roadway Improvements

The Project will result in long-term physical modifications to existing roadways and intersections that will affect local circulation patterns. These changes to roadways will accommodate the introduction of the LRT alignment and related facilities and increase roadway capacity to respond to anticipated demands on roadways (e.g., in response to demand at a new park-and-ride lot).[2] Roadway improvements range from turn lane additions and reconfiguration of lane widths to new roadways, modifications to existing roadway alignments, and reconstruction and reconstruction of bridges.

3.6 Bicycle and Pedestrian Improvements

The Project includes a variety of bicycle and pedestrian improvements to provide safe bicycle and pedestrian crossings of the proposed LRT alignment, to accommodate the proposed LRT and roadway improvements, and/or to provide bicycle and pedestrian connections to the proposed LRT stations. These improvements will affect several trails and sidewalks within the vicinity of the Project and include, but are not limited to, construction of ADA-compliant curb ramps and detectable warnings, relocations of regional and local trails, and new grade-separated trail crossings.

3.7 Freight Rail Modifications

Freight rail service will continue to operate in its existing location in the Bass Lake Spur and Kenilworth Corridor with the following general areas of freight rail modifications in St. Louis Park and Minneapolis.

3.7.1 Bass Lake Spur

Beginning east of Excelsior Boulevard, and extending to east of Beltline Boulevard, the existing freight rail tracks (i.e., the Bass Lake Spur, owned by CP) will be shifted north approximately 45 feet, allowing the light rail alignment to be located south of the freight rail tracks thereby providing better station connections to local activity centers.[3] At the

[2] The Project includes intersection modifications, new traffic signals, changes to existing traffic signals, and other traffic management techniques at intersections and at-grade light rail crossings of roadways within the roadways and traffic study area, so that the Project will not cause an unacceptable level of congestion, or worsen traffic operations at intersection that already experience an unacceptable level congestion compared to the 2040 No Build Alternative. Congestion is defined in terms of level of service (LOS). The Project will: 1) generally provide intersection operations of LOS D or better; or, 2) when the 2040 No Build Alternative LOS would be E or F, provides intersection operations that will be the same as or better than the No Build Alternative.

[3] The existing freight rail tracks are on an existing right-of-way owned by CP. In general, the tracks will be relocated approximately 45 feet north onto a right-of-way currently owned by Hennepin County Regional Railroad Authority (HCRRA). The proposed light rail alignment will be on what is now the CP-owned right-of-way. To accommodate these proposed improvements, Council intends to purchase the CP-owned right-of-way for use by the Project and agreements would be

crossing of Highway 100, the freight bridge will be relocated from the southern portion of the corridor to the north of the planned LRT bridge to match with the overall freight rail shift.

The existing Skunk Hollow Wye connects the Bass Lake Spur and the Minneapolis, Northfield, & Southern Railway (MN&S) Spur, both of which are owned by CP. A portion of the northern leg of the wye, located between the Bass Lake Spur and Oxford Street, will be removed and replaced with the new Southerly Connector that will cross over the proposed light rail alignment on a bridge. This freight rail modification will allow freight trains traveling on the Bass Lake Spur tracks to continue to access the MN&S Spur tracks.[4]

3.7.2 Kenilworth Corridor

The adjustments that will be made to the existing railroad track alignment where Twin Cities & Western Railroad (TC&W) currently operates, which is generally within the Kenilworth Corridor, include the following:

- Minor adjustments to and reconstruction of the freight tracks between Beltline Boulevard and Cedar Lake Parkway
- Existing freight tracks moved approximately 40 feet north between Cedar Lake Parkway and the Burnham Road overpass
- Reconstruction of existing freight rail and trail bridges at the Kenilworth Lagoon Crossing
- Construction of new LRT bridge at the Kenilworth Lagoon Crossing

3.7.3 Wayzata Subdivision

West of the I-94 bridge and east of Royalston Avenue, an approximately 3,560-foot section of the BNSF mainline will shift up to 11 feet north to accommodate the LRT alignment.

3.8 Construction Activities

Construction activities will occur along the entirety of the Project alignment and are expected to span approximately three years. The main construction activities include startup and staging activities, civil construction, systems build, and OMF construction. The civil construction will be performed in segments including the construction of the tunnel in the Kenilworth Corridor, Kenilworth Channel bridges, and the TC&W rail co-location, and activities will include general demolition and removal of buildings, bridges, and pavement; clearing vegetation and waste; grading and fill operations; updates to public and private utilities; construction of tunnels and retaining walls; construction of stations and station elements; and construction of track and overhead contact system (OCS) and substations. Construction of the Project will require a linear construction approach that will be sequenced into multiple segments. Each of the segments will have defined contractual durations and completion milestones that support the overall project schedule. The segments may also include independent milestones related to specific activity completions requested by businesses and stakeholders. Safety and security measures such as fencing and signage will be installed to protect the public from construction activities.

3.8.1 Traffic

Traffic will be affected during construction, causing temporary delays and affecting access to certain properties. A Construction Mitigation Plan developed for the Project will address these impacts.

3.8.2 Staging

Staging will be further evaluated and updated as the construction process and phasing is further defined during Engineering. Staging areas will be required to store materials, equipment, and to provide laydown areas during construction.

The following factors have been and will be considered for the identification and design of staging areas:

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developed for continuing operations for freight rail and light rail. The nature of the agreements has not been determined.

[4] Removal of a portion of the northern leg of the Skunk Hollow wye will be required to accommodate the placement of the light rail alignment south of the freight rail alignment on the existing northern leg of the wye. The southern leg of the Skunk Hollow switching wye will remain in place, providing the continuation of freight rail service to the Robert B. Hill Company salt facility at the west end of the switching wye.

- Security of the staging area
- Ease of material and equipment delivery/storage
- Dual-use staging areas
- Opportunity for contractor labor parking
- Proper drainage
- Availability of power source
- Determination of several areas that will allow for rail welding operations and storage
- Limited impacts to existing trees/vegetation, residents, roads, and businesses

Areas where construction staging could occur within property under control of the Council, as well as other publicly owned properties, will be analyzed during advanced Engineering to accommodate additional potential staging areas.

3.9 Transit Operations

The Project includes a number of changes to existing transit operations in the Corridor, including the operations of the new LRT extension and changes to the operations of the existing and planned bus systems of Metro Transit and SouthWest Transit. The service plans will be revised prior to opening in 2020, and will be a result of a service planning process that complies with the Council's and SouthWest Transit's service planning policies, with federal requirements (e.g., Title VI), and a variety of external factors (e.g., transit demand, funding availability, public and agency comment).

3.9.1 Light Rail Operations

The Project will have the effect of increasing both the average weekday light rail vehicle miles traveled (VMT) and revenue hours in the region, relative to the present (average weekday, 2040). LRT operating hours and headways[5] will be as follows:

- Early morning hours (12:15 a.m. to 2:00 a.m.): 60-minute headways
- Morning hours (4:00 a.m. to 5:30 a.m.): 30-minute headways
- Pre-peak morning operating hours (5:30 a.m. to 6:30 a.m.) 15-minute headways
- AM peak operating hours (6:30 a.m. to 8:30 a.m.): 10-minute headways
- Mid-day operating hours (8:30 a.m. to 3:30 p.m.) 10-minute headways
- PM peak operating hours (3:30 p.m. to 6:00 p.m.): 10-minute headways
- Post PM peak operating hours (6:00 p.m. to 9:00 p.m.): 10-minute headways
- Evening hours (9:00 p.m. to 10:15 p.m.): 20-minute headways
- Late evening hours (10:15 p.m. to 12:15 a.m.): 30-minute headways

3.9.2 Bus Operations

The Council, Metro Transit, and SouthWest Transit developed a 2040 bus operations plan associated with the Project to increase service, resulting in additional VMT and revenue hours. Table 3 describes this bus operations service plan.

TABLE 3
SWLRT Project Corridor Bus Operations Service Plan (Weekday, Saturday, Sunday – 2040)

Average Adjusted Totals	Bus Network	Change from No Build Alternative
Bus Network Vehicle Miles Traveled	60,697 miles	13%
Bus Network Revenue Hours	2,716 hours	9%
Bus Place-Miles[a]	2,549,274	13%

[5] Headways are the average time between transit vehicles operating in the same direction by a common point over a given period of time (e.g., four inbound light rail trains passing by a station within one hour would result in a 15-minute headway).

[a] Place-miles = transit vehicle capacity (seated and standing) for each vehicle type multiplied by VMT for each vehicle type.

Source: Table 6-4: Light Rail and Bus Network Operating Characteristics of the No Build (2040), Southwest Light Rail Transit Final EIS Travel Demand Methodology & Forecast Memorandum, August 2015.

4 Areas of Potential Effect

An Area of Potential Effect (APE) is "the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties if any such properties exist. An APE is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking" (36 CFR 800.16[d]). An APE must account for both direct and indirect effects, including permanent and temporary effects.

The Project has two APEs, one for architecture/history properties and one for archaeological properties, both of which are described below. The rationale for the architecture/history and archaeological APEs can be found in *Southwest Transitway: A Research Design for Cultural Resources* (Hess, Roise and Company, et al., 2010) and *Southwest Light Rail Transit Project Research Design for Cultural Resources: Supplement Number 1* (MnDOT CRU, 2014). The APE parameters were developed by MnDOT CRU on behalf of FTA and in consultation with MnSHPO, and MnSHPO has concurred with the APE parameters. As project design advanced, MnDOT CRU on behalf of FTA, and in consultation with MnSHPO, reevaluated and revised the architecture/history and archaeological APEs to account for potential effects to historic properties and MnSHPO has concurred with the APE revisions.

4.1 Architecture/History APE

The APE for architecture/history properties must account for physical, auditory, atmospheric, visual, and change-in-use effects to historic properties. The Southwest LRT Project has the potential for both direct and indirect effects to architecture/history properties. The following is a description of the architecture/history APE, which is illustrated on Exhibits 4 and 5.

A. Light Rail Alignment

The architecture/history APE includes 300 feet on either side of the centerline of the proposed light rail alignment. Exceptions where the APE was expanded along the alignment include:

- Along some portions of the light rail alignment, the 300-foot architecture/history APE was extended to take into account visual effects. For example, if the 300-foot area comprises open space, and a row of buildings is located adjacent to the open space, these buildings were included in the APE.
- The architecture/history APE was extended to account for potential visual and viewshed effects from the new bridge over the Twin Cities & Western Railroad and Excelsior Boulevard in Hopkins. Over the length of the proposed bridge, the APE was extended to include the properties adjacent to the large open space to the north and to cover the extent of viewsheds to the south.
- The architecture/history APE was extended to account for potential visual and noise effects from the new bridges across the Kenilworth Lagoon from vantage points within the Grand Rounds Historic District (GRHD). Where the proposed light rail alignment crosses the Kenilworth Lagoon, the architecture/history APE was extended to include the entirety of the lagoon and adjacent portions of the two connecting lakes, all of which are contributing elements to the GRHD.

B. Light Rail Stations / Park-and-Ride Lots and OMF

The architecture/history APE includes all areas within a one-quarter-mile radius from the center of the proposed light rail stations and the proposed OMF. At one light rail station, the architecture/history APE was expanded to include the entirety of a historic property as detailed below:

- The one-quarter-mile radius around Penn Station includes a portion of the Kenwood Parkway Residential Historic District. The architecture/history APE was extended beyond the one-quarter-mile radius to include the remainder of the Kenwood Parkway Historic District, which allows consideration of any potential effects throughout the Historic District along the parkway, such as parking and traffic effects.

The proposed light rail alignment will connect to the existing Target Field Station (formerly known and referenced in the cited documentation as the Intermodal Station). The architecture/history APE for the Intermodal Station within the Interchange Project (Hess, Roise and Company, 2011; SHPO Review and Compliance Number HE-2011-9H) was set to account for potential cumulative effects of all light rail projects that were to use the station. The Interchange Project APE, which extended more than a quarter-mile from the station center point in some areas, encompassed most of the quarter-mile radius of the Southwest LRT APE; however, the Southwest LRT APE was extended at this station to account for Project additions beyond the one-quarter mile APE and outside of the Interchange APE.

EXHIBIT 4

Architecture/History APE: Eden Prairie, Minnetonka, and Hopkins

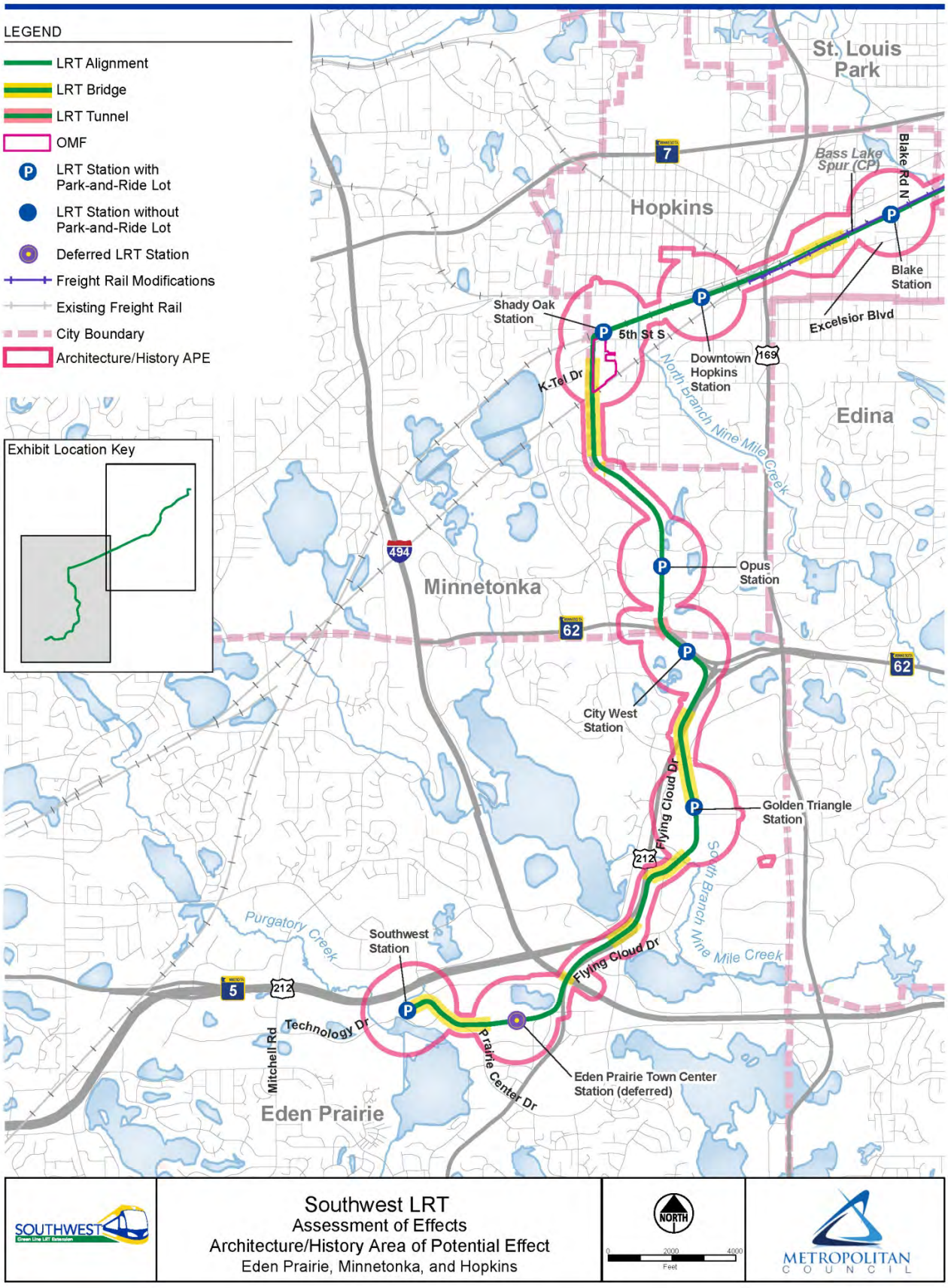
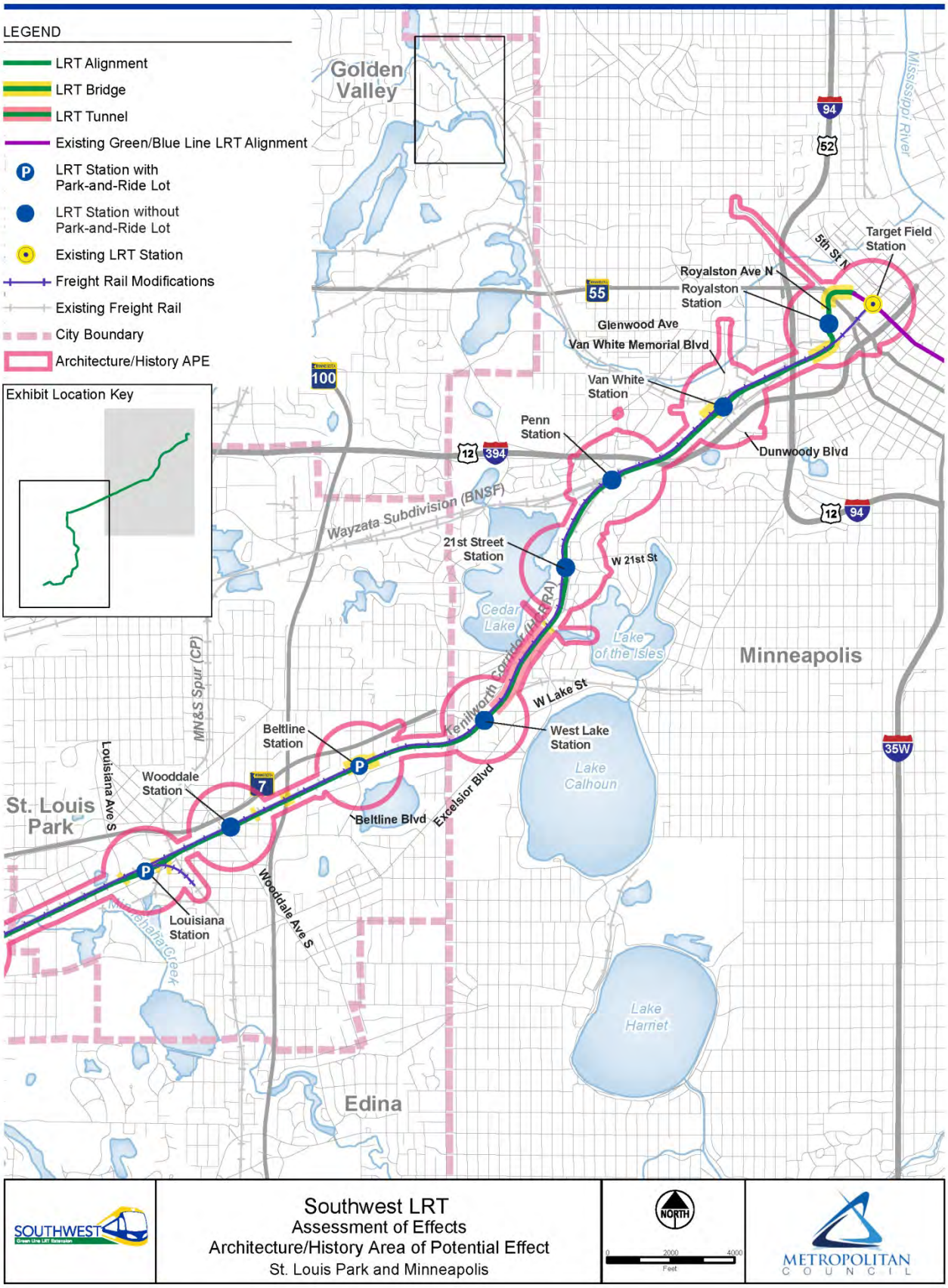


EXHIBIT 5

Architecture/History APE: St. Louis Park and Minneapolis



Minor shifts and additions of Project elements have resulted in the addition of areas around these adjustments to the APE in accordance with the APE parameters, along with the retention of all areas already included in the Project's APEs. These areas were retained to provide some flexibility for accommodating evolving design details as Project engineering advances, thereby avoiding the need for additional future APE revisions.

C. Other Civil Improvements

The architecture/history APE includes parcels adjacent to the construction limits of roadway and trail improvements to address visual and other indirect effects associated with the improvements. Exceptions to this include the following:

- For modifications to existing collector (local) roadways, the architecture/history APE includes all property within 125 feet from the perimeter of the Project's limits of disturbance (LOD)[6] to account for potential minor visual, noise, and vibrations effects.
- For modifications to existing major arterial streets, the architecture/history APE includes all property within 150 feet from the perimeter of the construction limits/LOD to account for potential changes in traffic and noise and vibrations effects.
- For modifications to existing highways (limited access), the architecture/history APE includes all property within 300 feet from the perimeter of the construction limits/LOD to account for potential changes in traffic and noise and vibrations effects.
- For pedestrian ramps, the architecture/history APE includes all property within 50 feet from the perimeter of the construction limits/LOD to account for potential minor visual effects and noise/vibrations during construction.
- For sidewalks and trail improvements (no above grade elements other than curbs and medians), the architecture/history APE includes all property within 100 feet from the perimeter of the construction limits/LOD to account for potential minor visual effects and noise/vibrations during construction.
- For pedestrian enhancements that include above grade elements (e.g., lighting, trees, signage, etc.), the architecture/history APE includes all property within 125 feet from the perimeter of the construction limits/LOD to account for potential minor visual effects and noise/vibrations during construction.

D. Borrow/Fill and Wetland Mitigation Sites

For sites providing borrow/fill material for the Project and floodplain, stormwater, wetland mitigation areas, the architecture/history APE generally includes all property within 125 feet from the perimeter of the construction limits/LOD to account for vibrations during construction and potential permanent visual effects.

4.2 Archaeological APE

The APE for archaeology includes areas of proposed construction activities or other potential ground-disturbing activities associated with construction. Based on the Project's Preliminary Engineering Plans, the Archaeological APE extends 100 feet on either side of the margins of the LRT track area for the Phase Ia archaeological assessments (ARS and HDR, 2010; SWCA, 2012a; and 106 Group, 2014a). During the initial Phase I archaeological survey, the area examined included 150 feet on either side of the LRT alignment (SWCA, 2012b). The archaeological APE for the stations and park-and-ride lots includes areas within 500 feet of the center point of the new light rail station areas to account for potential direct effects from construction or development activities. Similarly, the Archaeological APE for the proposed OMF includes areas within 500 feet of the proposed limits of disturbance. For project components that extend beyond these limits, the archaeological APE has been adjusted in accordance with the research design to include the construction LOD. These project components include the potential for station development extending more than 500 feet from the station center point; roadway, bicycle, and pedestrian improvements; and borrow, fill, and wetland mitigation areas (MnDOT CRU, 2014). The Archaeological APE is illustrated on Exhibits 6 and 7.

[6] The Project's LOD represents the extent within which the Project would result in ground-disturbing activities (e.g., excavation, landscaping, removal, or addition of a structure). The LOD is depicted in the Preliminary Engineering Plans in Appendix A.

EXHIBIT 6

Archaeological APE: Eden Prairie, Minnetonka, and Hopkins

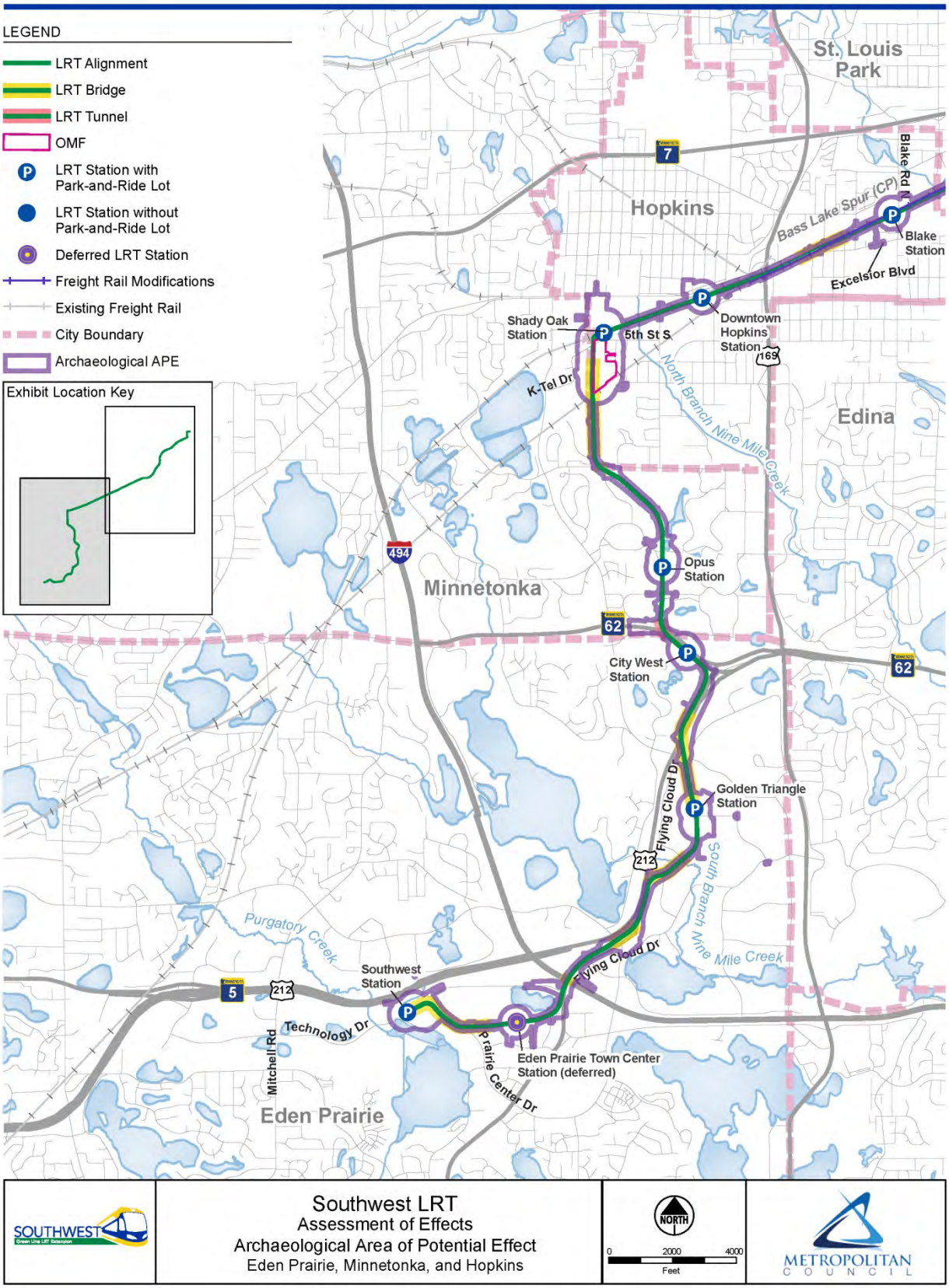
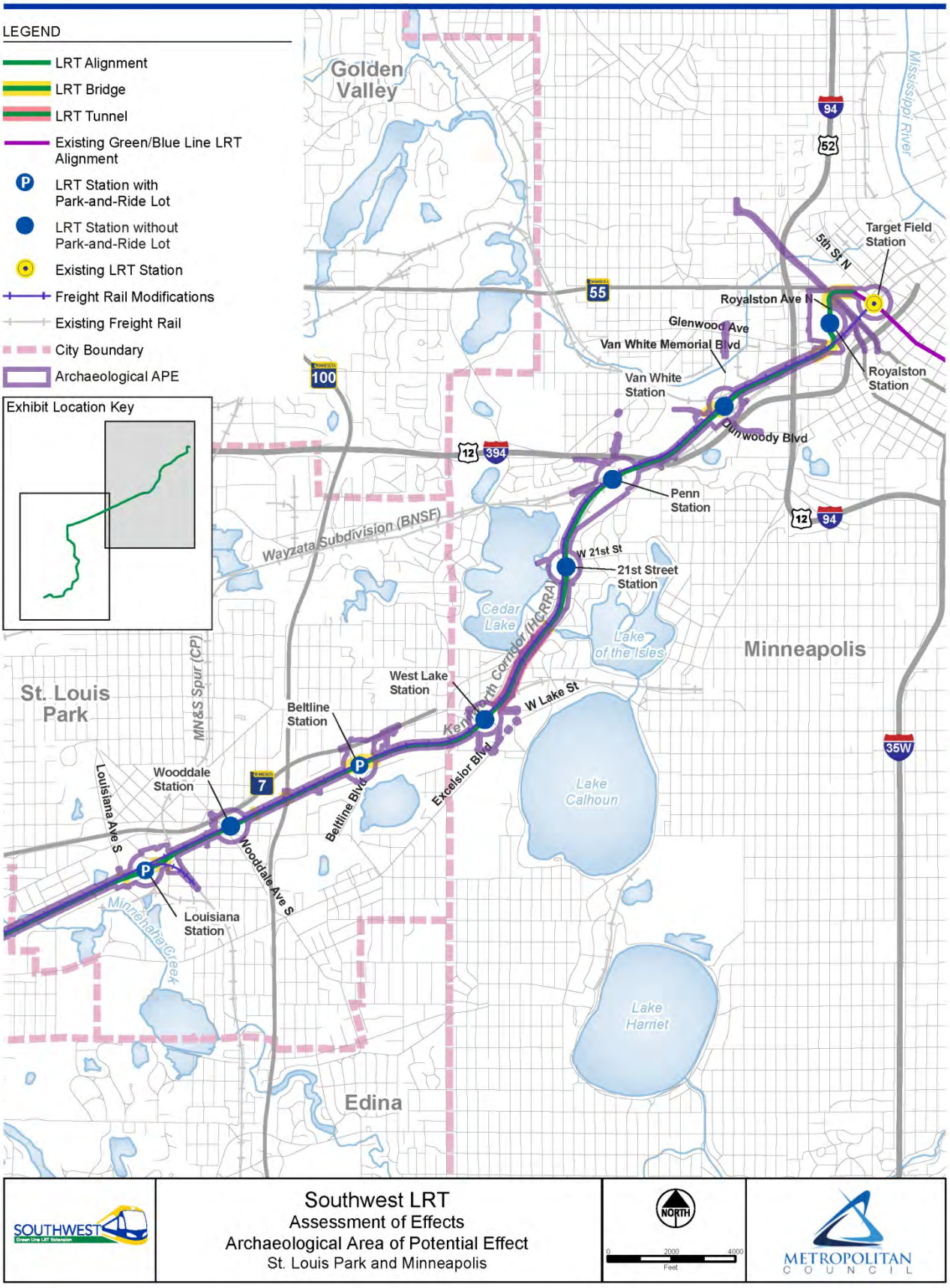


EXHIBIT 7

Archaeological APE: St. Louis Park and Minneapolis



5 Summary of Historic Properties within the Southwest LRT APEs

Section 106 gives equal consideration to historic properties listed in or eligible for inclusion in the NRHP. Therefore, historic property surveys were undertaken to identify and evaluate historic properties listed in or eligible for inclusion in the NRHP within the Project's architecture/history and archaeological APEs. This effort included documenting previously identified or evaluated properties, as well as conducting field investigations to document any previously unidentified properties more than 50 years of age within the Project's APEs. To encompass the environmental review period and construction process, all properties that were constructed in 1966 or earlier within the Project's APEs were surveyed and evaluated.

5.1 Surveys/Investigations Completed for the Project

To identify historic properties within the Project's architecture/history and archaeological APEs, nine architecture/history and nine archaeological investigations were completed since 2010. Table 4 lists by subject matter the reports documenting efforts to identify historic properties within the Project's APEs in chronological order.

TABLE 4
Related Reports Associated with Section 106 Studies along the Project Alignment

Report Title	Date of Publication
Research Design and Area of Potential Effect	
Research Design for Cultural Resources	February 2010, updated March 2010 and April 2010
Research Design for Cultural Resources, Supplement Number 1	October 2014
Architecture/History	
Phase I / Phase II Architecture History Investigation, Volume One: Eden Prairie, Minnetonka, Hopkins, and St. Louis Park Survey Zones	September 2010
Phase I / Phase II Architecture History Investigation, Volume Three: Minneapolis and Saint Louis, Chicago Milwaukee and St. Paul (CM&StP), Minneapolis Northfield and Southern, and Great Northern Railroads Survey Zones	October 2010
Phase I / Phase II Architecture History Investigation, Volume Two: Minneapolis West Residential, South Residential/Commercial, Downtown, Industrial, and Warehouse Survey Zones	February 2012
Phase I / Phase II Architecture History Investigation, Volume Four: St. Louis Park; Minneapolis West Residential; Minneapolis, Northfield, and Southern Railroad; and Great Northern Railroad Survey Zones	April 2012
Supplemental Phase I / Phase II Architecture History Investigation, Volume Five: St. Louis Park and Minneapolis West Residential Survey Zones	February 2014
Supplemental Phase I / Phase II Architecture History Investigation, Volume Six: Eden Prairie, Hopkins, St. Louis Park, and Minneapolis West Residential SDEIS Survey Zones	April 2014
Kenilworth Lagoon / Channel Context, History, and Physical Description	November 2014
Supplemental Phase I Architecture/History Investigation, Volume Seven: Minnetonka, Hopkins, St. Louis Park, and Minneapolis Survey Zones	July 2015
Supplemental Phase I Architecture/History Investigation, Volume Eight: St. Louis Park and Minneapolis West Residential Survey Zones	November 2015
Archaeology	
Phase 1a Archaeological Investigation for the Proposed Southwest Corridor Transitway Project	September 2010
Phase 1a Archaeological Investigation of the Freight Rail Relocation Corridor	June 2012
Phase I Archaeological Survey in Minneapolis, St. Louis Park, Hopkins, Minnetonka, and Eden Prairie	December 2012
Phase II Archaeological Survey	February 2014
Phase 1a Archaeological Investigation, Supplemental Draft EIS Areas: Eden Prairie Segment, OMF, and St. Louis Park / Minneapolis Segment	March 2014
Phase I Archaeological Investigation, SDEIS Area: Eden Prairie Segment, Archaeological Potential Area C	September 2014
Archaeological Investigations For the Southwest Light Rail Transit Project: Areas A and B, and the Holden-Royalston Parcel	February 2015
Phase II Archaeological Evaluation of Site 21HE452	July 2015
Phase 1 Archaeological Investigations of the Glenwood Parcel For the Southwest Light Rail Transit Project, Minneapolis, Minnesota	November 2015

Based on the results of these investigations, MnDOT CRU, under delegation from FTA, made eligibility determinations and provided them to the MnSHPO for concurrence. MnSHPO has previously concurred with all of the eligibility determinations documented in this section except for those included in the architecture/history Volume 8 Phase I survey report and the Phase I archaeological survey report for the Glenwood Parcel. Summaries of both these reports are presented below. At the time of this final determination of effect, both of these surveys have been completed. MnDOT CRU, under delegation from the FTA, has reviewed the results and determined there are no NRHP listed or eligible historic properties and has provided the reports to MnSHPO for concurrence. The results of both surveys were considered as part of the assessment of Project effects on historic properties and are accounted for in the final determination of effect found in Section 7.3. Should the MnSHPO disagree with the eligibility determinations for these newly surveyed properties, FTA will consult with MnSHPO and other consulting parties per the terms of the Section 106 MOA for the Project to consider and assess effects for any NRHP-eligible properties, and to resolve any adverse effects.

5.2 Architecture/History Properties Identified within the APE

Twenty-eight architecture/history properties were identified within the Project's architecture/history APE, including seven historic districts; 11 properties that are individually eligible for or listed in the NRHP, one of which is also a National Historic Landmark (NHL); two that are individually eligible for the NRHP and are also eligible as contributing elements to historic districts; and eight that are contributing elements to NRHP-eligible historic districts. The following subsections describe these 28 properties, generally from southwest to northeast along the Project alignment. Exhibits 8, 9, and 10 illustrate the Architecture/History APEs and Individual Historic Properties in Eden Prairie, Minnetonka, and Hopkins and St. Louis Park and Minneapolis, respectively. Exhibit 10 shows Architecture/History APE and Historic Districts for St. Louis Park and Minneapolis.

5.2.1 Hopkins City Hall (HE-HOC-026), 1010 1st Street S., Hopkins

The Hopkins City Hall was constructed in 1964 to meet the municipal needs of a growing community (Exhibit 8). The building was designed by the architecture firm of Lang, Raugland, and Brunet, Inc. in 1963 with two, two-story sections connected by a one-story hyphen. The main block of the building fronting 1st Street South was built to house the City Hall while the rear wing was built to house the Fire Department (now occupied by the Police Department). The Hopkins City Hall is eligible for listing in the NRHP under Criterion A for its local significance within the area of community planning and development. Its period of significance is 1964 (the date it was constructed). The City Hall embodies how the City of Hopkins government met the municipal needs of a growing community.

5.2.2 Hopkins Downtown Commercial Historic District (HE-HOC-027), Mainstreet, 8th Avenue to 11th Avenue, Hopkins

The Hopkins Downtown Commercial Historic District consists of commercial, mixed-use, and fraternal buildings located along a three-block stretch of Mainstreet (Exhibit 8). The one-, two-, and three-story masonry structures within the district were constructed between 1893 and 2006, primarily in two phases: during the period of population and economic growth in the first decade of the twentieth century, and during a post-World War II building boom. The Hopkins Downtown Commercial Historic District is eligible for listing in the NRHP under Criterion A for its local significance within the area of commerce for its role in the commercial development of Hopkins. Its period of significance is 1893 to 1960, which spans the time of its construction to the approximate date when suburban shopping centers eclipsed downtown Hopkins as a primary shopping destination. The historic district includes 29 contributing and seven non-contributing elements.

5.2.3 Minneapolis & St. Louis Railway Depot (HE-HOC-014), 9451 Excelsior Boulevard, Hopkins

The Minneapolis & St. Louis (M&StL) Railway Depot was constructed in 1903 and was a primary transportation point in Hopkins for passengers and freight through the 1920s (Exhibit 8). After decades of decline, passenger service ended on the M&StL line in the 1960s, and the Depot was converted to office space to support freight traffic. The last train ran on the line in 1980, and the Depot sat vacant until it was converted to a coffee shop in 2002. The M&StL Depot has been determined individually eligible for the NRHP under Criterion A, Requirement 1, for its direct role in the growth of Hopkins in the 1900s and 1910s. Its period of significance is 1903 to 1930, after which time use of the depot diminished with the decline both in passenger traffic and less-than-carload freight.

5.2.4 Chicago, Milwaukee, St. Paul & Pacific Railroad Depot (HE-SLC-008), 6210 W 37th Street, St. Louis Park

The CMStP&P Depot was constructed circa 1887 by predecessor railroad the Chicago, Milwaukee & St. Paul Railway in the newly incorporated village of St. Louis Park (Exhibit 9). Freight service to the Depot began in 1887 and continued through 1968 when the Depot was closed by the railroad. Passenger service between St. Louis Park and Minneapolis

operated through this Depot from 1893 until 1955, and it was one of the major transportation links between the two cities. The Depot is one of only a few buildings that remain from St. Louis Park's founding. The Depot is listed in the NRHP under Criteria A and D for its local significance. Its area of significance is transportation, and its period of significance starts in 1887, the date of construction. From the NRHP nomination, the end date for the period of significance is not clear; therefore, for the purposes of assessing effects, an end date of 1968 is used, the date that the railroad closed the Depot.

5.2.5 Peavey-Haglin Experimental Concrete Grain Elevator (HE-SLC-009; NHL Reference No. 78001547), Highways 100 and 7, St. Louis Park

The Peavey-Haglin Experimental Concrete Grain Elevator was the first circular reinforced-concrete grain elevator constructed in the United States (Exhibit 9). Prior to its construction, the majority of grain elevators were constructed of wood and were vulnerable to fire. This structure proved the viability of concrete in the construction of grain elevators. The elevator was engineered in 1899-1900 by Charles F. Haglin for Frank H. Peavey, a grain merchant. The structure is listed in the NRHP under Criterion C, within the areas of engineering, industry, and invention. Its period of significance is 1899 to 1900, the time period the elevator was constructed. The structure has national significance and is also an NHL, under Criterion 2.

5.2.6 Hoffman Callan Building (HE-SLC-055), 3907 Highway 7, St. Louis Park

The Hoffman Callan Building, also known as the Motor Travel Services Building, is a cylindrical structure of formed concrete textured with an inset grid pattern (Exhibit 9). The building was designed by James R. Dresser & Associates in 1959-1961 and was constructed by Arkay Builders for Motor Travel Services and Hoffman Callan Printing in 1962 to 1963. The Hoffman Callan Printing Company requested a building with a round design to create efficiency in the printing process. The building is eligible for listing in the NRHP under Criterion C in the area of architecture as a distinctive example of Modern architecture style. Its period of significance is 1963, the year building construction was completed.

5.2.7 Minikahda Club (HE-MPC-17102), 3205 Excelsior Boulevard, Minneapolis

The Minikahda Club is a private golf club located on the west side of Lake Calhoun (Exhibit 9). The golf course was the first in Minneapolis, and its original nine holes were designed in the late 1890s. In 1906-1907 another nine holes were added to the property. The property also includes a Colonial Revival style clubhouse, pool, parking lots, tennis courts, and small support buildings that are scattered across the property. The golf course is significant for its 1920s landscape design by Donald Ross, considered one of the premier golf architects in the United States. The Minikahda Club Golf Course is eligible for listing in the NRHP under Criterion C for its local significance in landscape architecture. Its period of significance is 1920 to 1961.

5.2.8 Grand Rounds Historic District (XX-PRK-0001), Minneapolis

When the Board of Park Commissioners (MBPC, renamed the Minneapolis Park and Recreation Board [MPRB] in 1969) was established in April 1883 and granted legislative authority to develop a system of public parks and parkways separate from the City of Minneapolis, it commissioned Horace William Schaller (H. W. S.) Cleveland as an advisor. Cleveland was a well-known landscape architect who had previously lectured on park development in Minneapolis and St. Paul in 1872, and he was developing several plans for St. Paul. Cleveland presented plans for a continuous green necklace of parkway and open space around Minneapolis. The Grand Rounds, as the park system was named, was subsequently acquired and built over many years by the MBPC, primarily during the late nineteenth and early twentieth centuries. Theodore Wirth, Superintendent of Parks from 1906 until 1935, had a prominent role in the acquisition of lands and development of the Grand Rounds.

Comprising seven segments, the Grand Rounds, which is 52 miles in length, passes through almost every part of Minneapolis and extends into the municipalities of Golden Valley, Robbinsdale, Saint Louis Park, and Saint Anthony (Exhibit 10). Each of the seven segments was acquired and developed at a different time and contributes its own history and significance to the Grand Rounds as a whole. The seven segments include a dozen lakes and ponds, four golf courses, two waterfalls, natural and planned gardens, creek and river views, and 50.1 miles of trails. There are 18 parkways in the Grand Rounds that link the seven segments together. The Grand Rounds Historic District includes 20 contributing and 17 non-contributing buildings, 45 contributing and nine non-contributing sites, 73 contributing and 25 non-contributing structures, and 25 contributing and nine non-contributing objects, as well as eight NRHP-listed contributing elements, several commemorative monuments and sculptures, and more than 50 interpretive sites.

EXHIBIT 8
Architecture/History APE and Historic Properties: Eden Prairie, Minnetonka, and Hopkins

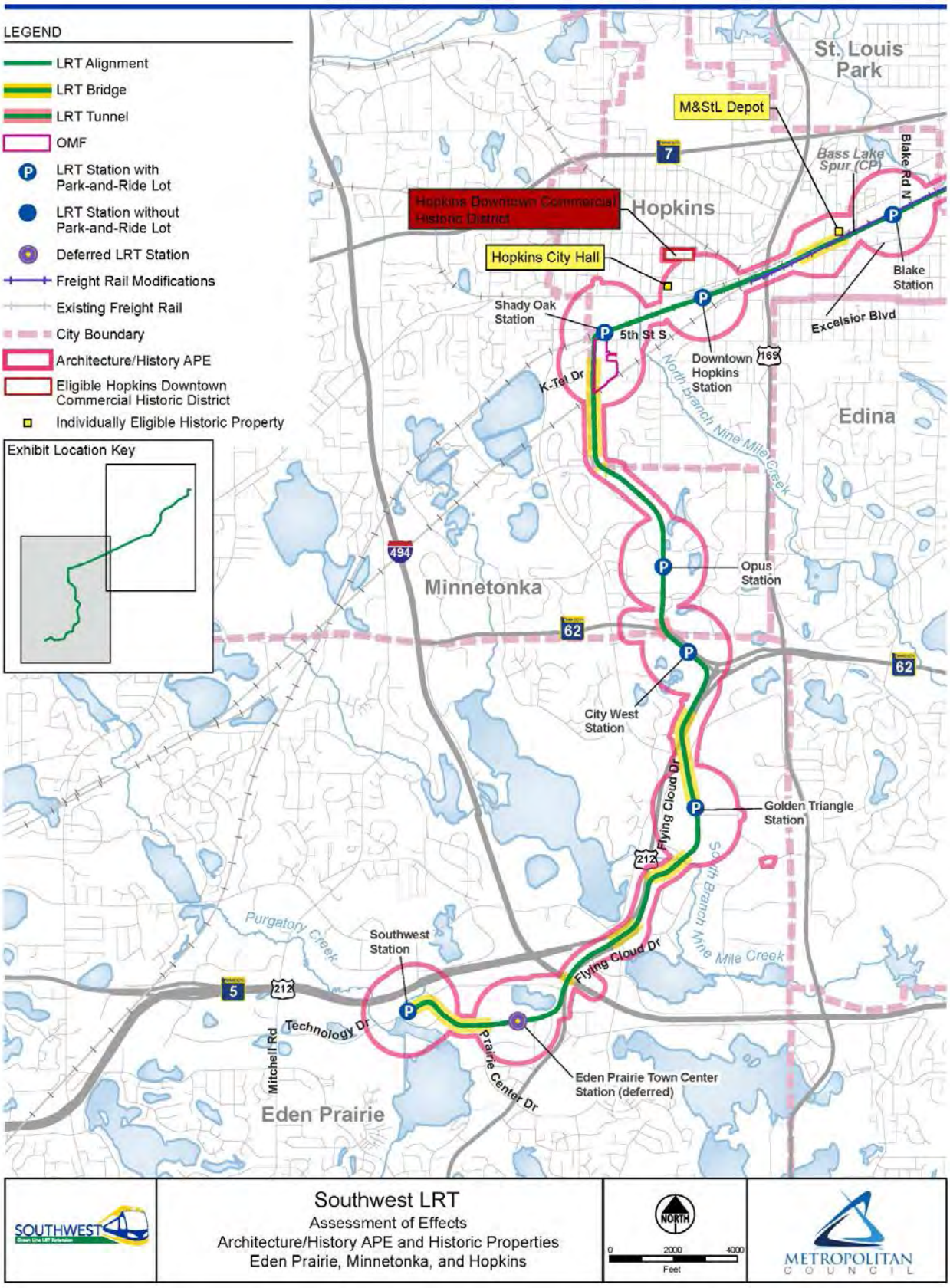


EXHIBIT 9

Architecture/History APE and Individual Historic Properties: St. Louis Park and Minneapolis

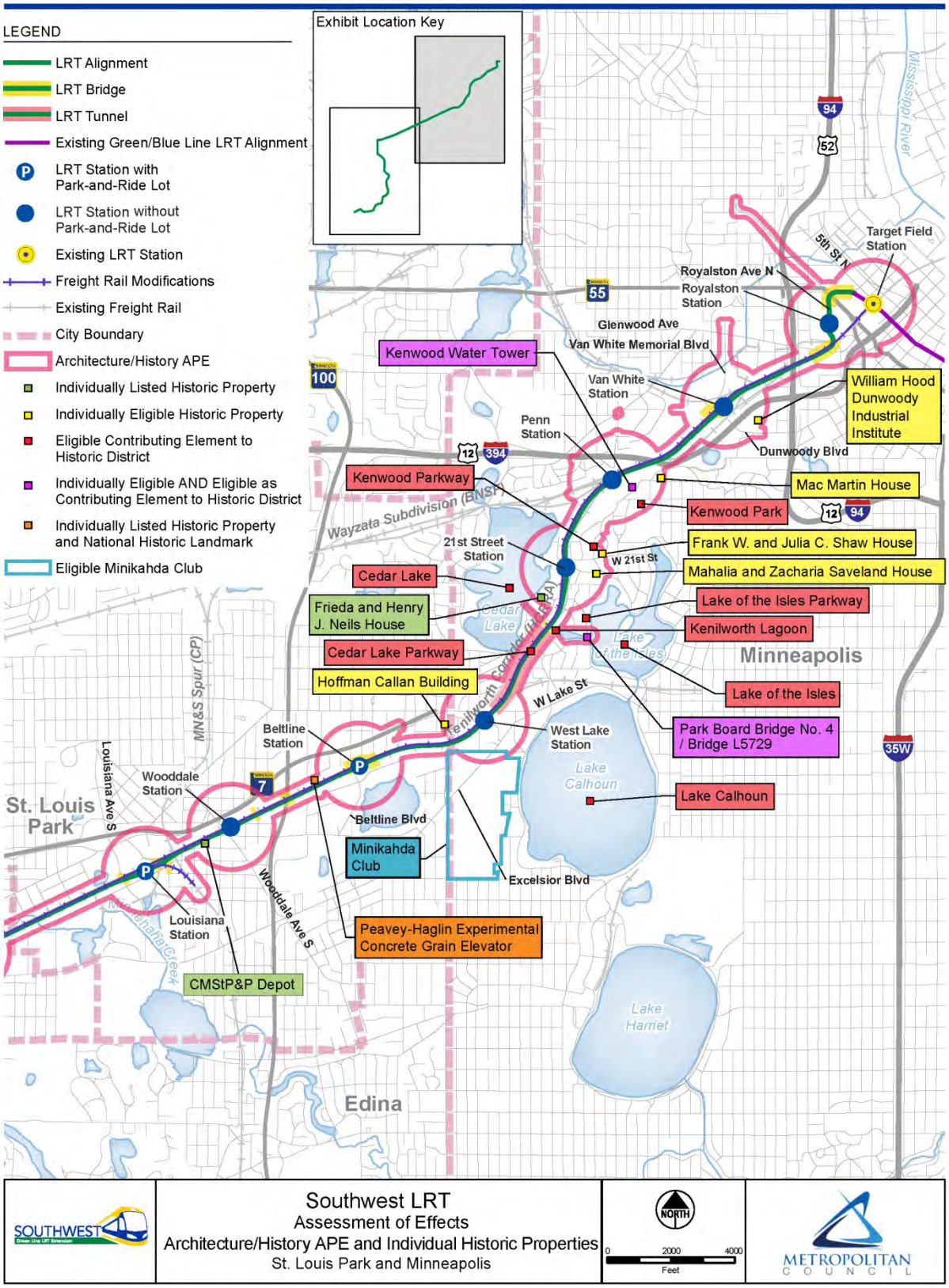
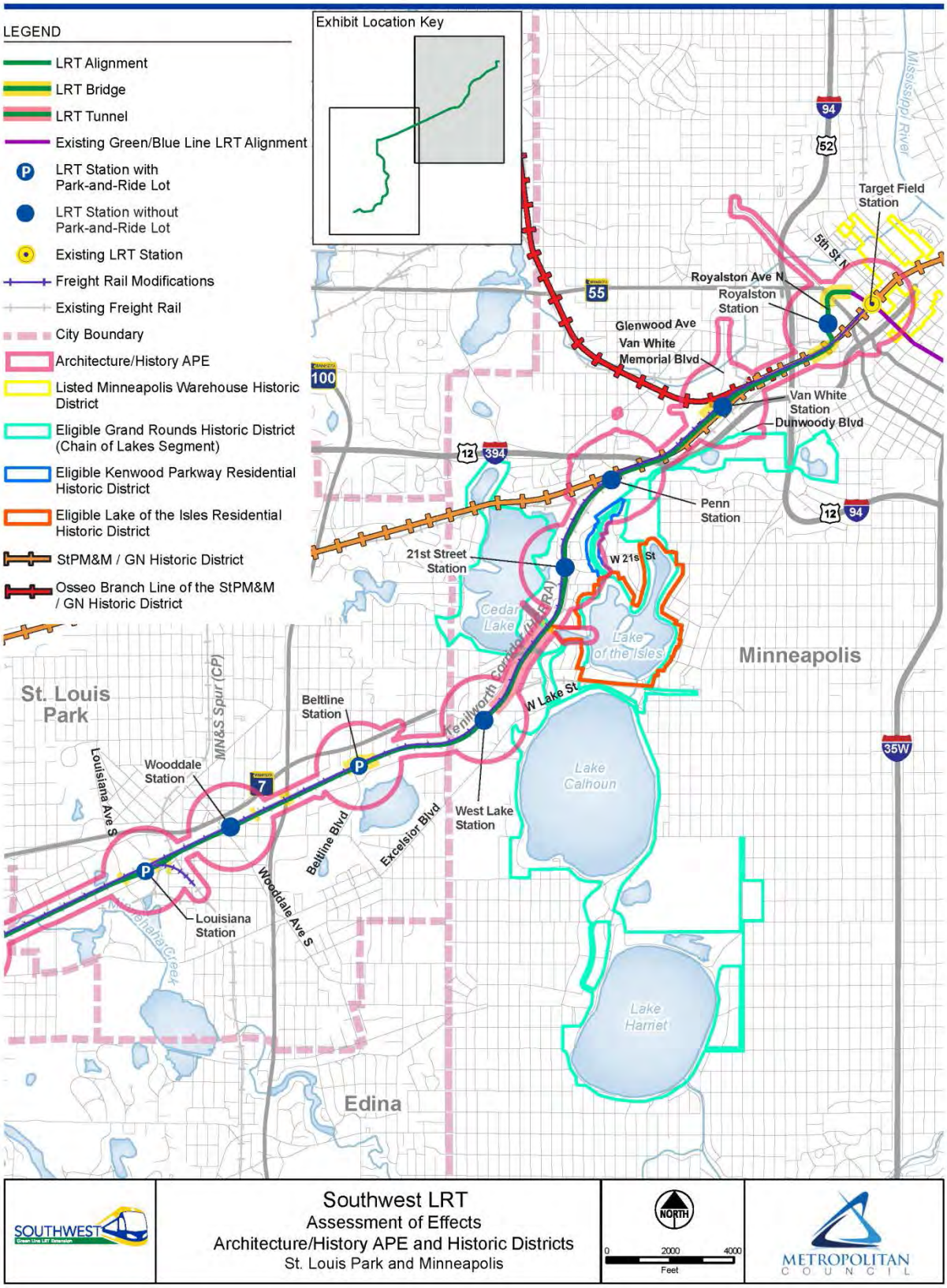


EXHIBIT 10

Architecture/History APE and Historic Districts: St. Louis Park and Minneapolis



The GRHD is eligible for listing in the NRHP under Criterion A in the areas of Community Planning and Development and Entertainment/Recreation, as a nationally significant example of urban park development in the late-nineteenth century and early-twentieth century. It is eligible under Criterion C in the area of Landscape Architecture, as the most comprehensive design by, and crowning achievement of, nationally prominent landscape architect H. W. S. Cleveland, and as the most important work by nationally prominent landscape architect and park superintendent Theodore Wirth. This district has a national level of significance, and its period of significance is currently documented as 1884 to 1942, although the district is in the process of being evaluated by the MnSHPO, with input from the MPRB, to determine if it possesses significance within the period of 1943 to the mid-1970s. As mentioned above, the GRHD consists of multiple contributing elements, 10 of which are located within the Project's architecture/history APE. Each of the contributing elements within the architecture/history APE are discussed below.

5.2.8.1 Lake Calhoun (HE-MPC-1811), Minneapolis

Lake Calhoun was acquired by the MBPC in 1907. A 1911 to 1914 dredging operation under the direction of Theodore Wirth increased the depth of the lake, and in 1911 a channel was completed between Lake Calhoun and Lake of the Isles. Although a stream flows from Lake Calhoun into Lake Harriet, it was not converted into a navigable connection due to the difference in elevation between the two lakes. Material obtained from the 1911 to 1914 dredging and a later dredging operation from 1922 to 1925 was used to fill swampland and create lawns, picnic areas, and beaches around the lake. In 1935, a swampy meadow at the northwest corner of the lake was filled in to create an athletic field. Shoreline work, including the installation of stone and concrete walls, was carried out by public works programs during 1937 to 1941. The lake features three swimming beaches, the 1930 Lake Calhoun Park Pavilion, the aforementioned athletic field on the northwest corner of the lake, and several commemorative markers and objects. This lake is eligible as a contributing element to the GRHD, which is eligible under Criteria A and C, and shares its period of significance with that of the district.

5.2.8.2 Cedar Lake (HE-MPC-1820), Minneapolis

In the mid-1880s, when H.W.S. Cleveland was developing his plans for what was to become the Grand Rounds park system, he decided that Cedar Lake would be too geographically distant from the city for inclusion in the park. By the 1890s, however, Cedar Lake was identified as a proposed extension by the MBPC, and in 1908 they acquired land to the south and west of the lake. Cedar Lake is linked to Brownie Lake to the west and Lake of the Isles to the east by channels, and it was made navigable by a 1911 to 1917 dredging operation carried out under the direction of Theodore Wirth. The dredging operation caused a five-foot drop in the water level of the lake. This created a peninsula off what is now West 25th Street on the west side of the lake, and it made the nearby Cedar Point, off West 21st Street on the east side of the lake, more prominent. The lake features a meadow at the southwest corner, historic picnic grounds on both peninsulas, and three recreational beaches—Cedar Lake Point Beach, East Beach, and South Beach. Cedar Lake is eligible as a contributing element to the GRHD, which is eligible under Criteria A and C, and shares its period of significance with that of the district.

5.2.8.3 Cedar Lake Parkway (HE-MPC-1833), Minneapolis

The construction for Cedar Lake Parkway, originally named Cedar Lake Boulevard, began in 1909 and was completed in 1917. Cedar Lake Parkway starts at the I-394 Grand Rounds Trail overpass, which connects to Theodore Wirth Parkway to the north. The parkway skirts the east side of Brownie Lake and the west and south sides of Cedar Lake, and terminates at an intersection with Dean Parkway. Cedar Lake Parkway features landscaped boulevards, center islands, and medians, along with bicycle and pedestrian pathways and path lighting dating to a 1973 improvement project. Ecko, Dean, Austin, and William's 1971 Minneapolis park plans, which informed the 1973 improvement project, included extensive planting along Cedar Lake Parkway paths to screen bare hillsides and railroad facilities from the view of pedestrians and bicyclists. More recently, MPRB efforts to restore shoreline habitats have resulted in the return of more dense, natural vegetation along the Cedar Lake Parkway and its pedestrian and bicycle paths. The parkway also includes the Cedar Lake Parkway Bridge, which is situated over the channel between Cedar Lake and Brownie Lake. This parkway is eligible as a contributing element to the GRHD, which is eligible under Criteria A and C, and shares its period of significance with that of the district.

5.2.8.4 Kenilworth Lagoon (HE-MPC-1822), Minneapolis

The Kenilworth Lagoon connects Cedar Lake on the west and Lake of the Isles on the east. Construction of the Kenilworth Lagoon began in 1911 and was completed in late 1913. The Kenilworth Lagoon is an irregularly shaped property that is approximately 2,246 feet in length, and encompasses approximately 14.1 acres, including approximately 5.9 acres of water and 8.2 acres of land.

The Kenilworth Lagoon consists of a series of functions and natural and man-made features that collectively constitute a designed landscape (106 Group, 2014b). The two main features of the Lagoon are its waterway and topography. The primary characteristics of the waterway are the shape of the body of water and its shoreline, including the way in which

the water interacts with the shoreline, water level, depth, and to a lesser extent surface appearance. The topography is characterized by the natural and man-made contours of the ground, such as flat plains, terraces, steep grades, rolling hills, or valleys, as well as its surface material (e.g., soil or exposed rock outcrops). Vegetation is a secondary feature of the landscape. Trees vary in type, species, size, and age. The vast majority are deciduous, although some evergreen species can be found along the Lagoon and Channel segments. Other vegetation includes shrubs, sod, and water plants.

The landscape also includes circulation systems and small scale elements. Circulation systems include parkways and streets that are used by automobiles and trucks; pedestrian and bicycle trails, both developed and undeveloped; a railroad line used by trains; and most importantly, the waterway itself. Three bridges cross the Kenilworth Lagoon. Park Board Bridge No. 4 (Bridge L5729), which is a contributing element to both GRHD and LOIRHD, is a concrete arch span built in 1912 that carries West Lake of the Isles Parkway. Park Board Bridge No. 5 is a non-contributing bridge built in 1913 consisting of two trestles, one of which carries the TC&W (formerly the M&StL) and the other which was converted to pedestrian use in 1997 and today carries the Kenilworth Trail (Bridge 27A43). Park Board Bridge No. 6 (Bridge 27508), which is non-contributing, is a steel stringer span built in 1961 that carries Burnham Road (formerly Cedar Lake Avenue). There is one building within the property, a pump house.

The Kenilworth Lagoon has three segments which each exhibit distinct aesthetic character. The segments are delineated by the bridges crossing the lagoon/channel, and can roughly be defined from east to west as the "lagoon," the "area between the bridges," and the "channel." The eastern-most segment of the Kenilworth Lagoon / Channel, the lagoon, encompasses the portion of the waterway and its adjacent grounds from Bridge No. 5 on the west to its outlet to Lake of the Isles on the east. It is characterized by a wide expanse of the waterway, bounded by a wide-open, highly manicured landscape of mowed sod/turf, interspersed with individual trees, as well as groupings of trees to create a highly picturesque setting. The area between the bridges is the midsection, bounded by Bridge No. 5 on the east and Bridge No. 6 on the west, and can best be described as the transition between the lagoon and channel. It has the feeling of an isolated river, located as it is within a man-made valley created by the fill placed around its edges to elevate streets and the M&StL railroad tracks. This segment of the waterway has a rustic aesthetic, due to the WPA Rustic style retaining walls that line much of its south shore, and the dense, volunteer tree growth that covers most of the shoreline. The western-most segment, the channel, extends from Cedar Lake on the west to Bridge No. 6 on the east. The primary feature of this landscape is the channel itself, which is a straight, 35-foot wide body of water aligned down the center axis of the channel corridor. The channel is characterized by the narrowness of the corridor, the hard edges formed by breakwaters constructed by the WPA in 1936, the lack of any other circulation systems, and the private backyards that face it.

Small scale elements within the Lagoon include retaining walls / WPA walls, stone lake accesses, guardrails, benches, lighting, signs, and other elements. The Kenilworth Lagoon is eligible as a contributing element to the GRHD and the Lake of the Isles Residential Historic District (LOIRHD) (see Section 5.2.9), both of which are eligible under Criteria A and C, and shares its period of significance with that of each of the districts.

5.2.8.5 Lake of the Isles (HE-MPC-1824), Minneapolis

Lake of the Isles was acquired by the MBPC between 1886 and 1888. Lake of the Isles Parkway, discussed below, was the lake's first parkway and was completed in 1888. The following year the lake was dredged to increase its depth. Dredged material was used to convert marshy areas of the shoreline into solid banks, and in 1896 the first electric lights were installed at the lake. Additional dredging of the lake took place from 1906 to 1911 under the direction of Theodore Wirth to further deepen the water and eliminate remaining marshes that bred mosquitoes. Lake of the Isles is connected to Cedar Lake to the west via the Kenilworth Lagoon and to Lake Calhoun to the south as a result of yet another dredging operation, which took place from 1911 to 1917. The lake's two islands were raised and enlarged as part of this operation as well. Landscaping around the lake consists of grassy lawn with clusters of trees and shrubbery. Access to the shoreline is controlled by viewing platforms. This lake is eligible as a contributing element to the GRHD and the LOIRHD (see Section 5.2.9), both of which are eligible under Criteria A and C, and shares its period of significance with that of each of the districts.

5.2.8.6 Lake of the Isles Parkway (HE-MPC-1825), Minneapolis

Construction of Lake of the Isles Parkway, which was originally named Lake of the Isles Boulevard, began with the acquisition of land for the parkway in 1886, and was completed in 1888. Between 1908 and 1911, the grade of the parkway was raised to 11 feet above lake level, to reduce the repeated flooding that resulted from its original shoreline-grade construction. The parkway features a landscaped boulevard and two bridges, Park Board Bridge No. 3 and Park Board Bridge No. 4, as well as bicycle and pedestrian pathways and path lighting installed in 1977-1978. This lake is eligible as a contributing element to the GRHD and the LOIRHD (see Section 5.2.9), both of which are eligible under Criteria A and C, and shares its period of significance with that of each of the districts.

5.2.8.7 Park Bridge No. 4 / Bridge L5729 (HE-MPC-6901), West Lake of the Isles Parkway over Kenilworth Lagoon, Minneapolis

Park Board Bridge No. 4 is a picturesque concrete arch span bridge designed by William Pierce Cowles and Cecil Bayless Chapman constructed over the Kenilworth Lagoon in 1911. This bridge is individually eligible under Criterion C in the area of engineering and eligible. It is significant at both the local and state levels with a period of significance of 1911, when the bridge was constructed. It is also a contributing element to the GRHD and the LOIRHD (see Section 5.2.9), both of which are eligible under Criteria A and C, and shares its period of significance with that of each of the districts.

5.2.8.8 Kenwood Parkway (HE-MPC-01796), Minneapolis

Construction for Kenwood Parkway, a road that originates in Loring Park and travels southwest over Lowry Hill to Lake of the Isles Parkway, began in 1887. Kenwood Parkway was both the first independent parkway, and the first parkway to be constructed, in the GRHD. This road is eligible as a contributing element to the GRHD, which is eligible under Criteria A and C, and to the Kenwood Parkway Residential Historic District (KPRHD) (see Section 5.2.13), which is eligible under Criteria A, and shares its period of significance with that of each of the districts.

5.2.8.9 Kenwood Park (HE-MPC-1797), Minneapolis

The development of Kenwood Park began in 1907 when the land for the park was acquired. The park is located downhill from Kenwood Parkway, near Lake of the Isles, and is bordered by Oliver Avenue South on the west and Logan Avenue South on the east. The upper portion of the park is wooded and steeply sloped, while the lower portion offers a variety of recreational features, including a playground, athletic field, and picnic area. This park is eligible as a contributing element to the GRHD, which is eligible under Criteria A and C, and shares its period of significance with that of the district.

5.2.8.10 Kenwood Water Tower (HE-MPC-6475), 1724 Kenwood Parkway, Minneapolis

The Kenwood Water Tower, a hexagonal brick structure in the style of a medieval fortress with a stone foundation, was constructed in 1910 by Chicago Bridge and Iron Works. Five courses of stone blocks surround the structure at various intervals, and buttresses are located at the corners of the hexagon. The water tower houses a 250,000-gallon steel water tank, which has not been used to store water since the 1950s. This water tower is individually eligible under Criterion C in the area of engineering and architecture. It is significant at the local level within the period of 1910 to 1917. It is also eligible as a contributing element to the GRHD, which is eligible under Criteria A and C, and shares its period of significance with that of the district.

5.2.9 Lake of the Isles Residential Historic District (HE-MPC-9860), Vicinity of East and West Lake of the Isles Parkways, Minneapolis

The LOIRHD encircles the Lake of the Isles and includes properties located on both Lake of the Isles Parkways East and West (Exhibit 10). At the time of the district's NRHP nomination in 1984, it contained 117 buildings, primarily large, upper-class, early-twentieth-century single-family residences and affiliated secondary buildings, as well as structures built specifically for the area such as bridges and a church. The mostly one- and two-story dwellings were constructed in the late nineteenth and early twentieth centuries in such styles as Queen Anne, Colonial Revival, and Tudor Revival. Within the LOIRHD, 108 of the buildings were considered contributing elements and nine were considered non-contributing at the time of the NRHP nomination. The development of this district occurred largely between 1905 and 1930. The houses in the area feature a variety of architectural styles from the period and were designed by many prominent local architects, including Ernest Kennedy, Hewitt and Brown, William Kenyon, Harry Wild Jones, A. R. Ban Dyck, William Channing Whitney, Liebenberg and Kaplan, Long and Kees, and Bertrand and Chamberlain. The Kenilworth Lagoon (see Section 5.2.8.4), Lake of the Isles (see Section 5.2.8.5), Lake of the Isles Parkway (see Section 5.2.8.6), and Park Board Bridge No. 4 (see Section 5.2.8.7) are all contributing elements to LOIRHD, in addition to being contributing elements to the GRHD. The LOIRHD is eligible for listing in the NRHP under Criteria A and C, for significance at the local level in the areas of architecture, community planning, and landscape architecture for the period of significance of 1899 to 1955, encompassing the earliest and latest construction dates for contributing elements.

5.2.10 Freida and Henry J. Neils House (HE-MPC-6068), 2801 Burnham Boulevard, Minneapolis

The Neils House was designed by Frank Lloyd Wright and was constructed by Lyle Halverson of Madsen Construction Company in 1950 (Exhibit 9). The one-story, L-shaped Usonian house features complex massing, dramatic cantilevers, and cull marble masonry. The house is a unique example of Wright's work as it is his only commission to use cull marble, Western larch, and aluminum frame windows that were made by Neils' company, as opposed to Wright's traditional wood frame windows. The house is listed in the NRHP under Criterion C within the area of architecture for its statewide significance as an excellent example of Frank Lloyd Wright's postwar Usonian designs. The house

represents a well-developed, important, and unique Usonian design from the postwar period. Its period of significance is 1950, the year it was constructed.

5.2.11 Mahalia and Zacharia Saveland House (HE-MPC-6766), 2405 W. 22nd Street, Minneapolis

The Saveland House, also known as the Franklin-Kelly House, is a one-story, rectangular-shaped Prairie style residence that was constructed in 1915 (Exhibit 9). The house and garage on the property were built by Albinson Construction Company for the Savelands, who owned the property until 1916 when it was sold to Benjamin and Cora Franklin. The architect is unknown. The Mahalia and Zacharia Saveland House is eligible for listing in the NRHP under Criterion C within the area of architecture for its local significance as a distinctive example of Prairie architecture located in the Kenwood neighborhood of Minneapolis. Its period of significance is 1915, the year it was constructed.

5.2.12 Frank W. and Julia C. Shaw House (HE-MPC-6603), 2036 Queen Avenue S., Minneapolis

The two-and-a-half-story Classical Revival style Shaw House was designed and built in 1899 by J.H. Edmonds (Exhibit 9). As architect and contractor, Edmonds sold the property to Frank W. Shaw and his family shortly after its completion. The Frank W. and Julia C. Shaw House is eligible for listing in the NRHP under Criterion C within the area of architecture for its local significance as a distinctive example of Classical Revival style architecture located in the Kenwood neighborhood of Minneapolis. Its period of significance is 1899, the year it was constructed.

5.2.13 Kenwood Parkway Residential Historic District (HE-MPC-18059), 1805-2216 Kenwood Parkway, Minneapolis

The KPRHD is located in the Kenwood neighborhood of Minneapolis, extending from the Lake of the Isles Parkway to Douglas Avenue (Exhibit 10). The district consists of the Kenwood Parkway (see Section 5.2.8.8), which is a contributing element to KPRHD in addition to being a contributing element to the GRHD, and 72 houses that front the parkway. The mostly one and two-story dwellings were constructed in the late nineteenth and early twentieth centuries in such styles as Queen Anne, Colonial Revival, and Tudor Revival. The historic district is eligible for listing in the NRHP under Criterion A within the area of community planning and development as a distinctive early and productive example of the interplay of two significant influences: the MPRB's expansion of the city park systems and real estate developers' rapid establishment of new neighborhoods. In the development of Minneapolis, these influences contributed to middle and upper class residents' high quality of life. The period of significance begins in 1886 with the early development of the Kenwood Addition and the design of Kenwood Parkway. It ends in 1925 when the majority of homes in the historic district were constructed and the sense of time and place was fully established.

5.2.14 St. Paul, Minneapolis & Manitoba Railroad / Great Northern Railway Historic District (HE-MPC-16387), Minneapolis

As a segment of the Great Northern Railway's (GN) transcontinental route, the St. Paul, Minneapolis & Manitoba Railroad (StPM&M) corridor helped to solidify Minneapolis and St. Paul as the commercial, financial, and manufacturing center of an area extending from eastern Wisconsin to central Montana (Exhibit 10). Although its importance began to wane by the 1920s due to competition from automobiles and trucks, the GN's transcontinental route remained a vital component of Minnesota's and the region's transportation network into the 1950s. As such, the railroad corridor historic district is eligible for listing in the NRHP under Criterion A in the area of transportation within the historic context Railroads in Minnesota, 1862-1956, as outlined in the *Railroads in Minnesota Multiple Property Documentation Form* (MPDF). Its period of significance is 1880 to 1956, which encompasses its acquisition, realignment, and use, to the end of the historical significance of railroads in Minnesota as defined in the MPDF. The district meets Registration Requirements 2 and 3 of the MPDF. The historic district meets Registration Requirement 2 because it established a railroad connection that served as the dominant transportation corridor and because the railroad facilitated the expansion of the industrial, commercial, and agricultural practice along the corridor. The historic district also meets Registration Requirement 3 as an influential component of the state's railroad network, providing important connections within the network and with other modes of transportation.

5.2.15 Mac Martin House (HE-MPC-8763), 1828 Mt. Curve Avenue, Minneapolis

The Mac Martin House is a two-and-a-half-story French Eclectic / French Renaissance style house that was designed by architect Maurice Maine (Exhibit 9). The house was built in 1929 for Martin, president of the Mac Martin Advertising Agency. Under Martin's leadership, his agency became the first advertising firm located west of Chicago to have a national reach and represented many national companies based in the Twin Cities, such as Cream of Wheat, the Washburn-Crosby Co. (later General Mills), the Minnesota Macaroni Co., and Anderson Lumber (now Anderson Windows). In 1930, Martin's agency merged with Erwin, Wasey and Company to become part of one of the largest advertising companies in the world. Martin remained with the company as president of the Minnesota office until his retirement in 1956. The Mac Martin House is eligible for listing in the NRHP under Criterion B in the area of commerce

for its association with Mac Martin, a leader in both the local and national advertising industry in the first half of the twentieth century. Its period of significance is from its construction in 1929 to 1958, the date of Mac Martin's death.

5.2.16 Osseo Branch of the St. Paul, Minneapolis & Manitoba Railroad / Great Northern Railway Historic District (XX-RRD-002; Minneapolis Segment: HE-MPC-16389), Minneapolis

The Osseo Branch of the StPM&M / GN (originally the Minneapolis & Northwestern Railroad Company [M&NW]) is an approximately 13-mile segment of a railroad line originally constructed by the M&NW between Minneapolis and St. Cloud in 1881 - 1882 (Exhibit 10). The Osseo Branch became an essential component in the development of Osseo and its surrounding area as a major potato growing, marketing, and distribution center. With the coming of the railroad, Osseo potato distributors could transport their product quickly and efficiently to markets in Minneapolis and beyond. As a result, area farmers could grow potatoes as a cash crop on a relatively large scale because the railroad provided a means for them to be able to ship their crops before they spoiled. The historic district is eligible for listing in the NRHP under Criterion A as an important transportation corridor that linked Osseo with the Twin Cities and its agricultural markets. Additionally, the railroad line established a connection that did not previously exist and resulted in the significant expansion of the potato-growing region in northern Hennepin County. The period of significance begins in 1881, when construction on the line started and the line entered service to Osseo, and concludes in 1931, which marks the peak of potato production in the Osseo area, as well as the beginning of a severe decline of the potato industry.

5.2.17 William Hood Dunwoody Industrial Institute (HE-MPC-6641), 818 Dunwoody Boulevard, Minneapolis

The William Hood Dunwoody Industrial Institute was founded in 1915 as a vocational training school. It was named after its benefactor, a prominent and wealthy Minneapolis businessman who left a portion of his estate to support an industrial school where Minnesotans could be educated in useful crafts and trades. Classes were initially held in Minneapolis' Central High School, but construction began in early 1917 for the school's first permanent facilities on a parcel of land bounded by Wayzata Boulevard to the south, Aldrich Avenue to the west, and Laurel Avenue to the north. These facilities consisted of two parallel brick-clad, steel and reinforced concrete classroom/shop wings (Exhibit 9). Over time, the school was expanded with additions in 1924, the 1970s, 1984, and circa 2000. The Dunwoody Institute is eligible for listing in the NRHP under Criterion A in the area of education for its role in providing tradesmen with skills that were vital to contributing to the economic growth and development of the region. Its period of significance is from 1917, the date that the shop buildings were constructed, to 1945, the date of the departure of institute head Dr. Charles Prosser, a national authority on vocational education.

5.2.18 Minneapolis Warehouse Historic District (HE-MPC-0441), Vicinity of 1st Avenue North, N. 1st Street, 10th Avenue North, and N. 6th Street, Minneapolis

The Minneapolis Warehouse Historic District covers a 30-block area on the northwest side of downtown Minneapolis and includes an outstanding and cohesive collection of late nineteenth and early twentieth century commercial buildings, many of which were architect designed (Exhibit 10). The district is listed in the NRHP under Criteria A and C. It is significant at the statewide level in the areas of architecture and commerce for the time period 1865 to 1930. The buildings within the district range from three to seven stories in height and include examples of Italianate, Queen Anne, Richardsonian Romanesque, Classical Revival, and early twentieth century commercial styles. The Minneapolis Warehouse Historic District was an area of early commercial growth in Minneapolis and signifies the warehousing and wholesaling activities that expanded when Minneapolis became a major distribution center for the upper Midwest. The district is also architecturally distinct for its intact concentration of commercial buildings designed by the city's leading architects.

5.2.19 Additional Phase I Architecture/History Survey, St. Louis Park and Minneapolis

As Project engineering has progressed, additional design refinement resulted in revisions to the architecture/history APE, most recently in October 2015. This survey evaluated eight architecture/history properties that were added to the APE on October 7, 2015. All are located at the edge of the revised quarter-mile APE limits for the Penn and Beltline stations. The survey was completed in early November 2015. As noted in Section 5.1, MnDOT CRU, under delegation from FTA, evaluated the results of the survey and determined that there are no properties that are no NRHP listed or eligible properties. At the time of publication of this assessment of effects report, the reporting for the survey was still in the process of being finalized. Once the survey report is finalized, MnDOT CRU will provide the survey results to MnSHPO for concurrence, which is expected to be within a week of this assessment of effects report.

5.3 Archaeological Resources Identified within the APE

Studies identified three NRHP-eligible archaeological sites within the Project's archaeological APE. One additional archaeological site was recently identified and is summarized below; however, it has been determined not eligible pending MnSHPO concurrence.

5.3.1 Site 21HE0409, Minneapolis

This archaeological site is a former historic industrial site containing the remains of an early ice industry. Archaeological investigations have identified numerous features related to ice harvesting, storage, and distribution, as well as an intact precontact component. The site is eligible for listing in the NRHP under Criterion D within the historic contexts "Railroads and Agriculture Development (1870-1940)" and "Urban Centers (1870-1940)" for its potential ability to answer important questions related to the ice industry.

5.3.2 Site 21HE0436, Minneapolis

This historic archaeological site, located in Minneapolis, was part of the Oak Lake Park residential neighborhood, an affluent neighborhood first developed in the 1870s and later bulldozed during urban redevelopment efforts in the 1930s. Shovel testing and test units at this site yielded domestic artifacts dating to the late nineteenth and early twentieth centuries. Site 21HE0436 is eligible under Criterion D, within the period 1870 to 1940 within the historic context "Urban Centers (1870-1940)", based on its potential to yield important information about the Oak Lake Park neighborhood.

5.3.3 Site 21HE0437, Minneapolis

This historic archaeological site is, like Site 21HE0436, located in Minneapolis and historically part of the Oak Lake Park residential neighborhood. Shovel testing and test units at this site yielded domestic artifacts dating to the late nineteenth and early twentieth centuries. Site 21HE0437 is eligible under Criterion D, within the period 1870 to 1940 within the historic context "Urban Centers (1870-1940)," based on its potential to yield important information about the Oak Lake Park neighborhood.

5.3.4 Glenwood Parcel, Minneapolis

A Phase I survey was recently completed for one area in Minneapolis containing potential historic archaeological sites. The Survey was completed in October 2015. As noted in Section 5.1, MnDOT CRU, under delegation from FTA, evaluated the results of the survey and determined that there are no NRHP listed or eligible archaeological sites. The results of this survey are being provided to MnSHPO for concurrence at the same time as this assessment of effects report.

6 Section 106 Consultation

FTA initiated Section 106 consultation for the Project in 2010 and, in accordance with 36 CFR 800.3, has regularly consulted with MnSHPO, Indian tribes, local governments, and other parties with a demonstrated interest in effects of the Project historic properties since that time to consider effects on the project on historic properties included on and eligible for listing on the NRHP. As described below, FTA consulted directly with the ACHP and Indian tribes, while MnDOT CRU, under delegation from FTA, completed most of the consultation with MnSHPO and other consulting parties.

6.1 Agency Coordination and Public Involvement

Consultation with MnSHPO was initiated in 2010. FTA notified the ACHP of the Project in March 2012 and invited the ACHP to participate in the Section 106 consultation; however, the ACHP chose not to participate in the consultation at that time. Pursuant to the Section 106 regulations (36 CFR 800.6[a][1]), the ACHP will be notified of the final determination of an adverse effect and provided another opportunity to enter into the consultation process.

Section 106 consulting parties include the MnSHPO; USACE; Hennepin County; the Cities of Eden Prairie, Minnetonka, Hopkins, St. Louis Park, and Minneapolis; the Minneapolis Park and Recreation Board; the Minneapolis Heritage Preservation Commission; Three Rivers Park District; Cedar-Isles-Dean Neighborhood Association; and Kenwood Isles Area Association.

In accordance with 36 CFR 800.8, Section 106 consultation efforts were coordinated with the NEPA process and related outreach activities and events. In particular, opportunities for the public to review information and provide comments related to steps in the Section 106 process were incorporated, as appropriate, into public meetings related to the NEPA and design and engineering processes. The opportunities included open houses held on station design options near historic properties. At these meetings, information was shared summarizing the steps in the Section 106 process, historic properties identified, and effects to historic properties. A list of meetings related to agency coordination and public involvement efforts is included in Table 5.

TABLE 5
Meetings Related to Section 106

Date	Meeting Type	Purpose
October 7, 2008	Public Scoping Meeting/Scoping Hearing	Draft EIS Scoping: Alternatives development and issues to be studied, including cultural resources
October 14, 2008	Public Scoping Meeting/Scoping Hearing	Draft EIS Scoping: Alternatives development and issues to be studied, including cultural resources
October 23, 2008	Public Scoping Meeting/Scoping Hearing	Draft EIS Scoping: Alternatives development and issues to be studied, including cultural resources
May 18, 2010	Public Open House	General project meeting, update on environmental review, including cultural resources
May 19, 2010	Public Open House	General project meeting, update on environmental review, including cultural resources
May 20, 2010	Public Open House	General project meeting, update on environmental review, including cultural resources
April 12, 2012	Section 106 Consulting Parties Meeting	APE development and property identification
November 13, 2012	Public Open House	Project overview and public review of materials, opportunity for public comment on Draft EIS
November 14, 2012	Public Open House	Project overview and public review of materials, opportunity for public comment on Draft EIS
November 29, 2012	Public Open House	Project overview and public review of materials, opportunity for public comment on Draft EIS
April 30, 2014	Section 106 Consulting Parties Meeting	Corridor-wide discussion on effects to historic properties, Kenilworth Lagoon Crossing
November 24, 2014	Section 106 Consulting Parties Meeting	Design and APE adjustments, historic properties update, preliminary effects determinations

Date	Meeting Type	Purpose
February 6, 2015	Section 106 Consulting Parties Meeting	Kenilworth Lagoon Crossing design options and concepts, measures to minimize/mitigate adverse effects
February 24, 2015	Section 106 Consulting Parties Meeting	Corridor-wide discussion on effects to historic properties
April 2, 2015	Station Design Open House: Minneapolis Stations	Review of station design concepts, including overview of historic properties identified
April 8, 2015	Station Design Open House: Minneapolis Stations	Review of station design concepts, including overview of historic properties identified
April 8, 2015	Station Design Open House: St. Louis Park Stations	Review of station design concepts, including overview of historic properties identified
April 9, 2015	Station Design Open House: Eden Prairie Stations	Review of station design concepts, including overview of historic properties identified
April 14, 2015	Station Design Open House: Hopkins Stations	Review of station design concepts, including overview of historic properties identified
April 22, 2015	Section 106 Consulting Parties Meeting	Archaeological sites, Kenilworth Lagoon Crossing, station design open house recap
June 13, 2015	Kenilworth Landscape Design Community Workshop #1	Present information about the Kenilworth corridor landscape design project and process, including Section 106 and Lagoon as a historic property; overview of Kenilworth Lagoon Crossing bridge design concepts
June 16, 2015	Supplemental Draft EIS Public Open House and Hearing	Project overview and public review of materials, opportunity for public comment on Supplemental Draft EIS
June 17, 2015	Section 106 Consulting Parties Meeting	Historic properties and transit noise and vibration effects overview, Kenilworth Lagoon Crossing bridge design
June 17, 2015	Supplemental Draft EIS Public Open House and Hearing	Project overview and public review of materials, opportunity for public comment on Supplemental Draft EIS
June 18, 2015	Supplemental Draft EIS Public Open House and Hearing	Project overview and public review of materials, opportunity for public comment on Supplemental Draft EIS
July 29, 2015	Section 106 Consulting Parties Meeting	Kenilworth Lagoon Crossing bridge and landscape design
September 23, 2015	Section 106 Consulting Parties Meeting	Consultation process update, historic properties and traffic and parking effects, Kenilworth Lagoon Crossing design update

To comply with Section 106 requirements, MnDOT CRU submitted the architecture/history and archaeological APEs, the results of the surveys/investigations completed for the Project, including NRHP eligibility determinations, and preliminary determinations of effect to the MnSHPO for concurrence, copying other Section 106 consulting parties for their review and comment. Additional consultation with MnSHPO and Section 106 consulting parties has continued to consider effects on historic properties, explore measures to minimize effect and avoid adverse effects on historic properties, resolve adverse effects, and develop a Section 106 MOA.

6.2 Tribal Consultation

In September and November 2009 and February 2010, the FTA sent letters to potentially affected Indian tribes, requesting that they identify any concerns about potential Project effects and inviting them to participate in public scoping meetings and/or schedule a separate meeting to discuss any specific tribal issues and concerns. Letters were sent to the Prairie Island Indian Community, Lower Sioux Indian Community Council, Shakopee Mdewakanton Sioux Community, Fort Peck Tribes, Santee Sioux Nation, Sisseton-Wahpeton Oyate (Tribal Historic Preservation Office), and the Upper Sioux Indian Community. No responses were received. Additionally, a meeting opportunity was offered to tribal representatives in 2010; none of these tribes expressed an interest in meeting at that time. The tribes also received copies of the Draft EIS and Supplemental Draft EIS, and were invited to comment on the documents; no comments were received.

7 Assessment of Effects

There are a total of thirty-one (31) NRHP listed and eligible historic properties located within the Project's architecture/history and archaeological APEs a, including 28 architecture/history properties and three (3) archaeological resources (Exhibits 4 through 10; Sections 5.2 and 5.3; Table 6). The criteria of adverse effects were applied to these properties, consistent with 36 CFR 800.5(a). Prior to FTA making final effects findings, FTA and MnDOT CRU assessed Project effects on historic properties in consultation with MnSHPO and other Section 106 consulting parties. This process included consultation to consider alternatives for avoiding, minimizing, and mitigating effects on historic properties.

Table 6 provides a summary of the finding of effect for each listed and eligible property, while a more detailed assessment of effects is provided for each property in the following sections. Properties are listed first by property type (architecture/history, archaeological), then generally in order southwest to northeast along the project alignment. As a result of this analysis, a finding of No Adverse Effect has been made for 26 historic properties and a finding of Adverse Effect has been made for five (5) historic properties: Archaeological Site 21HE0436, Archaeological Site 21HE0437, the CMStP&P Depot, the Kenilworth Lagoon, and the GRHD, of which the Kenilworth Lagoon is a contributing element.

TABLE 6
Finding of Effects Summary

SHPO Inventory Number	Property Name	Effect Finding
HE-HOC-026	Hopkins City Hall	No Adverse Effect
HE-HOC-027	Hopkins Commercial Historic District	No Adverse Effect
HE-HOC-014	M&StL Depot	No Adverse Effect
HE-SLC-008	CMStP&P Depot	Adverse Effect
HE-SLC-009	Peavey-Haglin Experimental Concrete Grain Elevator	No Adverse Effect
HE-SLC-055	Hoffman Callan Building	No Adverse Effect
HE-MPC-17102	Minikahda Club	No Adverse Effect
XX-PRK-001	GRHD	Adverse Effect
HE-MPC-01811	Lake Calhoun	No Adverse Effect
HE-MPC-1820	Cedar Lake	No Adverse Effect
HE-MPC-01833	Cedar Lake Parkway	No Adverse Effect
HE-MPC-1822	Kenilworth Lagoon	Adverse Effect
HE-MPC-1824	Lake of the Isles	No Adverse Effect
HE-MPC-1825	Lake of the Isles Parkway	No Adverse Effect
HE-MPC-6901	Park Board Bridge No. 4 / Bridge L5729	No Adverse Effect
HE-MPC-01796	Kenwood Parkway	No Adverse Effect
HE-MPC-01797	Kenwood Park	No Adverse Effect
HE-MPC-06475	Kenwood Water Tower	No Adverse Effect
HE-MPC-9860	LOIRHD	No Adverse Effect
HE-MPC-6068	Frieda and Henry J. Neils House	No Adverse Effect
HE-MPC-6766	Mahalia and Zacharia Saveland House	No Adverse Effect
HE-MPC-6603	Frank W. & Julia C. Shaw House	No Adverse Effect
HE-MPC-18059	KPRHD	No Adverse Effect
HE-MPC-16387 (portion of district in Minneapolis)	StPM&M / GN Historic District	No Adverse Effect
HE-MPC-8763	Mac Martin House	No Adverse Effect
XX-RRD-002 (district), HE-MPC-16389 (portion of district in Minneapolis)	Osseo Branch of the StPM&M / GN Historic District	No Adverse Effect

SHPO Inventory Number	Property Name	Effect Finding
HE-MPC-6641	William Hood Dunwoody Industrial Institute	No Adverse Effect
HE-MPC-0441	Minneapolis Warehouse Historic District	No Adverse Effect
21HE0436	-[a]	Adverse Effect
21HE0437	-[a]	Adverse Effect
21HE0409	-[a]	No Adverse Effect

[a] This property is considered a sensitive historic resource under Section 304 of the NHPA, as amended. In accordance with Section 304, information on this sensitive historic property may cause a significant invasion of privacy and/or put the property at risk to harm and is not included in this document. Names, locations, and areas of significance of archaeological sites are not disclosed to help preserve these sensitive properties.

7.1 Architecture/History Properties

7.1.1 Hopkins City Hall (HE-HOC-026), 1010 1st Street S., Hopkins

Effects from the Project on the Hopkins City Hall are limited to potential future development/redevelopment around it catalyzed by the Project in the vicinity of the Hopkins Downtown Station (Exhibit 11). The Hopkins City Hall is located within a quarter mile of the Hopkins Downtown Station (see listing of plan sheets for this property in Appendix A). While no Project work is proposed in the immediate vicinity of the Hopkins City Hall, the Hopkins Downtown Station may catalyze potential future development/redevelopment in the vicinity of the Hopkins City Hall. The Hopkins City Hall is located within the "developable area" and within a 10-minute walk from the Hopkins Downtown Station (IBI Group 2007:14; Hoisington Koegler Group Inc., et al. (HKGi), n.d.:11-10, 11-11, 11-16). Given the property's use and the intensity of its development compared to other properties closer to the Hopkins Downtown Station, there is low potential for this historic property to be redeveloped. This assessment is supported by one of these station area planning studies, which indicates that the Hopkins City Hall property is not a site identified for potential redevelopment; however, it is bordered by such sites immediately to the south and slightly to the east (HKGi, n.d.:11-16). Development catalyzed by the Project on these nearby sites could potentially alter the setting of the Hopkins City Hall. However, due to development limits set by current zoning, the scale of new development would be limited and generally consistent with the size and scale of existing development in the City Hall's setting. As a result, the changes to the setting of the Hopkins City Hall would not diminish it in such that it would adversely affect the ability of this historic property to convey its significance, which is under NRHP Criterion A in the area of Community Planning and Development. Therefore, a finding of No Adverse Effect has been made for the Hopkins City Hall.

7.1.2 Hopkins Downtown Commercial Historic District (HE-HOC-027), Mainstreet, 8th Avenue to 11th Avenue, Hopkins

Effects from the Project on the Hopkins Downtown Commercial Historic District are limited to potential future development/redevelopment within and adjacent to the historic district catalyzed by the Project in the vicinity of the Hopkins Downtown Station. The Hopkins Commercial Historic District is located within a quarter mile of the Hopkins Downtown Station. While no Project work is currently proposed in the immediate vicinity of the historic district (see listing of plan sheets for this property in Appendix A), planning for the Hopkins Downtown Station emphasizes creating a strong link from this station to downtown Hopkins, including the Hopkins Downtown Commercial Historic District (Exhibit 12), and prioritizes economic revitalization of the area (Bolton & Menk, Inc., 2014). Therefore, the introduction and operation of the Hopkins Downtown Station is likely to catalyze potential development/redevelopment both within and adjacent to historic district. Since the historic district is already developed, it is located outside of the "developable area" (IBI Group 2007:14; HKGi, n.d.:11-16). However, the eastern portion of the district is within a 10 minute walk from the Hopkins Downtown Station and it is bordered by identified development/redevelopment sites immediately to the southeast. At a minimum, development/redevelopment adjacent to the historic district will alter its setting. The principal views to, from, and within the district are primarily along Mainstreet, development/redevelopment of adjacent areas to the south would not diminish the setting of the district in a way that would compromise its ability to convey its significance, which is under NRHP Criterion A in the area of Commerce.

EXHIBIT 11
Hopkins City Hall

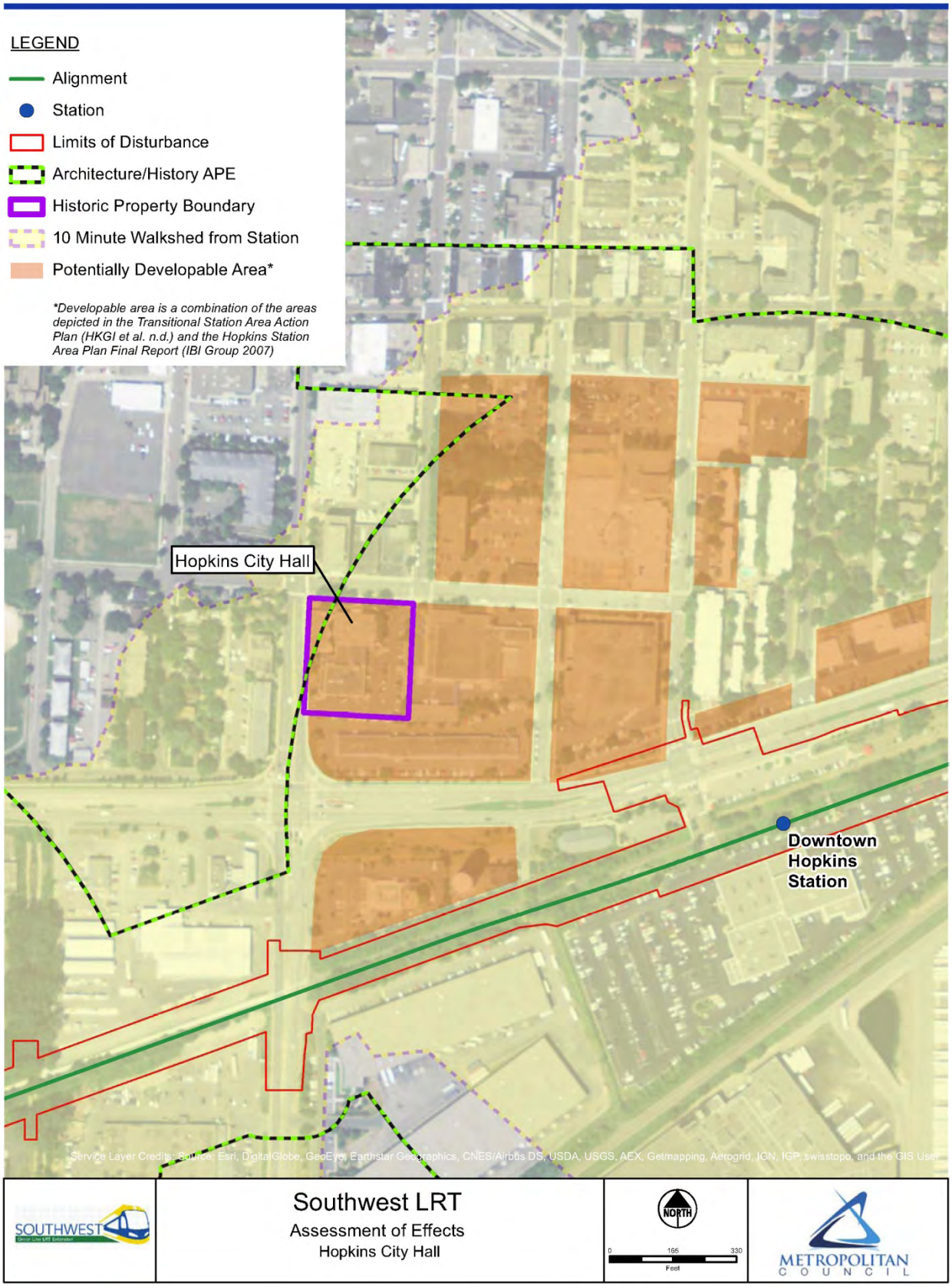
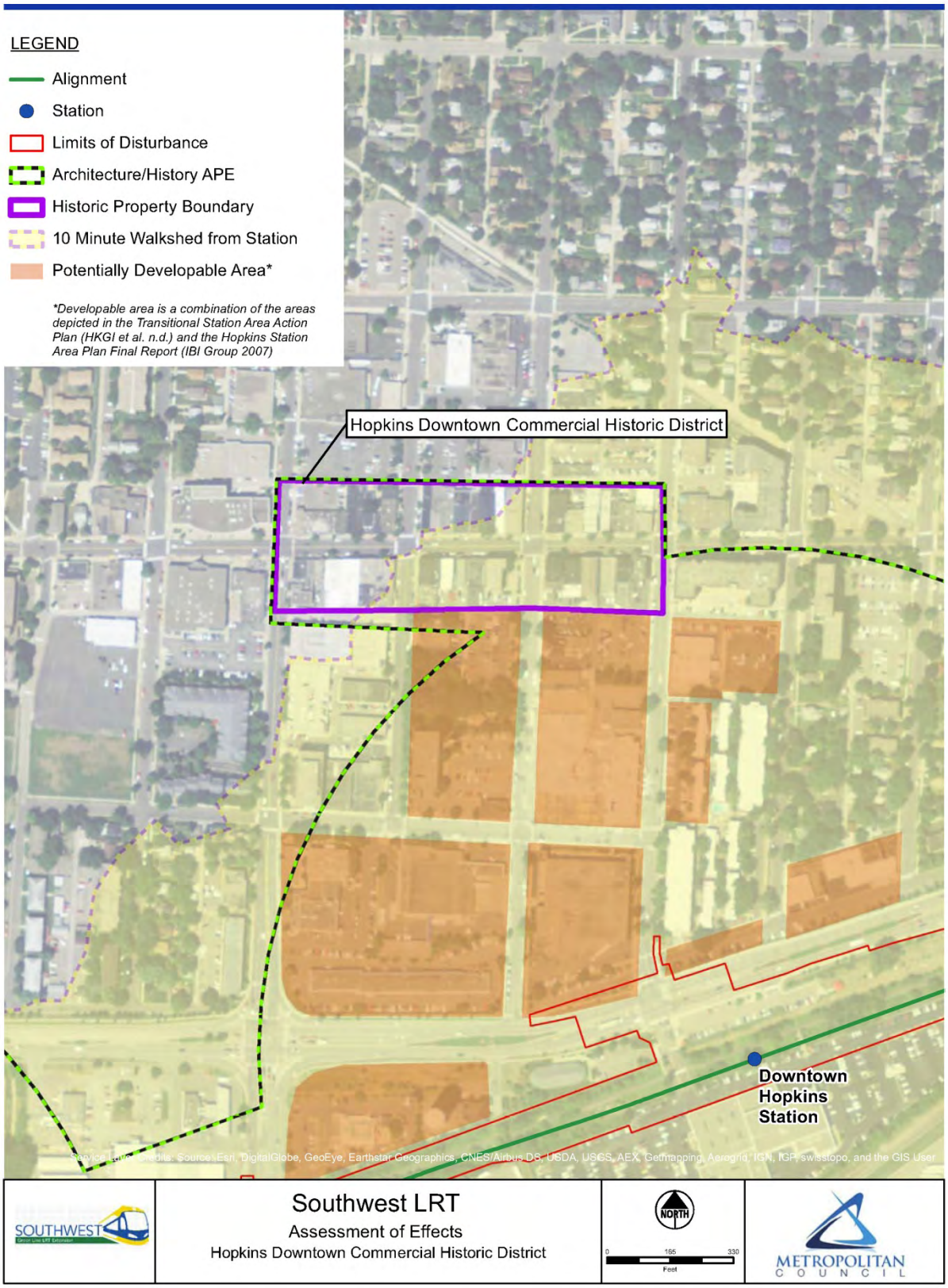


EXHIBIT 12

Hopkins Downtown Commercial Historic District



However, historic buildings are often at risk during a redevelopment process if incentives are not offered to encourage their preservation, so potential redevelopment catalyzed by the Project may result in alterations to, or demolition of, buildings in the historic district, which would diminish the district's integrity and, thereby, the ability of the district to convey its significance. Therefore, to avoid future adverse effects from potential development catalyzed by the Downtown Hopkins Station, within the district and visual effects to its setting, the Project will prepare a NRHP Nomination for the historic district. This documentation may be used by the MnSHPO, at its discretion and in consultation with the City, to nominate the district to the NRHP. Listing the district in the NRHP would make historic preservation tax credit incentives and other financial resources for rehabilitation projects available, as well as allowing for the use of Minnesota's building code for historic buildings, which would encourage the preservation of the district's historic buildings and character. Furthermore, the Project will implement a public education effort to educate property owners on the benefits of, and incentives for, historic preservation to encourage rehabilitation or restoration of properties in the Hopkins Commercial Historic District. Therefore, with implementation of the measures to minimize potential effects on this district and to avoid an adverse effect, all of which will be documented in the Section 106 MOA for the Project, a finding of No Adverse Effect has been made for the Hopkins Commercial Historic District.

7.1.3 Minneapolis & St. Louis Railway Depot (HE-HOC-014), 9451 Excelsior Boulevard, Hopkins

Effects from the Project on M&StL Depot include changes to the depot's setting from introduction of LRT infrastructure and the potential physical damage from vibration during construction (Exhibit 13). Construction of the Project will cause an indirect visual effect by altering the setting of the depot due to the addition of LRT infrastructure, including LRT tracks, catenary, and a new bridge over the TC&W rail line and Excelsior Boulevard (see listing of plan sheets for this property in Appendix A). The LRT tracks and approach to the bridge will be constructed along the alignment M&StL line that historically passed in front of the depot. The original design for the bridge called for the western approach for the bridge to begin approximately 250 feet west of the depot, so that the tracks would be elevated approximately seven feet above grade as they passed the east end of the depot, which would have resulted in the introduction of an approximately nine foot tall wall (additional height is the curb) with a railing directly in front of the depot (Exhibit 14; see profile view in 60 percent plans, Appendix A, Volume 2, Sheet 130 of 199). The introduction of such a wall would have blocked historic views to and from the depot and substantially severed the visual connection with the historic rail corridor with which it is associated. To minimize effects to the depot's setting, feeling and association from the introduction of LRT infrastructure, and to avoid an adverse effect, the western approach of the LRT bridge over Excelsior Boulevard and the TC&W line has been shifted so that it now begins approximately 25 feet west of the depot, with the light rail rising as it extends eastward past the depot toward Excelsior Boulevard (see Exhibits 14 through 16). At the east end of the depot, the light rail tracks will be approximately two feet above the existing railroad tracks. The multi-use trail between the light rail alignment and the depot, as well as the paved plaza area adjacent to the depot, will remain. As a result, historic views to and from the depot, and the visual connection with the railroad corridor will be maintained, thereby minimizing changes to the depot's setting, feeling, and association. To avoid any potential adverse effect to this property as a result of the design and aesthetics of the new bridge and other Project infrastructure, elements of the Project adjacent to and in the vicinity of the depot will be designed in accordance with the *SOI's Standards*. To confirm that the design will meet the *SOI's Standards*, the Project will continue to consult with MnSHPO on the design and aesthetics of the bridge through a design review process that will be outlined in the Project's Section 106 MOA.

During Project construction the use of heavy equipment such as pile drivers, vibratory hammers, and hoe rams may be required in close proximity to the depot to construct the pilings and footings for the bridge, as well as the use of vibratory compactors and loaded trucks needed to construct the bridge and other Project infrastructure. Construction vibration has the potential to cause direct physical effects to the property in the form of physical damage to the structure. To avoid a direct adverse effect from construction, prior to initiating construction activities in the vicinity of the M&StL Depot, the Project will develop and implement a Construction Protection Plan (CPP) that will include measures that will be undertaken to avoid potential direct effects to the depot from construction activities and construction vibration. This will include pre- and post-construction survey, limiting construction disturbance, vibration monitoring, and protection from construction storage and staging. Therefore, with the implementation of these measures to minimize effects on the depot and to avoid an effect, all of which will be documented in the Section 106 MOA for the Project, a finding of No Adverse Effect has been made for the M&StL Depot.

7.1.4 Chicago, Milwaukee, St. Paul & Pacific Railroad Depot (HE-SLC-008), 6210 W 37th Street, St. Louis Park

Effects from the Project on the CMStP&P Depot include changes to the depot's setting from the introduction of LRT infrastructure to the adjacent railroad corridor in the vicinity of the depot, as well as potential future development/redevelopment in the vicinity of the depot catalyzed by the Project around the Wooddale Station (Exhibit 17; see listing of plan sheets for this property in Appendix A).

The introduction of LRT tracks and catenary to the adjacent railroad corridor with which the depot is associated, and the placement of a signal bungalow near the depot change the property's setting. However, the LRT guideway that passes the depot follows the rail corridor and does not infringe on the depot property. The original design for the Project included the placement of the signal bungalow in the existing railroad corridor between the tracks and the depot property. This would have resulted in a partial blockage of views between the depot and that railroad line with which it is historically associated; thereby diminishing the setting of the depot and its visual connection and association with the railroad line. Therefore, to minimize the visual effect from the introduction of a signal bungalow into the depot's viewshed of the railroad corridor, and avoid diminishing the depot's integrity of setting and association, the location of the signal bungalow was shifted approximately 150 feet west along the Project alignment, to location west just of the depot property. This minimized the signal bungalow's visual prominence from the depot and avoids obstructing the direct visual connection between the depot and the railroad corridor (Exhibit 18).

The Project will also construct noise walls along the alignment, in the railroad corridor, between the depot and the light rail. These walls will be solid, opaque structures that will be approximately eight to eleven feet tall (see listing of plan sheets for this property in Appendix A, LRCI 33 Cross Sections Sheets 1-8 of 8 and Trail Extension Sheets 9-12 of 30). The introduction of noise walls will introduce a new visual element and sever the direct visual connection and relationship between the depot and the railroad tracks. This will adversely affect the integrity of setting, feeling, and association of the depot and diminish its ability to convey its significance, which is under NRHP Criterion A in the area of Transportation.

The depot is within a 10 minute walk from the Wooddale Station and there is strong potential for redevelopment around this station (HKGI, n.d.:8-13). However, the analysis indicates that the areas subject to potential development/redevelopment catalyzed by the introduction of the Wooddale Station are all located east of Wooddale Avenue, at least two blocks from the CMStP&P Depot. Given the intervening buildings between the depot and potential redevelopment areas, redevelopment catalyzed by the Project would have a negligible effect on its setting and would not result in an adverse visual effect.

Due the introduction of noise walls that will diminish visual character of the depot's setting and disrupt its visual connection with the railroad with which it is associated, thereby diminishing its integrity of association, a finding of Adverse Effect has been made for the CMStP&P Depot. After the final determination of effect is made for the Project, FTA will consult with MnSHPO and other consulting parties to seek measures to avoid, minimize, or mitigate the adverse effect of the Project on the CMStP&P Depot. Measures identified will be documented as stipulations in the Section 106 MOA.

7.1.5 Peavey-Haglin Experimental Concrete Grain Elevator (HE-SLC-009), Highways 100 and 7, St. Louis Park

Effects from the Project on the Peavey-Haglin Experimental Concrete Grain Elevator that were considered include change in access, changes to its setting, and vibration from construction (Exhibit 19). The original Project plans called for removal of the existing Cedar Lake Trail that extends past the elevator within the railroad corridor in which the Project will be constructed (Exhibit 20). Removal of this trail would have eliminated public access to the elevator. Since public access is an important aspect of understanding the significance of this NHL, to avoid a potential effect from diminished access, Project plans have been revised to maintain the trail within its present corridor. As part of Project construction, the trail will be removed and then reconstructed generally along its existing alignment in the vicinity of the elevator (Exhibit 20; see listing of plan sheets for this property in Appendix A). In addition, a connection to a park and street just west of the elevator property will also be maintained. These revisions to the Project avoid the potential effect of diminished access to this NHL.

Construction of the Project will also cause changes to the property's setting through the introduction of light rail tracks and overhead power system to the railroad corridor that is adjacent to the elevator property and the construction of a TPSS nearby. The light rail tracks will be located within the existing railroad corridor, but across the existing railroad tracks from the elevator. Given this location, the light rail tracks and overhead power system will not infringe on the elevator property or its immediate setting. The light rail tracks and overhead power system are also compatible with the railroad corridor which is part of the setting of the elevator. While a TPSS will be located in the general vicinity of the elevator, it will be over 500 feet to the southwest, approximately 450 feet west along the Project alignment from the elevator, and across the freight rail and light rail alignments (Exhibit 20). Additionally, given the generally size of the TPSS compared to other buildings in the area and its limited height, it will result in no more than a minimal visual effect on the setting of the elevator and views of it and will not diminish the setting of the elevator.

EXHIBIT 13
M&StL Depot

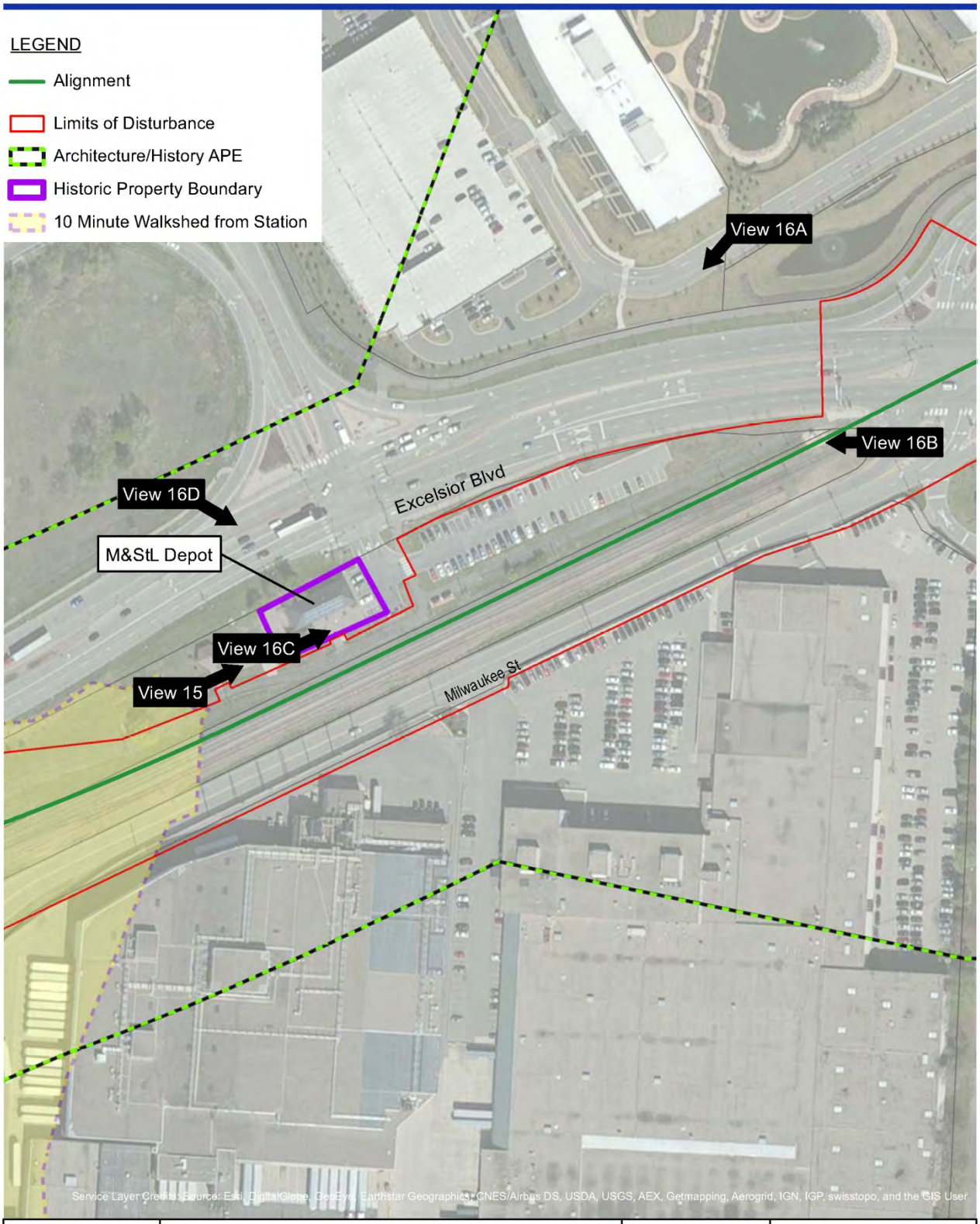
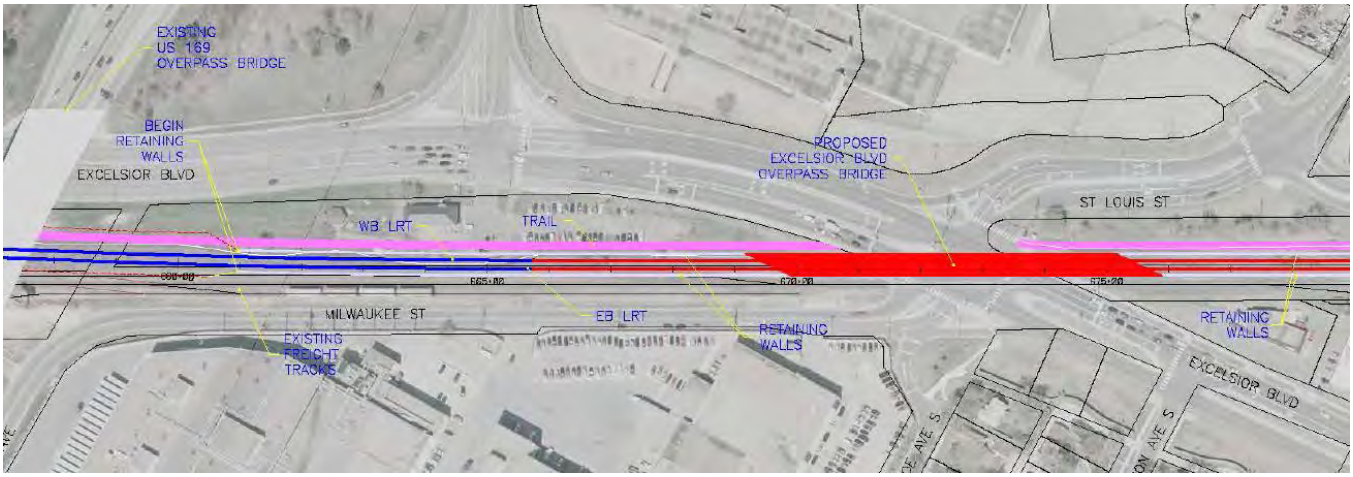
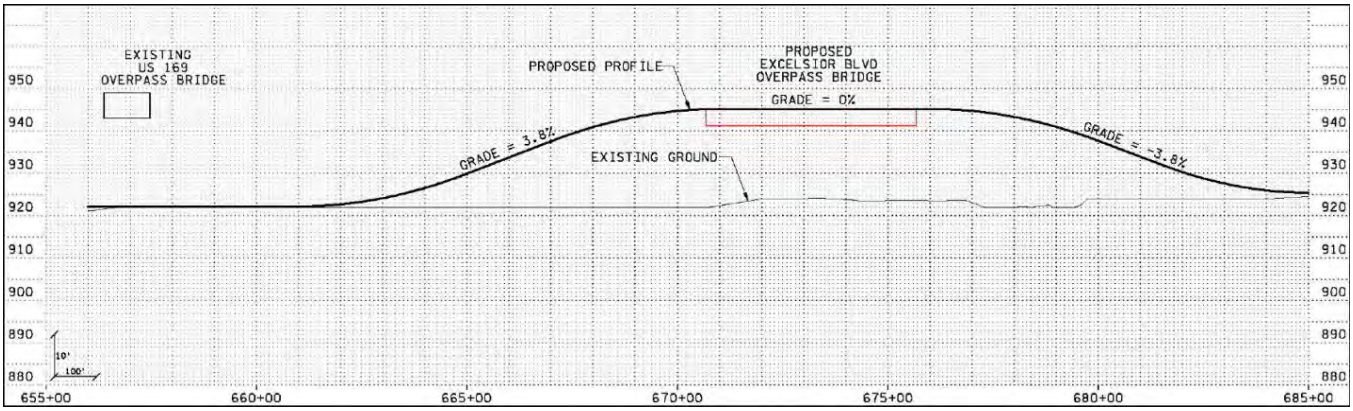


EXHIBIT 14

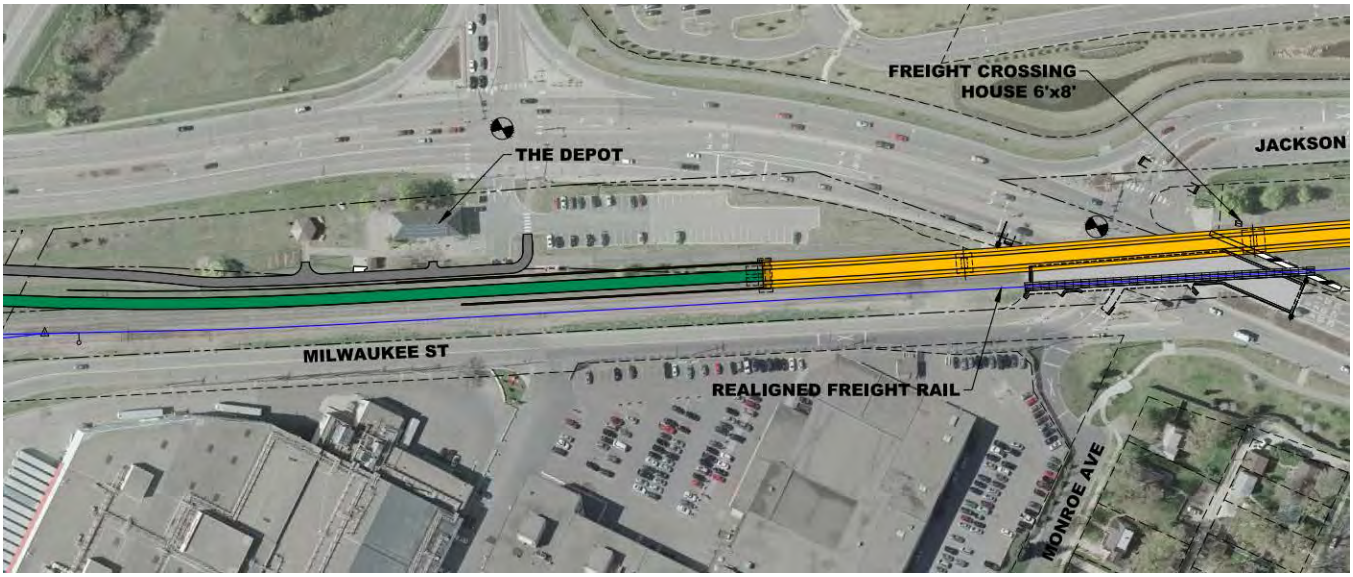
Alignment in Vicinity of M&StL Depot



A. Conceptual Engineering Plans (approximately 15 percent design) Plan View



B. Conceptual Engineering Plans Profile View of Proposed Excelsior Boulevard Overpass Bridge



C. 60 percent Design Plan View

EXHIBIT 15

View From the Area South of Excelsior Boulevard Looking East Toward the M&StL Depot (Views A and B)

View A. Existing view from the area south of Excelsior Boulevard looking east toward the Depot

View B. Simulation of the view as it will appear when the Project is constructed

EXHIBIT 16
Visualizations of the Proposed LRT Bridge and the M&StL Depot (Views A and B)

View A. Overview of LRT bridge in vicinity of M&StL Depot looking southwest

View B. Overview of LRT bridge in vicinity of M&StL Depot looking west

EXHIBIT 16
Visualizations of the Proposed LRT Bridge and the M&StL Depot (Views C and D)

View C. View looking northeast along the trail towards the depot and bridge as it will appear after development of the Project

View D. View of bridge from ground level looking southeast as it will appear after development of the Project

EXHIBIT 17
CMStP&P Depot

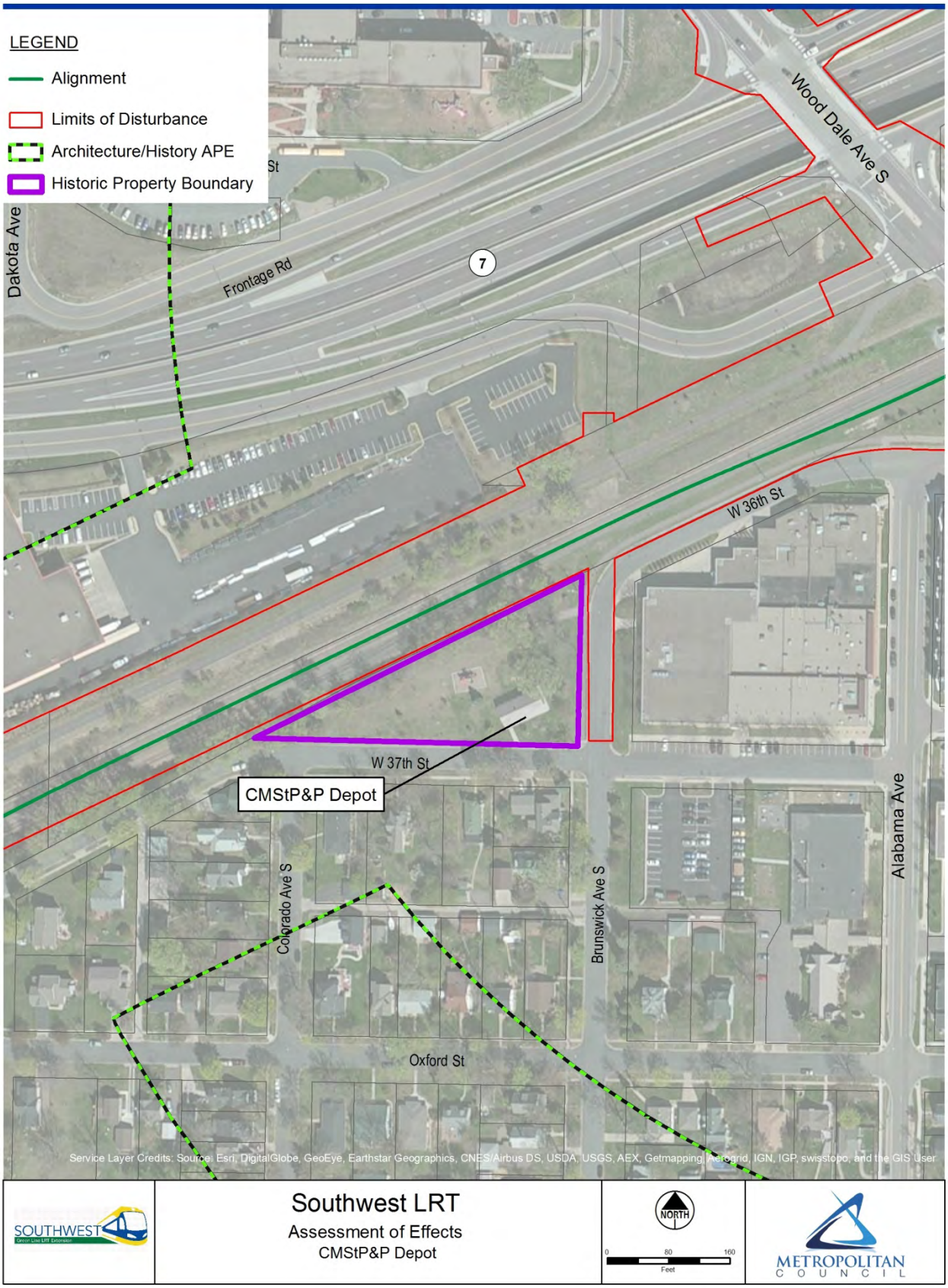
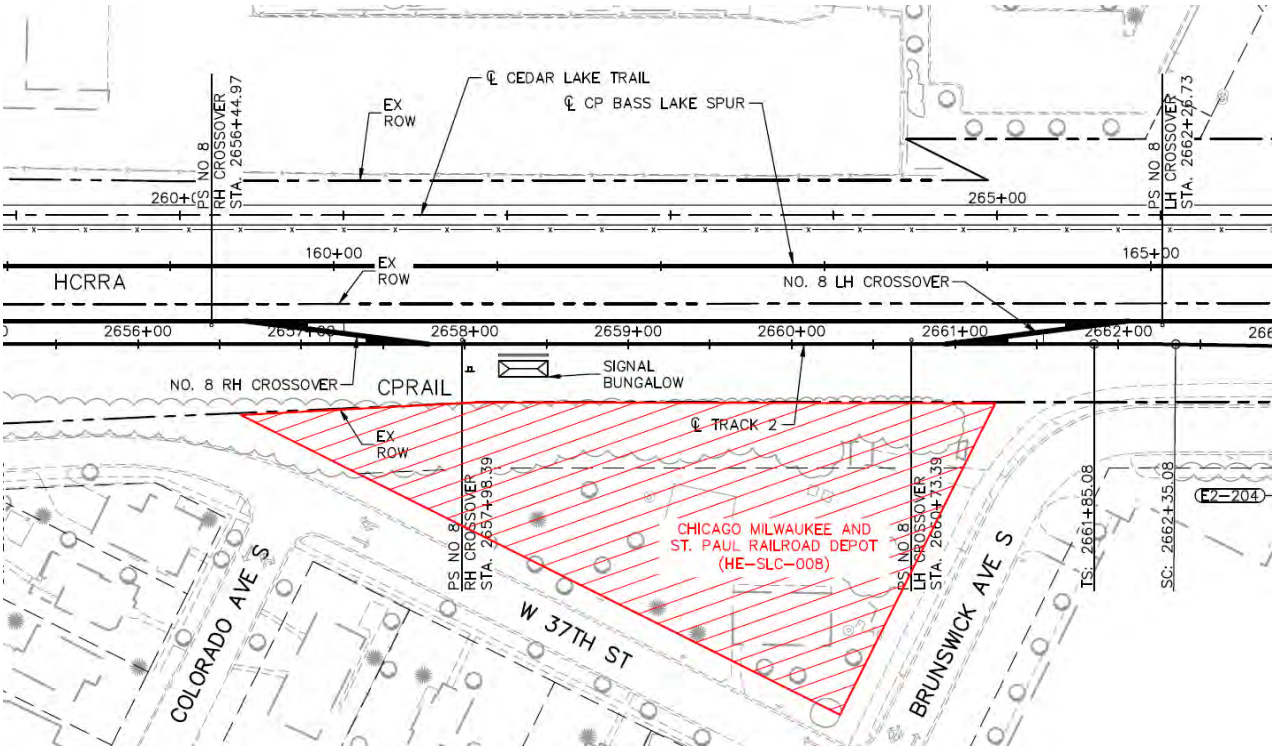
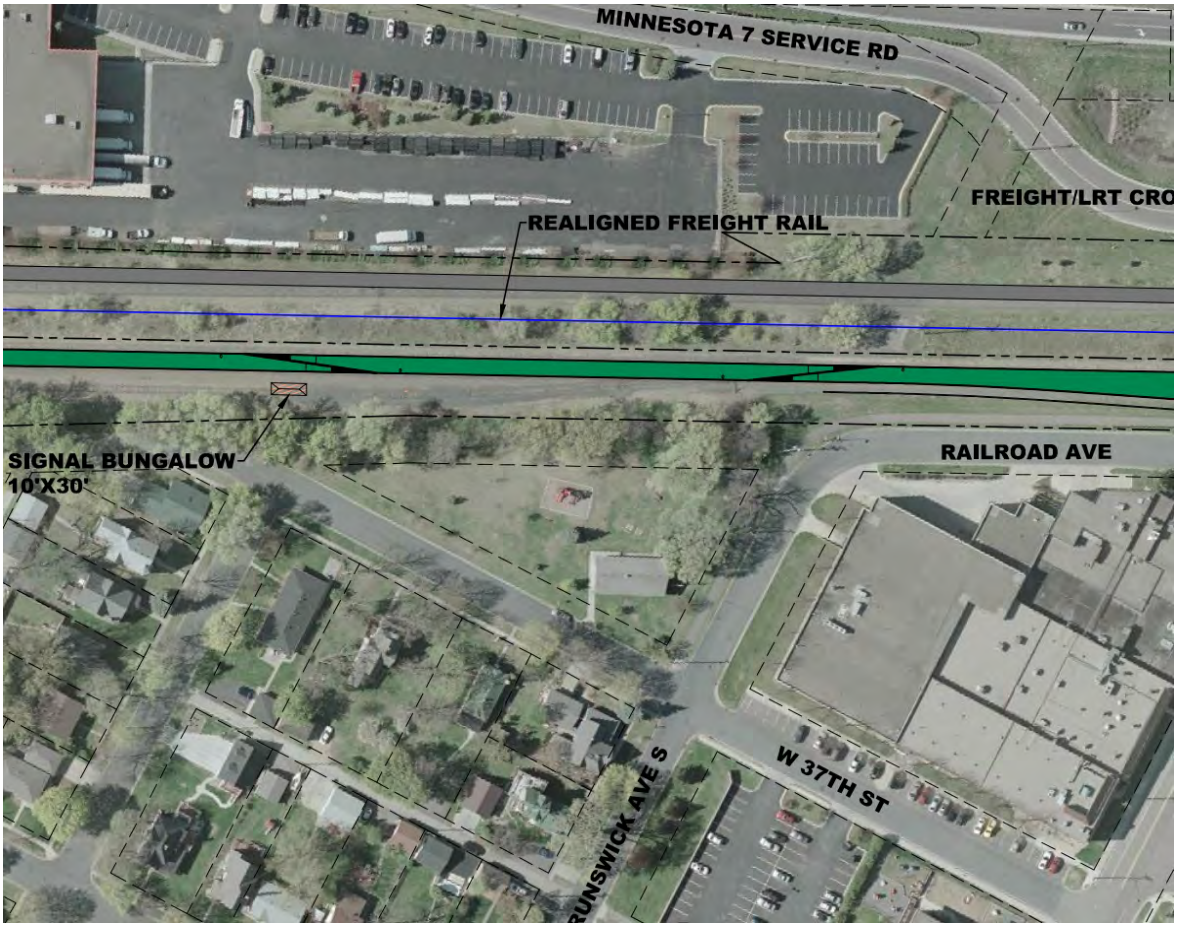


EXHIBIT 18
Plan View of CMStP&P Depot and Vicinity



A. Preliminary Engineering Plans Plan View at the CMStP&P Depot from November 12, 2014, submittal to MnSHPO



B. 60 Percent Design Plan View. Note the Signal Bungalow has been shifted to the west

EXHIBIT 19

Peavey-Haglin Experimental Concrete Grain Elevator

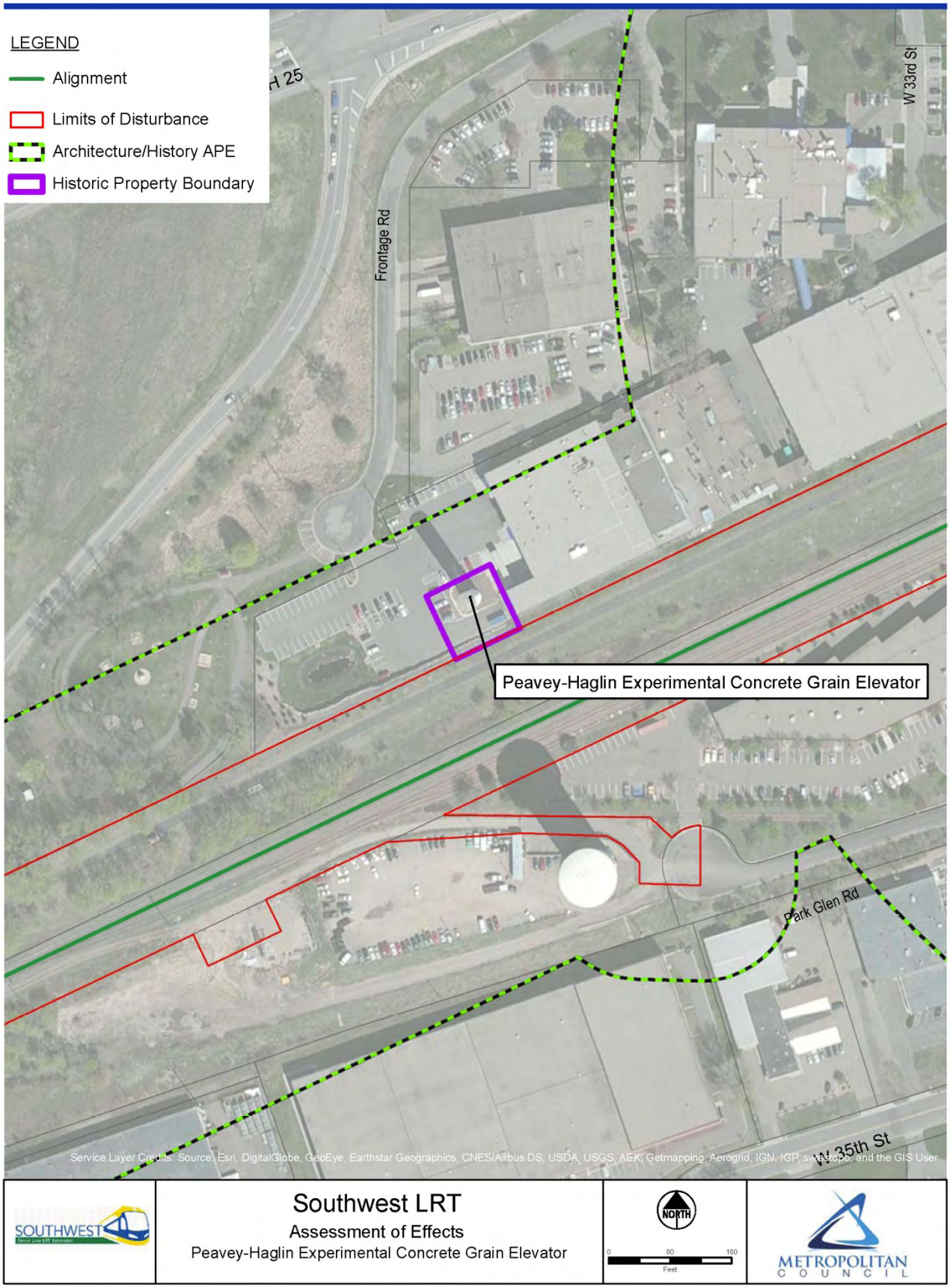
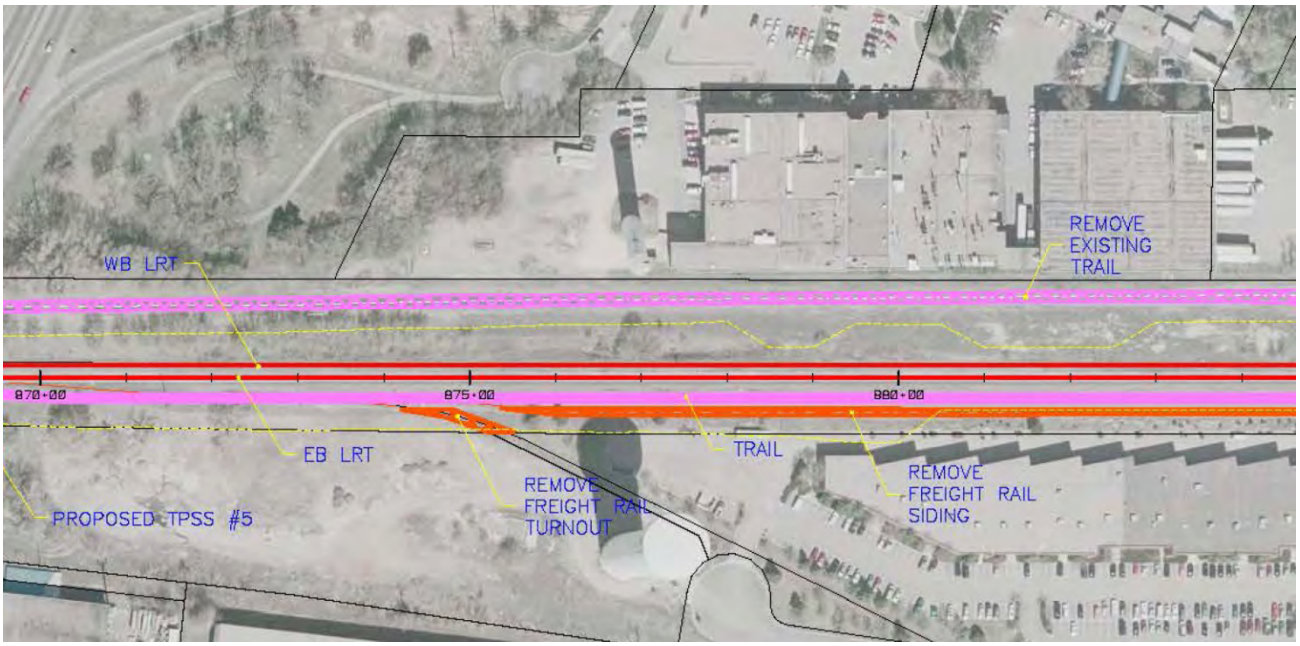


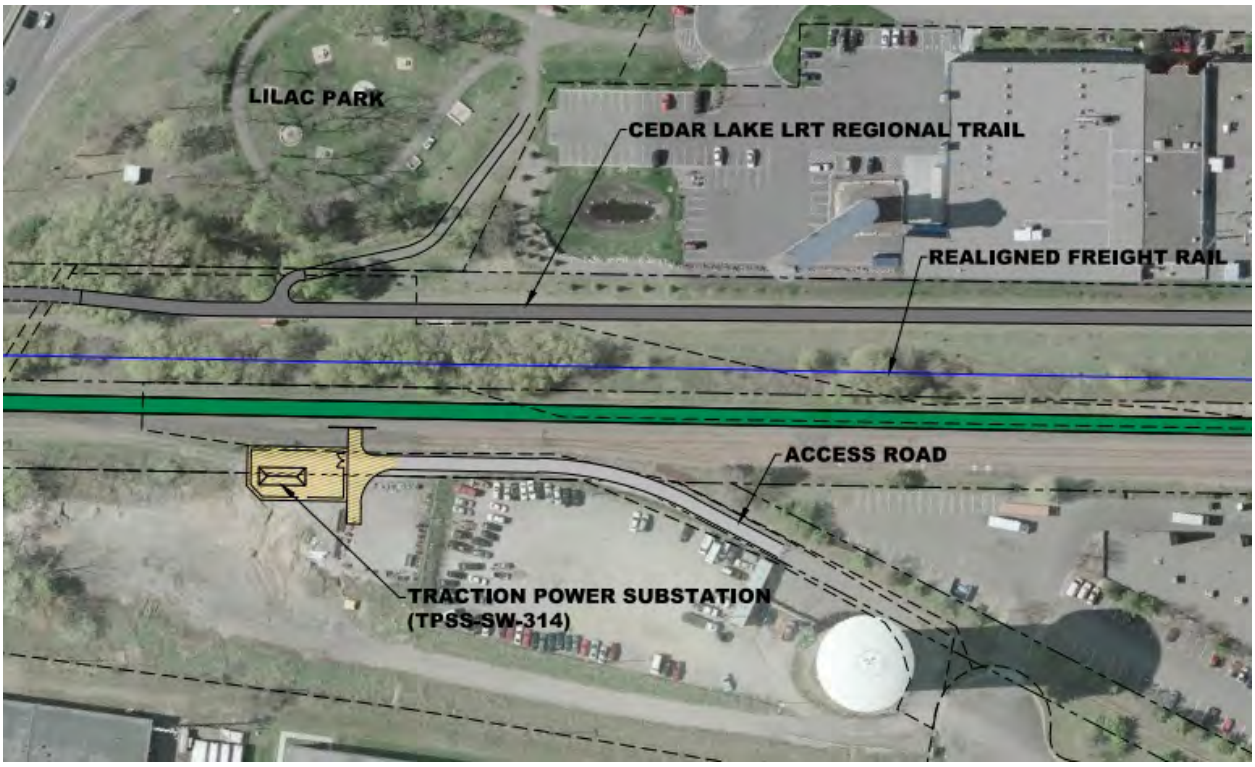
EXHIBIT 20

Peavey-Haglin Experimental Concrete Grain Elevator Setting, Viewshed, and Plan View

A. View along trail looking northeast (within public right-of-way) showing current access to elevator



B. Conceptual Engineering Plans Profile View of Proposed Removal of Cedar Lake Trail



C. 60 Percent Design Plan View

D. View (within public right-of-way) from Grain Elevator to future TPSS

The elevator is located within 50 feet of the construction limits for the Project and could be subject to potential vibration from construction activities, which will result from the operation of heavy equipment such as pile drivers, vibratory hammers, hoe rams, vibratory compactors, and loaded trucks needed to construct the Project. Construction vibration has the potential to cause direct physical effects to the property in the form of physical damage to the structure. Therefore, to minimize harm to this NHL to the maximum extent possible (36 CFR 800.10) from potential construction vibration, and to avoid a direct adverse effect from physical damage resulting from vibration, the Project will develop and implement a CPP that will identify measures that will be undertaken to avoid potential direct adverse effects from construction vibration by pre- and post-construction survey, vibration monitoring during construction, limiting construction disturbance, and protecting the elevator from construction storage and staging. The Project will also continue to consult with MnSHPO through a design review process for the TPSS siting to confirm that the visual effect of the TPSS to the setting of the elevator is minimized. Therefore, with implementation of these measure, which will be documented in the Section 106 MOA, a finding of No Adverse Effect has been made for the Peavey-Haglin Experimental Concrete Grain Elevator.

7.1.6 Hoffman Callan Building (HE-SLC-055), 3907 Highway 7, St. Louis Park

Effects from the Project on the Hoffman Callan Building are limited to potential future development/redevelopment catalyzed by the Project in the vicinity of the West Lake Station (Exhibit 21). The Hoffman Callan Building is located within a quarter mile of the West Lake Station, and while no Project work is proposed in the immediate vicinity of the building, the West Lake Station may catalyze future development/redevelopment in the vicinity of the Hoffman Callan Building. The Hoffman Callan Building is located outside of the 10-minute walkshed for the West Lake Station (see Exhibit 21). Additionally, it is not a site identified for potential redevelopment (see Exhibit 21). Sites identified for potential redevelopment catalyzed by the Project are concentrated in areas east of the LRT alignment. The only site west of the West Lake Station that is identified for potential redevelopment is located a block east of the Hoffman Callan Building (HKGi, n.d.:6-10, 6-11). Given the Hoffman Callan Building's location near the edge of the West Lake Station 10 minute walk shed and the presence of many other properties closer to the station that present better opportunity for redevelopment, there is low potential for this historic property to be redeveloped. Development catalyzed by the Project, specifically development of the property located a block to the northeast of the Hoffman Callan Building, could minimally alter the setting of the Hoffman Callan Building in that the redevelopment might be visible when looking down the street from the front of the building. However, the introduction of such development, even if large in scale, would not alter the setting of the Hoffman Callan Building in a way, or to a degree, that would diminish the ability of this property to convey its historic significance, which is under NRHP Criterion C in the area of Architecture, or to maintain its eligibility for the NRHP. Therefore, a finding of No Adverse Effect has been made for the Hoffman Callan Building.

7.1.7 Minikahda Club (HE-MPC-17102), 3205 Excelsior Boulevard, Minneapolis

Effects of the Project on the Minikahda Club (Exhibit 22) include direct and indirect effects from pedestrian and roadway improvements at the club entrance and along its north side, a temporary easement over a small portion (.06 acre) of the club's driveway to remove existing crosswalk striping and place new striping on the adjacent street's right-of-way, and potential development/redevelopment in the vicinity of the club catalyzed by the Project around the West Lake Station.

The Minikahda Club is eligible under NRHP Criterion C in the area of Landscape Architecture. Preliminary Project plans included the acquisition of a portion of this property near the club's main entrance and the destruction of a small portion of the designed landscape in this area. To avoid the adverse effect that would have resulted from acquisition and the physical destruction of a part of the property's designed landscape, from which it derives its significance, Project designs were revised to avoid the adverse effect by reconfiguring pedestrian access in the area in order to avoid property acquisition and destruction of the designed landscape (Exhibit 23). Direct effects are now limited to a temporary easement during Project construction over a small portion of the Minikahda Club driveway, which is a bituminous surface, to remove existing crosswalk striping and place new striping on the adjacent street right-of-way. The construction activities will be temporary in duration, minor, and limited to paved areas, so they will not affect the historically significant designed landscape. Therefore, the revised Project design avoids the adverse effect of property acquisition and destruction of a portion of the designed landscape. Furthermore, the Project will develop and implement a CPP to avoid any direct physical effects to Minikahda Club during construction.

EXHIBIT 21
Hoffman Callan Building

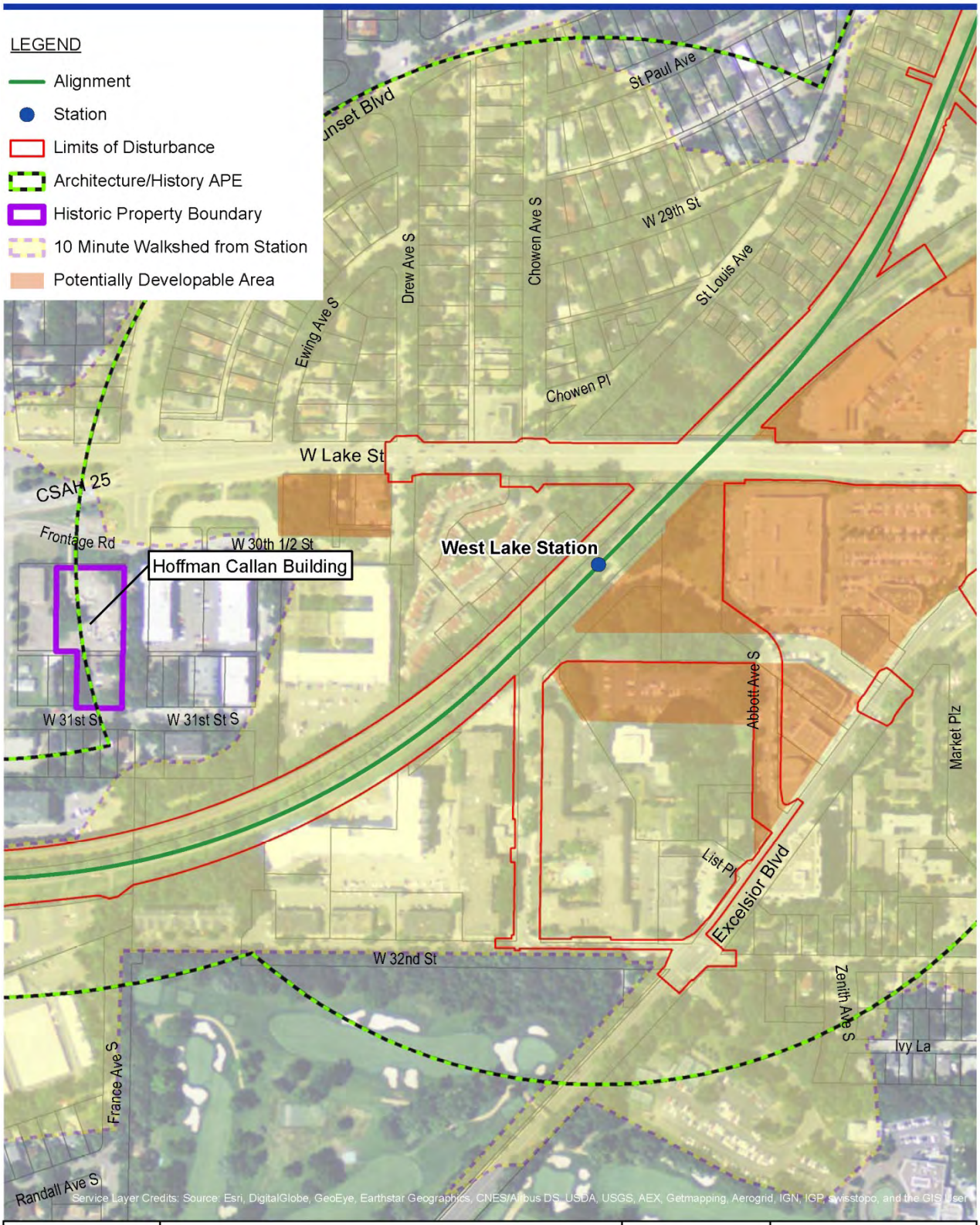


EXHIBIT 22
Minikahda Club

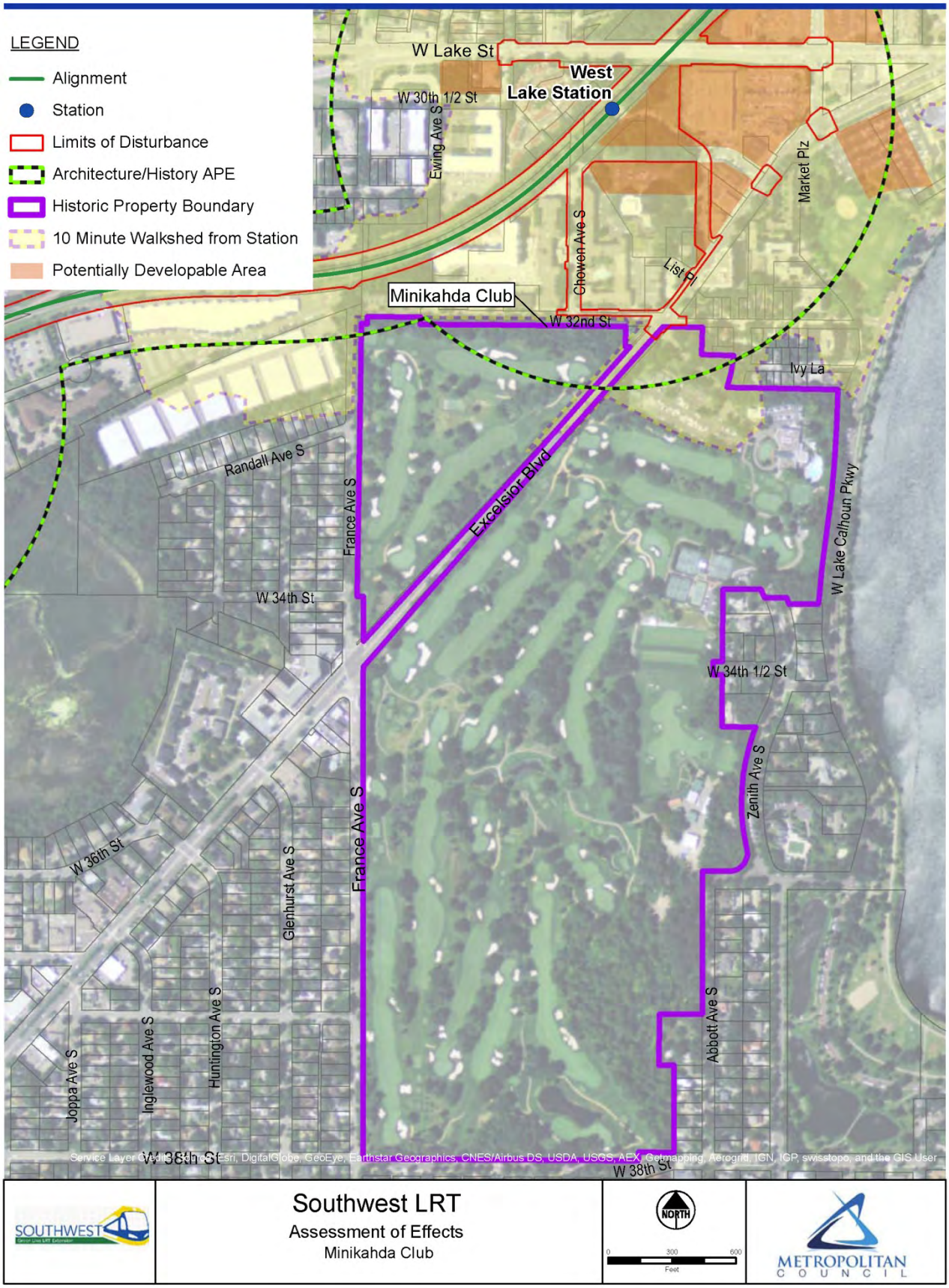
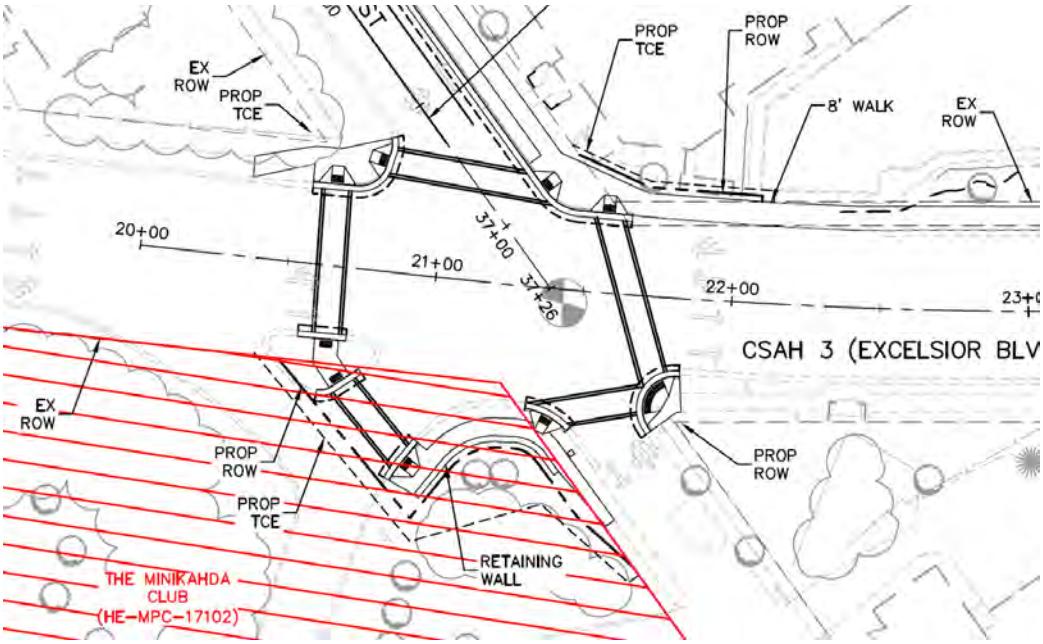


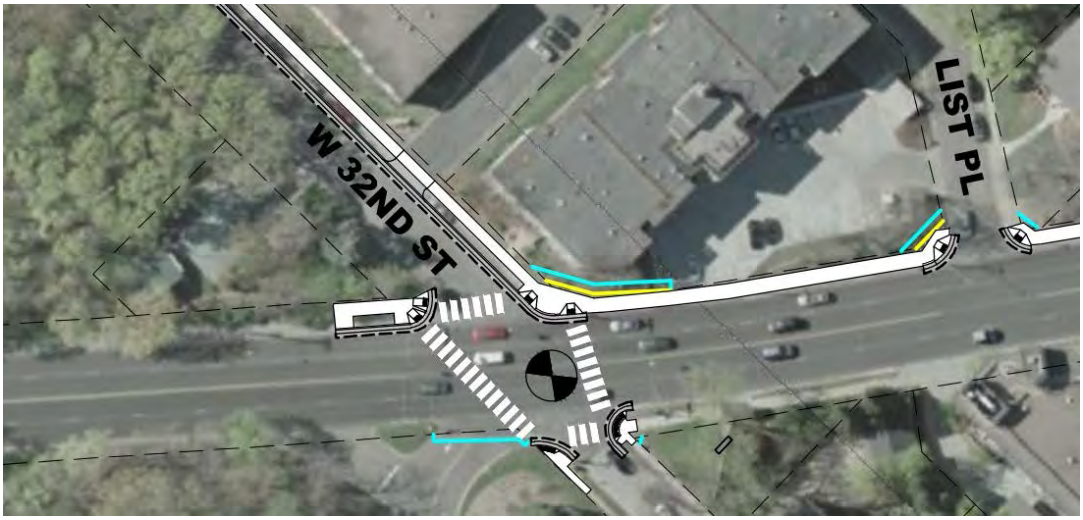
EXHIBIT 23

Minikahda Club Setting and Design Plans

A. Existing Minikahda Club entrance and setting



B. Preliminary Engineering Plans Plan View of Minikahda Club entrance and vicinity from November12, 2014 submittal to MnSHPO



C. 60 Percent Design Plan View

The Minikahda Club is located within a quarter mile of the West Lake Station and portions of the club are within the future 10-minute walkshed for the Station (Exhibit 22). The West Lake Station has strong redevelopment potential (HKGi, n.d.:6-18). However, the club is not a site identified for potential redevelopment. Sites identified for potential redevelopment catalyzed by the Project are concentrated in areas beginning roughly a half block northeast of the Minikahda Club and extending away from it to the northeast. Development catalyzed by the Project in these areas could potentially minimally alter the setting of a small portion of the Minikahda Club; however, the effect would be limited, as much of the club property is bounded by a dense vegetative screen that would block all but skyline views that already include tall buildings within the viewsheds towards the areas of potential redevelopment (see listing of plan sheets for this property in Appendix A). However, the introduction of such development, even if large in scale, would not alter the setting of the designed landscape in a way that would preclude it from being able to convey its historic significance., or its eligibility for the NRHP. Therefore, with the measure to develop and implement a CPP, which will be documented in the Project's Section 106 MOA, a finding of No Adverse Effect has been made for this property.

7.1.8 Grand Rounds Historic District (XX-PRK-0001), Minneapolis

Within the GRHD there are ten discrete contributing and three discrete non-contributing elements located within the architecture/history APE for the Project. Each of these elements has unique characteristics that qualify it for the NRHP, so each will be affected in different ways, and to varying degrees by the Project. An overall assessment of the effects of the Project on the district as a whole are presented below; assessments of effects on individual contributing elements to the district are presented for each individual property in subsequent sections. Collectively, effects from the Project on the GRHD include direct physical effects, changes to its setting through introduction of Project elements into and adjacent to the district, noise effects from LRT operations, changes in access, changes to traffic, and potential erosion and silt infiltration (Exhibit 24).

Direct physical effects from the Project on the GRHD include the partial destruction of, and alterations to, a portion of the Kenilworth Lagoon, including the destruction of two non-contributing bridges and the construction of three new bridges (freight rail, LRT, trail) over it, and the destruction and reconstruction of a 220 foot long segment of Cedar Lake Parkway (see listing of plan sheets for the GRHD and its contributing elements in Appendix A). These direct effects will also result in visual effects to these and other contributing elements of the historic district. The introduction of additional Project elements, including LRT tracks, overhead power system, TPSSs, signal bungalows, retaining walls, landscaping, lighting, pedestrian and traffic enhancements, and other related infrastructure into and adjacent to the district will alter the district's historic character and setting. To minimize direct effects and indirect visual effects that could diminish historic integrity of the district, the Project is designing Project elements within and adjacent to the GRHD in accordance with the *SOI's Standards*. As a result, adverse effects to the setting of nine of the contributing elements of the GRHD within the Project's architecture/history APE have been avoided. Additionally, through the implementation of this measure, the direct effect on Cedar Lake Parkway will not result in an adverse effect. While implementation of this measure has minimized some of the Project's effects on the Kenilworth Lagoon, when combined, the direct physical and indirect visual effects of the Project on Kenilworth Lagoon will alter the lagoon property in a way that diminishes its integrity of design, material, workmanship, feeling, and association.

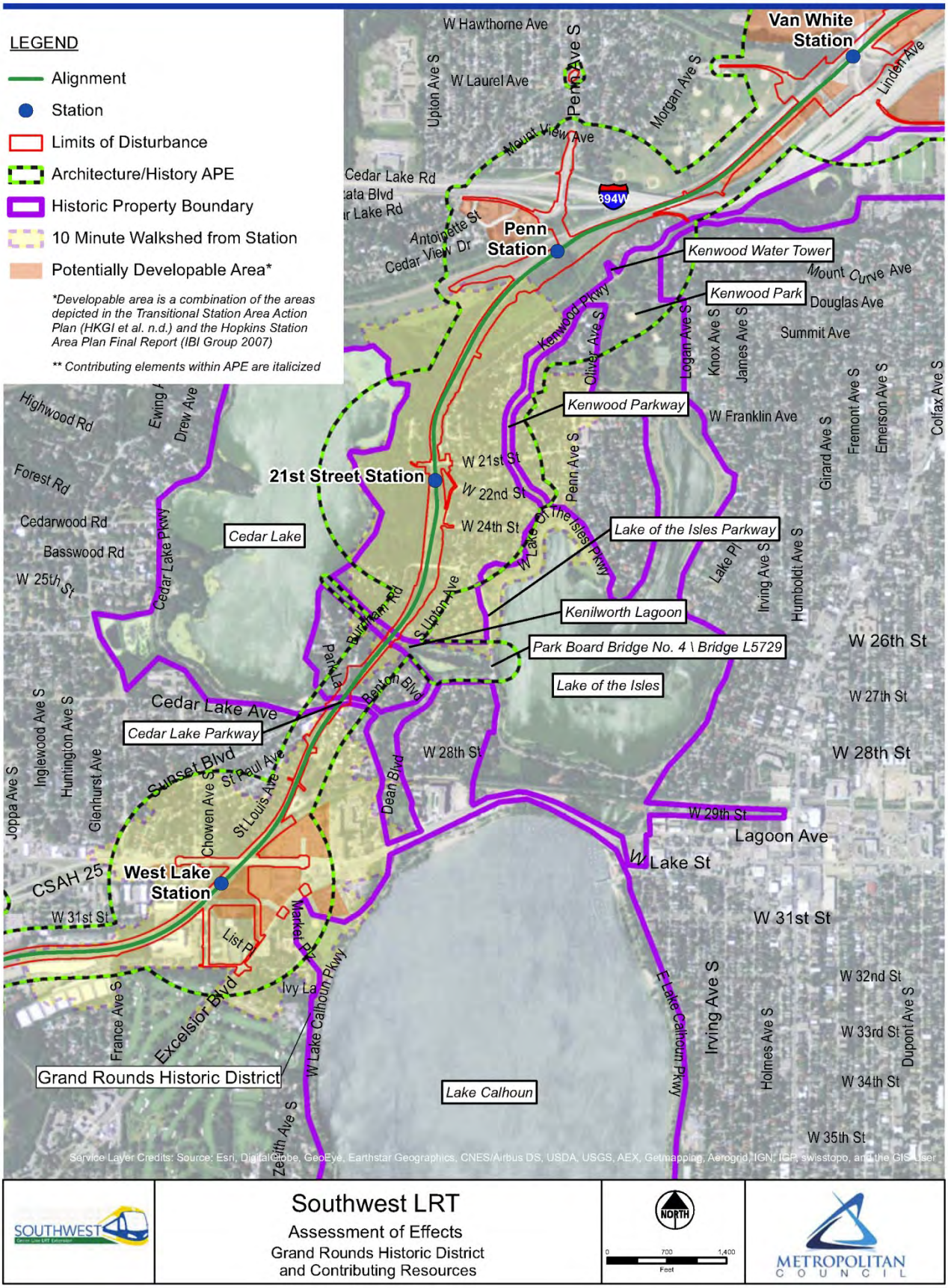
Per FTA criteria, LRT operation will result in a moderate noise effect on the Kenilworth Lagoon element for the GRHD, which will diminish the setting and feeling of this portion of the GRHD (FTA and Council, 2015). Potential noise will occur from the operation of the LRT vehicles and horn/bell sounding, which will affect the integrity of setting and feeling within a small portion of the historic district, specifically the Kenilworth Lagoon.

The operation of the 21st Street and West Lake stations will cause some minor changes to traffic and parking within and in the vicinity of several elements of the GRHD. The Project will implement improvements to improve access pedestrian access to several elements of the historic district. Based on the assessments that can be found in the following sections on individual contributing elements of the district, collectively these changes will not alter the historic integrity of the district in a way that would diminish its ability to convey its historic significance (Southwest LRT Advanced Design Consultant [ADC], 2015).

Construction vibration and ground disturbance has the potential to cause direct physical effects to a small portion of the GRHD in the form of physical damage such as erosion and silt infiltration. To avoid these potential effects, the Project will development and implement a CPP that will identify measures to be undertaken to avoid potential direct adverse effects from ground disturbance and silt infiltration by limiting construction disturbance.

EXHIBIT 24

Grand Rounds Historic District



Based on the direct physical and indirect visual and noise effects that will diminish the design, material, workmanship, feeling, and association of the Kenilworth Lagoon, which is a contributing element to the GRHD, an Adverse Effect finding has been made for the GRHD. Measures will be included in the Section 106 MOA to avoid, minimize, and mitigate effects to the GRHD, including designing Project elements within and in the vicinity of the GRHD in accordance with the *SOI's Standards*, continuing consultation on the design of these elements with MnSHPO and other consulting parties, and the implementation of a CPP. Thus far, all efforts related to the adverse effect related to the Kenilworth Crossing have focused on minimizing the adverse effect. Subsequent to making a final determination of effect for the Project, FTA will consult with MnSHPO and other consulting parties to identify appropriate mitigation for the adverse effect, which will be documented in the Section 106 MOA.

7.1.8.1 Lake Calhoun (HE-MPC-1811)

Effects from the Project on Lake Calhoun (see Exhibit 24) include development/redevelopment catalyzed by the Project around the West Lake Station, minor pedestrian and roadway improvements near the Lake Calhoun Playing Fields, and changes in traffic and parking patterns around the Lake Calhoun Playing Fields related to operation of the West Lake Station.

The northwest edge of Lake Calhoun, which includes the Lake Calhoun Playing Fields, is located within a quarter mile of the West Lake Station and portions of the park are within the future 10-minute walkshed for the Station (Exhibit 24; see listing of plan sheets for this property in Appendix A). The West Lake Station has strong redevelopment potential (HKGi, n.d.:6-18). However, the park is not a site identified for potential redevelopment. Sites identified for potential redevelopment catalyzed by the Project are concentrated in the area extending from the station to Lake Calhoun, and to the north. Identified redevelopment sites include one abutting the playing fields, but there is already large-scale development, both historic and modern, along the northern half of the lake. Given this, the introduction of additional, similarly scaled development into a small portion of one of many viewsheds from the lake (one that already includes large-scale development) will have a minimal effect on the setting of Lake Calhoun. The pedestrian and roadway improvements proposed at the intersection Excelsior Boulevard and Market Plaza, adjacent to the Lake Calhoun Playing Fields, are minor in scale and consistent in design with existing traffic signals, pedestrian ramps, and signage and lighting in the area. Therefore, Project improvements will have a negligible visual effect on the setting of the Lake Calhoun Playing Fields. Accordingly, Project elements and development potentially catalyzed by it would not diminish the setting of the lake in a way that would preclude it from being able to convey its historic significance, which is under NRHP Criteria A and C within the areas of Community Planning and Development, Entertainment/Recreation, and Landscape Architecture, or its eligibility for the NRHP.

A traffic study completed for the West Lake Station indicates that drop-off traffic associated with the station is expected to be minimal throughout the day and will arrive and depart via Excelsior Boulevard, which will not change the traffic characteristics of the surrounding roadway network (ADC, 2015). The study also indicates that potential parking effects from the station will be negligible due to the limited amount of on-street parking in the vicinity of the station, limited permitted parking at the Calhoun Executive Center, the existing heavy parking demand that results in limited parking availability, and inconvenient vehicular and pedestrian access to the station. The expected result is limited potential hide-and-ride use of this station and that potential park-and-ride users will access LRT at the Belt Line Station that is located less than a mile to the west and which includes a park-and-ride facility. As a result, no significant changes in parking near the Lake Calhoun Playing Fields are expected and minor changes will not diminish the ability of this property to convey its historic significance.

To avoid diminishing the visual character of the immediate setting of the Lake Calhoun Playing Fields, the Project will continue to consult with MnSHPO through a design review process for the pedestrian and roadway improvements at the intersection of Excelsior Boulevard and Market Plaza to confirm that the visual character of the immediate setting of the Lake Calhoun Playing Fields is not diminished. Therefore, with implementation of these measures, which will be documented in the Section 106 MOA, a finding of No Adverse Effect has been made for Lake Calhoun.

7.1.8.2 Cedar Lake (HE-MPC-1820)

Effects from the Project on Cedar Lake include a minor change in the lake's setting due to the introduction of Project infrastructure and improvements, potential sedimentation during construction, and noise from LRT operations (Exhibit 24). The Project will result in minor visual effects on the setting of Cedar Lake from alterations the Project will make to Kenilworth Lagoon, specifically the removal of two existing former M&StL wood trestles over the lagoon and their replacement with three new concrete bridges (trail, LRT, and freight rail) of a different design, and the reconstruction of the Cedar Lake Parkway crossing. The visibility of the new bridges across the Kenilworth Lagoon, and their visual effect on Cedar Lake, will be minimized by their distance from the lake, the narrowness of the corridor in which they will be visible, and by the intervening Burnham Road Bridge that will further block them from view from

Cedar Lake. To further minimize the visual effect of the new Kenilworth Crossing bridges on the setting of Cedar Lake, they will be designed in accordance with the *SOI's Standards* and to be compatible with their visual setting.

The Cedar Lake Parkway crossing, which will be reconstructed to accommodate the construction of a LRT tunnel under it, will be visible from South Cedar Beach. However, the at-grade railroad and trail crossing will be maintained and the reconstructed segment will be designed in accordance with the *SOI's Standards* and; therefore, will result in only minor visual change to the setting of South Cedar Beach and view from it. The Project will also continue to consult with MnSHPO and other consulting parties on the design of the alterations to Kenilworth Lagoon and Cedar Lake Parkway to confirm compliance with the *SOI's Standards*. Therefore, the collective changes to Kenilworth Lagoon and Cedar Lake Parkway will not diminish views from the lake or otherwise alter its setting in a way that could compromise its ability to convey its historic significance.

Operational noise and construction vibration were also analyzed for the Project. The park is an FTA Category 3 noise sensitive receptor, but it is outside the area of concern for noise (Cross Spectrum Acoustics [CSA], 2015). Operations vibration was not assessed since the park is an outdoor land use (FTA and Council, 2015). Construction activity has the potential to cause erosion and silt infiltration that could affect portions of Cedar Lake beyond the LOD. To avoid these potential effects, the Project will develop and implement a CPP that will identify measures to be undertaken in order to avoid potential direct adverse effects from silt infiltration by limiting construction disturbance. Therefore, with implementation of the measures identified above, including designing Project elements in accordance with the *SOI's Standards*, design review by MnSHPO, and implementation of a CPP, all of which will be documented in the Section 106 MOA, a finding of No Adverse Effect has been made for Cedar Lake.

7.1.8.3 Cedar Lake Parkway (HE-MPC-1833)

Effects from the Project on Cedar Lake Parkway include direct physical effects and changes to its setting. The Project will remove and reconstruct an approximately 220 foot long segment of the parkway in order to construct a shallow LRT tunnel under it at the existing Kenilworth Corridor crossing (Exhibit 24; see listing of plan sheets for this property in Appendix A). This work will include reconstructing the existing at-grade railroad and trail crossing. In order to construct the tunnel the alignment of the existing railroad line will be shifted slightly to the west within its existing right-of-way and the profile of the parkway will be raised slightly, fewer than eight inches, from its existing profile. The 220 foot long segment of roadway being reconstructed is relatively minor in relation to the entire extent of the parkway. The Project will also design the segment of Cedar Lake Parkway to be reconstructed in accordance with the *SOI's Standards*. Therefore, reconstruction of a portion of Cedar Lake Parkway will result in a minimal, non-adverse change to the design, feeling, and association of the parkway where it crosses the existing railroad corridor.

The Project will also cause changes to the parkway's setting where it crosses the parkway by introducing features not present during period of significance. Visual effects include the introduction of a tunnel portal and signal bungalow to the railroad corridor north of the parkway, and the introduction of a TPSS to the railroad corridor south of the parkway. To avoid diminishing the visual character of the setting of the parkway, which could result in an adverse effect, the Project will design these and other elements of the Project within and in the vicinity of the parkway, in accordance with the *SOI's Standards* and will continue to consult with MnSHPO on the design of project elements in the view shed of the Kenilworth Corridor crossing.

The Project will also result in noise effects from operations related to LRVs entering and exiting the tunnel. However, as a road, the parkway is not a noise sensitive use, so the introduction of this new noise will not diminish its feeling as a road. Therefore, with implementation of the measures identified above, which will be documented in the Section 106 MOA, a finding of No Adverse Effect has been made for Cedar Lake Parkway.

7.1.8.4 Kenilworth Lagoon (HE-MPC-1822)

Effects of the Project on the Kenilworth Lagoon include direct physical effects, changes to its visual character and setting, and noise effects from LRT operations. The Project will remove two existing former M&StL wood trestles over the lagoon (non-contributing elements to the GRHD; also historically referred to Park Board Bridge No. 5) and replace them with a wider new crossing consisting of three concrete bridges (freight rail, LRT, and trail) of a different design, construct associated retaining walls, destroy and reconstruct of a portion of the contributing WPA Rustic style retaining walls, alter the topography, remove vegetation, plant new vegetation, and potentially alter the shoreline under the new crossing (Exhibits 25 through 29; see listing of plan sheets for this property in Appendix A). In addition, fencing will be installed on either side of the trail along the corridor, including the point at which it crosses Kenilworth Lagoon. Portions of the WPA walls cannot remain in place during construction since they overlap the area that needs to be excavated to place the new bridge footings. The walls are also in poor condition which further inhibits the possibility of retaining them in place during construction. Vegetation removal within the Kenilworth Lagoon and along the existing Kenilworth Corridor is necessary to accommodate the space requirements for the existing trail, the new light rail, and the existing railroad that will be shifted to the north/west through the corridor in the vicinity of the Kenilworth Lagoon.

EXHIBIT 25

Kenilworth Lagoon Existing Conditions

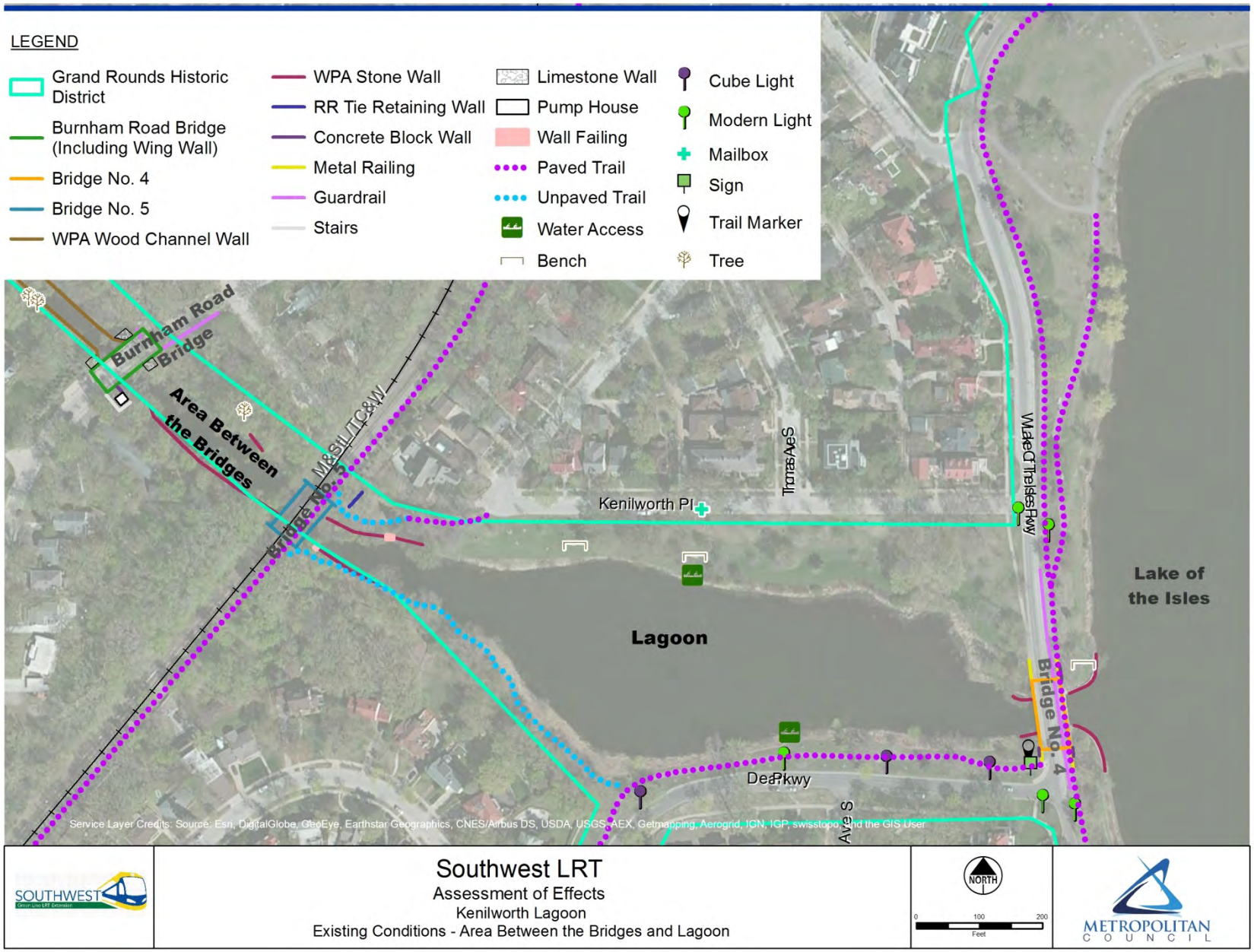


EXHIBIT 26

Kenilworth Lagoon / GRHD Visualization of the Proposed Kenilworth Crossing from the Lagoon Looking West

DRAFT - WORK IN PROCESS

SOUTHWEST Green Line LRT Extension	Southwest LRT Assessment of Effects Kenilworth Lagoon/Grand Rounds Historic District Visualization of the Proposed Kenilworth Crossing-Looking at Trail Bridge		METROPOLITAN COUNCIL

EXHIBIT 27
Kenilworth Lagoon / GRHD Visualization of the Proposed Kenilworth Crossing from Park Board Bridge No. 6 (Burnham Road Bridge) Looking Southeast

EXHIBIT 28
Kenilworth Lagoon / GRHD Visualization of the Proposed Kenilworth Crossing from the Area Between the Bridges Looking Southeast

EXHIBIT 29
Kenilworth Lagoon / GRHD Visualization of the Proposed Kenilworth Crossing from under the Bridges (left to right: Freight Rail, LRT, Trail) Looking Northwest

DRAFT - WORK IN PROCESS

SOUTHWEST Green Line LRT Extension	Southwest LRT Assessment of Effects Kenilworth Lagoon/Grand Rounds Historic District Visualization of the Proposed Kenilworth Crossing-Underneath Bridges		METROPOLITAN COUNCIL

The Kenilworth Lagoon is a designed landscape and the construction of the proposed Project crossing will result in the alteration and/or destruction of portions of the Lagoon property, as well as change its overall visual character. Distinctive features and functions of the Kenilworth Lagoon landscape that will be affected include its topography and grading, natural features, circulation systems, spatial relationships, views and vistas into and within the landscape, vegetation, landscape dividers, bodies of water, and structures.

A cultural landscape study completed for the Project identified three uniquely distinct segments of Kenilworth Lagoon. The easternmost segment is the Lagoon, which extends from Lake of the Isles and Park Board Bridge No. 4 / Bridge L5729 to the former M&StL wood trestles (Park Board Bridge No. 5). The middle segment extends from the former M&StL wood trestles to the Burnham Road Bridge (also historically referred to Park Broad Bridge No. 6) and is identified as the Area Between the Bridges. The westernmost segment is identified as the Channel and extends from the Burnham Road Bridge to Cedar Lake (see Exhibit 24). The segments are generally delineated by the grade separated transportation corridors that cross it and serve as landscape dividers. The three segments are connected by the waterway that passes under the bridges that are part of the grade separations and connects the landscape segments. The Project's direct physical effects are limited to the vicinity of the M&StL crossing, now the TC&W and Kenilworth Trail, which separates the eastern, Lagoon, segment and the Area Between the Bridges, or middle segment. The new, 87-foot wide crossing will be nearly twice the width of the existing 45-foot wide crossing. The entirety of the additional 42-foot width of the new crossing will infringe into the Area Between the Bridges, which is the shortest segment of Kenilworth Lagoon at 375 feet in length, and also the most intimate, natural, and rustic (The 106 Group Ltd., 2014b). To accommodate the increased width of the crossing, tall concrete retaining walls will also be constructed to retain the grade separation, which will be a different treatment than the existing crossing that uses short timber retaining walls and earthen embankments. As a result, the new crossing will not only cause physical changes, it also significantly changes the spatial relationships and visual character of this segment of Kenilworth Lagoon. Collectively, the changes that will result from the construction of the new crossing will diminish the integrity of the design, materials, workmanship, setting, feeling, and association of Area Between the Bridges segment of Kenilworth Lagoon.

The new crossing will also significantly alter the feeling of the waterway as it passes under the new bridges between the Lagoon and the Area Between the Bridges and the experience of users as they pass under the new bridges. Since the new crossing will be nearly twice as wide as the existing crossing, it will reduce the amount of light reaching the waterway and create more of a tunnel-like effect for users compared to the existing crossing. In addition, noise analysis conducted for the Project per FTA guidance has determined that LRT operations will introduce a moderate noise impact on Kenilworth Lagoon within approximately 40 feet on either side of the new crossing (FTA and Council, 2015:3-257). The increased noise levels generated by LRT operation, combined with the introduction of a tunnel-like space will diminish the integrity of setting and feeling by altering the user experience, resulting in an adverse effect. Further, the destruction of a portion of the WPA retaining walls within this segment of the park also diminishes the integrity of design, materials, and workmanship of these walls through the loss of historic materials.

Effects of the Project on the Lagoon segment of Kenilworth Lagoon, which is the easternmost segment of the parks landscape, include direct physical effects on the small portion of it located within the LOD of the Project's crossing at the west end of the Lagoon, but the most pronounced effect will be the visual effect from the design of the new bridges and changes to the landscape. As is discussed in greater detail in the cultural landscape study for Kenilworth Lagoon, Theodore Wirth's original vision for this crossing was for a Classical Revival style concrete bridge, similar to others along the waterways connecting the Chain of Lakes segment of the GRHD. However, the M&StL would not pay for such a bridge, so the landscaping at the west end of the Lagoon segment was designed to blend the dark, naturalistic character of the timber trestle that was constructed, and later replaced in–kind, by the M&StL into the landscape (The 106 Group Ltd., 2014b). A timber bridge was considered for the new Project crossing, but was determined not feasible as it failed to meet lifecycle requirements for the Project. Therefore, the new bridges must be constructed of a different material (concrete or steel), which will stand out from the adjacent vegetation and thereby change an important historic view shed to and within the Kenilworth Lagoon. The destruction and/or alteration of portions of the topography and removal of vegetation, even if replanted, will add or alter sight lines of the crossing within the Lagoon. The increased visibility and visual prominence of the bridges, combined with their required new design aesthetic and changes in vegetation will affect the integrity of design setting and feeling of the Lagoon.

Effects of the Project on the Channel segment of Kenilworth Lagoon, which is the westernmost segment of the park's landscape, are limited to visual effects of the new crossing. Entering the Channel from the west and looking toward the Lagoon, the view looking east/south along the Channel terminates at the existing former M&StL bridges. The bridges constructed by the Project will become the new visual terminus of the Channel. However, views of the new crossing are framed by the intervening Burnham Road Bridge (Park Board Bridge No. 6), which greatly limits the visibility of the crossing at the west end of the channel (The 106 Group Ltd., 2014b). The Burnham Road Bridge also serves as landscape divider, somewhat disengaging the Channel and its experiential qualities from those of the Area Between the

Bridges. Therefore, provided that the design of the new crossing is generally compatible with the design of the other segments of Kenilworth Lagoon, it will not diminish the design, setting, feeling, and association of the Channel segment of Kenilworth Lagoon.

Due to the necessary destruction and alteration of portions of contributing elements of the Kenilworth Lagoon, including distinct spatial relationships, the adverse effect of the Project on the Kenilworth Lagoon cannot be avoided. Therefore, over the course of a period spanning April 2014 through September 2015, FTA with assistance from MnDOT CRU, held multiple consultation meetings with MnSHPO and other consulting parties to explore measures for minimizing the adverse effect. As part of this process, multiple construction alternatives were considered. These included: several two-bridge (freight rail and combined LRT/trail) and three-bridge (freight rail, LRT, and trail) alternatives, and two shallow tunnel (cut-and-cover and jacked-box) alternatives (Exhibits 30 and 31). Numerous span types and configurations, including multiple combinations and design aesthetics were considered. This included review for adherence to the *SOI's Standards*. This effort has been documented in correspondence with MnSHPO and consulting parties.

As part of the consultation to consider alternatives for minimizing the adverse effects on Kenilworth Lagoon, a three-bridge alternative (freight rail, LRT, and trail) was found to be the best solution for minimizing multiple adverse effects and the overall effect that the Project will have on the Kenilworth Lagoon. This configuration includes a five-span, thin deck concrete freight-rail bridge; a clear-span concrete arch LRT bridge, and a clear-span concrete arch trail bridge. Although the three-bridge configuration results in a wider overall crossing compared to the two-bridge configuration, it reduces the width of each structure, thus breaking up their scale when experienced from the waterway level. It also allows more light to reach the water and reduces the tunnel-like effect of the two-bridge configuration (Exhibits 29 and 31). While the two-bridge configuration results in a slightly narrower overall crossing, it results in a more pronounced adverse effect on the feeling of the historic property at the waterway level given its more intimate scale and spatial relationships. This adverse effect is greater than the impact of the slightly wider width of the three-bridge configuration on the feeling of the historic property as a whole given the much larger scale and spatial relationships of the broader landscape.

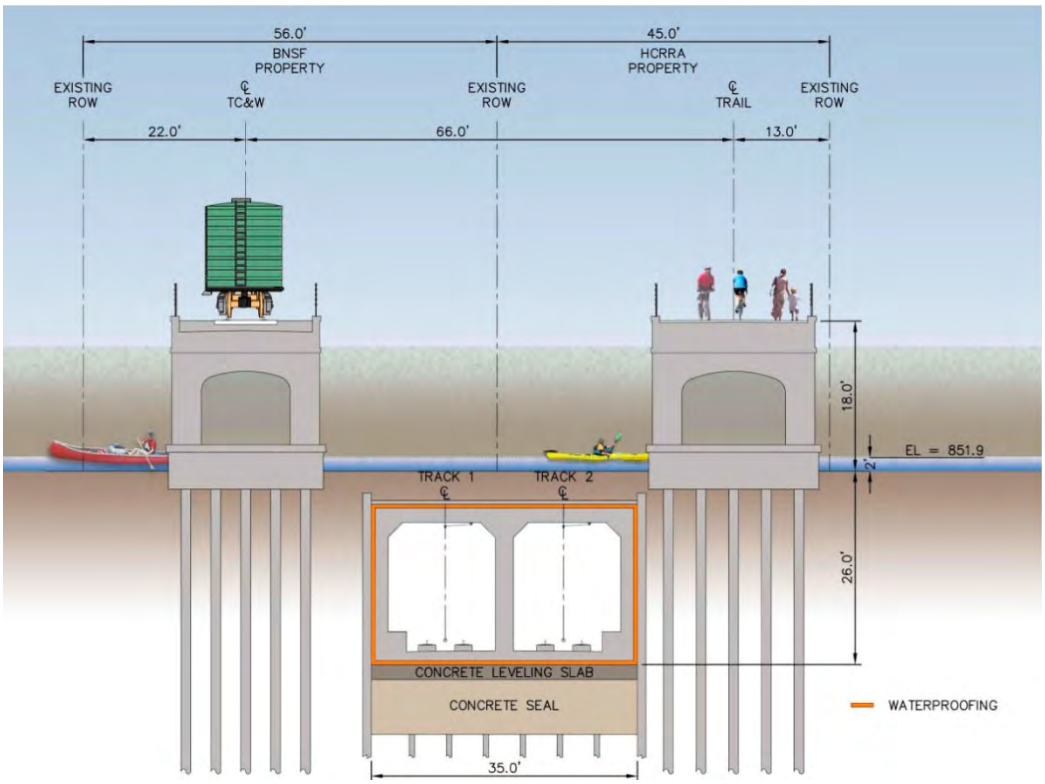
To further minimize visual effects of the new crossing, and confirm its compatibility with not only Kenilworth Lagoon, but the entire canal system that is a key contributing element of the Chain of Lakes segment of the GRHD, the three-bridge configuration selected includes a five-span, thin deck concrete freight-rail bridge; a clear-span concrete arch LRT bridge, and a clear-span concrete arch trail bridge. The thin deck freight rail bridge is the design that is most in keeping with that of the existing former M&StL timber trestles and best minimizes the thickness of the superstructure depth. Additionally, of all design options it best disengages the structure from the Area Between the Bridges, by carrying the railroad over this area on a longer span that minimizes alterations of the topography and the amount and height of retaining wall required (Exhibit 28). By disengaging itself from this space, the freight rail bridge minimizes, at least slightly, the effect on the spatial relationships; a shorter span bridge with tall retaining walls would result in greater intrusion into the Area Between the Bridges. As noted above, the arch bridges selected for the LRT and trail bridges benefit the experience of waterway uses by minimizing the adverse effect on the feeling of the waterway. In addition, the concrete arch designs are in keeping with the span type of the three arch bridges constructed by the Minneapolis Board of Park Commissioners in the 1910s as part of its project to create a channel system to connect the Chain of Lakes (Exhibits 31 and 32; 106 Group, 2014b). The LRT bridge will also include a two-foot-tall solid noise wall to mitigate the adverse noise effect. As currently designed, the bridges for the new crossing comply with the *SOI's Standards*. As such, they also avoid an adverse visual effect on the Lagoon segment of Kenilworth Lagoon.

Construction activity related to the Kenilworth Crossing has the potential to cause erosion and silt infiltration that could affect portions of the Kenilworth Lagoon landscape and waterway beyond the LOD. To avoid these potential effects, the Project will develop and implement a CPP that will identify measures to be undertaken in order to avoid potential direct adverse effects from silt infiltration by limiting construction disturbance.

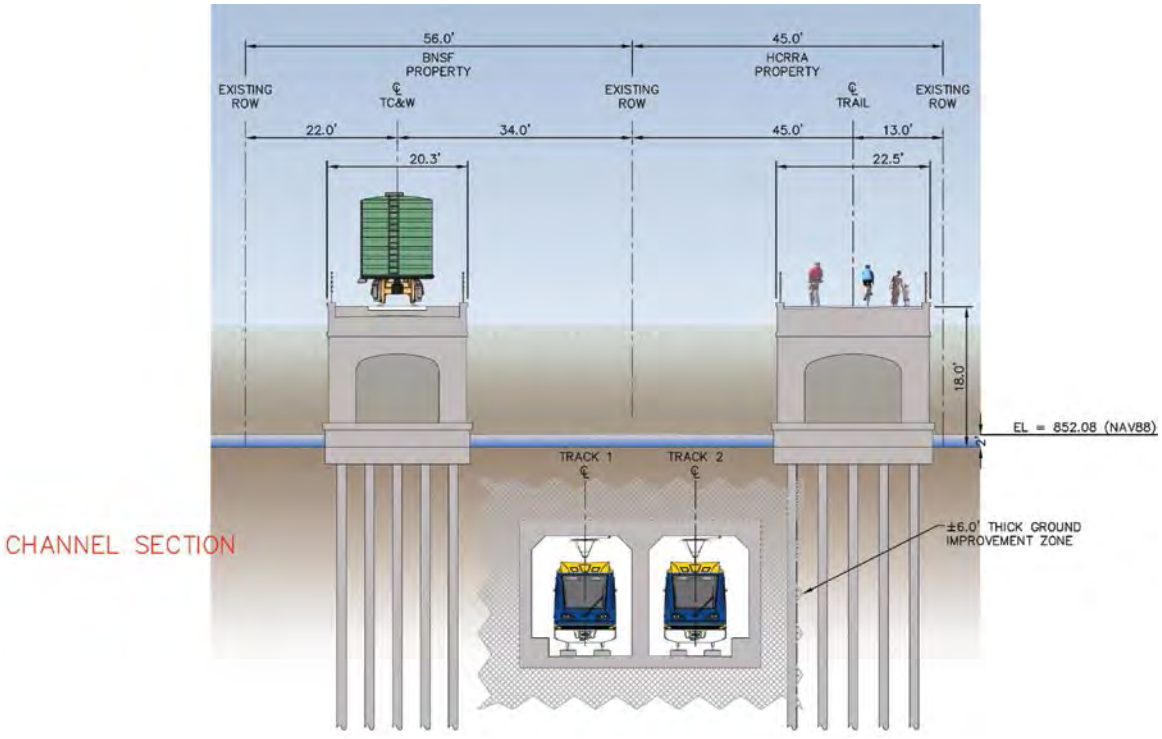
Due to the unavoidable adverse effects described above, a finding of Adverse Effect has been made for Kenilworth Lagoon. To confirm the adverse effect continues to be minimized, all Project elements within and in the vicinity of Kenilworth Lagoon will be designed in accordance with the *SOI's Standards*. The Project will continue to consult with MnSHPO and other consulting parties as the design work advances towards construction documents on the design of the new bridges and other project elements within and in the vicinity of Kenilworth Lagoon to confirm that the design of all Project elements meet the *SOI's Standards*. As noted above, the Project will also develop and implement a CPP to minimize harm to Kenilworth Lagoon during construction. All of these measures will be documented in the Section 106 MOA. Thus far, consultation has focused on considering measures to avoid and minimize the adverse effects on Kenilworth Lagoon. After the final determination of effect is made for the Project, FTA will consult with MnSHPO and other consulting parties to identify measures to mitigate the adverse effect of the Project on Kenilworth Lagoon. Measures identified will be documented as stipulations in the Section 106 MOA.

EXHIBIT 30

Kenilworth Lagoon Crossing: Shallow Tunnel Alternatives Considered



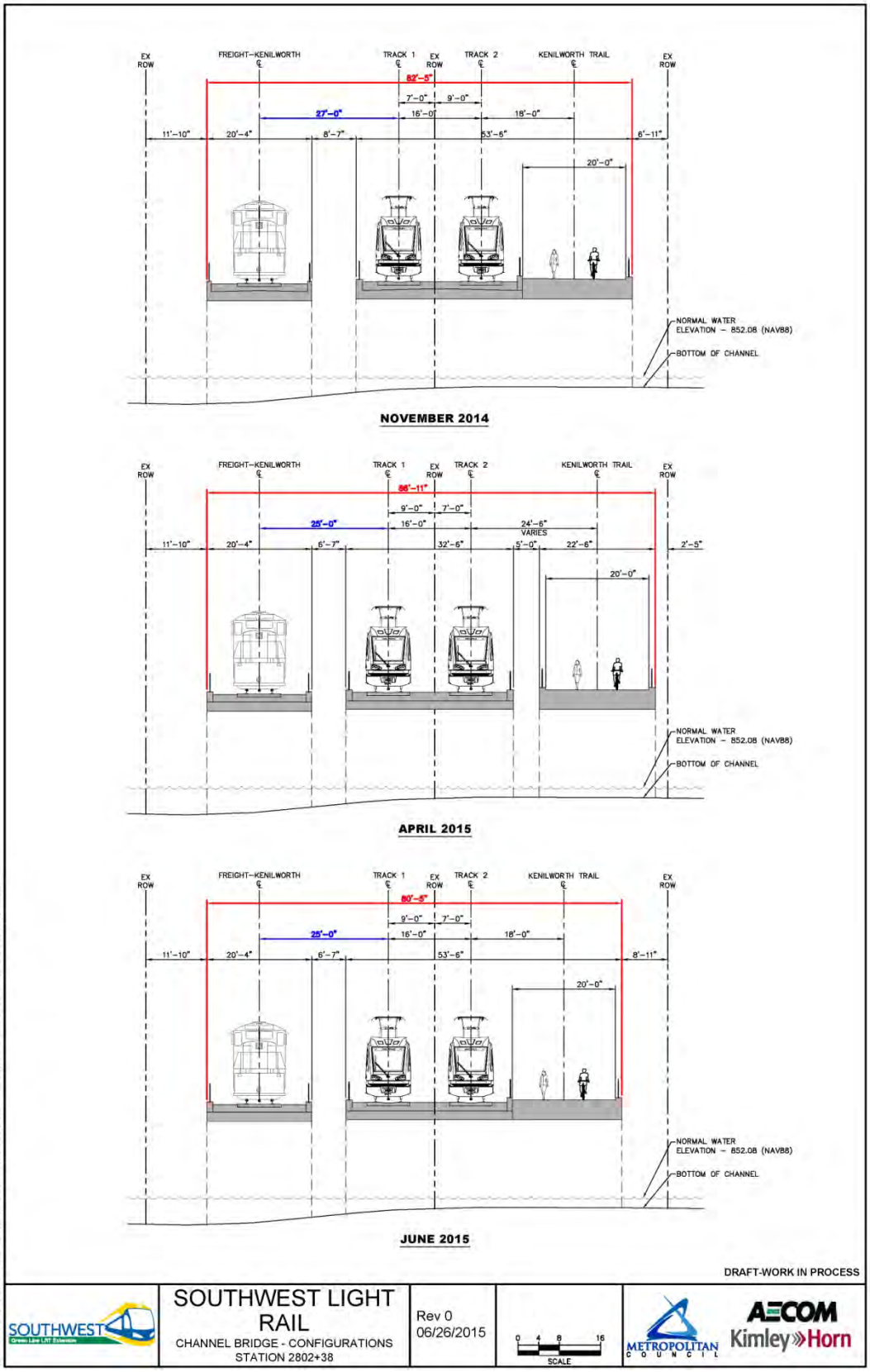
A. Cut-and-Cover Tunnel Under Kenilworth Lagoon



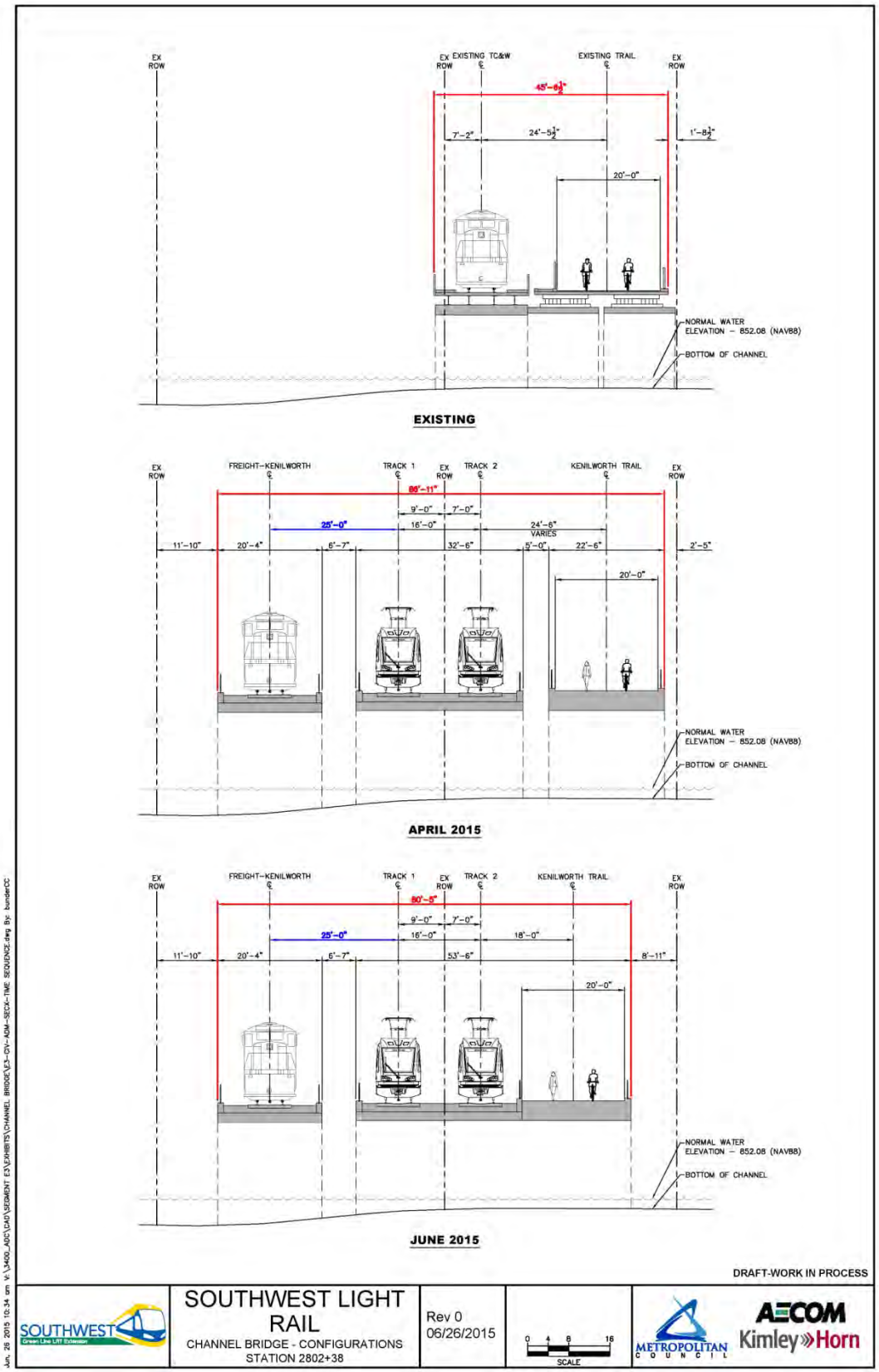
B. Jack Box Tunnel Under Kenilworth Lagoon

EXHIBIT 31

Kenilworth Lagoon Crossing: Bridge Alternative Configurations Considered



A. Bridge Alternative Configurations Considered A



B. Bridge Alternative Configurations Considered B

EXHIBIT 32

Current View from Lake of the Isles, under Park Board Bridge No. 4 / L5729, to the existing M&StL trestles

7.1.8.5 Lake of the Isles (HE-MPC-1824)

Effects from the Project on Lake of the Isles are limited to changes to the lake's setting and potential silt infiltration from erosion during construction. The setting of Lake of the Isles will be affected by alterations the Project will make to Kenilworth Lagoon, specifically the removal of two existing former M&StL wood trestles over the lagoon and their replacement with three new concrete bridges (trail, LRT, and freight rail) of a different design (see listing of plan sheets for this property in Appendix A). The design and visibility of the new bridges (Kenilworth Crossing) across the Kenilworth Lagoon will alter a defined view from the lake (Exhibit 32). To minimize the visual effect of these Project elements and avoid diminishing the setting of the lake, the Kenilworth Crossing elements will be designed in accordance with the *SOI's Standards* and to be compatible with its visual setting. The Project will also continue to consult with MnSHPO and other consulting parties on the design of the Kenilworth Crossing.

Construction activity has the potential to cause erosion and silt infiltration that could affect portions of Lake of the Isles. To avoid these potential effects, the Project will develop and implement a CPP that will identify measures to be undertaken in order to avoid potential direct adverse effects from silt infiltration by limiting construction disturbance. Therefore, with implementation of the measures identified above, which will be documented in the Section 106 MOA, a finding of No Adverse Effect has been made for Lake of the Isles.

7.1.8.6 Lake of the Isles Parkway (HE-MPC-1825)

Effects from the Project on Lake of the Isles Parkway are limited to changes to the parkway's setting. The setting of Lake of the Isles Parkway will be affected by alterations the Project will make to Kenilworth Lagoon, specifically the removal of two existing former M&StL wood trestles over the lagoon and their replacement with three new concrete bridges (trail, LRT, and freight rail) of a different design (see listing of plan sheets for this property in Appendix A). The design and visibility of the new bridges across the Kenilworth Lagoon will alter a defined view from the parkway (Exhibit 33). To minimize the visual effect of these Project elements and avoid diminishing the setting of the parkway, the Kenilworth Crossing elements will be designed in accordance with the *SOI's Standards* and to be compatible with its visual setting. The Project will also continue to consult with MnSHPO and other consulting parties to review the design of the Kenilworth Crossing. Therefore, with implementation of these measures, which will be documented in the Section 106 MOA, a finding of No Adverse Effect has been made for Lake of the Isles Parkway.

7.1.8.7 Park Board Bridge No. 4 / Bridge L5729 (HE-MPC-6901)

Effects from the Project on Park Board Bridge No. 4 include changes to the bridge's setting. The setting of Park Board Bridge No 4 will be affected by alterations the Project will make to Kenilworth Lagoon, specifically the removal of two existing former M&StL wood trestles over the lagoon and their replacement with three new concrete bridges (trail, LRT, and freight rail) of a different design (see listing of plan sheets for this property in Appendix A). The design and visibility of the new bridges across the Kenilworth Lagoon will alter a defined view from the parkway (Exhibit 33). To minimize the visual effect of these Project elements and avoid diminishing the setting of Bridge No. 4, the Kenilworth Crossing elements will be designed in accordance with the *SOI's Standards* to be compatible with its visual setting. The Project will also continue to consult with MnSHPO and other consulting parties on the design of the Kenilworth Crossing. Therefore, with the implementation of these measures, which will be documented in the Section 106 MOA, a finding of No Adverse Effect has been made for Park Board Bridge No. 4 / Bridge No. L5729.

7.1.8.8 Kenwood Parkway (HE-MPC-01796)

Effects from the Project on Kenwood Parkway include potential development/redevelopment catalyzed by the Project around the 21st and Penn Street stations and changes in traffic and parking patterns resulting from the operation of these stations (Exhibit 24). Kenwood Parkway is located within a quarter mile of both the 21st Street and Penn stations (). A station area planning study has shown that there is potential for redevelopment to occur around the Penn Station; however, it is limited to an area located northwest of the station, between the alignment and Interstate 394. This area is below the bluff on which Kenwood Parkway is located, nearly 1,000 feet away. The study indicates there is low potential for development/redevelopment on the west side of Penn Station and around 21st Street Station due to limits of existing zoning (HKGi, n.d.:4-11, 5-11). Therefore, there is low potential for redevelopment to actually occur that could potentially diminish the setting of the parkway.

EXHIBIT 33

View from Lake of the Isles Parkway and Park Board Bridge No. 4 / L5729 across the Lagoon towards the existing M&StL trestles

There is no direct vehicular connection between the Penn Station and Kenwood Parkway, so operation of this station will not affect traffic levels on the parkway. A traffic analysis completed for the 21st Street Station indicates there will be no significant changes in traffic patterns or volumes along or in the vicinity of Kenwood Parkway resulting from operation of the 21st Street Station (ADC, 2015). Furthermore, the station area plan for the 21st Street Station recommends pedestrian and bicycle-oriented enhancements while maintaining neighborhood character (AECOM et al., 2010:85). Any changes in traffic will be minor and will not diminish aspects of Kenwood Parkway that qualify it for the NRHP. Therefore, a finding of No Adverse Effect has been made for Kenwood Parkway.

7.1.8.9 Kenwood Park (HE-MPC-01797)

Effects from the Project on Kenwood Park include potential development/redevelopment catalyzed by the Project around the Penn Station, as well as changes in traffic and parking resulting from the operation of the Project (Exhibit 24). Kenwood Park is located within a quarter mile of the Penn Station. A station area planning study has shown that there is potential for redevelopment to occur around the Penn Station; however, it is limited to an area located northwest of the station, between the alignment and Interstate 394 (HKGi, n.d.:4-11; see Exhibit 24). This area, which is over 1,000 feet away from the park, is located below the bluff that blocks views from Kenwood Park of the Project, so any redevelopment in this area would not be visible from the park. The study also indicates there is low potential for development/redevelopment on the west side of Penn Station due to limits of existing zoning (HKGi, n.d.:4-11). Therefore, there is low potential for redevelopment to actually occur that could potentially diminish the setting of Kenwood Park.

There is no direct vehicular connection between the Penn Station and Kenwood Park, so operation of this station will not affect traffic levels on the parkway and streets bounding Kenwood Park. A traffic analysis completed for the 21st Street Station assessed traffic changes from LRT operation on Kenwood Parkway, which forms the western edge of Kenwood Park. The study indicated there will be no significant changes in traffic patterns or volumes along Kenwood Parkway resulting from operation of the 21st Street Station (ADC, 2015). Any changes in traffic will be minor and will not diminish aspects of Kenwood Park that qualify if for the NRHP. Therefore, a finding of No Adverse Effect has been made for Kenwood Park.

7.1.8.10 Kenwood Water Tower (HE-MPC-06475)

Effects of the Project on the Kenwood Water Tower include potential development/redevelopment catalyzed by the Project around the Penn Station; change to the tower's setting from the visibility of the Project, and changes in traffic and parking around the station (Exhibit 24). Kenwood Water Tower is located within a quarter mile of the Penn Station. A station area planning study has shown that there is potential for redevelopment to occur around the Penn Station; however, it is limited to an area located northwest of the station, between the alignment and Interstate 394 (HKGi, n.d.:4-11). This area, which is nearly 1,000 feet away from the water tower, is located below the bluff on which the water tower is situated. The study also indicates there is low potential for development/redevelopment on the west side of Penn Station, in the vicinity of the water tower due to limits of existing zoning (HKGi, n.d.:4-11). Project elements will be located in the vicinity of a former rail yard below the bluff on which the water tower is situated. Therefore, while Project elements and redevelopment catalyzed by the Penn Station will be visible from the water tower, they will be located in the valley below it, several hundred feet away in an already developed dense urban environment that covers only a small portion of one of multiple panoramic views from the water tower and they will not affect views of the water tower. As such, the introduction of Project elements and potential development catalyzed will not affect the immediate setting of the water tower or views of it, will minimally affect views from it, and, as a result, will not diminish water tower's setting.

There is no direct vehicular connection between the Penn Station and Kenwood Park, so operation of this station will not affect traffic levels on Kenwood Parkway in front of the water tower. A traffic analysis completed for the 21st Street Station assessed traffic changes from LRT operation on Kenwood Parkway, and determined there will be no significant changes in traffic patterns or volumes along Kenwood Parkway in front of the water tower (FTA and Council, 2015). Any changes in traffic will be minor and will not diminish aspects of the Kenwood Water Tower that qualify if for the NRHP. Therefore, a finding of No Adverse Effect has been made for the Kenwood Water Tower.

7.1.9 Lake of the Isles Residential Historic District (HE-MPC-9860), Vicinity of East and West Lake of the Isles Parkways, Minneapolis

Effects from the Project on the LOIRHD include changes to the district's visual character and setting, changes in access, and Project operations noise (Exhibit 34; see listing of plan sheets for this property in Appendix A). The visual character and setting of the historic district will be affected by alterations the Project will make to Kenilworth Lagoon, specifically the removal of two existing former M&StL wood trestles over the lagoon and their replacement with three new concrete bridges (trail, LRT, and freight rail) of a different design. The design and visibility of the new bridges across the Kenilworth Lagoon will alter a defined view from within the historic district (Exhibits 31 and 32). To minimize the

EXHIBIT 34
Lake of the Isles Residential Historic District

visual effect of these Project elements and avoid diminishing the visual character and setting of the historic district in the vicinity of Kenilworth Lagoon, the Kenilworth Crossing elements will be designed in accordance with the *SOI's Standards* and to be compatible with its visual setting. The Project will also continue to consult with MnSHPO and other consulting parties to review the design of the Kenilworth Crossing.

A small portion of the northwestern edge of the historic district is located within a quarter mile of the 21st Street Station, which is designed as a walk-up station with no park and ride facility. A traffic analysis completed for the 21st Street Station indicates there will be limited on-street parking and limited access streets, which will limit cut-through traffic. The study also indicates there will be no significant changes in traffic patterns or volumes resulting from operation of the Project in the vicinity of the portion of the historic district located in the 21st Street Station APE (ADC, 2015). Furthermore, the station area plan for the 21st Street Station recommends pedestrian- and bicycle-oriented enhancements while maintaining neighborhood character (AECOM et al., 2010:85). Any changes in traffic will be minor and will not diminish aspects of the district that qualify it for the NRHP.

Noise effects were analyzed for the Project and documented in the Noise and Vibration Table. The district is an FTA Category 2 noise sensitive receptor; however, in accordance with FTA criteria, no moderate or severe noise impacts were identified for residential properties in the district (CSA, 2015). Therefore, with implementation of the measures identified above related to the Kenilworth Crossing, which will be documented in the Section 106 MOA, a finding of No Adverse Effect has been made for the LOIRHD.

7.1.10 Freida and Henry J. Neils House (HE-MPC-6068), 2801 Burnham Boulevard, Minneapolis

Effects from the Project on the Freida and Henry J. Neils House include potential development/redevelopment catalyzed by the Project around the 21st Street Station and changes in access (Exhibit 35). While no Project work will occur in the immediate vicinity of the Freida and Henry J. Neils House, it is located within a quarter mile of the 21st Street Station. However, a station planning study has shown that development/redevelopment potential around the 21st Street Station is limited by existing zoning, and there is low potential for redevelopment to actually occur that could potentially impact the setting of the Neils House (HKGi, n.d.:5-11).

A traffic analysis completed for the 21st Street Station indicates there will be no change in access to the Neils House and no significant changes in traffic patterns or volumes in the vicinity of this property resulting from operation of the Project (ADC, 2015). Furthermore, the station area plan for the 21st Street Station recommends pedestrian- and bicycle-oriented enhancements while maintaining neighborhood character (AECOM et al., 2010:85). Any changes in traffic will be minor and will not diminish aspects of the Neils House that qualify it for the NRHP, which is under Criterion C within the area of Architecture. Therefore, a finding of No Adverse Effect has been made for the Freida and Henry J. Neils House.

7.1.11 Mahalia and Zacharia Saveland House (HE-MPC-6766), 2405 W. 22nd Street, Minneapolis

Effects from the Project on the Mahalia and Zacharia Saveland House include potential development/redevelopment catalyzed by the Project around the 21st Street Station and changes in access (Exhibit 36). While no Project work will occur in the immediate vicinity of the Mahalia and Zacharia Saveland House, it is located within a quarter mile of the 21st Street Station. However, a station planning study has shown that development/redevelopment potential around the 21st Street Station is limited by existing zoning and there is low potential for redevelopment to actually occur that could potentially impact the setting of the Saveland House(HKGi, n.d.:5-11).

A traffic analysis completed for the 21st Street Station indicates there will be no change in access to the Saveland House and no significant changes in traffic patterns or volumes in the vicinity of this property resulting from operation of the Project (ADC, 2015). Furthermore, the station area plan for the 21st Street Station recommends pedestrian- and bicycle-oriented enhancements while maintaining neighborhood character (AECOM et al., 2010:85). Any changes in traffic will be minor and will not diminish aspects of the Saveland House that qualify it for the NRHP, which is under Criterion C within the area of Architecture. Therefore, a finding of No Adverse Effect has been made for the Mahalia and Zacharia Saveland House.

7.1.12 Frank W. and Julia C. Shaw House (HE-MPC-6603), 2036 Queen Avenue S., Minneapolis

Effects from the Project on the Frank W. and Julia C. Shaw House include potential development/redevelopment catalyzed by the Project around the 21st Street Station and changes in access (Exhibit 37). While no Project work will occur in the immediate vicinity of the Frank W. and Julia C. Shaw House, it is located within a quarter mile of the 21st Street Station. However, a station planning study has shown that development/redevelopment potential around the 21st Street Station is limited by existing zoning and there is low potential for redevelopment to actually occur that could potentially impact the setting of the Shaw House(HKGi, n.d.:5-11).

A traffic analysis completed for the 21st Street Station indicates there will be no change in access to the Shaw House and no significant changes in traffic patterns or volumes in the vicinity of this property resulting from operation of the Project (ADC, 2015). Furthermore, the station area plan for the 21st Street Station recommends pedestrian- and bicycle-oriented enhancements while maintaining neighborhood character (AECOM et al., 2010:85). Any changes in traffic will be minor and will not diminish aspects of the Shaw House that qualify it for the NRHP, which is under Criterion C within the area of Architecture. Therefore, a finding of No Adverse Effect has been made for the Frank W. and Julia C. Shaw House.

7.1.13 Kenwood Parkway Residential Historic District (HE-MPC-18059), 1805-2216 Kenwood Parkway, Minneapolis

Effects from the Project on the KPRHD include potential development/redevelopment catalyzed by the Project around the 21st and Penn Street Stations, changes in access, and Project operations noise (Exhibit 38). While no Project work will occur in the immediate vicinity of the KPRHD, the 21st Street and Penn stations may catalyze future development/redevelopment within the vicinity of the district. A station area planning study has shown that there is potential for redevelopment to occur around the Penn Station; however, it is limited to an area located northwest of the station, between the alignment and Interstate 394, approximately 1,000 feet from the district at their closest points. The study indicates there is low potential for development/redevelopment on the west side of Penn Station and around 21st Street Station, in the vicinity of the historic district, due to limits of existing zoning (HKGi, n.d.:4-11, 5-11). Therefore, there is low potential for redevelopment that could potentially alter the district and diminish its setting to actually occur.

There is no direct vehicular connection between the Penn Station and Kenwood Parkway, so operation of this station will not affect traffic levels on Kenwood Parkway. The 21st Street Station is designed as a walk-up station with no planned park and ride facility (see listing of plan sheets for this property in Appendix A). A traffic analysis completed for the 21st Street Station indicates there will be limited on-street parking and limited access streets, which will limit cut through traffic. The study also indicates that there will be no substantial changes in traffic patterns or volumes for Kenwood Parkway, or cross streets and, by extension, the KPRHD (ADC, 2015). Furthermore, the station area plan for the 21st Street Station recommends pedestrian- and bicycle-oriented enhancements while maintaining neighborhood character (AECOM et al., 2010:85).

Operations noise effects were analyzed for the Project. The district is a FTA Category 2 noise sensitive receptor; however, in accordance with FTA criteria, no moderate or severe noise impacts were identified for the district (CSA, 2015). Therefore, a finding of No Adverse Effect has been made for the KPRHD.

7.1.14 St. Paul, Minneapolis & Manitoba Railroad / Great Northern Railway Historic District (HE-MPC-16387), Minneapolis

Effects from the Project on the StPM&M / GN Historic District include alterations to the corridor, a minor alignment shift of a short segment of the line, introduction of LRT infrastructure into the corridor, property acquisition, and potential development/redevelopment catalyzed by the Project adjacent to the line around the Van White Station (Exhibit 39; see listing of plan sheets for this property in Appendix A). The Project will permanently acquire and incorporate, either through fee title purchase or easement, approximately 1.53 acres of property from the historic StPM&M / GN Historic District. However, this land will remain in a rail-related use and not otherwise be infringed on by incompatible development. Approximately 5.42 acres will be temporarily occupied for construction access.

North of Lyndale Avenue, the depressed grade separation in which the railroad line is located that extends northeasterly along the corridor through the Minneapolis Warehouse Historic District will be widened approximately 20-25 feet into the earthen embankment on either side to accommodate LRT. Along one section of the railroad line, beginning near Interstate 94 to approximately Royalston Avenue (a total length of 2,543 feet), the existing BNSF mainline track will be shifted from 0 to 11 feet northward within the historic right-of-way. BNSF freight rail operations will also continue. LRT tracks, the overhead power system, a TPSS, and signal bungalows will also be constructed in the corridor. Several bridges will be constructed near stations and across the StPM&M / GN Historic District to provide pedestrian access across the corridor.

EXHIBIT 35
Frieda and Henry J. Neils House

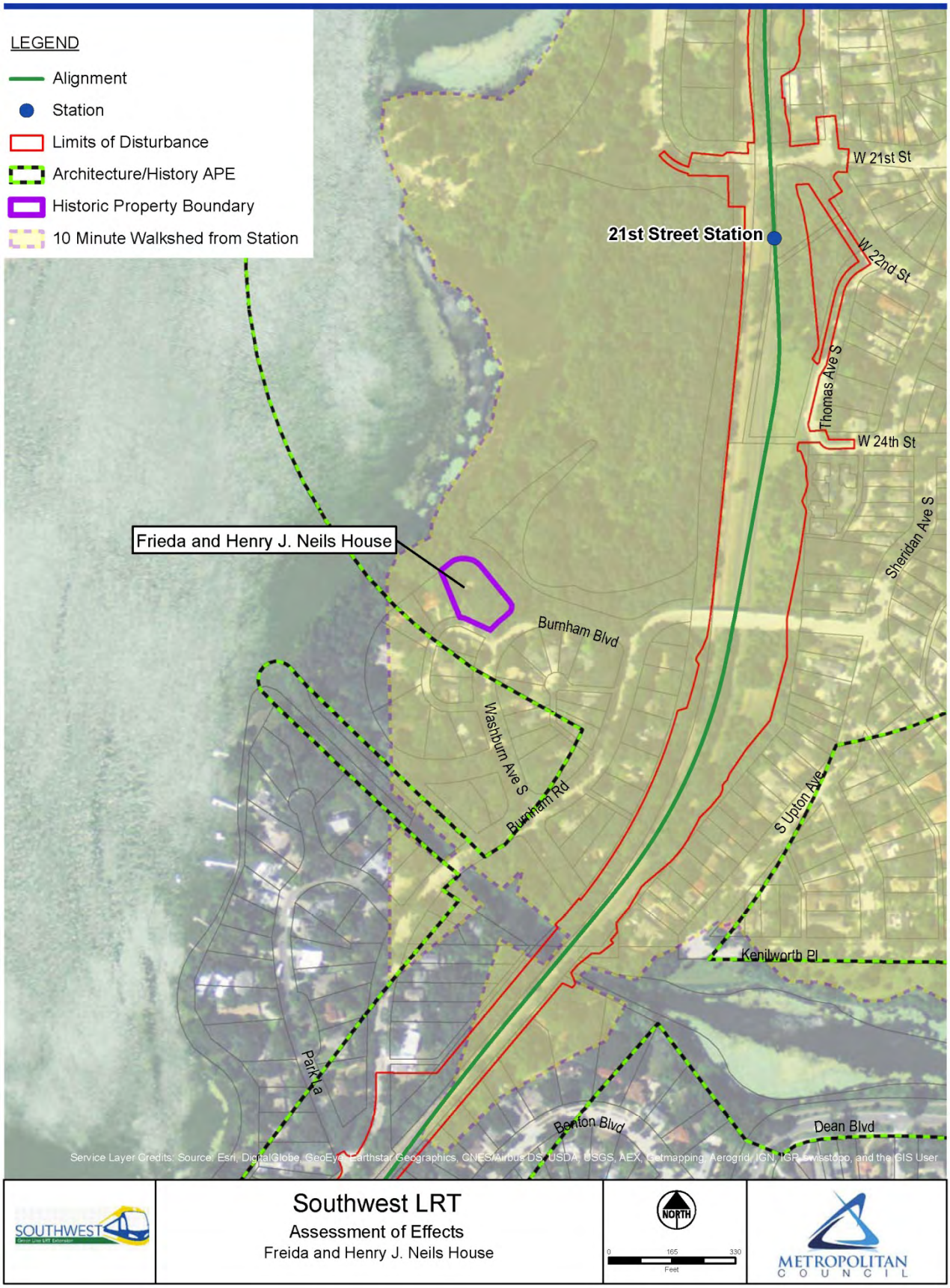


EXHIBIT 36
Mahalia and Zacharia Saveland House

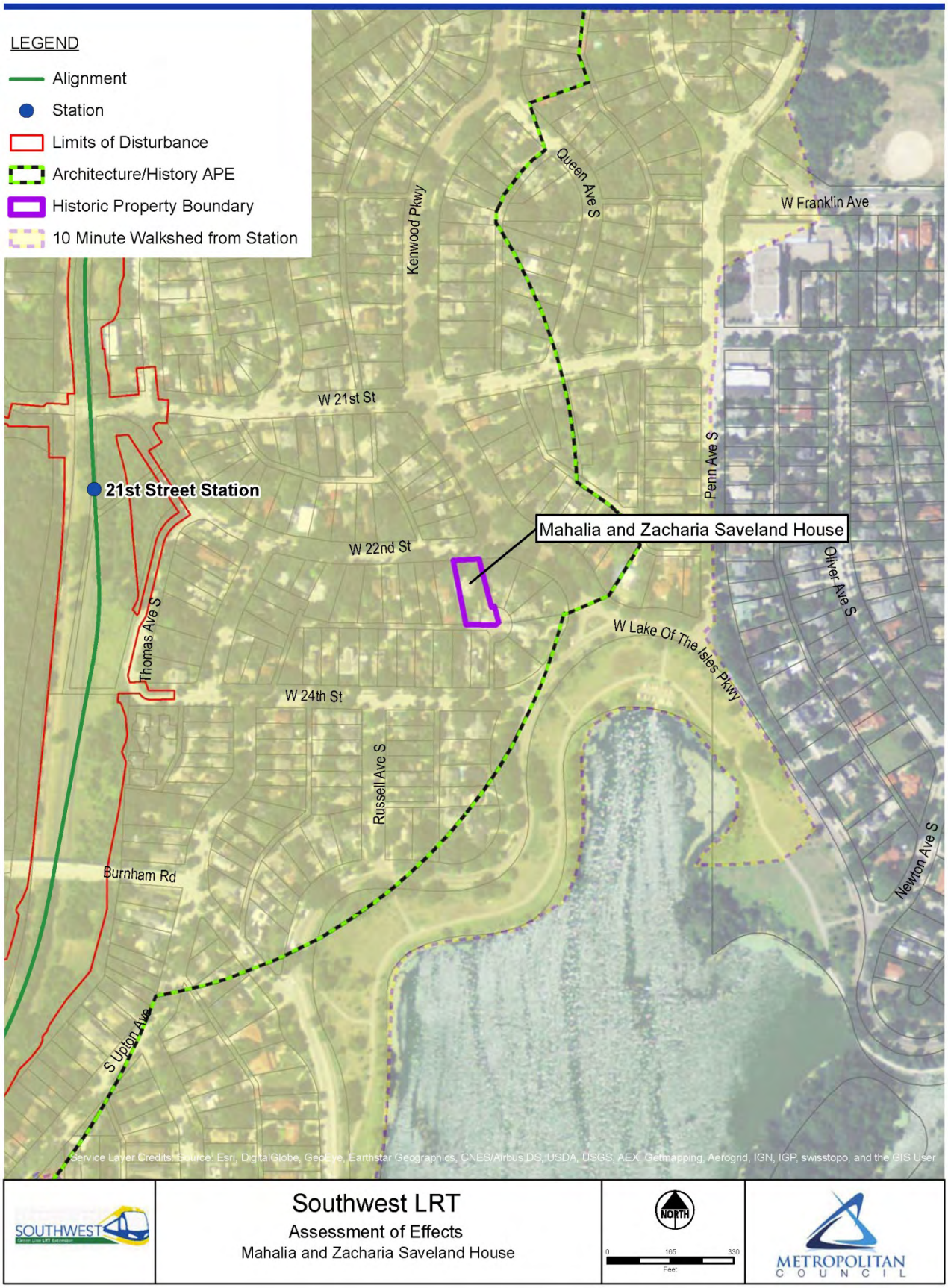


EXHIBIT 37
Frank W. and Julia C. Shaw House

EXHIBIT 38
Kenwood Parkway Residential Historic District

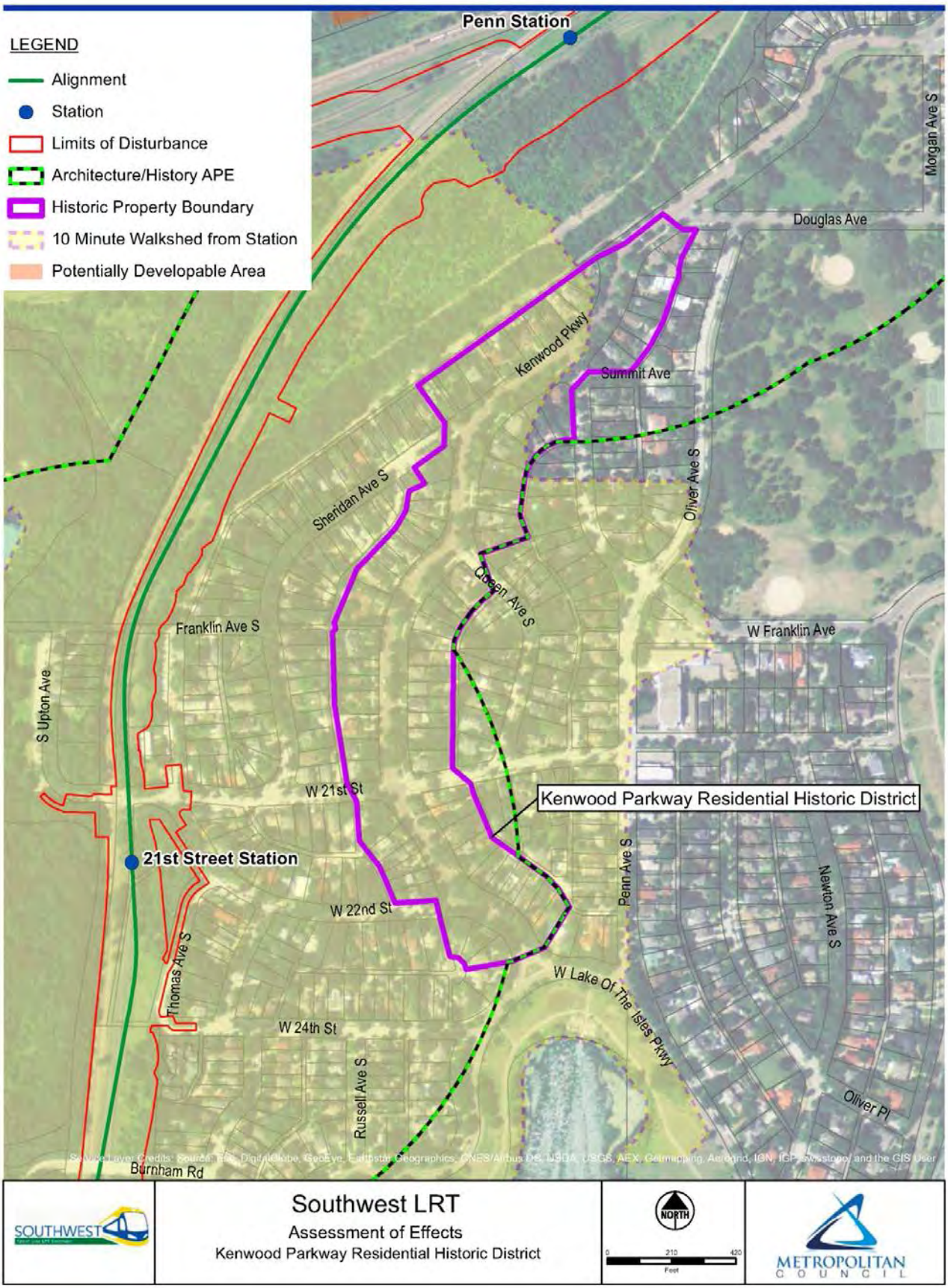
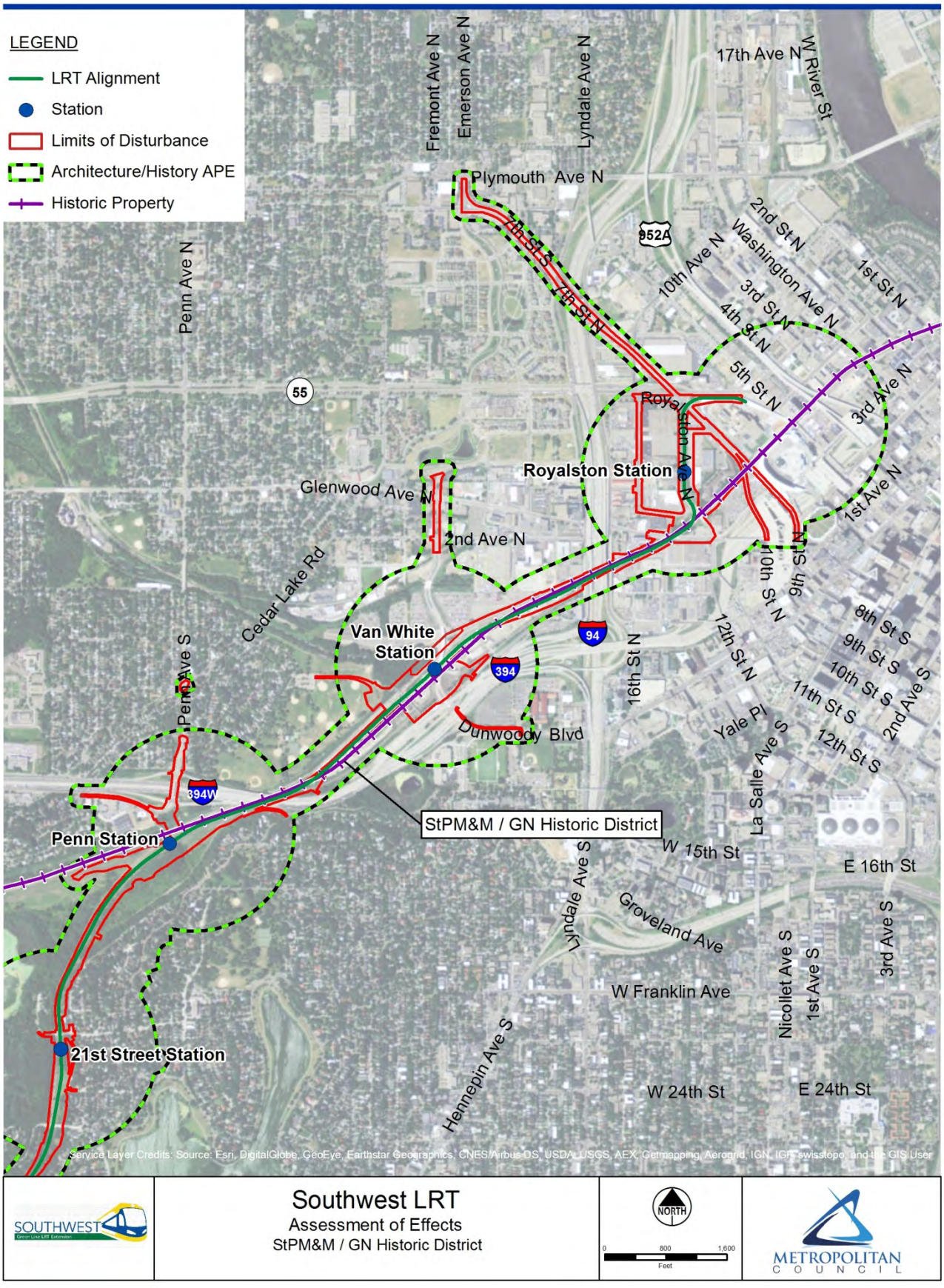


EXHIBIT 39
StPM&M / GN Historic District



At the east end of the Penn Avenue Station, a pedestrian bridge will extend northwest over the Historic District to connect with a passenger drop-off area at South Wayzata Boulevard. At the west end of the Van White Station, an existing pedestrian bridge will be removed and replaced by a new pedestrian bridge that will extend northwest over the Historic District to connect with the Luce Line Regional Trail. Within the depressed grade separation, between the Interstate 394 and North 12th Street bridges over the trench, a new, approximately 900-foot-long light rail bridge will be constructed to cross Glenwood Avenue at-grade and then carry the light rail tracks over the existing railroad tracks between Glenwood Avenue and North 12th Street. As part of this, the existing vehicular bridge that carries Glenwood Avenue over the trench will be replaced with two new vehicular bridges that will tie into the light rail bridge. The light rail bridge and its western approach will be located within the StPM&M / GN Historic District, in the widened portion of the grade-separation trench.

The proposed widening of the corridor, rail alignment shift, and introduction of LRT-related infrastructure are generally compatible with the character of the historic district and will change only a relatively short segment within the linear railroad resource, which extends to the western border of Minnesota. The continuity of the linear resource will be maintained and the alignment shift will remain within the historic corridor. The slight alignment shift of the railroad, the introduction of LRT infrastructure, and property acquisition will slightly alter the feeling of this short segment of the overall district, but will not diminish its overall historic integrity, or its ability to convey its significance.

Portions of the historic district are located within a quarter mile of the Penn, Van White, and Royalston stations. A station area planning study indicated that there is strong potential for the Project to catalyze development/redevelopment around these stations (HKGi, n.d.:4-11, 3-11, 2-11). Development catalyzed by the Project would change the setting of historic district as it passes through the areas of redevelopment. However, these areas are already developed and redevelopment will not diminish the ability of the historic district to convey its historic significance.

To minimize effects on the StPM&M / GN Historic District, which will also minimize visual effects on the Osseo Branch of the StPM&M / GN Historic District (see Section 7.1.15), the Project will design Project elements within and adjacent to the StPM&M / GN Historic District in accordance with the *SOI's Standards.* The project will also continue to consult with MnSHPO and other consulting parties on the design of the alterations to Kenilworth Lagoon and Cedar Lake Parkway to confirm compliance with the *SOI's Standards*. Therefore, with implementation of these measures, which will be documented in the Section 106 MOA, a finding of No Adverse Effect has been made for the StPM&M / GN Historic District.

7.1.15 Mac Martin House (HE-MPC-8763), 1828 Mt. Curve Avenue, Minneapolis

Effects from the Project on the Mac Martin House are limited to a minor change to the property's setting. The Project will install pedestrian lighting and signage along a connection between Cedar Lake Trail and Kenwood Parkway that will result in a very minor visual change to the setting of the property (Exhibit 40; see listing of plan sheets for this property in Appendix A). These project elements, which are small in scale and consistent with existing neighborhood elements, are located a half block from the house, at the bottom of a hill, and will only be visible in the view from the rear of the house and only during non-leaf-out portions of the year. These Project elements will have a negligible effect on the setting of the house and will not diminish it in any way that would affect its ability to convey its historic significance, which is under NRHP Criterion B in the area of Commerce. Therefore, a finding of No Adverse Effect has been made for the Mac Martin House.

7.1.16 Osseo Branch of the St. Paul, Minneapolis & Manitoba Railroad / Great Northern Railway Historic District (HE-RRD-002 and HE-MPC-16389), Minneapolis

Effects from the Project on the Osseo Branch of the StPM&M / GN Historic District include potential future development/redevelopment catalyzed by the Project adjacent to the line around the Van White Station and introduction of LRT infrastructure to a short stretch of the railroad corridor (Exhibit 41). The Project will construct LRT tracks, an overhead power system, a TPSS, and signal bungalows within the StPM&M / GN Historic District, with which the Osseo Branch connects at Lyndale Junction and briefly shares a corridor before the two diverge along different alignments west of Van White Boulevard (see listing of plan sheets for this property in Appendix A). The introduction of Project elements into the StPM&M / GN Historic District will slightly change the setting and feeling of a short section of the Osseo Branch. However, the proposed LRT related infrastructure is generally compatible with the character of the historic district and will not affect its ability to convey its historic significance, which is under Criterion A in the area of Transportation. In addition, to minimize effects on the StPM&M / GN Historic District, which will also minimize visual effects on the Osseo Branch of the StPM&M / GN Historic District, the Project will design Project elements within and adjacent to the StPM&M / GN Historic District in accordance with the *SOI's Standards* (see Section 7.1.14).

EXHIBIT 40
Mac Martin House

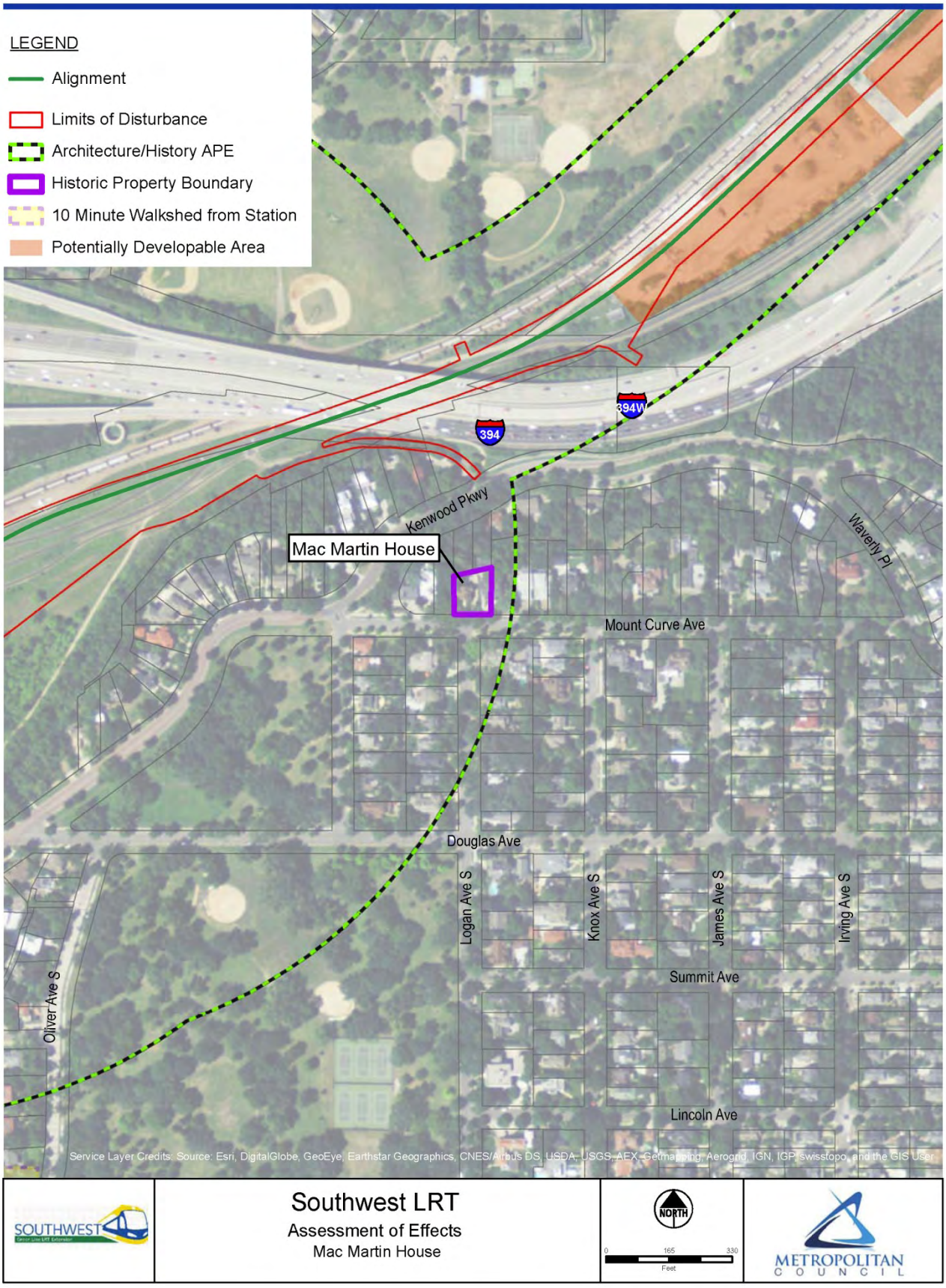
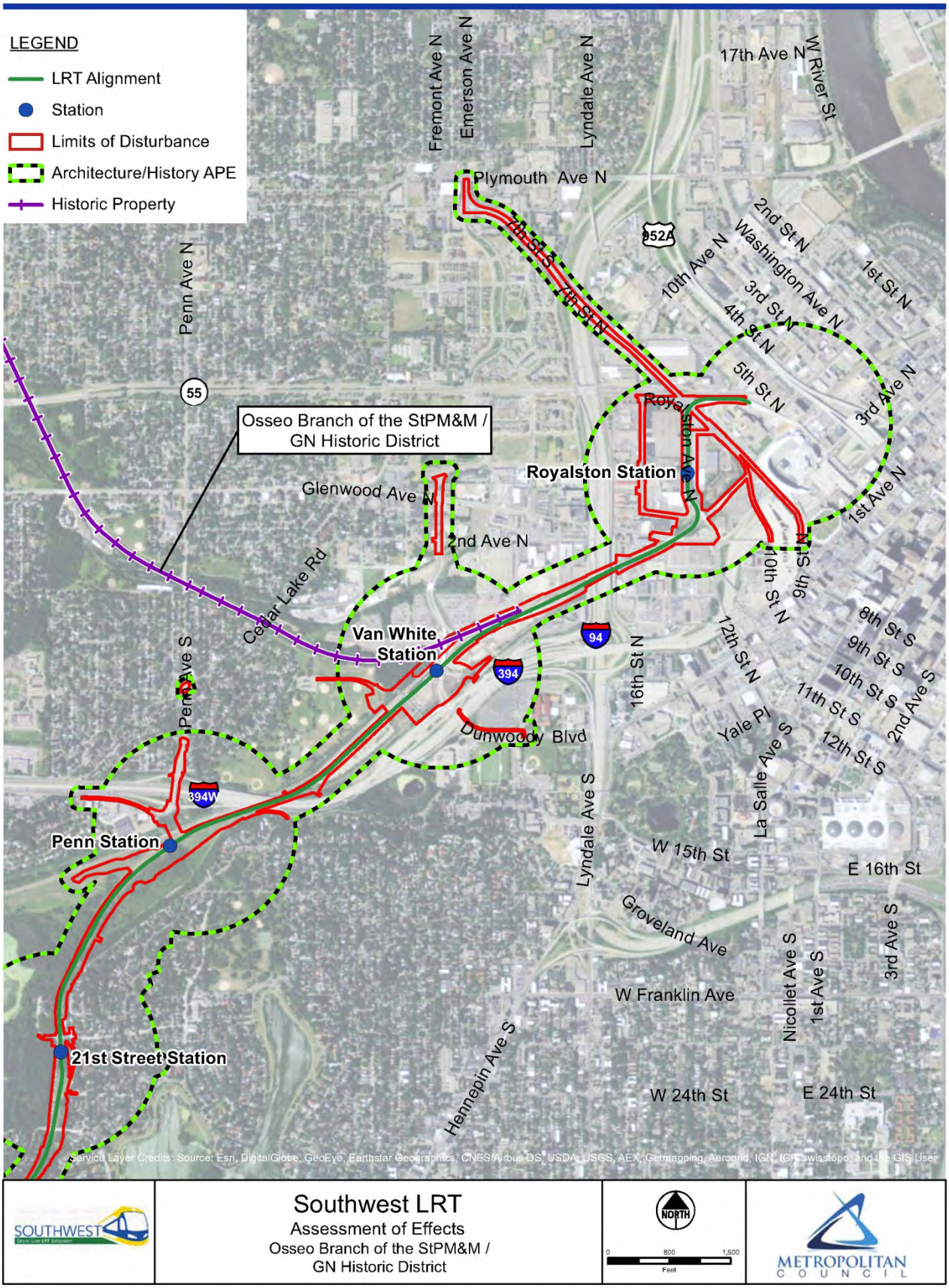


EXHIBIT 41
Osseo Branch of the StPM&M / GN Historic District



A portion of the Osseo Branch is located within a quarter mile of the Van White Station. A station area planning study indicated that there is strong potential for the Project to catalyze development/redevelopment around the Van White Station. The study identified four areas totaling approximately 16 acres as potential redevelopment sites. These bound both sides of the historic district from roughly Colfax Avenue to Irving Avenue (HKGi, n.d.:3-11). Development catalyzed by the Project would change the setting of the historic district as it passes through the area of redevelopment. However, this area is already developed and redevelopment will not diminish the ability of the historic district to convey its historic significance. Therefore, with implementation of the measures identified above for the StPM&M / GN Historic District, which will be documented in the Section 106 MOA, a finding of No Adverse Effect has been made for Osseo Branch of the StPM&M / GN Historic District.

7.1.17 William Hood Dunwoody Industrial Institute (HE-MPC-6641), 818 Dunwoody Boulevard, Minneapolis

Effects from the Project on the William Hood Dunwoody Industrial Institute are limited to minor changes to the property's setting. To improve pedestrian access to the Van White Station, the Project will install pedestrian lights along Dunwoody Boulevard west from the driveway to the Institute towards the station and along the south edge of the Institute's parking lot. Pedestrian ramps will be added to sidewalks along a portion Dunwoody Boulevard (Exhibits 42 and 43; see listing of plan sheets for this property in Appendix A). In addition, the center median (island) in the street in front of the building will be modified, and the curb cut for the Institute's driveway along Dunwoody Boulevard will be reconstructed, which will include pedestrian ramps. However, construction activities on the site are limited to reconstructing a curb cut that provides access to the driveway that is part of the eligible property, which will result in no change to property itself. The pedestrian and street improvements will result in a minor visual effect to the setting of the Institute. Due their minor scale and compatibility with the existing setting, these elements will not diminish the Institute's setting, or its ability to convey its historic significance, which is under NRHP Criterion A within the area of Education. The Project will continue to consult with MnSHPO through a design review process for the pedestrian and street improvements along Dunwoody Boulevard to confirm that the visual character of the immediate setting of the William Hood Dunwoody Industrial Institute is not diminished. Therefore, with implementation of this measure, which will be documented in the Section 106 MOA, a finding of No Adverse Effect has been made for the William Hood Dunwoody Industrial Institute.

7.1.18 Minneapolis Warehouse Historic District (HE-MPC-0441), Vicinity of 1st Avenue North, N. 1st Street, 10th Avenue North, and N. 6th Street, Minneapolis

Potential effects from the Project on the Minneapolis Warehouse District include future development/redevelopment catalyzed by the Project in the vicinity of the Target Field (Interchange) Station (Exhibit 44). Although the Southwest LRT Project may catalyze future development/redevelopment within and adjacent to the historic district in the vicinity of the Target Field Station, potential effects from the all future LRT lines that are planned to serve this station, including Southwest LRT, were addressed as part of the Section 106 review for the station and recorded in the Programmatic Agreement entered into by the FTA and MnSHPO for that project. All documentation on efforts to consider effects to historic properties under Section 106 for the Interchange Project is on file at MnSHPO under Review and Compliance File 2011:1404. Therefore, a finding of No Adverse Effect has been made for the Minneapolis Warehouse District.

7.2 Archaeological Resources

7.2.1 Site 21HE0409, Minneapolis

The Project avoids this archaeological site, so there will be no direct effects on it related to the location of Project elements (see listing of plan sheets for the Project in the vicinity of this property in Appendix A). To avoid any potential adverse effects on this site from Project related construction activities, the Project will develop and implement a CPP that will provide specific instructions to the contractor to avoid and protect this site from all construction related use and disturbance, including construction storage and staging. These items will be stipulated in the Section 106 MOA (MnDOT CRU and SPO 2015:21).With implementation of this measure, a finding of No Adverse Effect has been made for Archaeological Site 21HE0409.

EXHIBIT 42
William Hood Dunwoody Industrial Institute

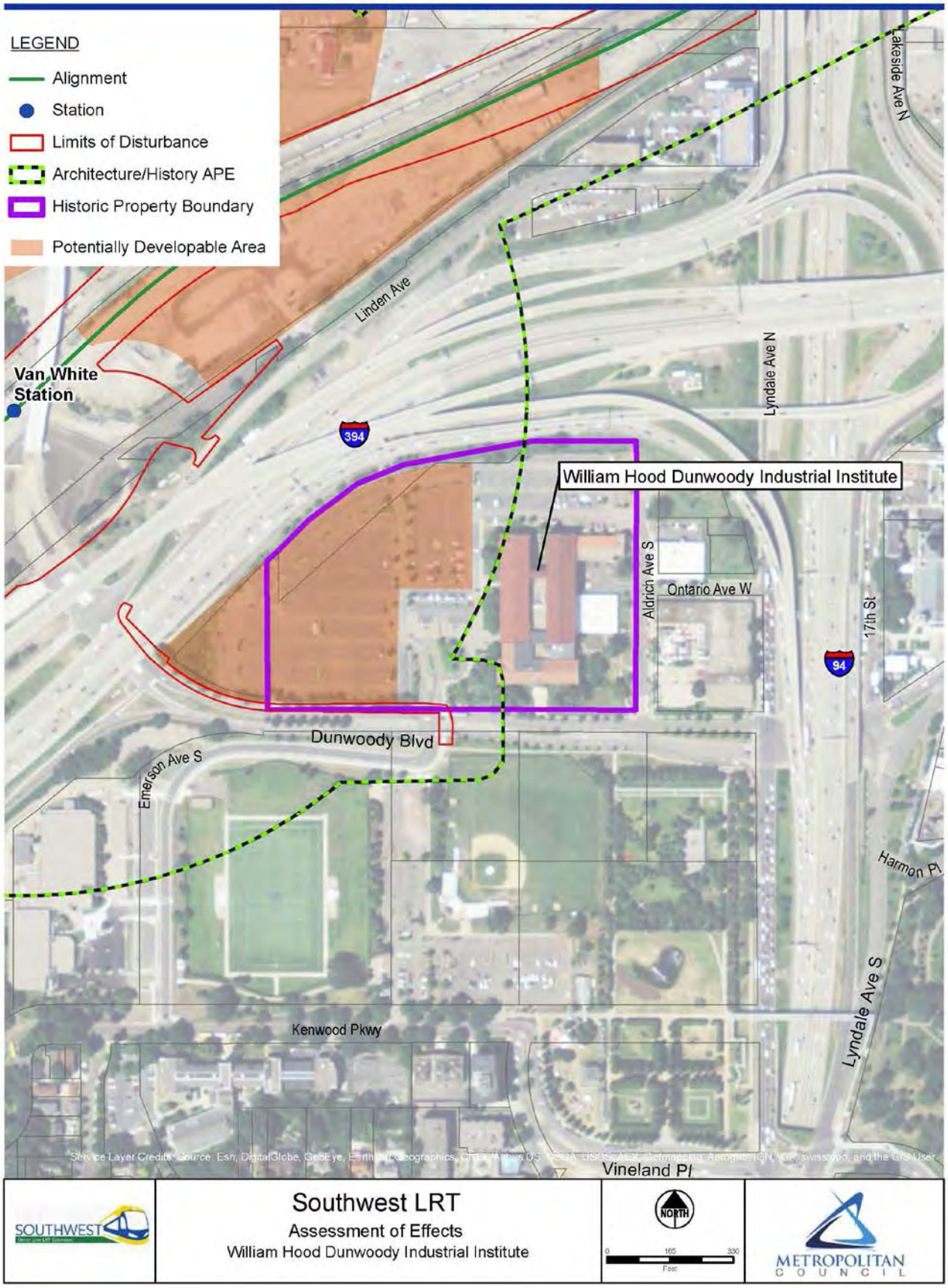
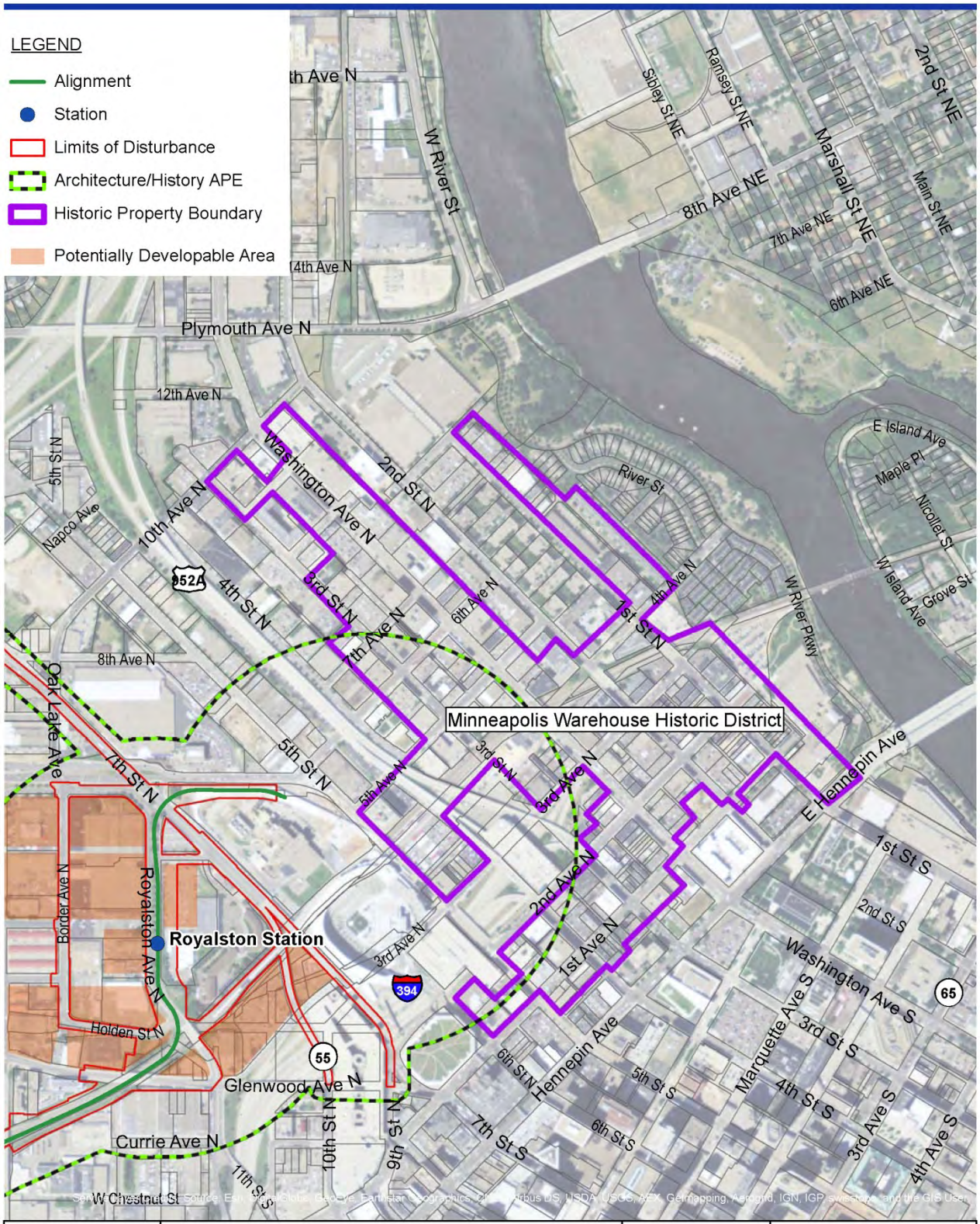


EXHIBIT 43
William Hood Dunwoody Industrial Institute Setting

A. View along the north side of Dunwoody Boulevard looking west at the Dunwoody Institute parking lot entrance

B. View along the south side of Stadium Parkway looking northwest toward the Dunwoody Institute

EXHIBIT 44
Minneapolis Warehouse Historic District



7.2.2 Site 21HE0436, Minneapolis

This archaeological site will be physically destroyed during Project construction (see listing of plan sheets for the Project in the vicinity of this property in Appendix A). Alternative locations for Project elements were explored during Preliminary Engineering in consultation with the City of Minneapolis and MnSHPO, but were found to not be feasible. Due to the existing built urban environment and limited street grid at that location, only one potentially feasible alternate light rail alignment was identified that would connect the proposed light rail alignment in the BNSF right-of-way and the existing Target Field Station: via Border Avenue. However, the Border Avenue light rail alignment was dismissed from further study as an avoidance alternative because of limited available street right-of-way and the nature of the street geometry, which would require the removal of existing commercial buildings. The removal of buildings would lead to the relocation and/or displacement of existing businesses and it would increase Project costs. The potential Border Avenue light rail alignment would also result in relatively tight radius curves in the alignment, which would tend to increase light rail travel times and would present other operational concerns.

Given this reality, the physical destruction of this site cannot be avoided. Physical destruction will completely diminish characteristics of this site that qualify it for the NRHP and as a result the Project will have an adverse effect on this property. Due to the adverse effect the Project will have on the site, the Section 106 MOA will include measures to mitigate the adverse effect, including completing a Phase III data recovery of the site, incorporating interpretation of the site into the design of the Royalston Station, and developing public education/interpretation.

7.2.3 Site 21HE0437, Minneapolis

This archaeological site will be physically destroyed during Project construction (see listing of plan sheets for the Project in the vicinity of this property in Appendix A). Alternative locations for Project elements were explored during Preliminary Engineering in consultation with the City of Minneapolis and MnSHPO, but were found to not be feasible. Due to the existing built urban environment and limited street grid at that location, only one potentially feasible alternate light rail alignment was identified that would connect the proposed light rail alignment in the BNSF right-of-way and the existing Target Field Station: via Border Avenue. However, the Border Avenue light rail alignment was dismissed from further study as an avoidance alternative because of limited available street right-of-way and the nature of the street geometry, which would require the removal of existing commercial buildings. The removal of buildings would lead to the relocation and/or displacement of existing businesses, and it would increase Project costs. The potential Border Avenue light rail alignment would also result in relatively tight radius curves in the alignment, which would tend to increase light rail travel times and would present other operational concerns.

Given this reality, the physical destruction of this site cannot be avoided. Physical destruction will completely diminish characteristics of this site that qualify it for the NRHP and as a result the Project will have an adverse effect on this property. Due to the adverse effect the Project will have on the site, the Section 106 MOA will include measures to mitigate the adverse effect, including completing a Phase III data recovery of the site, incorporating interpretation of the site into the design of the Royalston Station, and developing public education/interpretation.

7.3 Project Assessment of Effect

Based on findings made by MnDOT CRU under delegation and in consultation with the MnSHPO and other consulting parties, which are documented above, FTA has found that the Project will have:

- No Adverse Effect on 26 historic Properties
- An Adverse Effect on five properties: Archaeological Site 21HE0436; Archaeological Site 21HE0437; the CMStP&P Depot; the Kenilworth Lagoon; and the GRHD, of which the Kenilworth Lagoon is a contributing element.

Therefore, FTA has determined that the undertaking will have an Adverse Effect on historic properties. Appropriate measures to mitigate and resolve these adverse effects will be included in the Section 106 MOA based on FTA's continuing consultation with consulting parties. If additional historic properties should be identified, the process for FTA to consult with the MnSHPO and consulting parties concerning effects and resolving any adverse effects will be included in the Section 106 MOA.

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Appendix A: List of 60 Percent Plan Sheets Submitted to SHPO

List of 60 Percent Plan Sheets Submitted to SHPO

Architecture/History Properties

- Hopkins City Hall (HE-HOC-026), 1010 1st Street S., Hopkins
  - Volume 1: Sheet 113 of 123
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  - Volume 10: Sheets 171-174 of 266
- Hopkins Downtown Commercial Historic District (HE-HOC-027), Mainstreet, 8th Avenue to 11th Avenue, Hopkins
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- Minneapolis & St. Louis Railway Depot (HE-HOC-014), 9451 Excelsior Boulevard, Hopkins
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- Chicago, Milwaukee, St. Paul & Pacific Railroad Depot (HE-SLC-008), 6210 W 37th Street, St. Louis Park
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  - Volume 12: Sheets 65-67 of 224
  - LRCI: Cross Sections Sheet and Trail Extension Sheet
- Peavey-Haglin Experimental Concrete Grain Elevator (HE-SLC-009), Highways 100 and 7, St. Louis Park
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  - Volume 4B: Sheets 1-5 of 5 (Cedar Lake Regional Trail)
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    - Systems and Tunnel Facilities: Sheet 11 of 113 (Volume 6)
- Lake Calhoun (HE-MPC-1811)
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    - Volume 10: Sheet 52 of 266, 171-174 of 266, 223-225 of 266, 266A-266D of 266
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- Lake of the Isles Parkway (HE-MPC-1825)
    - See Kenilworth Lagoon
- Park Board Bridge No. 4 / Bridge L5729 (HE-MPC-6901)
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- Lake of the Isles Residential Historic District (HE-MPC-9860), Vicinity of East and West Lake of the Isles Parkways, Minneapolis
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- Kenwood Parkway Residential Historic District (HE-MPC-18059), 1805-2216 Kenwood Parkway, Minneapolis
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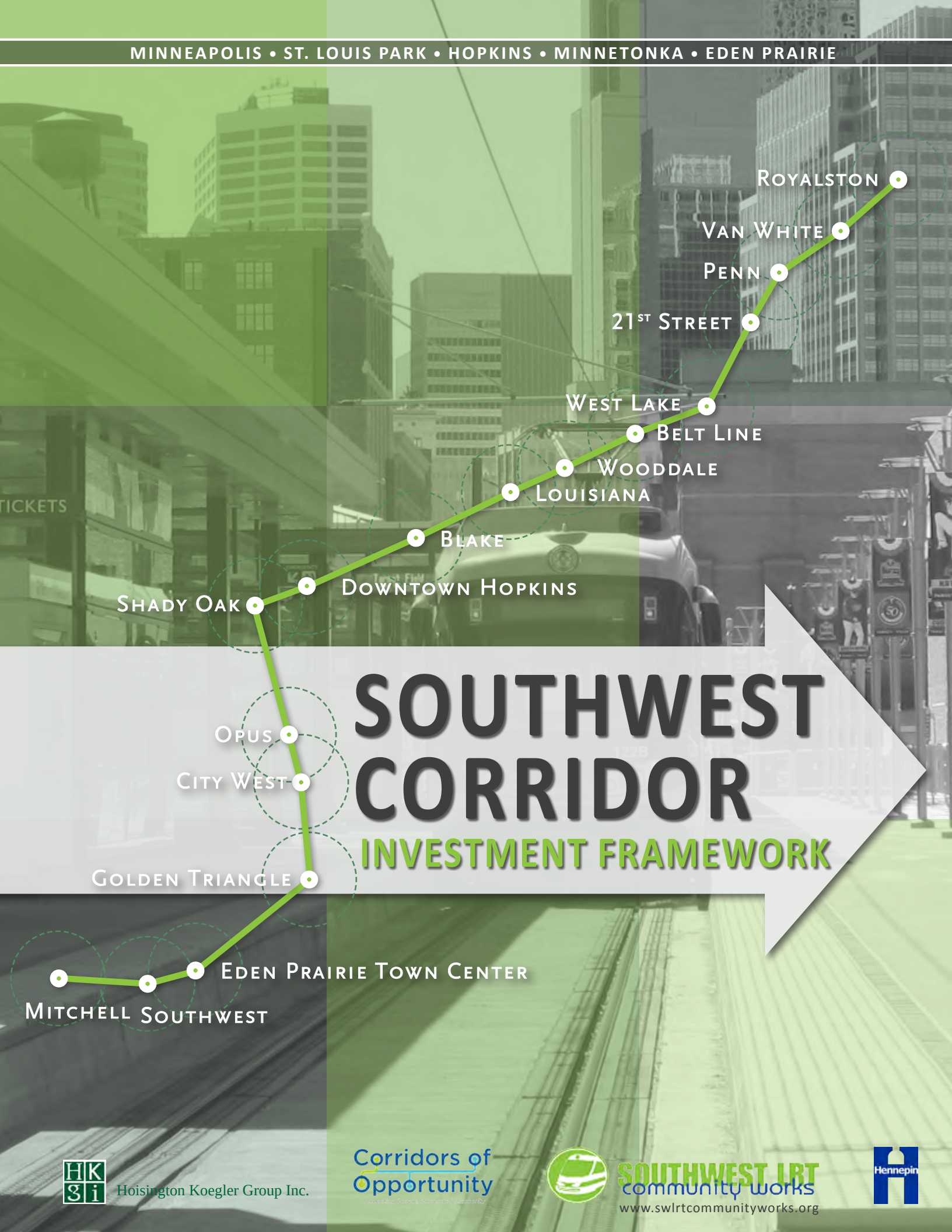
MINNEAPOLIS • ST. LOUIS PARK • HOPKINS • MINNETONKA • EDEN PRAIRIE



SOUTHWEST CORRIDOR

INVESTMENT FRAMEWORK

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Corridors of Opportunity

SOUTHWEST LRT community works
www.swlrtcommunityworks.org

Hennepin

SOUTHWEST COMMUNITY WORKS MEMBERS:

Hennepin County

Hennepin County Regional Rail Authority

City of Eden Prairie

City of Minneapolis

City of Edina

City of Hopkins

City of Minnetonka

City of St. Louis Park

Metropolitan Council

Minnehaha Creek Watershed District

Minneapolis Park and Recreation Board

SouthWest Transit

Urban Land Institute - Minnesota

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Community Design Group

RCLCO

IBI Group Inc.

SOUTHWEST CORRIDOR
INVESTMENT FRAMEWORK

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GLOSSARY

For more information about Southwest LRT Community Works and Southwest LRT station area planning, go to:

www.swlrtcommunityworks.org

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METROPOLITAN COUNCIL

Corridors of Opportunity
Connecting People, Places and Prosperity

S4
S3
S2
S1

INTRODUCTION

- OVERVIEW
- DEMOGRAPHICS, HOUSING + DEVELOPMENT
- PUBLIC ENGAGEMENT
- CORRIDOR CHARACTERIZATION

Document Overview

directly implies, a guide for transit related investments along the Southwest Corridor with an emphasis on the areas surrounding the 17 stations. In its entirety, it represents a comprehensive look throughout the corridor at what is needed on opening day in 2018 to best take advantage of the opportunities that will occur due to the construction of light rail. It also looks beyond 2018. It looks at long-term opportunities and provides guidance for communities to use as they consider comprehensive plan and capital improvement plan updates over the next 10 to 20 years.

The following is a brief overview of the organization of this report.

CHAPTER 1. INTRODUCTION

- **1.1 Background:** The section broadly covers transit in the Twin Cities and then focuses on the SW LRT line (Green Line Extension). It contains information on the Southwest Corridor Community Works project, an unprecedented collaborative effort led by Hennepin County. It addresses the origin of the Transitional Station Area Action Plan (TSAAP) process, an innovative and again unprecedented effort to better integrate land use planning with transportation engineering.
- **1.2 Demographics, Housing, and Development:** Over the past several years, a number of studies and reports have documented existing conditions and offered projections on population, housing growth, development and market conditions. This section of the report briefly summarizes a few of the key studies as a background for planning initiatives.
- **1.3 Public Process:** During the course of the TSAAP planning process, open houses, listening sessions, community events, and electronic outreach efforts were used to present information and seek public input. The public process section of the report briefly outlines the efforts that were undertaken and provides highlights of information received. Additional public engagement information can be found in Technical Memorandums that accompany this document.
- **1.4 Corridor Characterization:** With seventeen stations, five communities, urban conditions, and suburban conditions, the SW LRT corridor defies being categorized in a single way. Rather, it is a collection of unique places that make up a corridor, places that in many cases share qualities while exhibiting qualities that are also unique. The Corridor Characterization section of the report assesses the character elements of each station, outlining those that are of primary significance and those that are contributing. Characterization is important because it is a foundational element that influences land use and facility planning.

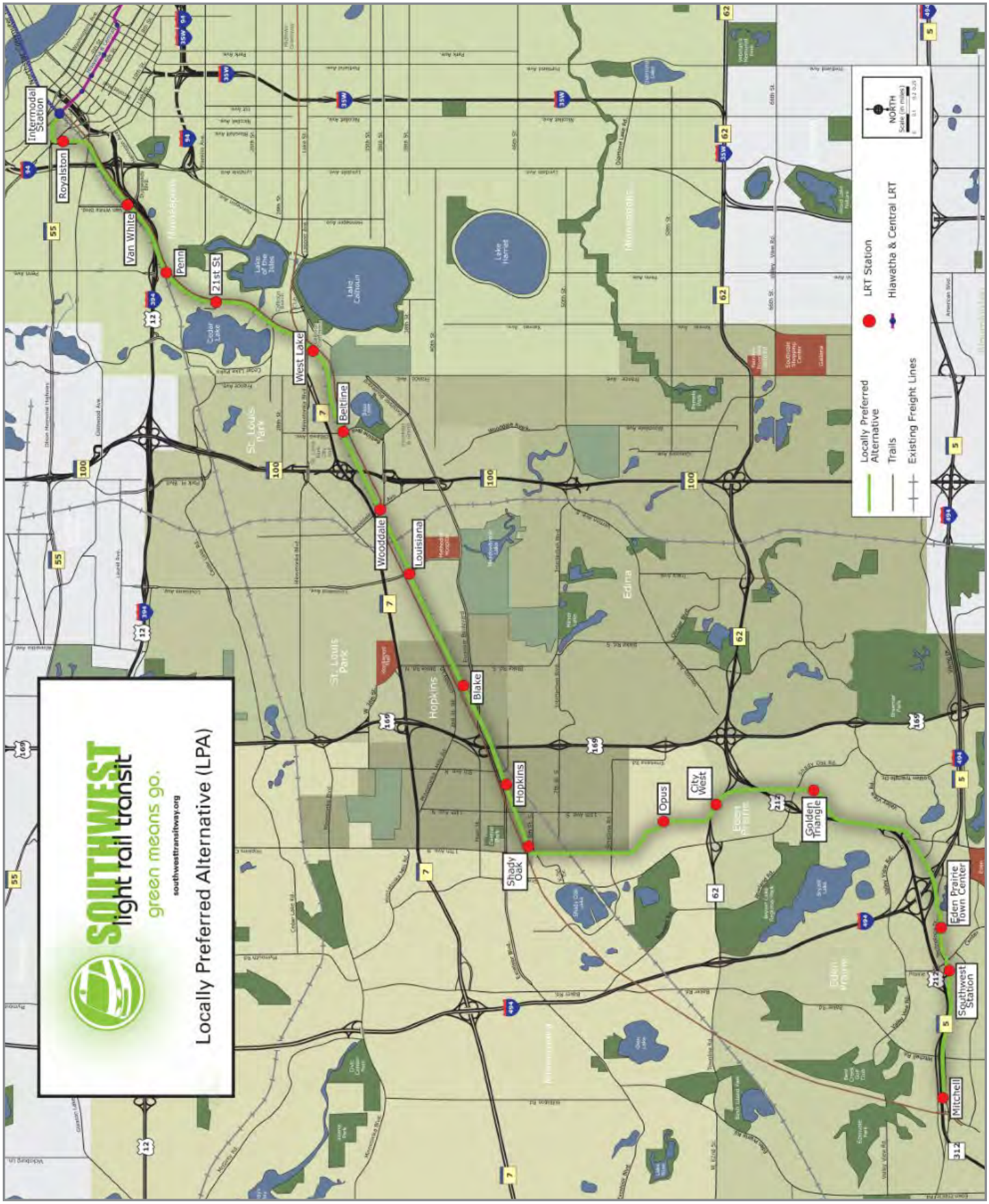
CHAPTERS 2-18. TRANSITIONAL STATION AREA ACTION PLANS (TSAAP)

- The Transitional Station Area Action Plans are the central feature of the SW Corridor Investment Framework. Each station is presented in its own sub-chapter of this larger document. Information on existing conditions, access and circulation plans, station area site plans, infrastructure plans, development potential and key initiatives is presented for each station. The format of this report allows each of these sub-chapters to be “pulled out” and used as freestanding documents.

CHAPTER 19. IMPLEMENTATION

- Collaboration is one of the key reasons that the SW LRT is moving ever closer to reality – to actually becoming an extension of the Green Line. The implementation section of this report helps guide future collaborative efforts by outlining the actions and strategies that will be necessary to make the SW LRT line a success. What needs to be done, when, by whom and in what sequence are all questions addressed in this section.

FIGURE 1-1. SOUTHWEST LRT - LOCALLY PREFERRED ALIGNMENT (LPA)



PREFACE

The construction of the SW LRT line, known as the Green Line extension, will significantly enhance mobility in the region by connecting six communities- Eden Prairie, Minnetonka, Hopkins, Edina, St. Louis Park, and Minneapolis- via light rail transit. Arriving from Eden Prairie at the new Target Field Station interchange hub in Minneapolis, riders can continue their journey eastward to St. Paul, northward via NorthStar Commuter rail and southward toward the airport, Mall of America and southern suburbs via the Hiawatha (Blue Line) LRT and the Red Line BRT. The SW LRT is expected to move 30,000 people per day. Although being an effective people mover, the SW LRT line is much more. It is the region's single largest investment in transit; one which is fully expected to help grow the economy, add jobs, create opportunities for quality housing, enhance access to employment, and support walkable neighborhoods.

This document, the Southwest Corridor Investment Framework, is the result of the Transitional Station Area Action Plan (TSAAP) Process. It represents the work of Hennepin County and partner communities Minneapolis, St. Louis Park, Hopkins, Edina, Minnetonka and Eden Prairie; Hennepin County Regional Railroad Authority, Minnehaha Creek Watershed District, Minneapolis Parks and Recreation Board, SouthWest Transit, and Urban Land Institute (ULI) Minnesota; and business owners and area residents.

Background

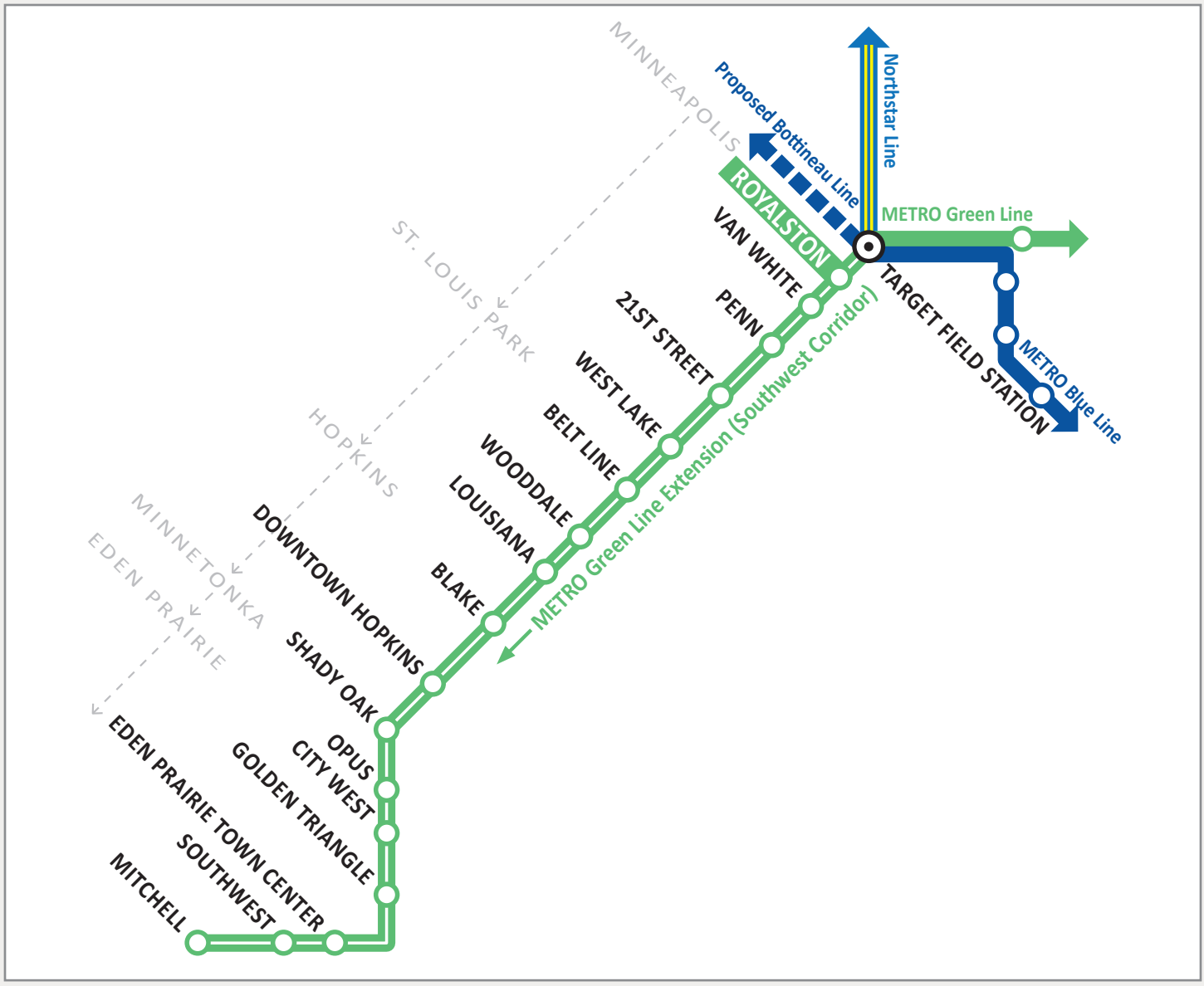
About Southwest LRT

The Southwest LRT Project is a proposed 15-mile light rail transit (LRT) line with 17 stations serving the cities of Eden Prairie, Minnetonka, Edina, Hopkins, St. Louis Park and Minneapolis. The LRT line will increase system capacity in an area of high demand, respond to travel demand created by existing and planned residential and employment growth, provide a competitive travel option that will attract 'choice' riders (who have a choice between transit and driving) and serve transit dependent populations. This line will also be an expansion of the region's transitway system connecting with the Hiawatha (Blue Line) and Central (Green Line) Light Rail Transit Lines, the Northstar commuter rail line, and the Metro Transit bus system.

The Southwest LRT project's locally preferred alternative (LPA) was selected by the Metropolitan Council in May 2010 and the project received Federal Transit Administration (FTA) approval to enter the Preliminary Engineering (PE) process in August 2011. During the PE process, the LPA conceptual engineering plans will be reviewed and refined to a 30% design level, based in part upon agency and community feedback and input.

From previous LRT projects, it is known that the early integration of LRT engineering and economic development will lead to a more productive LRT line that shapes the future of the station area. Placement of station platforms and park and rides, siting the operations and maintenance facilities and opportunities to coordinate utility upgrades during construction all can impact the success of development around station areas. Successful station areas increase ridership for the LRT line as well as the tax base for local government, and contribute to a strong regional economy where residents have access to jobs, housing, recreational activities and other amenities. Strong station areas are integral to the success of Southwest LRT and this was recognized by Hennepin County, the Metropolitan Council and other partners.

Hennepin County initiated the Transitional Station Area Action Plan (TSAAP) process to promote opening day readiness in 2018 by bridging the gap between current conditions and future needs by identifying and prioritizing infrastructure improvements that enhance existing business, support mixed-income housing opportunities, and encourage new development. Over the long term, the TSAAPs will help create unique, transit oriented stations along the diverse SW corridor.



Schematic diagram of Southwest LRT stations and major transit connections

Existing Hiawatha (Blue Line) LRT station with views of downtown

Southwest LRT Community Works

In December 2009, the Hennepin County Board of Commissioners established the Southwest LRT Community Works project. Community Works projects seek to capitalize on investments, by looking at land use and economic development opportunities along corridors. Community Works goals include stimulating economic development, building bridges for effective planning and implementation, maintaining and improving natural systems, strengthening communities through connections and enhancing the tax base.

Lessons learned from the Hiawatha and Central Corridor lines confirm the vital role of a strategic, collaborative, integrated framework to address coordination, planning, and implementation for public and private investment to deliver light rail's broader benefits.

Through partnerships, Southwest LRT Community Works will maximize the benefits that lie "beyond the rails." The program builds on successful corridor and regional partnerships and effective delivery systems to align policies, including federal initiatives to create sustainable communities, enhance economic competiveness through better access to housing and jobs, improve efficiency of public infrastructure investments, unlock private capital, and create healthy, safe, and walkable neighborhoods served by public transit.

SOUTHWEST LRT COMMUNITY WORKS

GOALS AND GUIDING PRINCIPLES

SW LRT Community Works Goals:

- *Economic competitiveness and job growth*
- *Promoting opportunities for business and employment growth*
- *Housing choices*
- *Positioning the Southwest LRT communities as a place for all to live*
- *Quality neighborhoods*
- *Creating unique, vibrant, safe, beautiful, and walkable station areas*
- *Critical connections*
- *Improving affordable regional mobility for all users*

SW LRT Community Works Guiding Principles for Investment:

- *Partner for Effective Planning and Implementation*
- *Create Great Quality Transit Oriented Development and Achieve Unique, Vibrant Places*
- *Stimulate Employment and Economic Development*
- *Provide a full Range of Housing Choices*
- *Strengthen Communities through Connections and Access to Opportunity*
- *Maintain and Improve Natural Systems*
- *Build Healthy Communities*
- *Enhance Tax Base*

PARTICIPANTS

Hennepin County is the lead agency for the Southwest LRT Community Works program working in collaboration with partner cities Minneapolis, St. Louis Park, Hopkins, Minnetonka, Eden Prairie, and Edina; the Hennepin County Regional Railroad Authority (HCRRA); the Metropolitan Council; the Minnehaha Creek Watershed District; SouthWest Transit; the Minneapolis Parks and Recreation Board; and the Urban Land Institute-Minnesota.

The Southwest LRT Communtiy Works is guided by the Southwest LRT Community Works steering committee, which is comprised of elected officials and representatives from the member agencies. The work of the Steering Committee is conducted by the Southwest LRT Community Works Technical Implementations Committee (TIC), which is composed of technical staff from the member agencies.

The Community Works Steering Committee also receives input and feedback from a Community Advisory Committee (CAC) and a Business Advisory Committee (BAC). These committees report jointly to the Southwest LRT Community Works Steering Committee and the Southwest LRT Corridor Management Committee (CMC) to further integrate and coordinate the engineering of the line with land use and economic development.

In addition to the public participants, the Southwest Investment Partnership is also an active partner in encouraging development near station areas. The Partnership is composed of representatives of many of the large employers along the line like Park Nicollet/Methodist Hospital, United Health Group, Cargill and Japs-Olson.

PROCESS

Southwest LRT Community Works partners with corridor cities and other public, private and non-profit partners are working to improve access to stations, encourage transit-oriented development, enhance existing businesses and support a full range of housing opportunities. This work is done through collaboration on studies, plans, and projects to make the areas around proposed stations ready for LRT.

The Southwest LRT Community Works project provides a platform for the partner cities, county, regional and state agencies, including the Southwest LRT Project Office (SPO), and other partners to integrate LRT engineering with land use and economic dvelopment strategies- and to maximize the economic and community benefits of the public investment in the LRT line.

The Southwest LRT Community Works project provides an organizational structure and a process for the multiple Southwest partners to:

» Garner broad-based community input

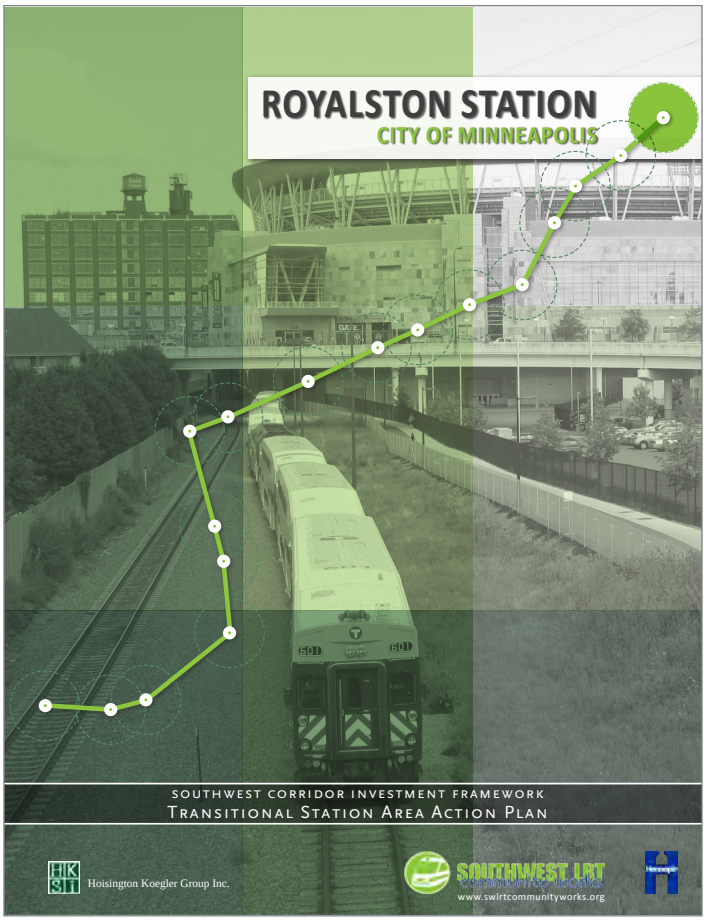
» Establish and pursue a shared vision for the corridor that recognizes different character areas and each station as a unique transit-centered place

» Strategically plan a framework for public investments that not only leverages private investment but delivers community and economic benefits

» Align jurisdictional authorities, policies, technical and financial resources to maximize benefits

» Collectively advocate for corridor-wide funding needs

» Work in tandem with the LRT project to ensure timely coordination with project decision points, timely infrastructure investments, and successful delivery of the transit line.



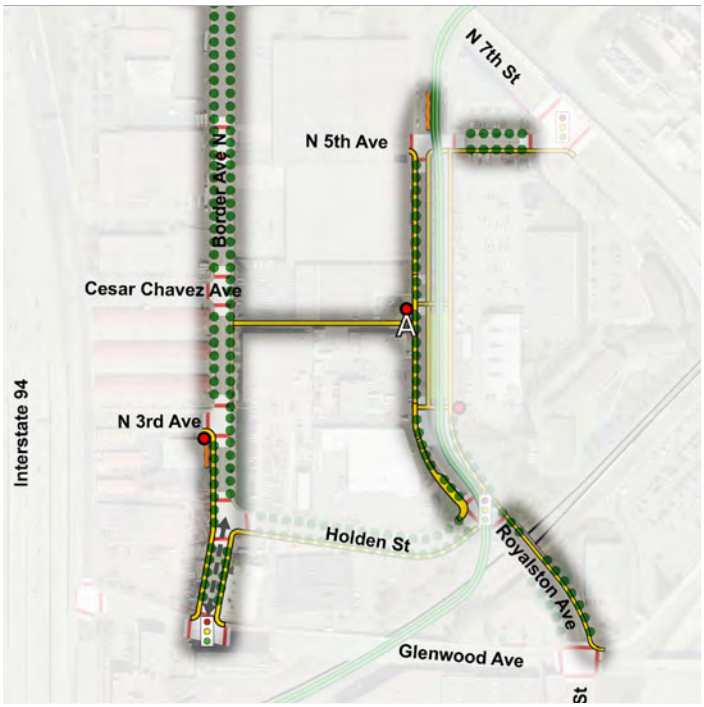
Royalston Station Transitional Station Area Action Plan

Transitional Station Area Action Plans (TSAAP)

The Southwest LRT Transitional Station Area Action Plans (TSAAPs) are designed to bridge the gap between current conditions and future needs by recommending infrastructure investments for implementation by opening day of LRT in 2018. Additionally, the TSAAPs will support short-term development and facilitate long-term, phased Transit Oriented Developments (TOD). Regional investments in LRT can be maximized by identifying and prioritizing infrastructure improvements that enhance existing businesses, support a full range of housing opportunities, and encourage development. This planning effort will facilitate the evolution of station areas into Transit-Oriented Developments (TOD) with a unique sense of place that relates positively to the Southwest corridor as a whole.

The results of this process are action plans that will assist the cities, Hennepin County, other Community Works partners, the Southwest LRT Project Office, and the private sector in understanding infrastructure investments that are needed in the near term to improve business and housing conditions, and in the future to enable the station areas to achieve their long-term vision and the LRT project to increase its ridership base. The TSAAP process was also used as a tool to recommend changes to the LRT engineering to better serve existing land uses and facilitate long-term phased TOD.

Example Station Area Improvements Plan



Example Opening Day Recommendations

Project charrette

Early Integration Initiative - Engineering and Development

OVERVIEW

Through early integration of engineering and development, coupled with systemic organizational change, the Southwest project is intended to serve as a national model. The Southwest project was one of the key initiatives funded through the Federal HUD Sustainable Communities grant awarded to the Twin Cities. Significant collaboration occurred between the TSAAP consulting team, the Southwest Project Office and its consultants.

LOCALLY PREFERRED ALTERNATIVE – A COMMON STARTING POINT

The Locally Preferred Alternative (LPA) that follows the Kenilworth-Opus-Golden Triangle route was selected as the general alignment of the Green Line Extension by the Metropolitan Council in May of 2010. The LPA was the common starting point for the integration of engineering and development along the Southwest LRT corridor.

PROJECT CHARRETTE

Early in this process, a technical design charrette was held to creatively explore planning, design and development opportunities at each station. The outcome of the charrette was a series of sketch ideas for each station with accompanying illustrations to further explain concepts and directions. Staff from the Southwest Community Works member agencies, SPO and Preliminary Engineering (PE) consultants participated in two key pin-up sessions as part of the charrette. The charrette resulted in recommendations to move station platforms, change LRT routing, consolidate park and ride facilities, change pedestrian, bike, and bus access to stations- to facilitate future transit-oriented development.

REGULAR COORDINATION MEETINGS

Representatives from the TSAAP team met on a regular basis with the SPO/PE teams throughout the course of the TSAAP work. Meeting generally on a weekly basis, coordination meetings were an overall vehicle to coordinate work, to share emerging ideas, coordinate schedules, and coordinate public outreach activities.

IRT WORKSHOP MEETINGS

The TSAAP and SPO/PE consulting teams held a number of Issue Resolution Team (IRT) workshops to jointly explore a wide range of topics. Topics addressed included, but were not limited to, track alignment alternatives, station platform locations, development and redevelopment opportunities, transit connections, local roadway needs, and pedestrian and bicycle connections. The workshop meetings helped shape the preliminary engineering work as well as the infrastructure projects identified in the SW Corridor Investment Framework.

The Southwest Corridor Investment Framework is, as the name

Demographics, Housing & Development

Understanding existing conditions in the Southwest corridor is essential to creating station plans that serve both current and future populations. The Twin Cities region is changing and so are the five communities that line the SW LRT. Ten years ago, the Metropolitan Council predicted that 30 percent of the region's 2040 growth would occur in the "developed area" which includes Minneapolis and St. Paul and close-in, suburban communities. In 2013, the Metropolitan Council increased that estimate from 30 percent to 55 percent. Having more than half of the projected 2040 population growth being in close proximity to the traditional urban core is significant. That population growth supports higher densities along the SW LRT line that can be in locations that already supply jobs as well as goods and services. The following provides a brief overview of three recent efforts that have analyzed demographics, housing, and development.

DEMOGRAPHICS

The Excensus 2010 Change Report includes tables comparing demographics broken down by station, corridor, city, and county. Comparing the Southwest corridor (1 mile radius of stations) to the city of Minneapolis and to Hennepin County as a whole reveals some interesting facts:

- 52.9% of SW corridor households are renters, compared to 30.3% in Minneapolis and 19.7% in suburban Hennepin County as a whole.
- 43.7% of all households occupy rental apartments in the Southwest corridor.
- 75.6% of households under age 35 and 49.6% of households age 35 to 54 in the Southwest corridor are renters, both of which are higher than the percentages for these age groups in Minneapolis and suburban Hennepin County as a whole.

HOUSING

In March 2013, Maxfield Research Inc. completed a Southwest Corridor-wide Housing Inventory. The Inventory compiled baseline data at all 17 proposed station locations at half-mile, one-mile and two-mile radii from each station. For Minneapolis stations, data was also compiled at the quarter-mile radius.

The Inventory includes demographics, employment, education, housing characteristics, the for-sale real estate market, and a review of existing housing units to examine affordability, inventory of rental and condominium units, homestead vs. non-homestead, planned development projects and "naturally-occurring" affordable housing. The Inventory also provides an overview of existing city policies, housing programs and financing tools.

Connections between existing housing, especially affordable housing, and station areas are a key component for the success of Southwest LRT. Additionally, TSAAP highlights housing development and redevelopment opportunities at station areas along the corridor. The employment data contained in the Inventory provides a solid basis for additional economic development work along the corridor as well.

An initiative is now underway to follow-up on the housing inventory with a housing gap analysis as well as a corridor-wide housing strategy.

DEVELOPMENT

The Southwest LRT has the potential to increase demand for housing, office and other uses along the line. Studies show that some households and employers have a preference for locating near transit, and that transit can have an impact on real estate markets and development potential. However, transit alone does not "make" a market. Other conditions along the line will influence the potential for TOD, including availability of pedestrian connections and other infrastructure and the presence of neighborhood amenities such as pleasant sidewalks and paths for walking and bicycling, parks, good schools, and local-serving retail.

Key findings from a report prepared by CTOD and Stantec are summarized below, followed by a summary of TOD potential by corridor subarea.

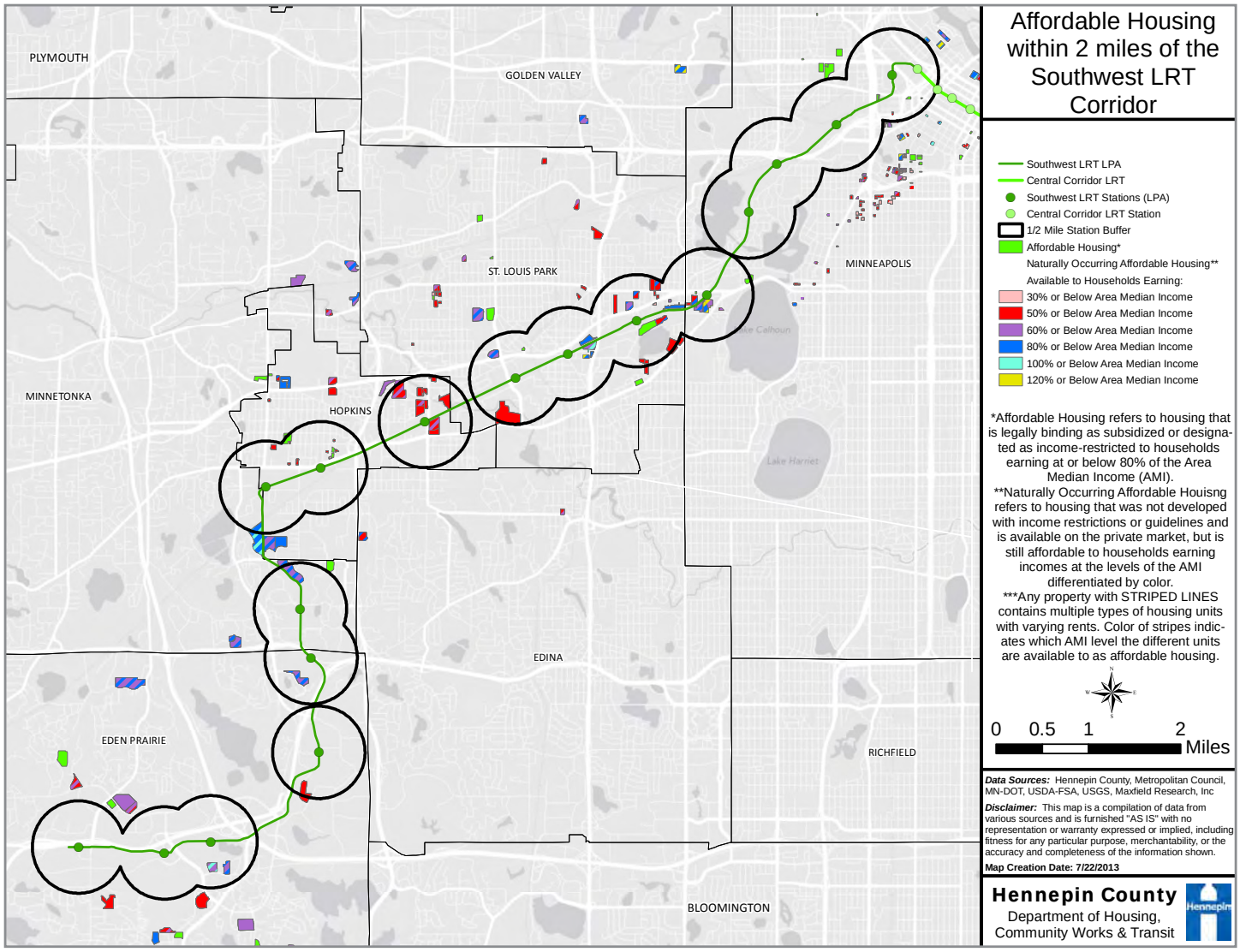
Key Findings:

Recent demographic trends in the Southwest LRT Corridor support TOD.

Compared to the region, the Southwest LRT Corridor has a much higher percentage of people age 25 to 34 – one of the prime demographic groups frequently targeted for TOD projects – and fewer school age children. Households in the Southwest LRT Corridor are also significantly more likely to rent their homes, suggesting that the area will be especially attractive for development over the short term given the current strength of the region's rental market.

In general, real estate market conditions along the Southwest LRT Corridor are relatively strong.

Home prices in the Southwest LRT Corridor are relatively high



Analysis of existing affordable housing options in the Southwest LRT corridor

compared to the region as a whole, and in some locations have declined less during the recession. In general, the stations closest to the "Lakes Area" tend to have the highest priced housing. Rental housing also tends to be more highly priced in the Southwest LRT Corridor markets relative to other metro submarkets. In the short term, the Southwest LRT Corridor is well positioned for new apartment development.

The Southwest LRT will connect a series of major employment centers, providing a strong market rationale for TOD.

Approximately 16 percent of the jobs in the Metro Area are located within one mile of the Southwest LRT Corridor; or about 7.5 percent excluding the one-mile radius around the Royalston station area (which covers much of downtown Minneapolis). Some of the region's most important employment centers are located near the future Southwest LRT line, as well as some of the region's largest employers.

The region is projected to experience relatively modest job growth, but growing sectors of the regional economy are more likely to prefer transit-rich locations.

Future growth is expected to be concentrated in educational and health services; and knowledge-based industries including professional, scientific and technical services. Research shows that these "knowledge based" jobs are most likely to locate near transit, particularly near central business districts and in other high-density regional employment centers. Population-serving industries like education, health services, retail, and entertainment typically locate in areas of household growth, so demand from these industries is also likely to increase as the population in the corridor grows.

The corridor has been experiencing a shift away from industrial uses to commercial and residential uses.

Historically, the corridor has included a strong concentration of jobs in the production, distribution and repair (PDR) sector. As these jobs have declined, employment is shifting toward the knowledge-based industries and education and health services. Almost all of the recent development throughout the corridor has been either commercial office, retail, or multifamily residential.

DEVELOPMENT (CONTINUED)

The corridor includes a significant amount of opportunity sites for new development, the nature of which vary by location.

CTOD research suggests that opportunity sites located near existing employment centers will be most likely to see new development. Opportunity sites for transition exist at Royalston and Van White with conversion of industrial properties at Belt Line, Blake Road and Shady Oak Road.

Demand projections show the potential for between 3,200 and 3,900 additional housing units and between 12,500 and 13,800 new jobs in the Southwest LRT Corridor between 2010 and 2030.

The demand for TOD housing in the corridor is expected to increase by between 780 and nearly 1,000 households every five years, or about 150 to 165 households a year. How much of this demand the corridor actually absorbs will depend on a wide range of factors, including place-making and connectivity improvements, development feasibility, and other market dynamics. The corridor also has the potential to gain about 3,100 to 3,500 jobs every five years, or about 625 to 675 new jobs a year, driven by the knowledge-based and education and health services sector. It is important to note that the production, distribution, and repair (PDR) sector is excluded from these projections because employment in this sector is expected to decline in the region as a whole, and will likely decline even more rapidly in the corridor as industrial uses are replaced by commercial and residential uses. Between 2002 and 2009, PDR employment in the corridor declined by about 675 jobs a year on average, and has the potential to offset employment gains in other industries in the Southwest LRT Corridor.

Improving connectivity from the surrounding neighborhoods to the transit stations and fostering a sense of place will be critical in facilitating ridership and encouraging new transit-oriented development.

Because the corridor is aligned along an old rail line in some segments and near major highways in others, many of the station areas have auto-oriented street systems and poor pedestrian connectivity. As a result, the current "walkshed" for many of the stations is small, limiting the potential for TOD. Some of the station areas also lack the kinds of urban amenities that are desirable in TOD neighborhoods, such as parks or neighborhood-serving retail. Strategic investments to expand the "walkshed" and enhance connectivity will be especially important for promoting desired development.

TOD POTENTIAL BY SUBAREA

The Southwest LRT Corridor Development Assessment report divided the Southwest LRT Corridor into three market sub-areas. While these sub-areas could have been defined in a number of different ways, they were intended to reflect the existing land use patterns that will influence future development. Following are key findings about the potential in each segment.

Minneapolis Segment: Royalston Station to West Lake Station

This segment of the corridor has been developed for more than 100 years. The stations closest to Downtown Minneapolis (Royalston and Van White) are dominated by older industrial uses, which could be redeveloped over the mid- to long-term. The stations farther to the west are primarily residential in nature, however the West Lake station area includes a significant concentration of multifamily housing as well as commercial uses. Homes in the West Lake area have held their value better than other regional locations in the recent downturn. Within the Minneapolis segment, the West Lake station area offers a strong market for development, but few opportunity sites exist.

Middle Segment: Belt Line Station to Shady Oak Station

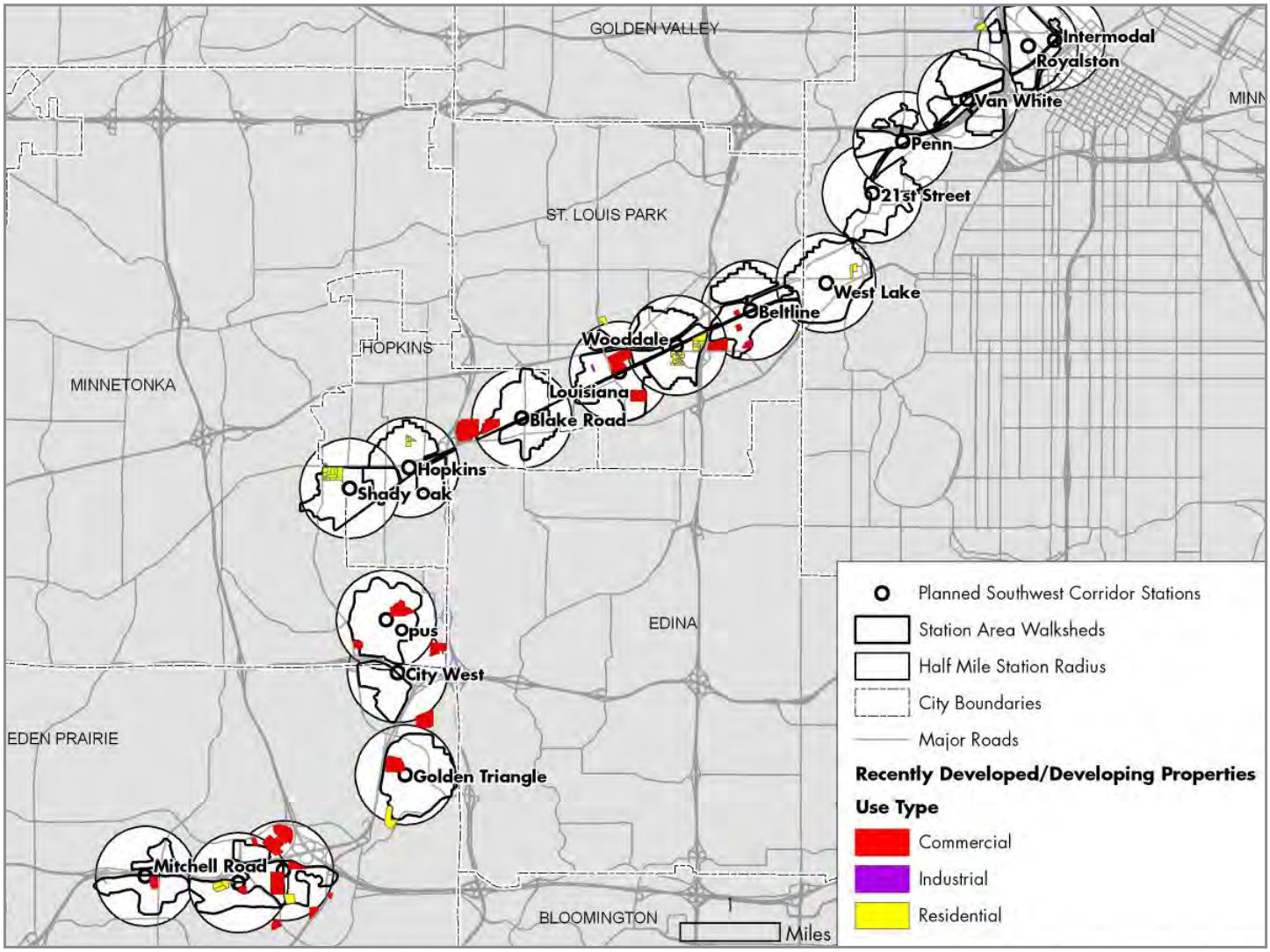
The six stations between Belt Line and Shady Oak follow an historic rail corridor that was developed with industrial uses between 50 and 100 years ago. However, many of the original industrial uses have transitioned into residential and commercial uses. Some large industrial sites remain, including a significant number of buildings that have the potential to be redeveloped over time. The initial development of this area coincided with the growth of the automobile, and as a result many station areas include a mixture of pedestrian and automobile oriented uses. This segment has experienced the most recent development, and is expected to offer the strongest market for redevelopment. In particular, Blake Road and Downtown Hopkins are attracting developer interest.

Southern Segment: Opus Station to Mitchell Station

The land uses near the six future station areas in the southern portion of the corridor were developed relatively recently, and most are oriented toward the regional highway system. As a result, the current development pattern in this part of the corridor is almost entirely automobile-oriented, and the area tends to be attractive for auto-oriented uses such as big-box retail. Residential uses are much less prevalent in this part of the corridor, though recent development has included some apartments. Some significant tracts of vacant land remain, particularly around the City West and Mitchell Road stations.

The southern segment of the corridor will face challenges in attracting transit-oriented development due to its auto-oriented nature. The northern end of the segment (Opus, City West and Golden Triangle stations) offers some opportunity for infill development that could help the areas transition over time to be more walkable, mixed-use places. Absent public-sector intervention, development in the southern end of the segment (Mitchell, Southwest and Town Center stations) is more likely to consist primarily of highway-oriented uses such as retail.

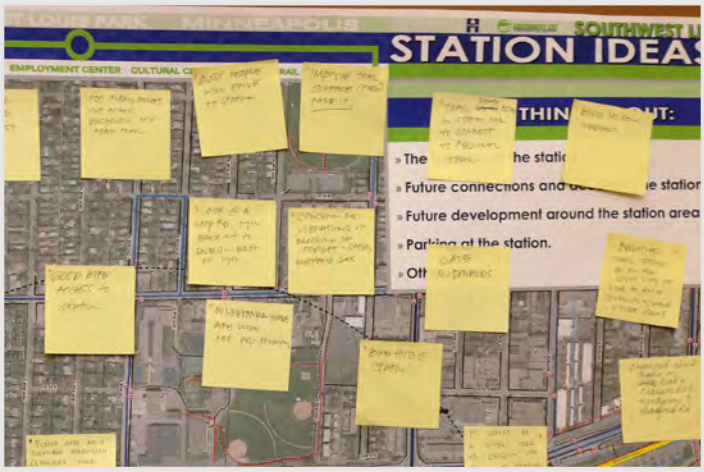
These findings about the corridor segments are intended in part to help inform public investment decisions. For example, the findings outlined in the report show that some of the stations, such as West Lake and Wooddale, have already experienced significant redevelopment. Others, like Shady Oak, may require significant public investment in order to attract new development. Stations such as Mitchell, Southwest, and Town Center are well positioned to attract development, but improvements to local pedestrian conditions may be required to encourage developers to plan more compact projects or incorporate design features (for example, active ground floor uses and public spaces) that will encourage residents, workers, and shoppers to take transit, walk, or bicycle.



Analysis of recent private development in the Southwest LRT corridor (Source: "Southwest Corridor Development Assessment" prepared for Southwest LRT Community Works)

Public Engagement

Gathering broad-based community input has been an important part of the preparation of the SW Corridor Investment Framework. During the course of the project, general open houses, focused listening sessions, community events, established committees and interactive, on-line outreach tools, were used to exchange ideas, present concepts and to gather feedback.



Community input on the Southwest corridor and stations

Exchanging ideas at a community open house

Public participation was vital to the planning process

OPEN HOUSES

The outreach effort stated in April and May of 2013 with four open houses, one in each corridor community with the exception of Hopkins and Minnetonka who held a combined open house since the Shady Oak station is split between the two cities. Participants were asked to share corridor and station ideas including:

- Platform locations
- Alignment options
- Potential future development
- Pedestrian, bike and auto connections
- Park and open space needs
- Other ideas

Approximately 425 people attended the four open house events. While comments received covered a wide range of topics, participants consistently highlighted interest in mobility, safety, and development issues. Respondents strongly advocated the need for:

- Expanded bike facilities – bike racks, lockers and the installation of Nice Ride
- Maintaining trails and trail continuity
- Enhanced pedestrian safety improvements
- Adequate lighting at platforms and connecting sidewalks and trails
- Enhanced aesthetics – landscaping, gardens and green space
- Inclusion of retail – coffee, restaurants and convenience goods
- Expanded options for affordable housing

FOCUSED OUTREACH - TRADITIONALLY UNDERREPRESENTED POPULATIONS

An important emphasis of the outreach effort for the SW LRT project was a focus on including traditionally underrepresented communities, generally defined as communities made up of members of racial/ethnic minorities, low-income populations, persons with limited-English proficiency, members of the disability community, and populations with higher than median rates of transit dependency.

In order to reach members of these communities, listening sessions were held to host deeper conversations with smaller groups of participants, and receive detailed information from stakeholders or members of the public with a common interest or affiliation (for example, members of a cultural or community group, members of a local chamber of commerce, or civic group with an interest and knowledge of previous stages of the work). Community groups that are Corridor of Opportunity grantees were included in focused listening sessions.

Although listening sessions varied slightly in format across stations, all sessions sought to obtain resident responses to the following issues:

- How SW LRT may fit into participants' daily travel needs
- How bus riders may connect to and from each station area
- How pedestrians and bicycle riders may access each station area
- What improvements may be made to the design ideas already developed so the system may work better for system users

Listening session participants were supportive of the SW LRT. In locations ranging from Minneapolis to Eden Prairie, meeting attendees stated that the new line will greatly enhance their ability to "travel to more places" and they were appreciative that stations would be located in close proximity to where they live. They also commented that as the line is designed, care needs to be given to providing safe and convenient access for people on foot and in wheelchairs.

Community events

Focused outreach

Listening sessions

ELECTRONIC OUTREACH

Supplementing face-to-face meeting opportunities, the planning process for the SW Investment Framework also included a number of electronic outreach tools.

SW LRT Community Works Website – Beyond the Rails

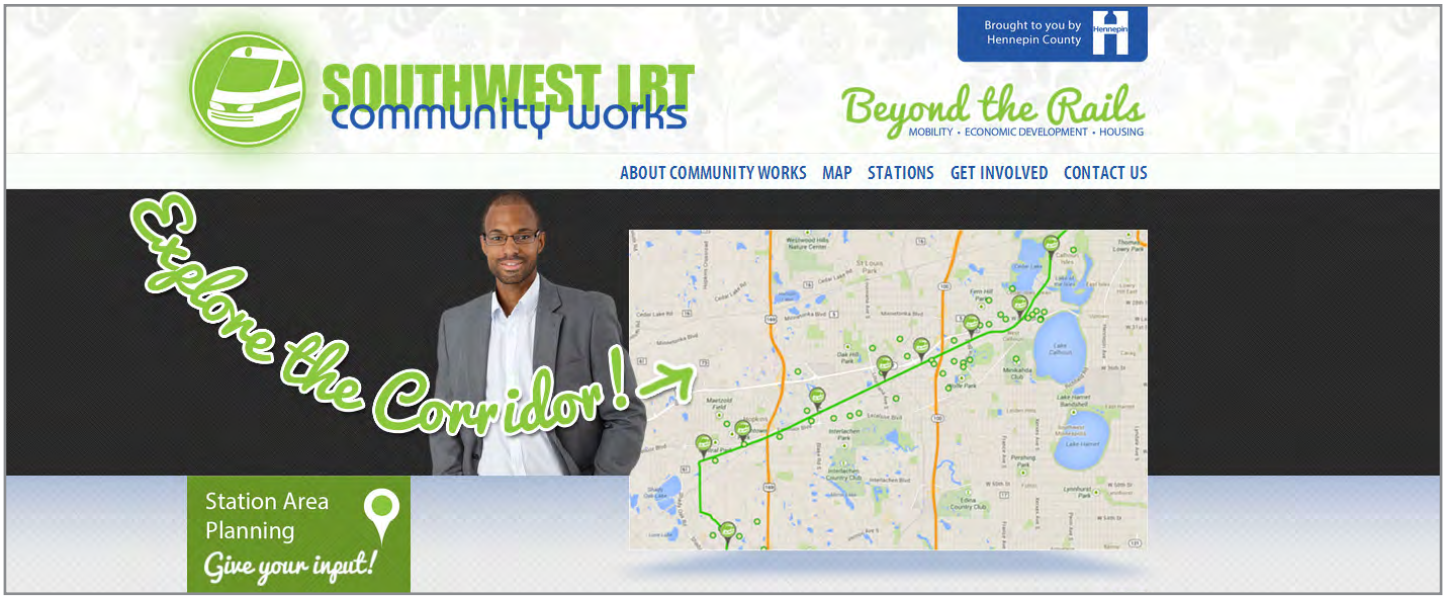
The primary focus of the Community Works website is the SW LRT Corridor. The website includes links to prior studies and planning efforts, background information on the project, summaries of open houses and meetings, and copies of planning concepts and initiatives. The site is also a means to directly solicit input. It provided both updated information on public meetings and with a click of a mouse, allowed people to directly contribute their ideas about areas around the planned stations. *www.swlrtcomunityworks.org*

MindMixer

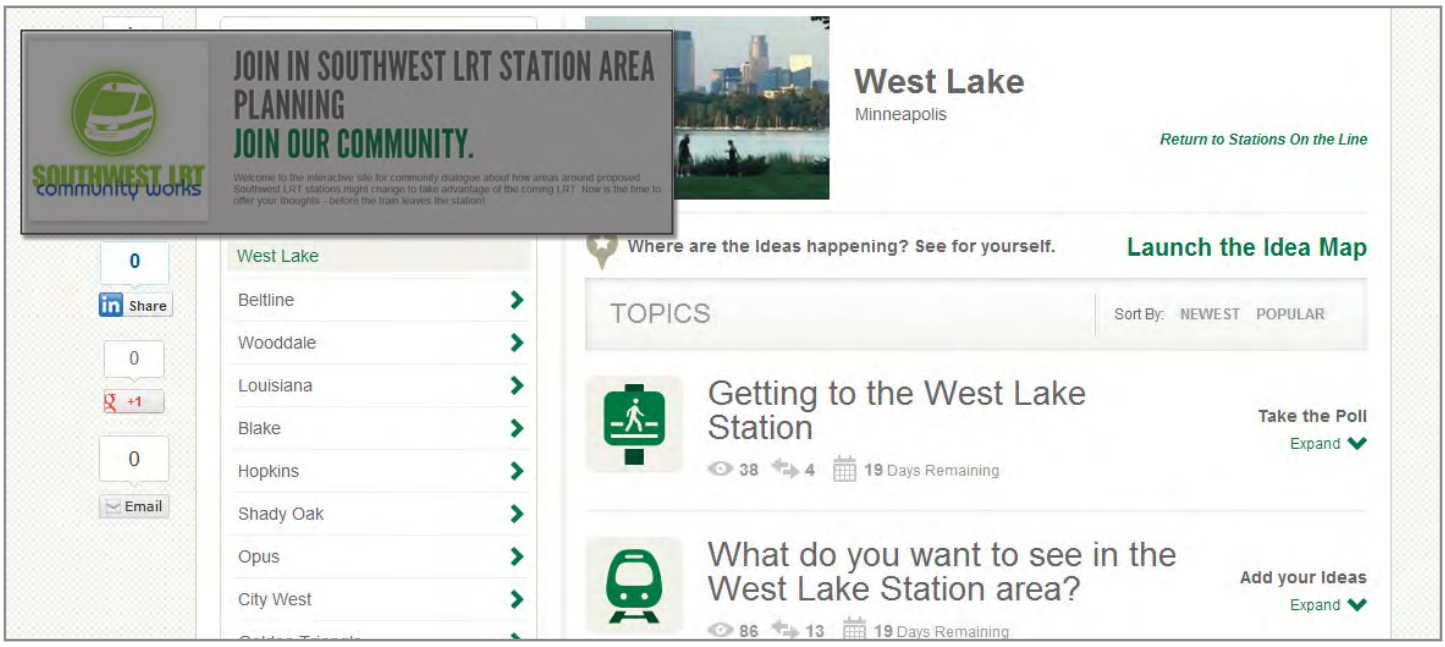
Through MindMixer, Hennepin County hosted an interactive site for community dialogue about how areas around proposed Southwest LRT stations might change to take advantage of the coming LRT. Using an active online interface, people were asked about how they are likely to get to a station and what they would like to see in the station area. The site also encouraged participants to post photographs illustrating examples of what they would like to see in the station areas.
http://www.swbeyondtherails.com/

Tablet Surveys

A brief survey was developed and made available via tablet in electronic form. The survey which was used as part of the listening sessions, covered participant's familiarity with the LRT project, knowledge about the different transit locations being considered, and the potential usefulness of the transit line for their future travel.

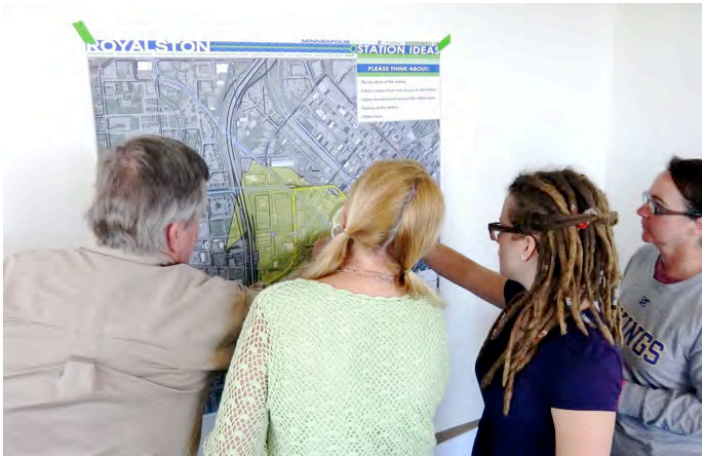


Screenshot of the Southwest LRT Community Works website (www.swlrtcommunityworks.org)



Screenshot of Southwest LRT Community Works' interactive Mindmixer website (www. swbeyondtherails.com)

SW LRT Community Works Steering Committee



Community Outreach

CORRIDOR-WIDE OUTREACH

The planning and design of the SW LRT line is overseen by a number of committees including both elected officials and members of the general public. As the Investment Framework was being assembled, meetings with committees served to provide updates on the status of the project and more importantly, direct input on ideas and concepts as they were being developed. Committees providing ongoing input included:

Southwest LRT Community Works Steering Committee

The Southwest LRT Community Works Steering Committee has broad membership including elected officials from Hennepin County and the cities of Eden Prairie, Edina, Hopkins, Minnetonka, St. Louis Park, Minneapolis; the Minneapolis Park and Recreation Board; and the Minnehaha Creek Watershed District. Additional members include representatives from the Hennepin County Regional Railroad Authority, the Metropolitan Council, the Urban Land Institute; the Southwest LRT Community Advisory Committee, and the Southwest LRT Business Advisory Committee. Meeting monthly, the Steering Committee provided direction at key points during the planning process.

SW LRT Community Works Technical Implementation Committee (TIC)

The Technical Implementation Committee is a staff working group comprised of representatives of the Steering Committee partners. The TIC provided a review of the Investment Framework planning process as well as direct feedback on the organization and content of the final plan document. A TIC Principals group made up of one representative of each community and a representative of the Southwest Project Office also met monthly to provide a more focused review during the project.

Community Advisory Committee

The Community Advisory Committee (CAC) is made up of community representatives who advise the Steering Committee and the Corridor Management Committee during the planning and implementation of the light rail line. They reviewed key concepts and ideas during the TSAAP planning process.

Business Advisory Committee

The Business Advisory Committee, composed of business representatives, provides input during the planning and implementation of the SW LRT line. Station area development concepts that were developed early in the TSAAP process were reviewed by the BAC to ensure that planning reflected the needs and interests of area businesses.

Southwest Investment Partnership

Representing many of the major employers along the SW LRT line, the Southwest Investment Partnership was established to help facilitate the involvement of the private sector in future development supportive of transit. The Partnership provided another forum for direct input to the TSAAP process.

Southwest Project Office (SPO)

The Southwest Project Office is charged with the design and construction of the SW LRT line. Information on the Investment Framework was included as part of SPO public outreach efforts either as a direct part of presentations or as supplementary information available to all meeting participants.

COMMUNITY OUTREACH

Specific, local community outreach also provided direct input from elected officials, community organizations, and interested residents and business owners. Outreach efforts included:

- Meetings with City Councils
- Meetings with City boards and commissions
- Meetings with neighborhood associations
- Meetings with bicycle advisory committees
- Meetings with pedestrian advisory committees
- Presentation materials at community festivals
- Information posted on individual city websites

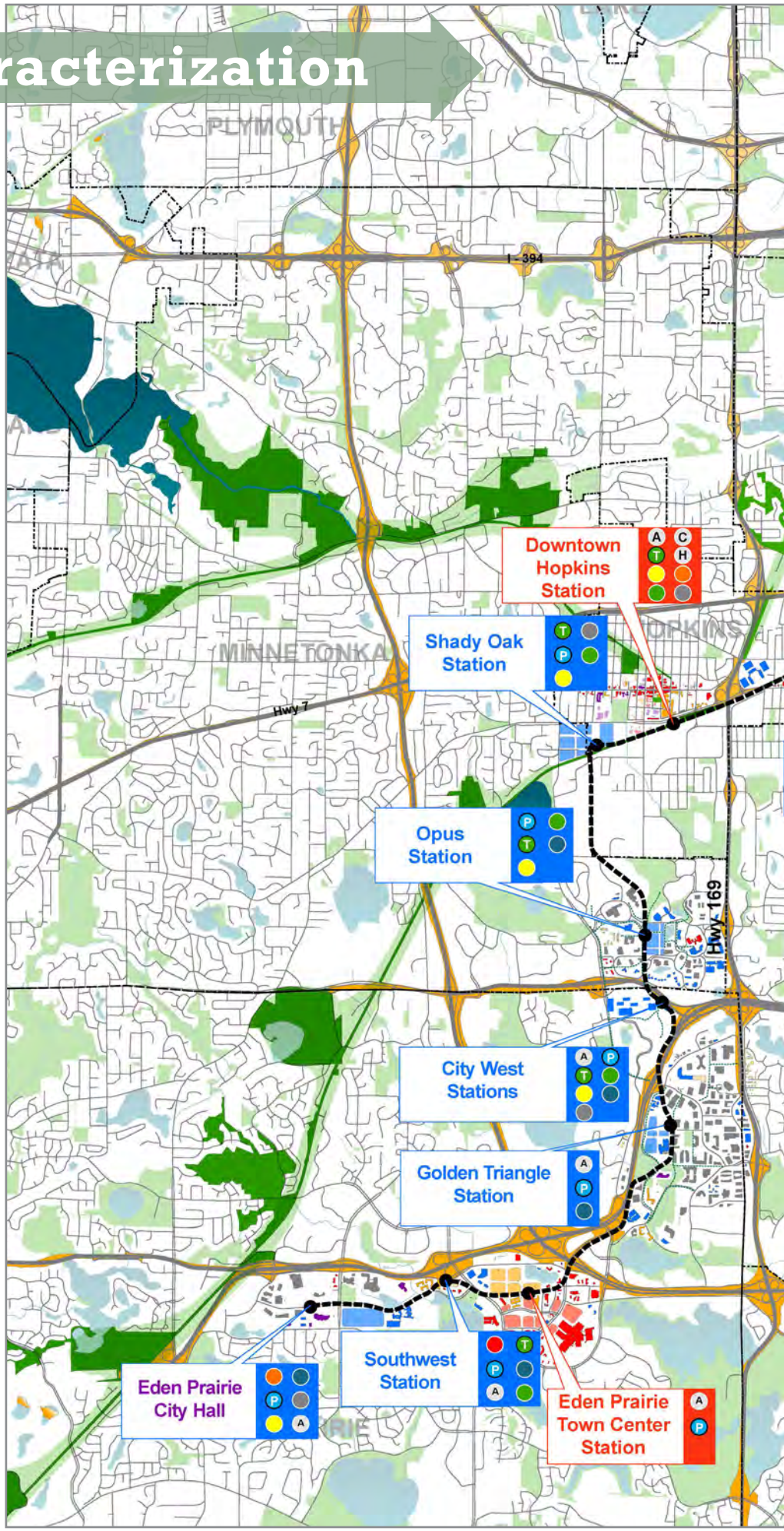
Corridor Characterization

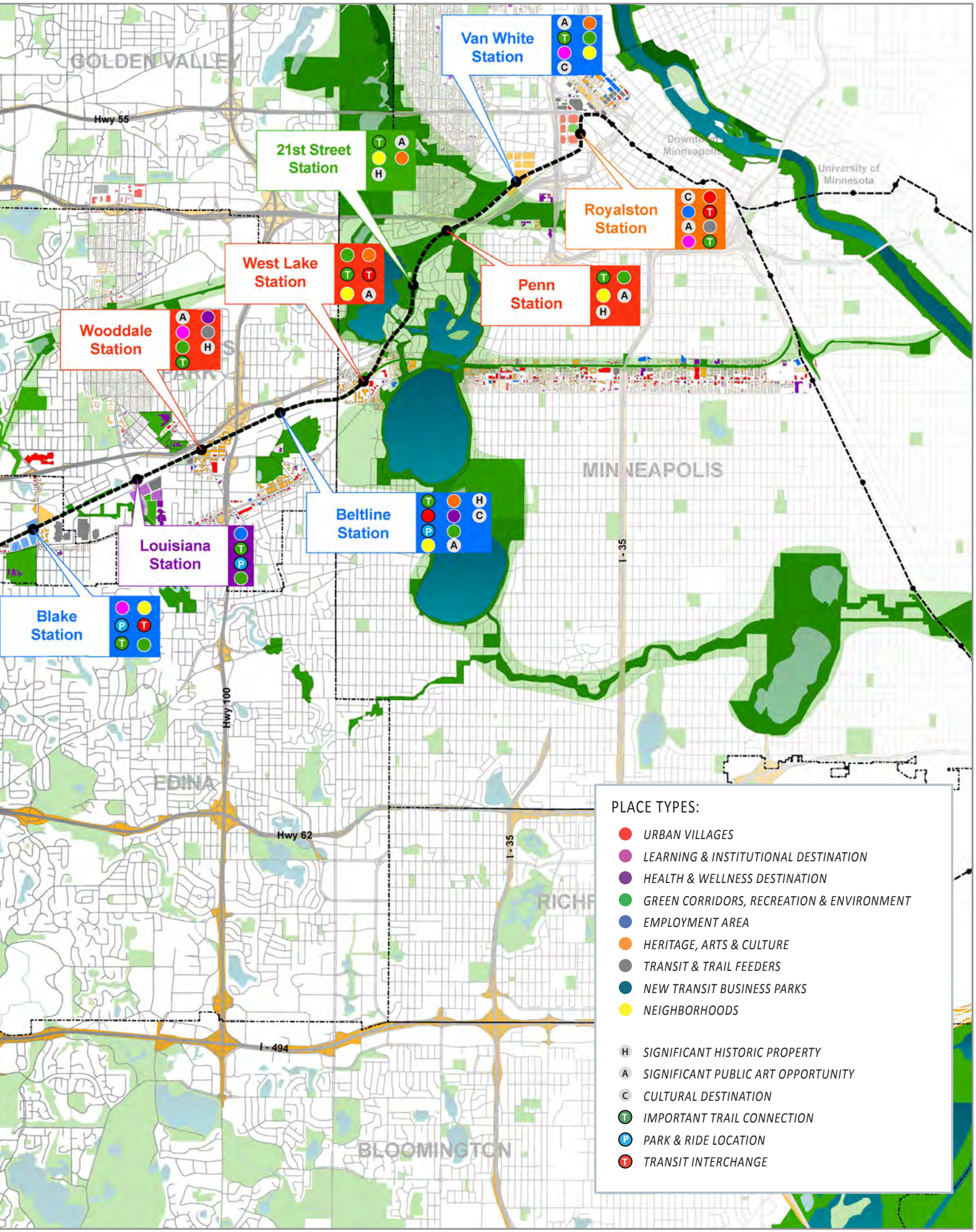
OVERVIEW

Over its 15 mile length, the Southwest LRT Corridor passes through five different municipalities. Although generally characterized as a "jobs line", a closer look at the line and its 17 stations reveals that it is much more. The Southwest LRT Corridor is an interwoven string of interesting and unique places. While each of the stations is distinct, there are a number of systems and in some cases, common elements, features and characteristics that help connect station areas along the corridor and relate them to adjacent neighborhoods. The exhibit on the following pages illustrate the primary areas of influence surrounding each of the station areas as well as the key systems (streets, parks, corridors, etc.), features and characteristics with which they have a relationship.

PLACE TYPES

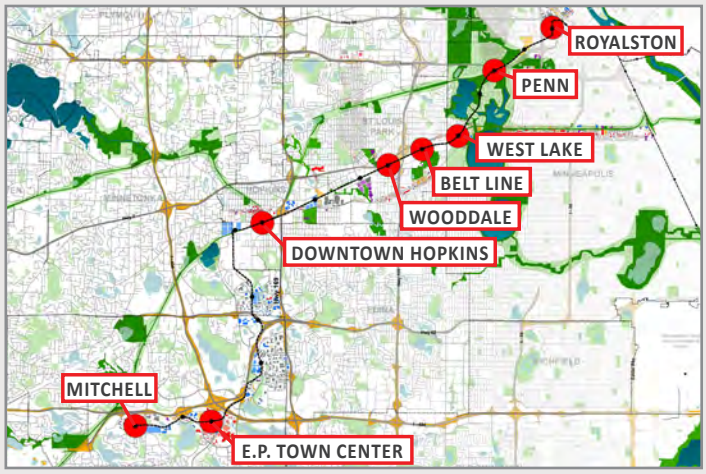
When it opens in 2018, the Southwest LRT will connect a range of diverse communities and place types along its route including places to work, mixed use centers, public institutions and important recreational and open space assets. Nine different place types along the route have been identified by groups like the Urban Land Institute. These place types provide clues as to the types of infrastructure that can better help them support their functions on opening day and beyond.




Van White Station
21st Street Station
Royalston Station
West Lake Station
Penn Station
Wooddale Station
Beltline Station
Louisiana Station
Blake Station
GOLDEN VALLEY
Hwy 55
Downtown Minneapolis
University of Minnesota
MINNEAPOLIS
I - 35
Hwy 100
EDINA
Hwy 62
I - 494
BLOOMINGTON
PLACE TYPES:
URBAN VILLAGES
LEARNING & INSTITUTIONAL DESTINATION
HEALTH & WELLNESS DESTINATION
GREEN CORRIDORS, RECREATION & ENVIRONMENT
EMPLOYMENT AREA
HERITAGE, ARTS & CULTURE
TRANSIT & TRAIL FEEDERS
NEW TRANSIT BUSINESS PARKS
NEIGHBORHOODS
SIGNIFICANT HISTORIC PROPERTY
SIGNIFICANT PUBLIC ART OPPORTUNITY
CULTURAL DESTINATION
IMPORTANT TRAIL CONNECTION
PARK & RIDE LOCATION
TRANSIT INTERCHANGE

PLACE TYPE: URBAN VILLAGES

Urban Villages are traditional town centers or planned activity centers that provide for a mix of complementary land uses including places to live, work, shop and play. Everyday services and amenities in Urban Villages are located within close proximity (1/4 mile radius), this reduces reliance on cars, promotes greater levels of walking and cycling and supports transit ridership. The compactness, higher densities and pedestrian oriented nature of urban villages require that special attention be provided to the character and quality of streets and open spaces.



Built Form and Land Use

» Design transit infrastructure so that it integrates with its environment

» Position infrastructure to support new development

» Sensitively fill gaps in the street with new buildings that relate to the scale and character of adjacent development

» Encourage new development that contains a mix of uses that can be vertically integrated into buildings with active uses located at street level

Public Realm

» Provide high quality supports pedestrians, cyclists, and transit users such as wider sidewalks, street furniture and weather protection

» Create direct and safe routes to existing public open spaces and where possible, establish new public open spaces with new development

Mobility

» Provide parking below-grade or in shared parking structures to ensure greater opportunities for active uses at grade

» Introduce cycling lanes and related cycling facilities along key routes

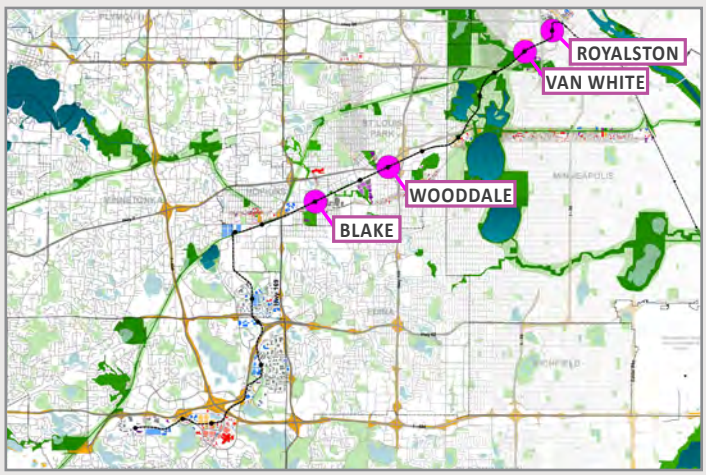
» Reduce dedicated turning lanes and reduce curb radii to re-balance streets in favor of pedestrians and cyclists

» Maximize crossing points and establish a fine grained street and block network that allows for ease of movement for all modes of transportation

» Discourage park and ride facilities that included large paved areas that will detract from the character of the center

PLACE TYPE: LEARNING & INSTITUTIONAL

Colleges, secondary schools and other academic institutions represent major destinations along the corridor. While many of these places function to support students, they also serve as vital community hubs and places for social gatherings.Enhanced connections between these facilities and transit will make it more inviting for students and community residents to walk or ride transit to these institutions and will help reduce automobile traffic in these areas. Many students travel outside of their communities to take advantage of co-ops and apprenticeships offered in business and employment areas.



Built Form and Land Use

» Provide parking at the rear of buildings away from transit stops, station areas and key connecting routes

» Locate major campus activities such as student centers, libraries and eateries adjacent to transit stops/stations

Public Realm

» Focus streetscape, sidewalk and crossings improvements on existing routes leading to and from schools and institutions

Mobility

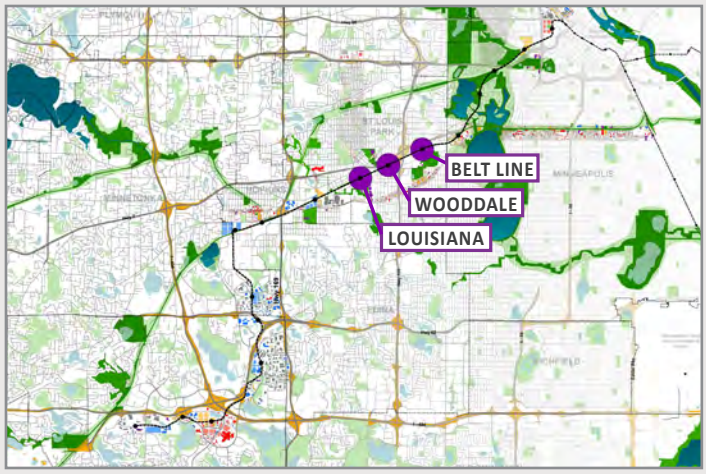
» Formalize existing and extend new access routes to create a well-defined pattern of walkways leading to and from schools and institutions

» Encourage campus enhancements that improve connectivity to and integration of transit services

» Incorporate enhanced cycling facilities and amenities including sheltered racks, fountains, and free or low cost pumps

PLACE TYPE: HEALTH AND WELLNESS

Health and Wellness areas are close to hospitals, medical/healing centers and other health care related services including senior facilities and supportive services. The design and layout of these areas should help achieve an environment for patients, families and employees that is safe, convenient and accessible for people with all ability levels. To support and enhance the overall experience of these uses, design features around these spaces should reduce or eliminate barriers to pedestrian traveling to and from the station area.



Built Form and Land Use

- Where feasible, locate transit stops/stations and employee shuttle drop-off/pick-up locations in close proximity to the primary health and wellness building entrance
- Provide overhangs, awnings or other weather protection features along significant routes

Public Realm

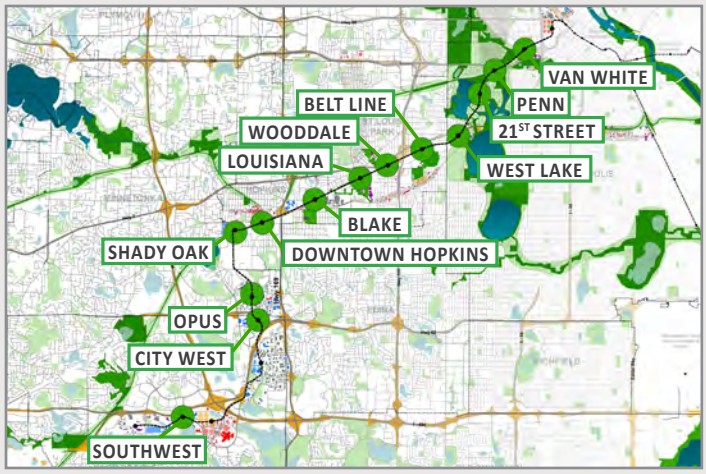
- Focus on accessibility enhancements including curb cuts, crossing enhancements, benches and wider sidewalks leading to and from the station
- Incorporate street plantings, street furniture and public arts with an emphaisis on health and wellness to enhance the pedestrian experience
- Incorporate pedestrian oriented lighting along key connecting routes to support evening patients and shift workers

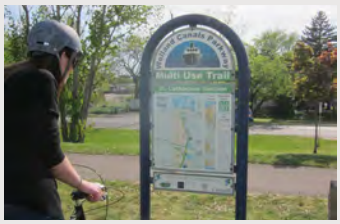
Mobility

- Target wayfinding highlighting accessible routes to and from the station
- Design access to station platforms to be accessible for all users
- Create direct routes with clear sight-lines and enhanced lighting for evening users
- Where distances between transit and health and wellness facilities are far, consider providing shuttle services

PLACE TYPE: GREEN CORRIDOR, RECREATION & ENVIRONMENT

Parks, open spaces and natural areas along the corridor form an important part of the public realm. These areas help establish the identity and character of neighborhoods they relate to and can act as gateways to significant natural features such as lakes, beaches and trails. A strong network of linked green spaces connected to transit can provide both formal and informal recreational uses for neighborhood residents and visitors, particularly if supported by amenities that cater to recreation users





Built Form and Land Use

- Focus on providing amenities for users including pedestrian trails, restrooms and changing rooms, water fountains and picnic facilities
- Explore opportunities for pavilion retail, education and awareness or classroom opportunities that can help to animate adjacent public spaces
- Incorporate green building features that emphasize the relationship to nearby natural/open space features

Public Realm

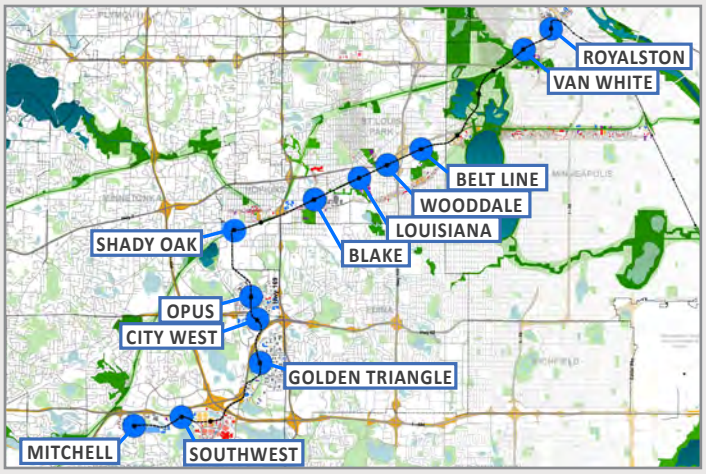
- ADD PUBLIC REALM BULLETS

Mobility

- Extend existing trail networks to integrate with the station and establish clear open space connections to and from the station areas
- Provide enhanced cycling amenities such as short- and long-term bike facilities
- Incorporate wayfinding into area trails and recreational amenities
- Create clear pedestrian access routes that enhance sightliness and safety

PLACE TYPE: EMPLOYMENT

There are many major employment areas along the corridor. Along with accommodating office and industrial activities, these spaces provide opportunities for clusters of innovation where research and development can take shape. The traditional organization of buildings and road networks in employment areas has often resulted in inefficient street patterns that leads to increased distances and travel time. This has reduced the attractiveness of public transportation to and from these areas. Improving travel options through the creation of pedestrian and cycling facilities is needed to help transition away from these largely auto-dominated employment areas.



Built Form and Land Use

» Encourage a greater mix of uses along key routes to and from the station

» Encourage shared amenities such as public squares and courtyards to link surrounding buildings. Where possible, position these outdoors spaces to face public streets

» Ensure doors are located where they are easily accessible from area sidewalks and trails

Public Realm

» Ensure pedestrian links are continuous and extend directly to the main entrance of buildings

» Locate outdoor lighting in areas that enable users to easily identify different routes and buildings

Mobility

» Consolidate driveways and access points along key routes, and where feasible establish shared access and parking to help further minimize driveways

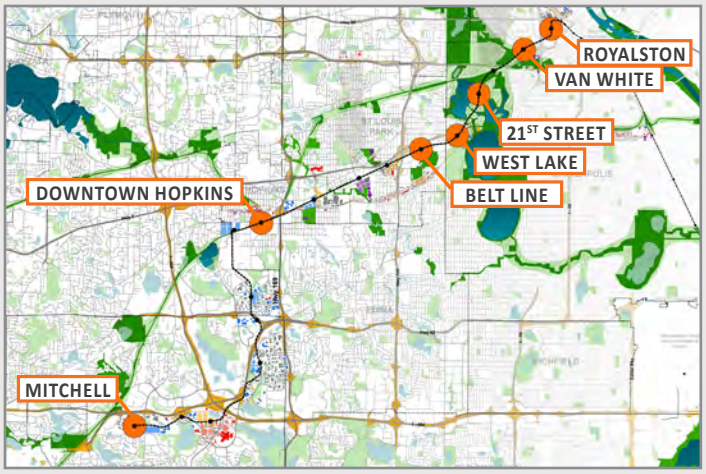
» Introducing mid-block connections between sites to support walking to businesses further from the station

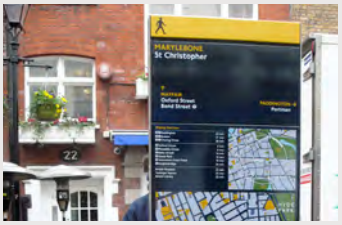
» Provide enhanced cycling facilities and incorporate bike lockers to facilitate riding from the station to work.

» Ensure sidewalks are provided where possible on both sides of the streets and incorporate pedestrian supports including street trees

PLACE TYPE: HERITAGE, ARTS & CULTURE

Cultural and Heritage assets play an important role in communities. They represent the history, community values and the aspirations they hope to carry into the future. These spaces can take a variety of forms – gallery building, monument or cultural landscapes and they often provide significant cultural, social and economic benefits. Maximizing opportunities to better connect and promote these locations can benefit surrounding communities through improved tourism, enhanced civic pride, education and awareness, community participation and new opportunities for arts and cultural activities.





Built Form and Land Use

» Encourage the rehabilitation of historic properties, and ensure that all new developments are compatible with the distinctive qualities of adjacent historic properties.

» Incorporate landscaping, buffering or other forms of mitigation measures where there may be potential impacts

Public Realm

» Where appropriate, incorporate special streetscape and landscape treatment to further celebrate heritage/art and culture zones

» Integrate artwork or other features into the design of the station that reflects local heritage or arts and cultural themes

Mobility

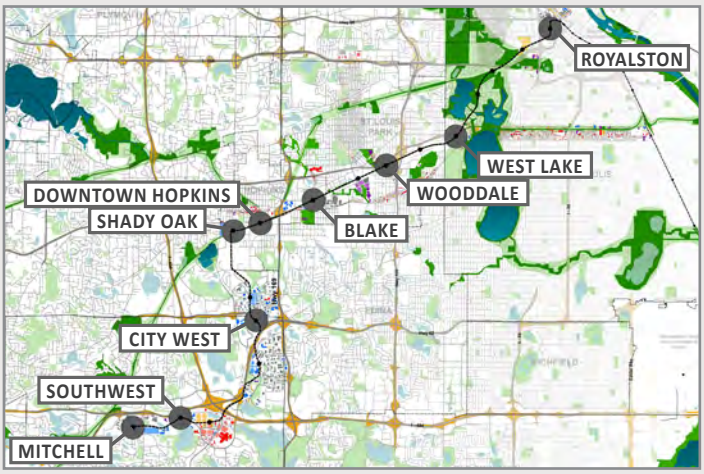
» Incorporate wayfinding and signage to inform passengers of important points of interest

» Locate transit stops/stations in close proximity to cultural heritage venues for ease of access and to promote visibility of the sites

» Use public art to connect places and destinations that are located away from the corridor

PLACE TYPE: TRANSIT & TRAIL FEEDERS

Bus, transit and trail feeders are found at the intersection of transit lines. These locations provide access to a range of destinations and allow commuters to make transfers between different modes and systems to get around. Given the higher number of users that frequent these areas, provisions for travelers that enhance ease of movement such as wider sidewalks and prominent wayfinding are encouraged. High quality facilities that support people walking, riding or cycling should also be integrated to further improve the function of these spaces.



Built Form and Land Use

- Design station facilities and infrastructure to minimize transfer distances and create direct, comfortable connections between modes
- Ensure that the design of station facilities does not inhibit new development adjacent to the station over time

Public Realm

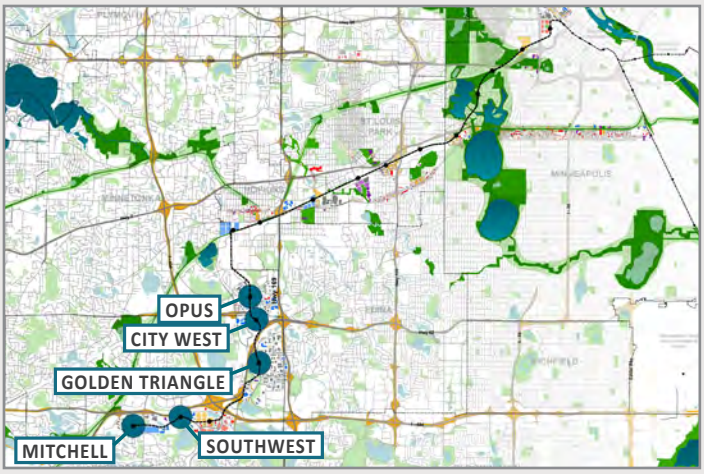
- Develop new open space that can act as receiving points for station user and facilitate transfer between modes
- Develop new open spaces that can serve as multi-functional spaces for actvities such as markets or celebrations that can benfit from their high level of accessability
- Ensure that station areas are designed to provide adequate, comfortable and safe waiting environments for transit users

Mobility

- Incorporate wayfinding signage to direct travelers between different modes of transit
- Extend path and trail networks to integrate with the station
- Provide enhanced level of cycling amenity
- Establish safe and efficient parking facilities that prioritize ride-sharing and car sharing
- Incorporate wider sidewalks in areas where higher levels of transfers are anticipated to maintain a comfortable pedestrian experience

PLACE TYPE: NEW TRANSIT BUSINESS PARKS

New Transit Business Parks have similar characteristics to employment areas but today are more suburban in nature. Their location on the periphery of cities along with the dispersed layout of buildings and large areas of surface parking has resulted in poor connections from these business parks to public transportation. As transit services expand there is an opportunity to integrate transit and new pedestrian and cycling networks that can help to enhance access for people wishing to walk, bike, or take transit. This will make it possible for them to access area amenities and services without having to drive.



Built Form and Land Use

- Encourage infill and intensification at the station location in order to increase densities and provide amenities for area employees
- Orient new buildings so that they actively address streets and key connections
- Locate active uses such as company cafeterias adjacent to transit stops or along key routes connecting to and from station areas

Public Realm

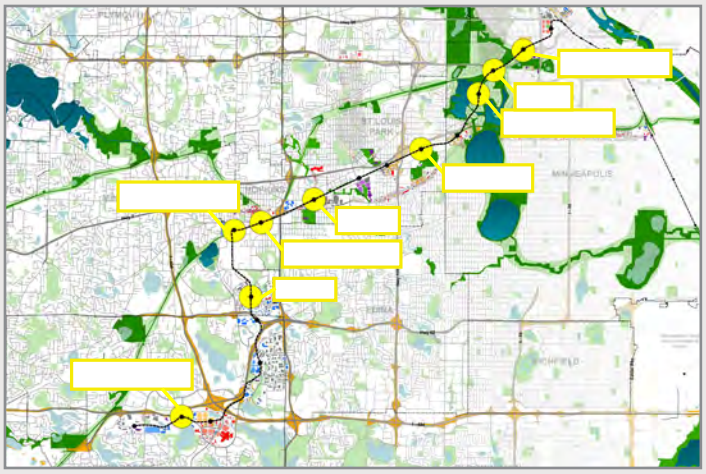
- Extend trail networks and mid-block connections to connect with the station and provide sidewalks along key pedestrian routes
- Identify a finer grained pattern of street and block and work to secure it over time
- Incorporate wayfinding directing users to transit and their destinations
- Ensure a maintenance program exists to clear pedestrian and cycling routes during winter months
- Explore the potential for the provision of a shuttle service to serve employees that work at a distance from the station

Mobility

- Establish a positive pedestrian environment through the introduction of wider sidewalks, tree plantings and other amenities

PLACE TYPE: NEIGHBORHOODS

In addition to providing places to live, neighborhoods support a variety of local activities for everyday life including daycares, community centers, places of worship and smaller retailers. The introduction of new transit services in close proximity to some neighborhoods will enable residents to more easily access additional amenities and services located further away. In areas where access to transit may encourage neighbourhood growth, the focus should be on managing new development so that it is sensitive to the character and scale of the existing neighborhood.



Built Form and Land Use

» Encourage infill that can be sensitively integrated into the neighborhood to support increases in neighborhood density

» Where new development is proposed, ensure it is a similar scale and character to the existing neighborhood or that taller buildings transition in scale down to lower-rise buildings

Public Realm

» Incorporate pedestrian amenities around transit stops including shelters, seating areas and street lighting

Mobility

» Provide safe and attractive pedestrian connections from places of residence to transit corridors and key community destinations

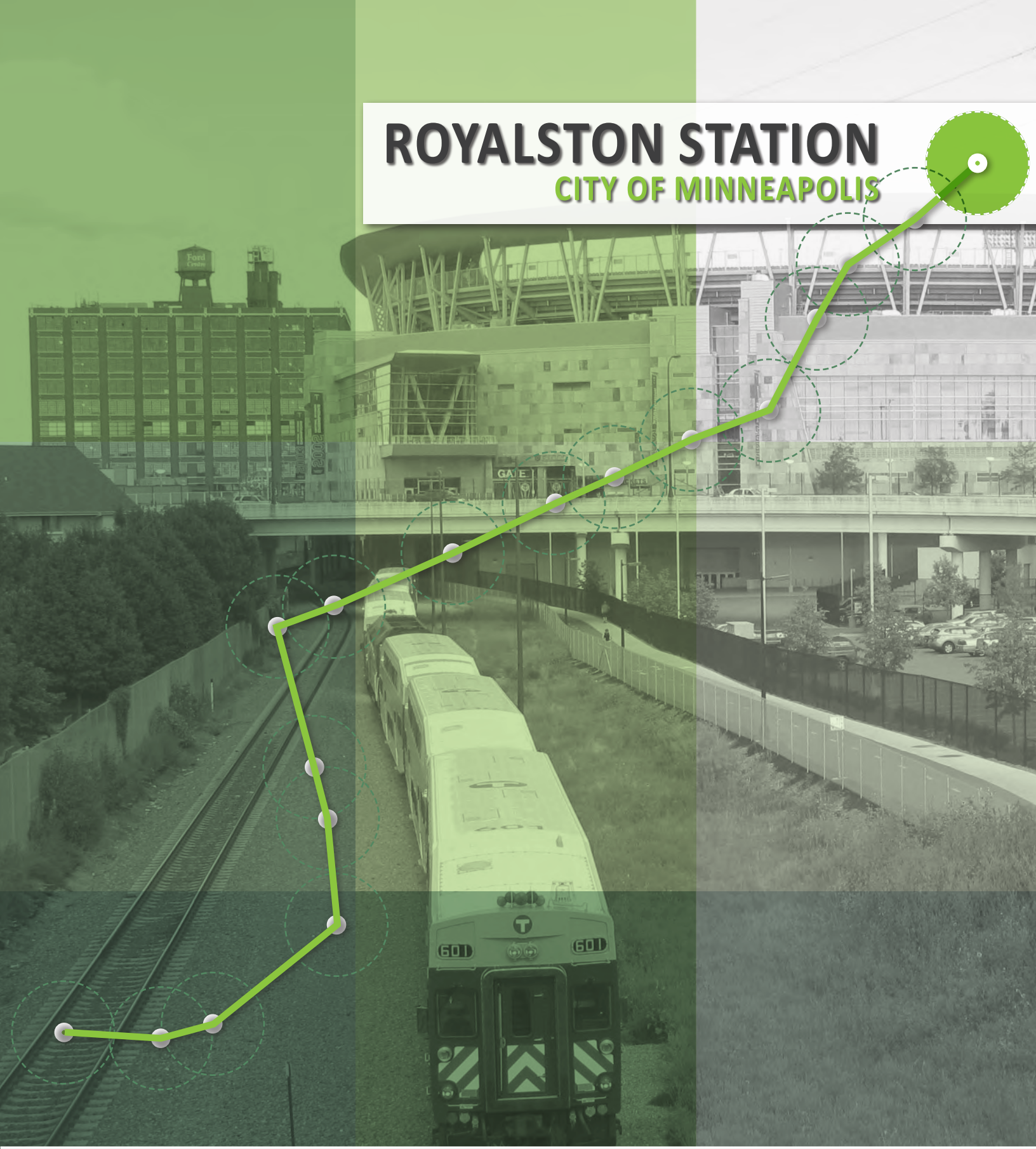
» Ensure sidewalks are located on at least one side of the street and extend sidewalks in areas where there are existing gaps

» Locate stops in areas with maximum access to residents

» Explore the potential for new mid-block connections that reduce travel distance between neighborhood streets and transit

ROYALSTON STATION

CITY OF MINNEAPOLIS



SOUTHWEST CORRIDOR INVESTMENT FRAMEWORK

TRANSITIONAL STATION AREA ACTION PLAN

Hoisington Koegler Group Inc.

SOUTHWEST LRT community works

www.swlrtcommunityworks.org

Hennepin

ABOUT THIS CHAPTER:

The Transitional Station Area Action Plans are the product of a Hennepin County led effort to help communities along the Southwest LRT corridor prepare for SW LRT's opening day in 2018 and beyond.

An individualized plan has been created for each of the 17 stations in the Southwest corridor, each plan comprising a chapter in the larger Southwest Corridor Investment Framework. The station area action plans suggest ways to build on local assets, enhance mobility, identify infrastructure needs, and capitalize on promising opportunities for development and redevelopment near each station.

Plan Components:

INTRODUCTION 2-2
A brief overview of the station location and its surroundings

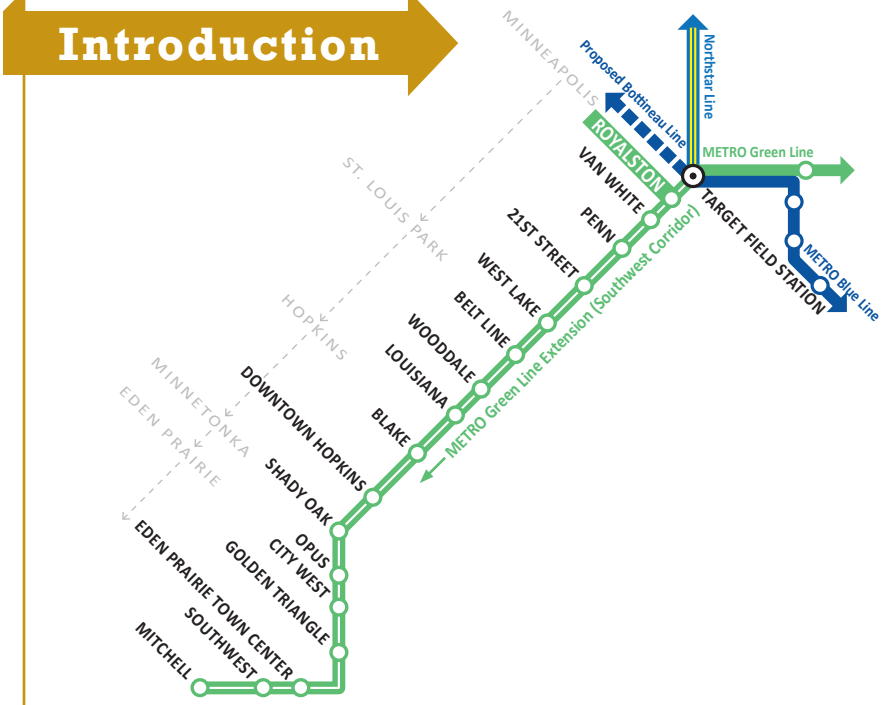
WHERE ARE WE TODAY? 2-4
A description of existing conditions in the station area, including:

- Land Use
- Transit Connections
- Access + Circulation Issues (Bike, Ped, and Auto)
- Infrastructure Needs

WHERE ARE WE GOING? 2-8
This section presents a number of recommendations for the station area in anticipation of opening day needs and the long-term TOD environment. This includes:

- Access + Circulation Plan
- Station Area Site Plan
- Infrastructure Plan
- Development Potential
- Summary of Key Initiatives

Introduction



ROYALSTON STATION WITHIN THE CORRIDOR:

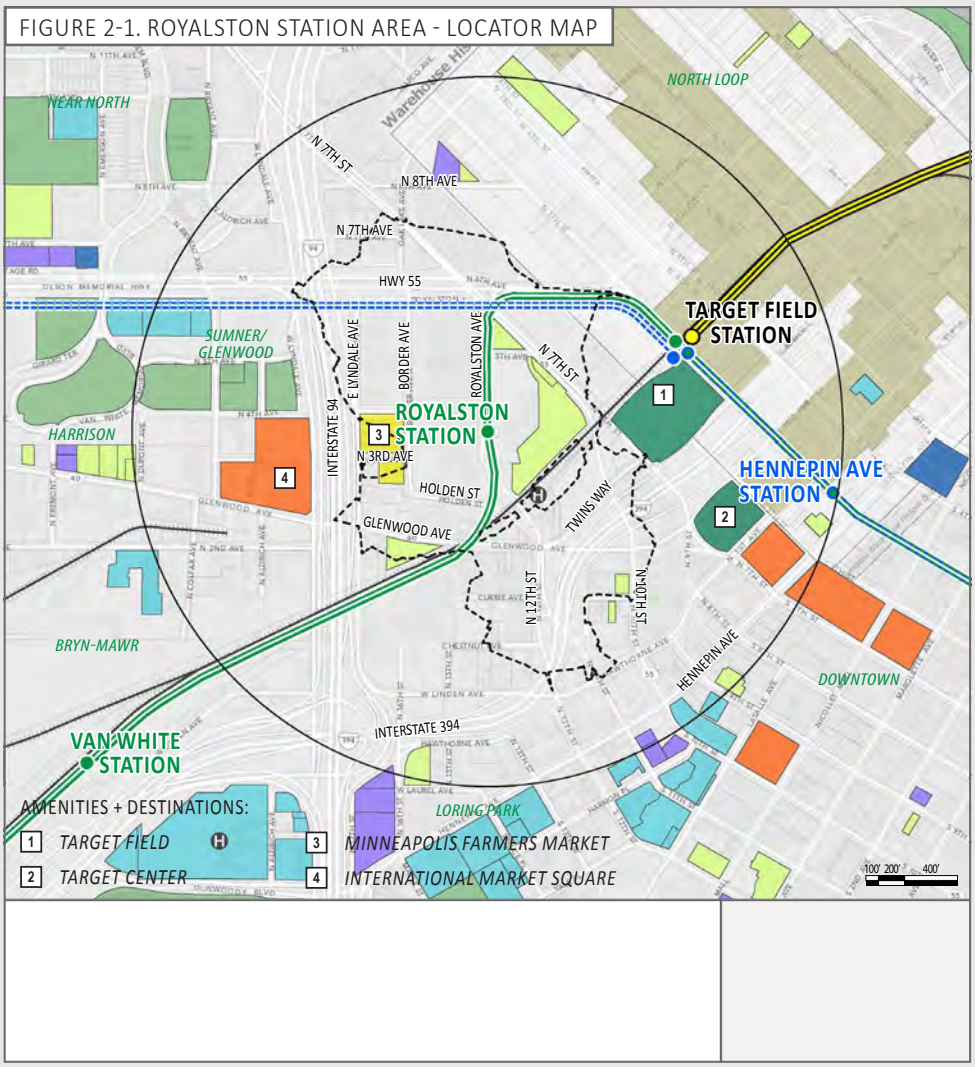
A vibrant Heritage, Arts, and Cultural destination attracting visitors from throughout the Twin City Region.

HERITAGE, ARTS AND CULTURE Royalston Station is the closest station to downtown Minneapolis and is identified as one of the Heritage, Arts and Culture stations in the corridor (see Place Types discussion beginning on p. 1-19). The station will play an important role in promoting arts, cultural and recreational activities near downtown Minneapolis. Major attractions including the Minneapolis Farmers Market, Target Field, and the International Market Square are located within the station walkshed. These facilities will draw a significant number of visitors especially during peak periods such as weekends and event days. The high volume of visitors traveling to and from these destinations has the potential to generate transit ridership at the station. National Register listed/eligible properties in this station area include the Minneapolis Warehouse Historic District and the Great Northern Main Railroad Line.

NEIGHBORHOOD The surrounding neighborhood includes low-rise industrial and commercial buildings. These older facilities occupy large street blocks, creating an inefficient street network that is unfriendly to pedestrians. Access to area destinations is further restricted by busy roadways and freeways including I-94 and I-394 which provide regional access to industrial and commercial businesses in the area. Residential areas, made up of single- and multi-family housing, are located away from the station in the Sumner/ Glenwood, North Loop, and Loring Park neighborhoods. Improved pedestrian access from the station to these neighborhoods will help generate transit ridership at Royalston.

OTHER DESTINATIONS The Hennepin Avenue Theater District can also be accessed via 7th, 10th, and12th Streets to the south of the station. The theater district contains the State Theater, Orpheum Theater, Pantages Theater, Hennepin Center for the Arts, along with other historic and architecturally significant art facilities.

FIGURE 2-1. ROYALSTON STATION AREA - LOCATOR MAP



NOTE: 10-minute walkshed approximates the area accessible within a 10-minute walk from the station platform using the existing sidewalk/trail network. See Glossary for walkshed assumptions and methodology.

Station Location

The Royalston Station is located just west of downtown Minneapolis, between Target Field and the Minneapolis Farmers Market. The proposed station platform is located on Royalston Avenue, midway between Glenwood Avenue and Olson Memorial Highway/Highway 55.

The area is dominated by low-rise industrial buildings, however, several destinations are within walking distance from the station including the Minneapolis Farmers Market, Target Field, Target Center, and the International Market Square. The Royalston Station also has the ability to serve residents in the burgeoning North Loop and Loring Park neighborhoods. Figure 2-1 shows the station location and proposed LRT alignments in the context of present day development and roadways.

ROYALSTON STATION AREA TODAY:

Minneapolis Farmers Market

Station area view of downtown

Royalston Avenue looking south

Existing light industrial uses

Nearby Cedar Lake LRT Regional Trail

Target Field

Where Are We Today?

The following section describes the station area's EXISTING CONDITIONS, including the local context, land uses, transit and transportation systems, pedestrian and bicycle facilities, assets, destinations, and barriers to accessing the station. This analysis of current conditions presents key issues and opportunities in the station area and informs the recommendations for future station area improvements.

NOTE: Existing conditions maps are based on data provided by Hennepin County and local municipalities. The data used to create each map is collected to varying degrees of accuracy and represents infrastructure and conditions at varying points in time. Actual conditions may vary slightly from what is shown.

Land Use

Land uses in the Royalston station area are dominated by industrial and commercial uses. Most of these are in the form of low-rise buildings, 1-2 stories tall. Block sizes in the area are large and the road network is limited, with poor east-west connections. Businesses in the area are served by adjacent freeway access to I-94 and I-394.

Significant land uses anticipated to generate transit ridership, located within walking distance from the station, include the Minneapolis Farmers Market, Target Field, Target Center, and International Market Square. The station will serve these destinations and local businesses but also has the potential to serve the North Loop and Loring Park neighborhoods, which lie just beyond the 10-minute walkshed.

FIGURE 2-2. EXISTING LAND USE

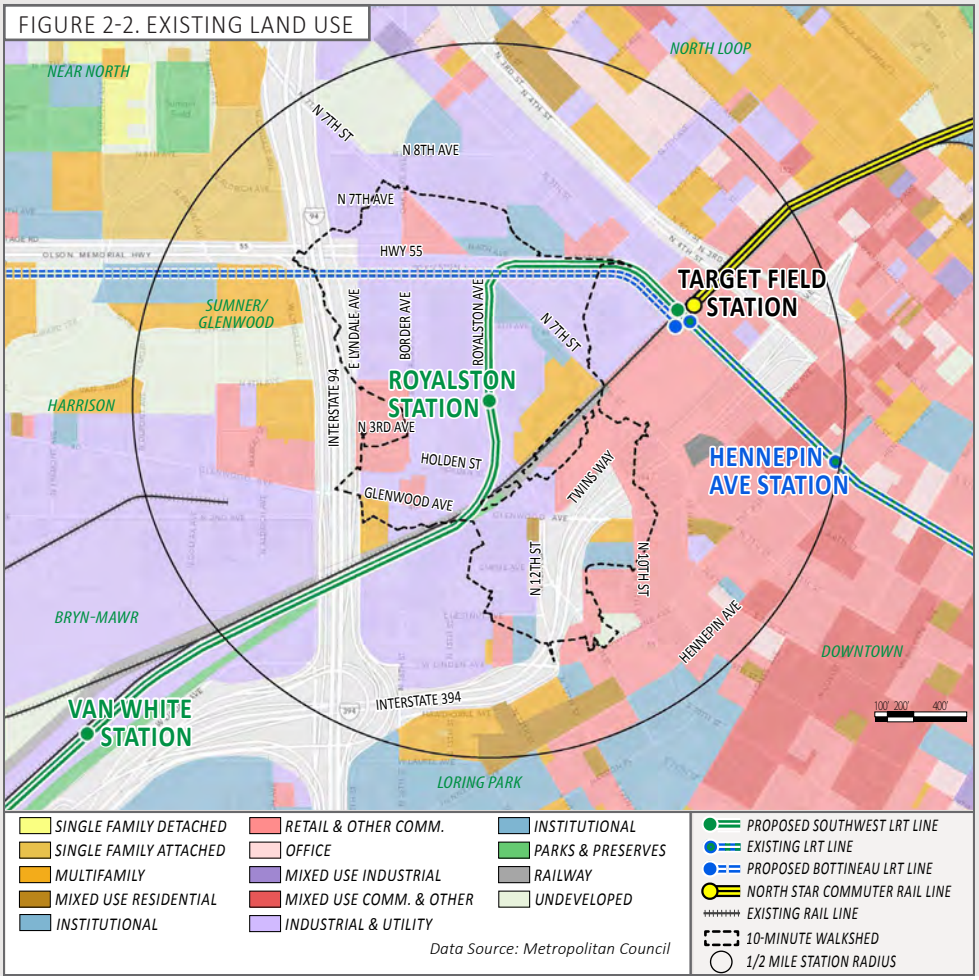
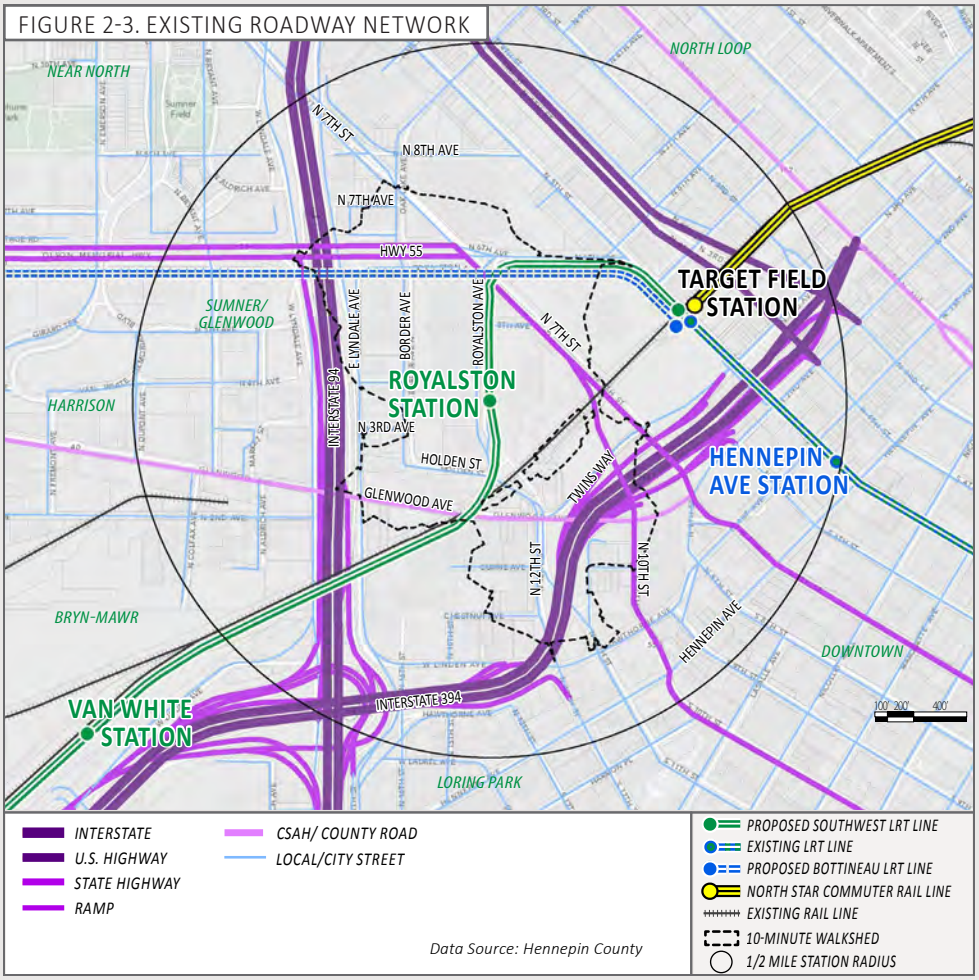


FIGURE 2-3. EXISTING ROADWAY NETWORK

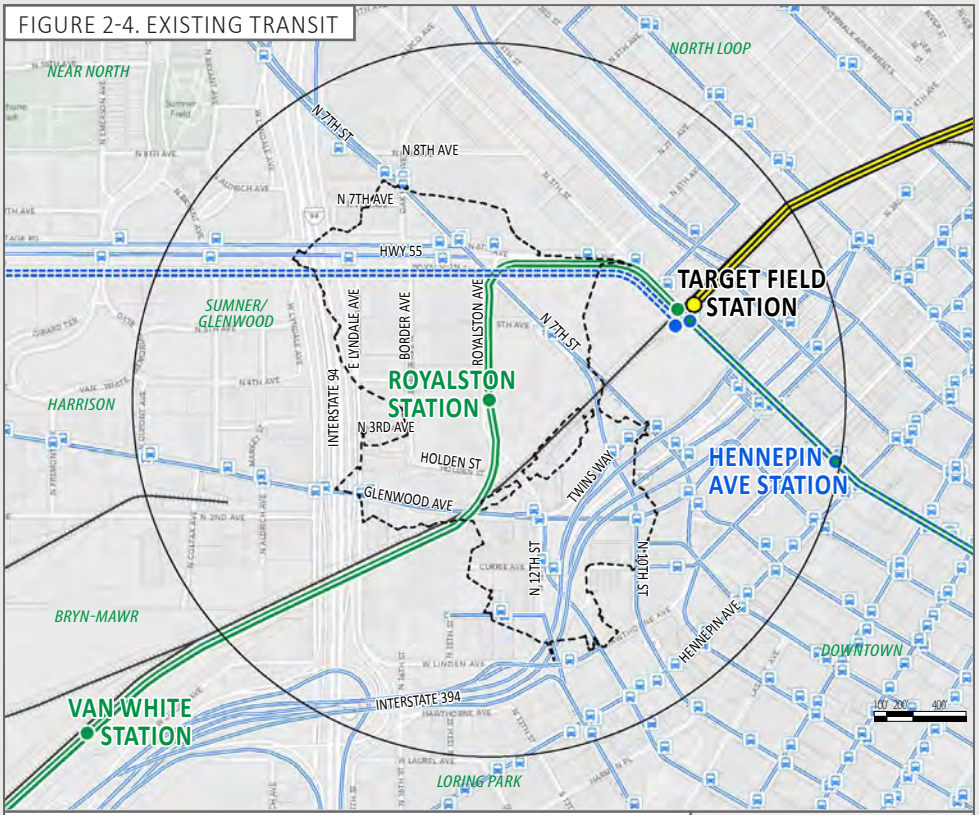


Roadway Network

The Royalston Station area connects to downtown along Royalston Avenue and 12th Street, or along 7th Street and 10th Street. Just to the north of the station, the intersection at Olson Memorial Highway/ Highway 55 and 7th Street is congested at peak traffic flow times. Although I-94 and I-394 offer good regional access to the area, these freeways also limit local movement for cars, pedestrians and bicycles to the west into the Bassett Creek Valley, Heritage Park, Harrison, and Bryn Mawr neighborhoods. Olson Memorial Highway/Highway 55 and Glenwood Avenue provide important connections to these destinations west of the station area.

Large block sizes and a limited roadway network in the area are designed to serve truck access to existing industrial and commercial businesses, however, access and circulation is limited if the area develops with greater intensity and a more diverse set of land uses.

FIGURE 2-4. EXISTING TRANSIT



Transit

Existing land uses in the area are not transit supportive, however, there are three major bus transit corridors that serve the area, bringing riders into downtown from the north and the west: Olson Memorial Highway/Highway 55, Glenwood Avenue and 7th Street. Of these corridors, 7th Street carries the greatest number of riders and frequency of buses, and will be a significant bus/LRT transfer interface. Proposed bus stops located at the intersection of 5th Avenue and 7th Street lie within a 2-3 minute walk from the proposed Royalston Station.

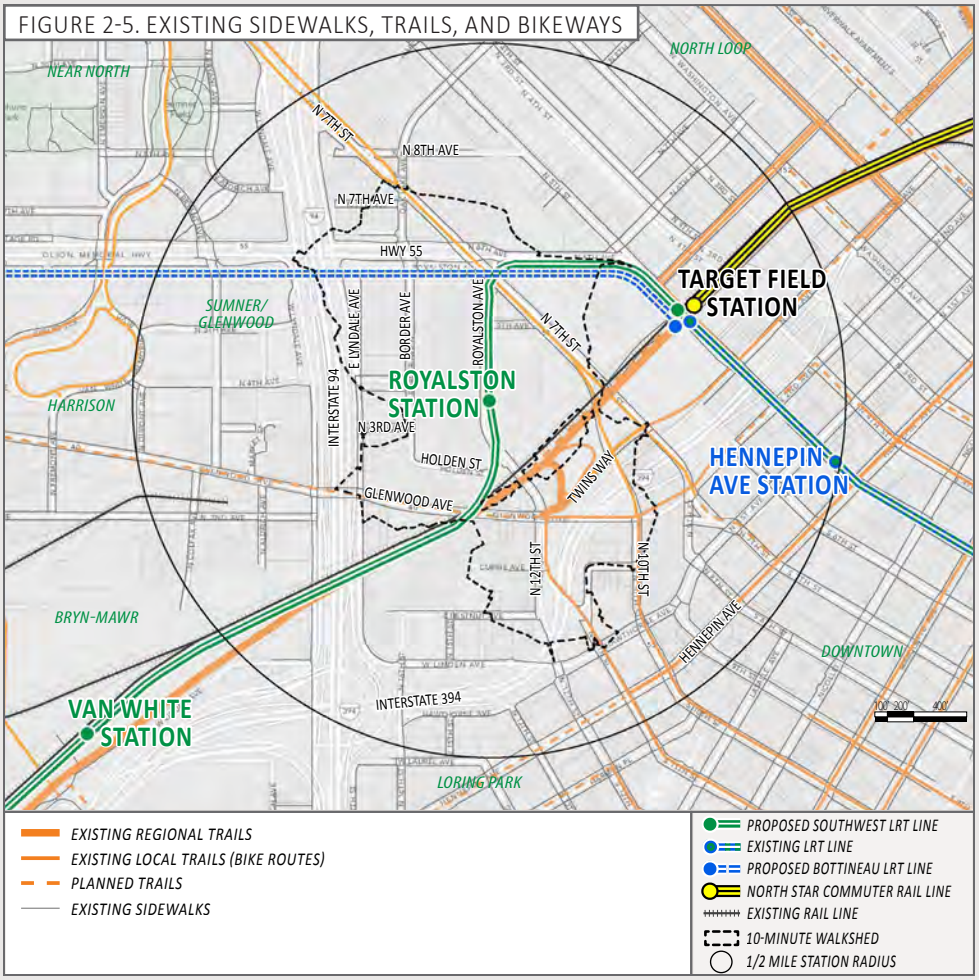
In addition to bus transit, other rail transit facilities/stations are located within walking distance of the Royalston Station, including Northstar Commuter Rail, the Target Field Station, Central Corridor and Hiawatha LRT Lines, and the future Bottineau LRT line.

Sidewalks, Trails, and Bikeways

Existing pedestrian and bicycle facilities in the Royalston Station area are limited and many barriers exist that further limit access and connectivity to and from the station. Large block sizes, industrial uses, major roadways, and the freight line, as well as a lack of sidewalks and bikeways, constrict safe and convenient mobility in the area.

Opportunities exist to enhance pedestrian and bicycle mobility to and from the station. Smaller block sizes, trail connections to the Cedar Lake LRT Regional Trail, and a system of complete streets with improved sidewalk and bicycle connections to Bassett Creek Valley, Heritage Park, Loring Park and North Loop neighborhoods, local businesses, and major destinations will increase transit ridership at this station.

FIGURE 2-5. EXISTING SIDEWALKS, TRAILS, AND BIKEWAYS



Sanitary Sewer

Sanitary sewer infrastructure consists of a collection of gravity flow sewer mains, lift stations, and pressurized force mains that transport sewage to a wastewater treatment plant (WWTP). An efficient collection system has the capacity to accommodate all of the existing land uses within its particular sewer shed. Beyond capacity, the material and age of pipes within a system can also impact a system's effectiveness.

Sanitary sewer infrastructure within the project area is typically maintained by either the City of Minneapolis or by the Metropolitan Council Environmental Services (MCES) Division. MCES maintains a series of interceptor trunk sewers that collect sewage at key locations and convey sewage across community boundaries to regional WWTPs. Wastewater from the station area is treated by the MCES Metro WWTP located in St. Paul.

FIGURE 2-6. EXISTING SANITARY SEWER

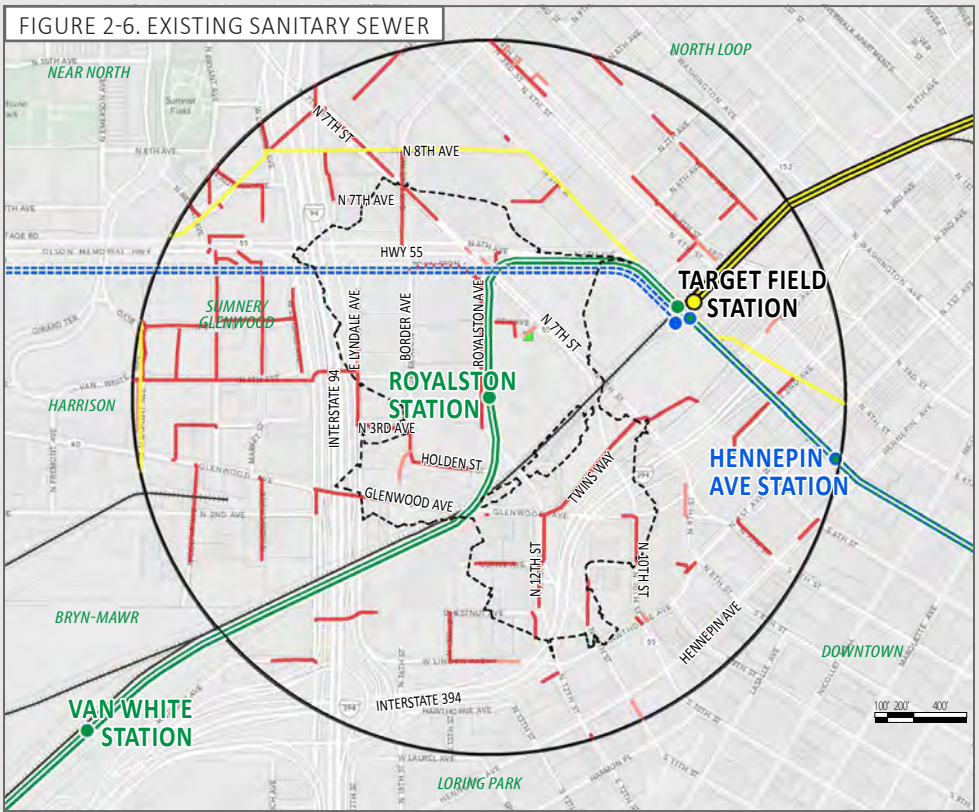
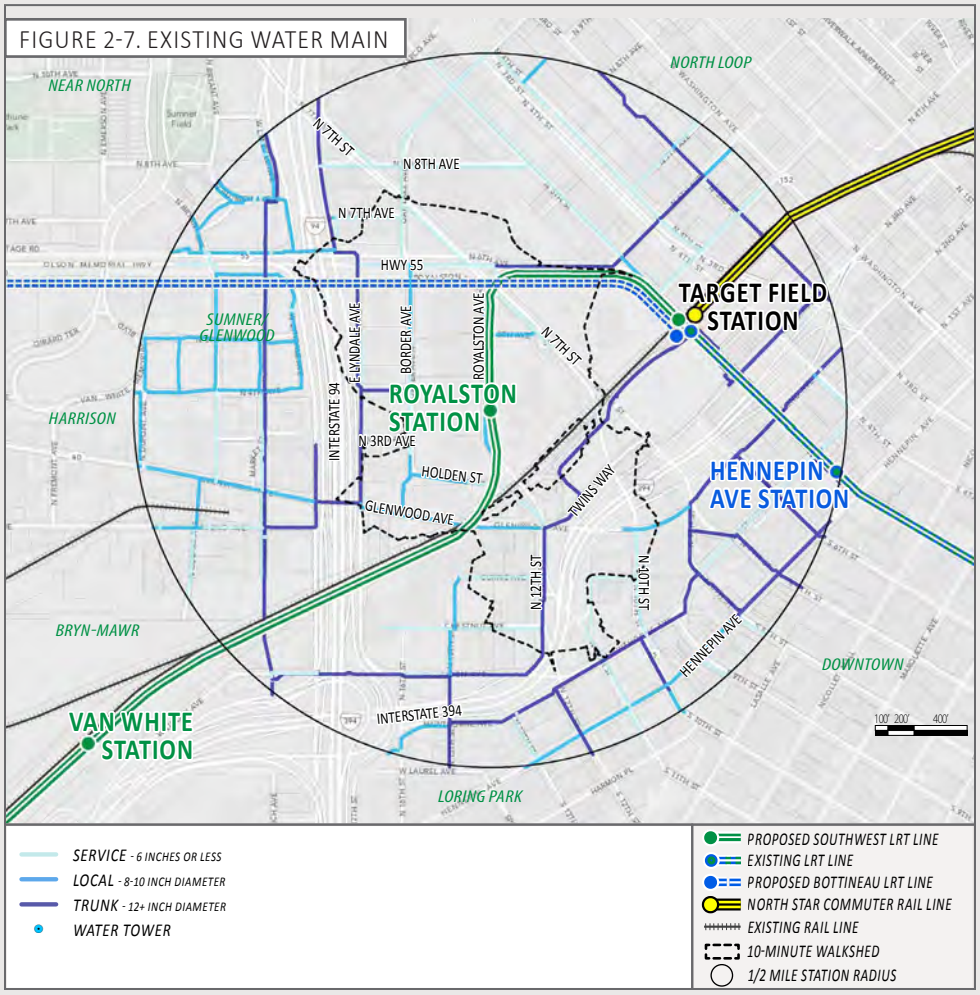


FIGURE 2-7. EXISTING WATER MAIN



Water Main

Water main distribution systems serve to supply potable water to individual properties and to support fire suppression throughout the community. A well-designed system can maintain adequate pressure to support demand of individual properties and provide high flow rates to fire hydrants/fire suppression systems in emergency situations. Because of the complexity of water distribution networks and the importance of pressure, flow, and water quality, City water system models are used to evaluate a system's adequacy. The material and age of the system's water mains can also be factors in system breaks, leaks, and pressure and flow degradations.

Water pressure and flow rates can be influenced by: the size of water main serving an area, proximity and elevation relative to a water tower, proximity to a trunk water main with high flow capacity, if the water main creates a loop, the demand of adjacent land uses, and the condition of the water main.

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Where Are We Going?

The plans and diagrams on the following pages illustrate a range of recommendations for infrastructure improvements, station amenities, and potential redevelopment opportunities within the station area.

The ACCESS AND CIRCULATION PLAN shown in Figure 2-8 provides a high level view of how future transit, automobile, bike, and pedestrian systems will connect to the station area and its surroundings.

Figure 2-9 illustrates the STATION AREA IMPROVEMENTS that will facilitate access to and from the station and catalyze redevelopment in the station area. This includes opening day and long-term station area improvements

Figure 2-10 focuses on OPENING DAY STATION AREA IMPROVEMENTS only. These recommendations represent the improvements necessary to enhance the efficient function of the transit station, roadways, pedestrian and bicycle connections, and transit connections on opening day in 2018.

Station Area Improvements

The discussion below outlines a range of future station area improvements. While some of the identified improvements may be constructed as part of the LRT project itself, other improvements must be funded, designed and constructed by other entities and will require coordination between the City, County, and Metro Transit as well as local stakeholder and community groups.

ROADWAYS

» Due to its location between downtown and I-94, roadways in the Royalston LRT station area currently cater primarily to automobiles and through-traffic needs. The roadway network is not well-connected and includes a system of one-way streets. Recommended roadway improvements include:

Opening Day Improvements:

» Create a "Loop" route that connects the Lower North Loop, which includes the Royalston LRT station, and the Upper North Loop by extending Border Avenue south from Holden Avenue to Glenwood Avenue.

» In order to make Border Avenue convenient for walking, biking, driving and accessing transit, it should be converted back to a two-way street along with new streetscape improvements, including parallel on-street parking, street tree plantings, sidewalks, pedestrian lighting, wayfinding, and enhanced pedestrian crossings.

Long-Term Improvements:

» Establish new east/west roadways to the west of the station platform, particularly between Royalston Avenue and Border Avenue, to create smaller block patterns, a more connected street network, better connections between the LRT station and the Minneapolis Farmers Market, and new opportunities for redevelopment in the area.

» Close the frontage road (Royalston Avenue) along the south side of Highway 55 and reconfigure the intersection of Highway 55/Border Avenue in order to improve the safety and ease of travel through this currently complicated intersection for all modes of travel.

PEDESTRIAN CONNECTIONS

Opening Day Improvements:

» Complete any sidewalk gaps on all streets within a 10-minute walk from the LRT station area.

» Focus pedestrian/bike crossings and streetscape enhancements on Royalston Avenue, Holden Street, 12th Street, 5th Avenue, 7th Street, Olson Memorial Highway/ Highway 55, Border Avenue, and Glenwood Avenue to improve pedestrian connections to the station platform and existing bus stops.

» Implement a direct pedestrian connection to the Farmers Market from the station platform by negotiating with existing land owners for access easements and improved pedestrian facilities and/or as part of the redevelopment of the property. This connection will require a vertical circulation solution at Border Avenue.

Long-Term Improvements:

» Enhance streetscape and pedestrian connections on new east/west roadways between Royalston Avenue and Border Avenue.

BICYCLE CONNECTIONS

Opening Day Improvements:

» Provide bike parking, lockers, pumps, and bike share facilities in a highly visible area near the station platform.

Long-Term Improvements:

» Provide on-street bike facilities (lanes, shared routes, signage, etc.) on local streets to better connect the LRT station to nearby neighborhoods, businesses, amenities, and destinations.

Bike parking

Public art integrated in transit station design

- Provide bike connections to the Cedar Lake LRT Regional Trail trailhead at Royalston Avenue/Glenwood Avenue.
- Explore the opportunity to build an off-street bike facility from the Cedar Lake LRT Regional Trail trailhead to the station platform.

TRANSIT CONNECTIONS

Opening Day Improvements:

- Add a traffic signal and marked street crossings at the 7th Street/5th Avenue intersection to make pedestrian/bicycle connections to the existing bus stop on 7th Street safer and more convenient.
- Add a traffic signal and marked street crossings at the Royalston Avenue/Holden Street intersection to make pedestrian/bicycle connections to the existing bus stops on Glenwood Avenue safer and more convenient.

NEIGHBORHOOD CONNECTIONS

Opening Day Improvements:

- Strengthen connections to nearby neighborhoods (North Loop, Loring Park, Heritage Park, and Bassett Creek Valley) and major destinations (Target Field, Target Center, International Market Square) by improving facilities, streetscapes, and street crossings for pedestrians and bicyclists.

Long-Term Improvements:

- Introduce public art into neighborhood gateway areas, public gathering spaces, and streetscapes.

STATION AMENITIES (*Beyond SW LRT Base Project Scope*)

Opening Day Improvements:

- Wayfinding- define and install a cohesive and contextual wayfinding system near the LRT station platforms, major nearby destinations (Minneapolis Farmers Market, Target Field, Target Center), nearby bus stops, and major gateways (such as Cedar Lake LRT Regional Trail trailhead, Highway 55/ Border Ave, Glenwood Avenue).
- Seating – provide comfortable and durable seating near the station platform.
- Lighting – provide adequate lighting for the safety of pedestrians, bicyclists and motorists near the station platform and along Royalston Avenue, Border Avenue and Holden Street.
- Pedestrian Facilities- create a multi-use path connection along the east side of Royalston Ave that connects the LRT station to the nearest bus stops to the north and south, as well as the Cedar Lake LRT Regional Trail trailhead, Minneapolis Farmers Market, and Target Field. Create east-west transit-oriented connections between the LRT station platform and the Minneapolis Farmers Market that incorporates pedestrian/bike facilities and vehicular circulation.
- Bike Facilities- add pedestrian/bike crossing enhancements at all Royalston Ave intersections, including 5th Ave, 12th Street, Holden Street, and Glenwood Ave. Provide bike parking, lockers, pumping station, and bike sharing near the station platform.

Long-Term Improvements:

- Plaza- explore the potential for a creating a transit plaza connection between the LRT station and the Minneapolis Farmers Market in the vicinity of Cesar Chavez Avenue.
- Public Art- incorporate public art beyond the station platform area to create an attractive and identifiable place.

DEVELOPMENT POTENTIAL

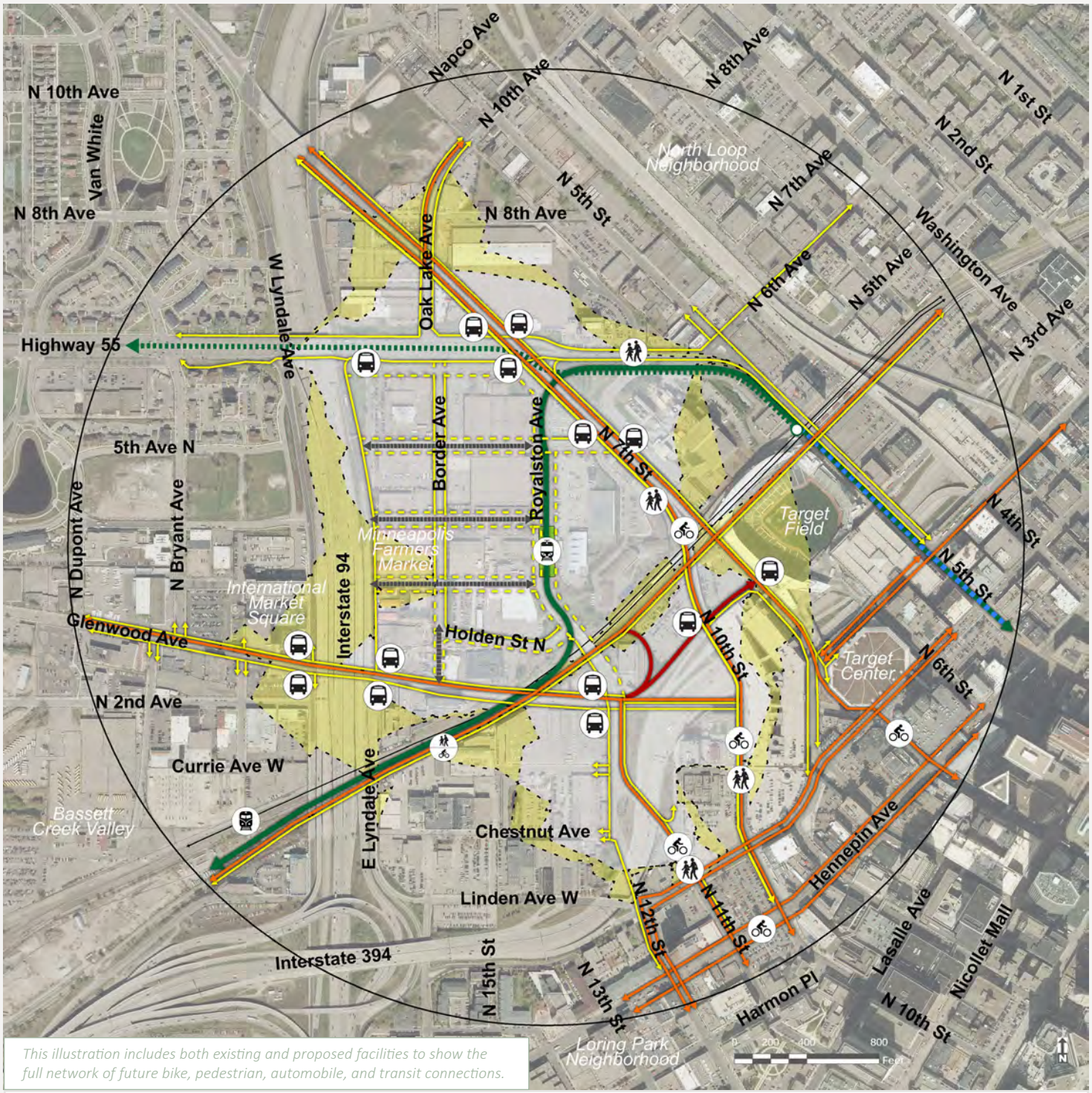
Long-Term Improvements:

- See the "Development Potential" discussion on page 2-18 for more on long-term development opportunities.

UTILITIES

- See the "Station Area Utility Plan" beginning on page 2-20 for all utility recommendations.

FIGURE 2-8. ACCESS + CIRCULATION PLAN



This illustration includes both existing and proposed facilities to show the full network of future bike, pedestrian, automobile, and transit connections.

- LRT PLATFORM
- LRT LINE
- BUS STOP
- PARK AND RIDE
- FREIGHT LINE
- NEW ROADWAY
- KISS AND RIDE
- EXISTING WALKSHED
- EXISTING PEDESTRIAN CONNECTION
- EXISTING BIKE CONNECTION
- EXISTING MULTI USE CONNECTION
- FUTURE WALKSHED (WITH TSAAP IMPROVEMENTS)
- PROPOSED(DASHED) PEDESTRIAN CONNECTION
- PROPOSED(DASHED) BIKE CONNECTION
- PROPOSED(DASHED) MULTI USE CONNECTION

NOTE: Existing walkshed approximates the area accessible within a 10-minute walk from the station platform using only the existing sidewalk/trail network. Future walkshed incorporates all proposed improvements to the sidewalk/trail network. Walksheds are based on GIS modeling and available sidewalk/trail information- and may not reflect exact on-the-ground conditions. See Glossary for detailed explanation of walkshed assumptions and methodology.

FIGURE 2-9. STATION AREA IMPROVEMENTS

Faded symbology indicates existing facilities and infrastructure.

- LRT PLATFORM
- FREIGHT LINE
- BUS STOP
- BUS SHELTER
- NEW SIDEWALK IMPROVEMENT
- ON STREET BIKE INFRASTRUCTURE
- MULTI-USE PATH
- NEW CROSSING IMPROVEMENT
- NEW ROADWAY
- STREETSCAPE
- PARK AND RIDE
- KISS AND RIDE
- NEW SIGNALIZED INTERSECTION
- BIKE PARKING
- WAYFINDING
- PUBLIC ART OPPORTUNITY
- POTENTIAL DEVELOPMENT SITE
- PLAZA SPACE / BUILDING SETBACK AREA

FIGURE 2-10. OPENING DAY STATION AREA IMPROVEMENTS

LRT PLATFORM
FREIGHT LINE
BUS STOP
BUS SHELTER
NEW SIDEWALK / SIDEWALK IMPROVEMENT
ON STREET BIKE INFRASTRUCTURE
MULTI-USE PATH
NEW CROSSING / CROSSING IMPROVEMENT
NEW ROADWAY
STREETSCAPE
PARK AND RIDE
KISS AND RIDE
NEW SIGNALIZED INTERSECTION
BIKE PARKING
WAYFINDING
PUBLIC ART OPPORTUNITY
POTENTIAL DEVELOPMENT SITE
PLAZA SPACE / BUILDING SETBACK AREA

Conceptual Street Sections

The street cross section illustrated below is conceptual and represents a potential future streetscape condition, addressing facilities for a variety of transportation modes, streetscape amenities, and the relationship between buildings and the street edge. Further design and engineering work will be required to ensure the streetscape is in compliance with City and/or County design standards and needs.

ROYALSTON AVENUE

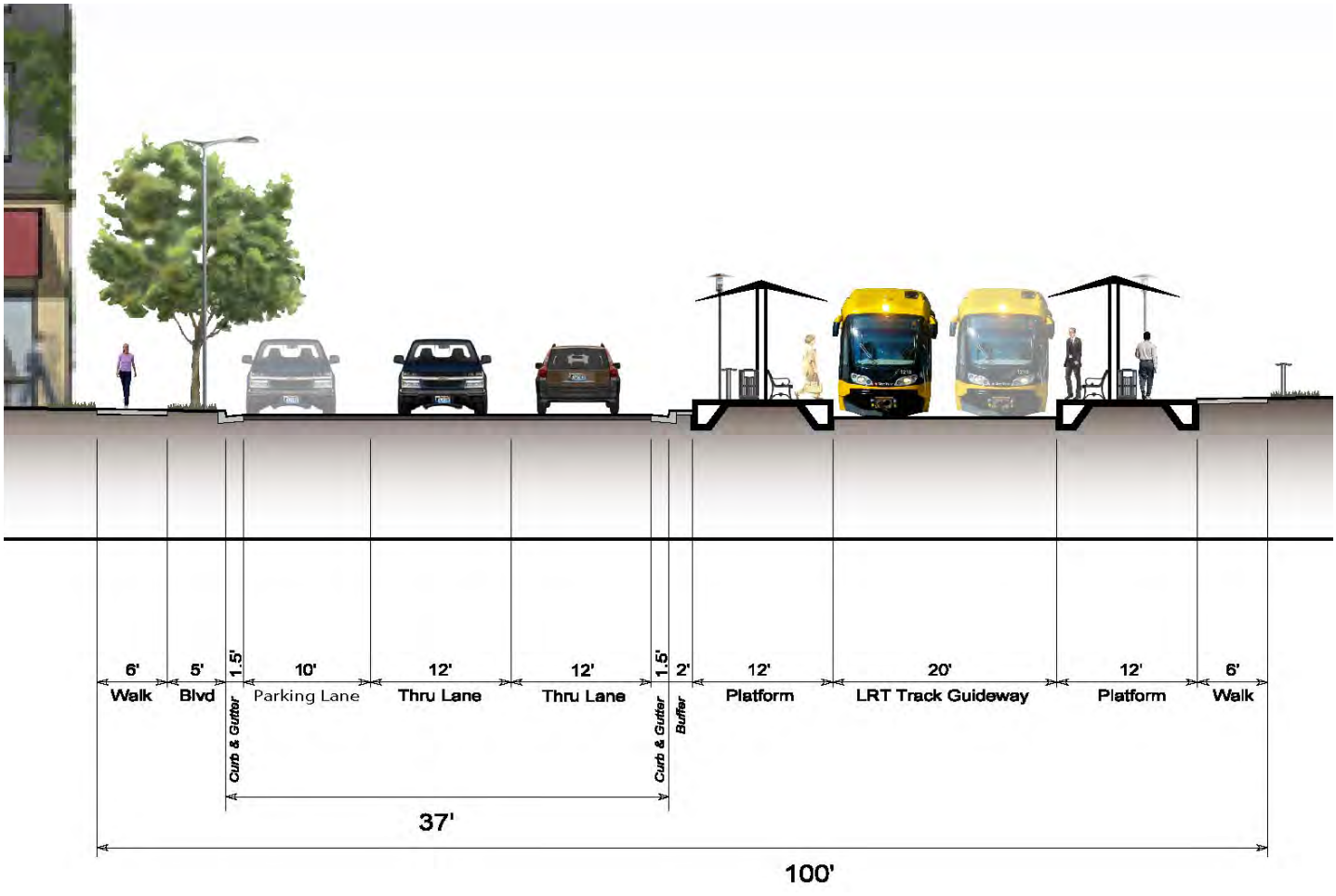
Dimensional Criteria

- » 100 feet — Right-of-Way Width
- » 37 feet — Pavement Width (2-way)
- » 12’ (x2) — Platform Widths
- » 20’ — LRT Track Guideway
- » 20’-30’ o/c — Street Tree Spacing
- » 6’-0” min. — Sidewalk Width (both sides)

Design Features

- » Sidewalks
- » On-Street Parallel Parking (one side)
- » Street Trees/Plantings/Rain gardens
- » Streetscape Furnishings (seating, planters, trash receptacles, bicycle racks)
- » Signage/Wayfinding
- » Transit Facilities (LRT line and platform, bicycle facilities, shelters, seating, signage, lighting)
- » Street and Pedestrian Lighting
- » Pedestrian-Friendly Crossings (markings, countdown traffic signals, ADA features)

FIGURE 2-11. CONCEPTUAL STREET SECTION - ROYALSTON AVENUE



Conceptual Street Sections (Continued)

The street cross section illustrated below is conceptual and represents a potential future streetscape condition, addressing facilities for a variety of transportation modes, streetscape amenities, and the relationship between buildings and the street edge. Further design and engineering work will be required to ensure the streetscape is in compliance with City and/or County design standards and needs.

BORDER AVENUE

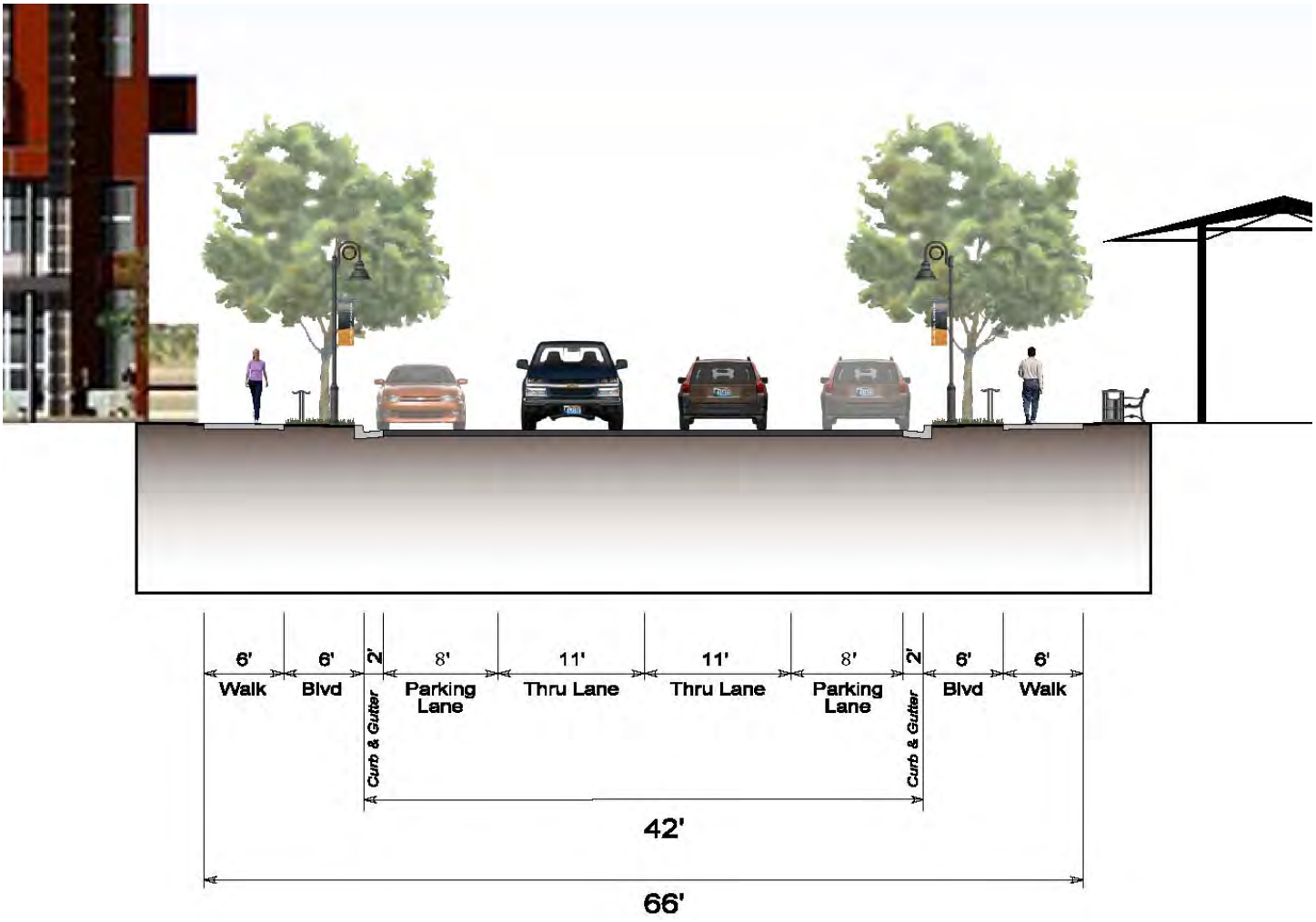
Dimensional Criteria

- » 66 feet — Right-of-Way Width
- » 42 feet — Pavement Width (2-way)
- » 20'-30' o/c — Street Tree Spacing
- » 6'-0" — Sidewalk Width (both sides)

Design Features

- » Sidewalks
- » On-Street Parallel Parking (both sides)
- » Intersection Bump-outs
- » Street Trees/Plantings/Rain gardens
- » Streetscape Furnishings (seating, trash receptacles, bicycle racks)
- » Signage/Wayfinding
- » Street and Pedestrian Lighting
- » Pedestrian-Friendly Crossings (markings, ADA features)

FIGURE 2-12. CONCEPTUAL STREET SECTION - BORDER AVENUE



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Opening Day Improvements

The following tables and diagrams outline the proposed improvements to be implemented in advance of SW LRT's opening day in 2018. Table 2-1 and Figure 2-13 show opening day improvements that are part of the SW LRT anticipated base project scope; these improvements will be part of the overall project cost for construction of the LRT line. Table 2-2 and Figure 2-14 include opening day improvements that are recommended as part of the Southwest Corridor Investment Framework and are beyond the SW LRT anticipated base project scope.

TABLE 2-1. SOUTHWEST LRT ANTICIPATED BASE PROJECT SCOPE - OPENING DAY STATION AREA IMPROVEMENTS

PLAN KEY	IMPROVEMENT	PROJECT LOCATION	PROJECT NOTES
A	LRT Platform	Royalston Ave	Includes related LRT infrastructure
B	Kiss and Ride	Royalston Ave	Kiss and ride area on Royalston Ave (on-street, south bound only)
C	Roadways	Royalston Ave, Holden Street to 5th Ave	Reconstruction of Royalston in conjunction with LRT line and station
D	Sidewalk/Trail	5th Ave, between Royalston Ave and 7th Street	New sidewalks on 5th Ave
E	Sidewalk/Trail	Royalston Ave	New sidewalks
F	Intersection Enhancement	Royalston Ave and Holden Street	New traffic signal and ped crossings
G	Intersection Enhancement	5th Ave and 7th Street	New traffic signal and ped crossings
H	Bike Facilities	Near station platform	Allowance for bike storage
I	Wayfinding	Near station platform	Allowance
J	Landscaping	Near station platform	Allowance
K	Water*	Near station platform	New water service and fire hydrant to station
L	Utilities*	Project limit area	Adjustment of existing utilities
M	Stormwater management*	Near station platform	Allowance

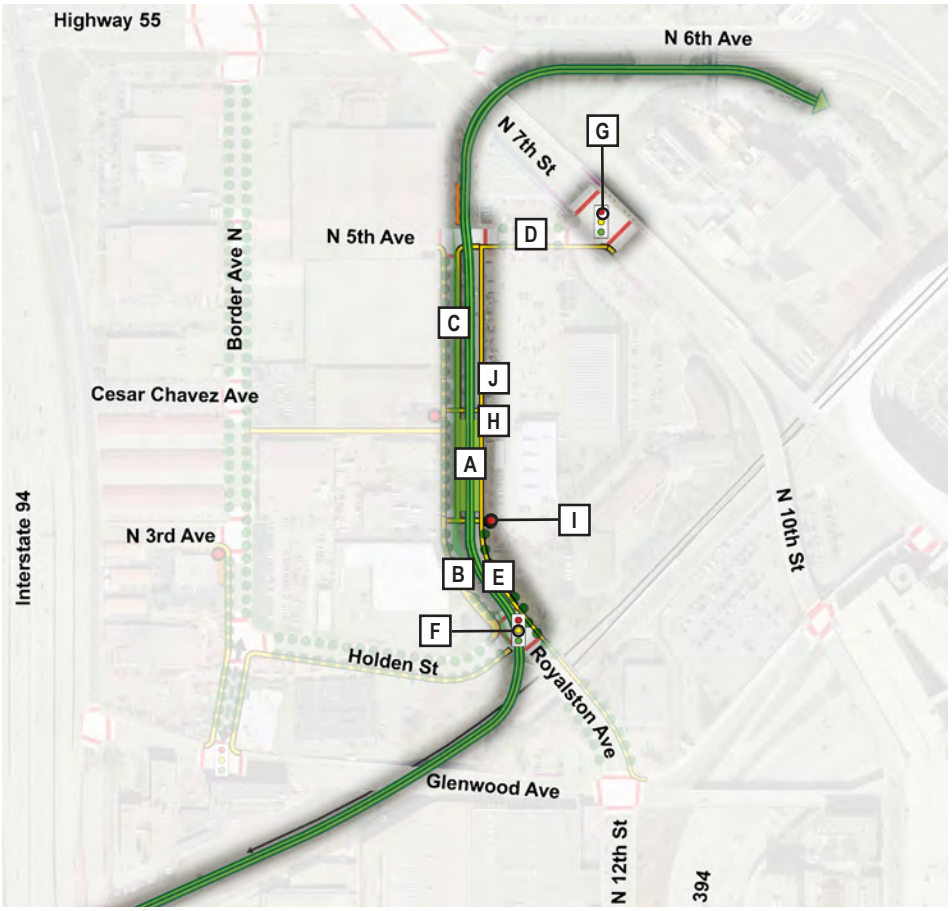
Note: Anticipated Southwest LRT Base Project Scope as of December 2013 (subject to change)
** Improvement not symbolized on opening day figures (exact location to be determined as part of the base project scope)*

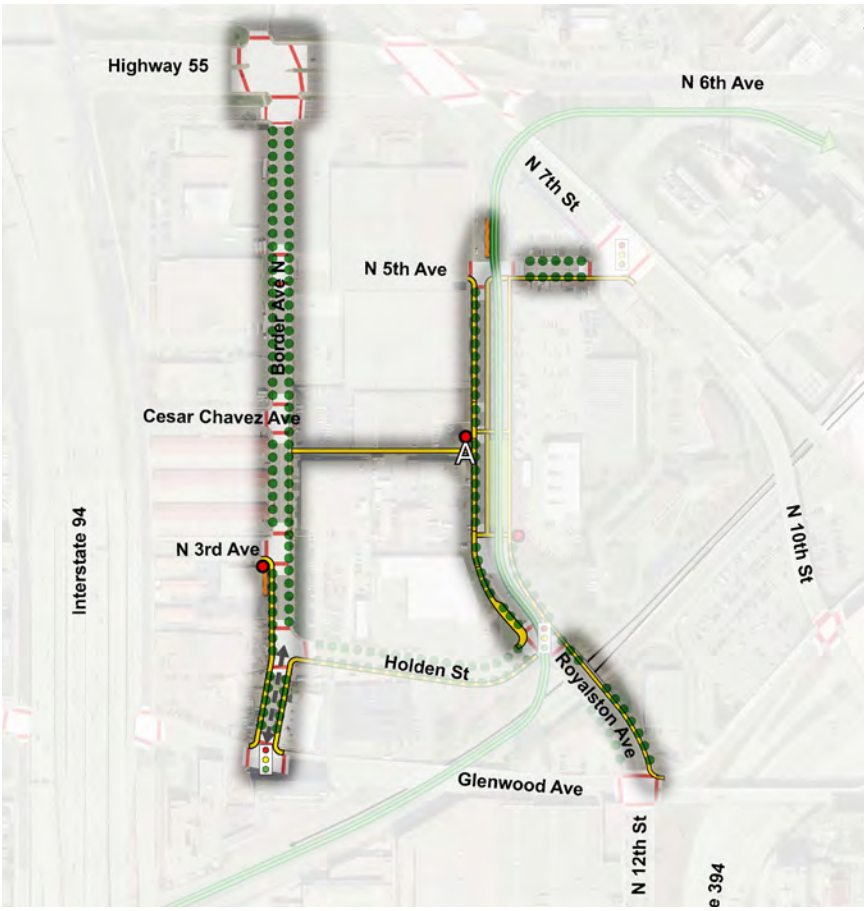
TABLE 2-2. SOUTHWEST CORRIDOR INVESTMENT FRAMEWORK (TSAAP) - OPENING DAY STATION AREA IMPROVEMENTS

PLAN KEY	IMPROVEMENT	PROJECT LOCATION	PROJECT NOTES	PRIORITY
1	Roadways	Border Ave, Holden Street to Glenwood Ave	Extend Border Street from Holden Street to Glenwood Ave	Primary
2	Roadways	Border Ave	Re-striping to 2-way street	Primary
3	Roadways	Border Ave, Olson Memorial Highway to Holden Street	Reconstruct roadway	Secondary
4	Streetscape	Border Ave, Olson Memorial Highway to Glenwood Ave	Includes sidewalks, streetscape plantings, furnishings, lighting and signage	Primary
5	Streetscape	Holden Street	Includes sidewalks, streetscape plantings, furnishings, lighting and signage	Secondary
6	Streetscape	Royalston Ave, Glenwood Ave to 5th Ave	Includes sidewalks, streetscape plantings, furnishings, lighting and signage	Primary
7	Streetscape	5th Ave, Royalston to 7th Street	Includes streetscape plantings, furnishings, lighting and signage	Primary
8	Sidewalk/Trail	Between station platform and Farmers Market	Pedestrian access and vertical circulation to connect LRT station to Farmers Market	Primary
9	Intersection Enhancements	Varies- along Royalston, Border, Glenwood, Olson Mem Hwy, and 7th Street	Enhanced crosswalk markings and countdown signals	Primary
10	Bike Facilities	Near station platform	Bike parking, lockers, pump station and bike share facilities (beyond SPO improvements)	Primary
11	Wayfinding	Near station platform	Signage and wayfinding (beyond SPO improvements)	Primary
12	Public Art	Near station platform	Public art (beyond SPO improvements) including under grade-separated bridge	Secondary

** Improvement not symbolized on opening day figures*

FIGURE 2-13. SOUTHWEST LRT ANTICIPATED BASE PROJECT SCOPE - OPENING DAY STATION AREA IMPROVEMENTS





PRIMARY PRIORITY

SECONDARY PRIORITY

Development Potential

OVERVIEW

Several factors surrounding the Royalston station present opportunities for future redevelopment. In addition to a new LRT station, other nearby destinations and amenities that might drive development interest include the Minneapolis Farmers Market, Target Field, Target Center, International Market Square, Cedar Lake LRT Regional Trail, North Loop and Loring Park neighborhoods.

The Royalston station area is dominated by long-standing industrial uses, some of which are publicly owned. This also presents opportunities for future redevelopment in the area, however, the relative health of existing businesses and the likelihood of publicly-owned uses not changing in the near-term, suggests that development potential will occur in a mid- to long-term period.

Key challenges that should be addressed to facilitate long-term development potential include land uses, block sizes, and limited east-west connectivity.

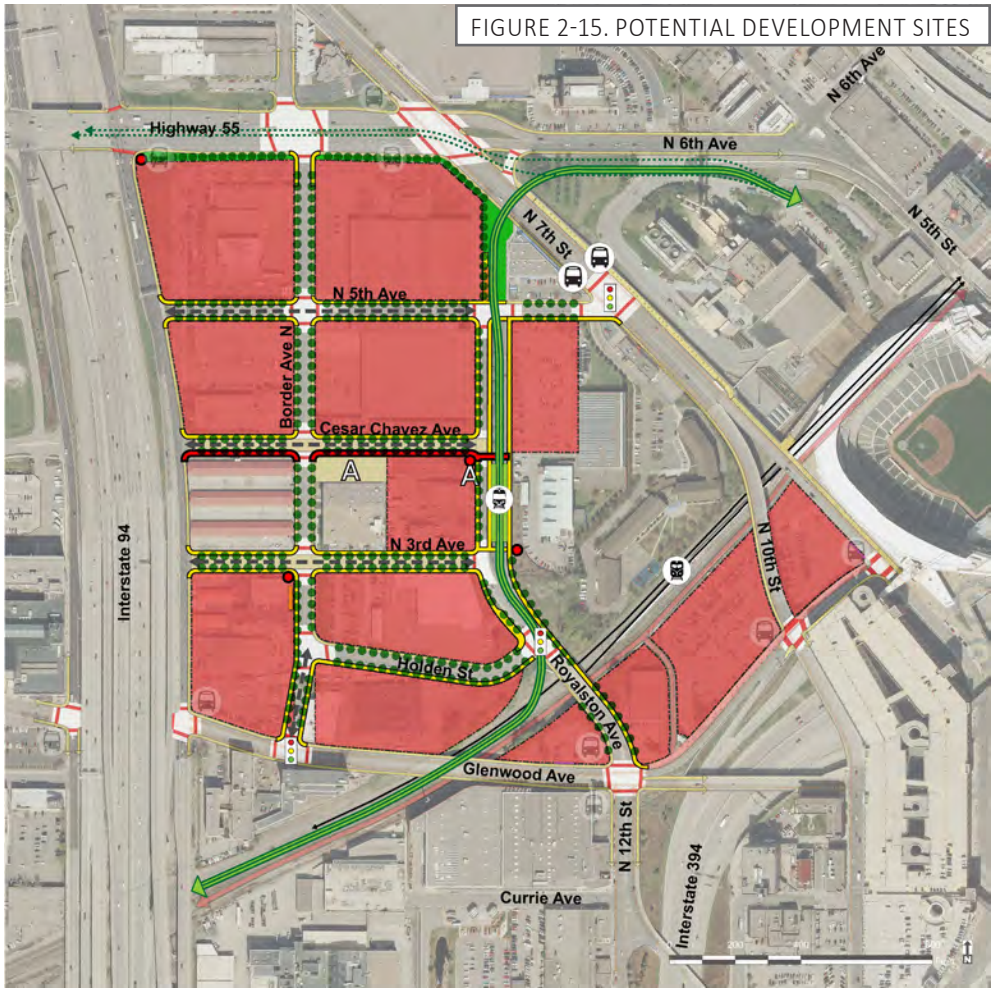
LAND USES

High-density, mixed-use, transit-oriented development is likely to occur near the Royalston station in the long-term. The North Loop Small Area Plan identifies future land uses in the Royalston station area to be higher density consisting of a mix of commercial, residential, and industrial uses.

PLANNING STRATEGIES

Several strategies should be addressed to facilitate future development in the station area. The large block sizes and limited east-west connectivity create challenges to accessing the station. Redevelopment should seek opportunities to introduce a finer grain of streets and block sizes to enhance station area mobility and set up a framework for more compact, transit-oriented development. A direct pedestrian connection to the Farmers Market and streetscape improvements along roadways connecting the station area with potential development sites, local destinations, neighborhoods, and bus transit facilities will enhance development potential in the area.

FIGURE 2-15. POTENTIAL DEVELOPMENT SITES



Key Considerations for Change and Development Over Time

Development within the station area should provide a mix of new uses and focus on enhancing pedestrian connections through the introduction of new streets and/or mid-block connections to make it easier to travel to major area attractions by foot. Key considerations should include:

BUILT FORM AND LAND USE

» Introduce higher density commercial development with active street level uses along Cesar Chavez Avenue, North 3rd Avenue, and Royalston Avenue adjacent to the station to extend the activity of the market east towards the station.

» Design new buildings to enhance pedestrian access by orienting them towards the street and locating them as close to the street line as possible. Where lot sizes pose a challenge to addressing all sides of a block, ensure buildings are designed at a minimum to actively address Royalston, Cesar Chavez, 3rd Avenue, and Border Avenue.

PUBLIC REALM

» Restrict outdoor storage on private properties so that it does not detract from the image of the area or discourage new higher density employment uses.

» Initiate intersection improvements at Holden Street and Royalston Avenue in order to improve safety and enhance access to the Farmers Market on opening day.

» Over time, extend intersection improvements along 3rd Avenue and Cesar Chavez Avenue to improve safety and enhance the walk between the station and Farmers Market.

» Reduce lane sizes where feasible and implement streetscape improvements along the Royalston Avenue bridge including pedestrian-oriented lighting and bike facilities to improve the walk or ride from Royalston to downtown.

» Explore the potential to transform 3rd Avenue and Cesar Chavez Avenue into “blended” pedestrian-friendly streets that can be closed to traffic on market days.

MOBILITY

» Develop a clear and direct pedestrian connection to provide access to the Farmers Market in the short-term.

» Over time extend 5th, Cesar Chavez and 3rd Avenues to create a walkable street and block pattern.

» Support pedestrians through the introduction of sidewalks on all streets, new pedestrian crossings, and curb cuts for people in wheel chairs or other mobility devices.

» Accommodate market and short-term parking on-street or in shared structured parking facilities with active uses at street level to minimize the construction and impact of single-use parking areas.

» Minimize the impact of parking and circulation on pedestrians by locating parking below-grade, to the rear/ side of new buildings, and consolidating access and service drives.

Higher density office and light industrial uses

Green infrastructure

Blended street that can be closed to traffic

Extend Farmers Market activity to the station

Station Area Utility Plan

OVERVIEW + APPROACH

The station area utility plan and strategies recommended below were developed by considering impacts on existing utilities by the construction of the LRT line, and potential future transit-oriented development within the station area, as depicted by the Station Area Improvements Plan (Figure 2-9). Opening day improvements identified in this plan should be considered prior to 2018 due to their proximity to or impact from the proposed LRT line. More improvements may be necessary by 2018, but should be reviewed with any redevelopment in the area. The City of Minneapolis should continue to follow their standard review procedures as it relates to utilities within project areas.

For any publicly initiated projects in the ROW, the City should follow current utility review procedures. This may include identifying needs and opportunities that may be coordinated with proposed improvements to the roadway or other elements in City ROW.

For any privately initiated projects in the area, the City should follow current development/ redevelopment procedures which will likely require developers to show anticipated utility system demand. Developers will need to coordinate with the City to ensure utilities are sized and located properly prior to construction. The City of Minneapolis Community Planning and Economic Development website can be found here: http://www.ci.minneapolis.mn.us/cped/. This study recognizes that the ultimate station area development/redevelopment (in 2030) will be driven by market conditions.

GENERAL RECOMMENDATIONS - SANITARY SEWER & WATER MAIN

Utility recommendations for station area improvements include opportunities for Minneapolis to improve the existing sanitary sewer and water main networks without necessarily replacing existing sanitary sewer. As part of the City's standard practice, utilities will be reviewed in conjunction with proposed station area improvements within the ROW; Any necessary utility improvements will be determined at the time of said review. As redevelopment occurs, developers will be required to provide documentation to verify that existing utilities meet the needs of the proposed development. Developers will coordinate with the City prior to project approvals.

GENERAL RECOMMENDATIONS – STORM SEWER

Local storm sewer improvements are recommended to be completed in conjunction with other improvements in the station area. Improvements which may require storm sewer modifications include: roadway realignments, roadway extensions, and pedestrian sidewalk/streetscape improvements. Storm sewer improvements may consist of: storm sewer construction, manhole reconstruction, drain tile extensions, storm sewer relocation, and complete replacement. These local storm sewer improvements are included as part of the overall cost of roadway and streetscape improvements recommended in this plan. Where roadway/streetscape improvements are part of the SW LRT base project scope, associated storm sewer improvements are assumed to be a project cost. Coordination with the local watershed district and other agencies may be needed to review the condition of and capacity of existing trunk storm sewer systems serving more regional surface water needs.

STORMWATER BEST MANAGEMENT PRACTICES

There are numerous stormwater best management practices (BMPs) that can be used to address stormwater quality and quantity. As part of this project, BMP guides were developed for four stations (Royalston, Blake, Shady Oak, and Mitchell) which exemplify the range of development intensity and character in the urbanized environment along the Southwest LRT Corridor. The recommendations and practices identified in each of the four BMP guides are applicable to various stations along the corridor.

The following section (starting on p. 2-24) includes a detailed stormwater analysis and BMP guide for Royalston Station. These BMPs may also be applicable to the station areas at Van White, Penn, 21st Street, and West Lake. Cities should consider incorporating these practices where appropriate as development/redevelopment occurs.

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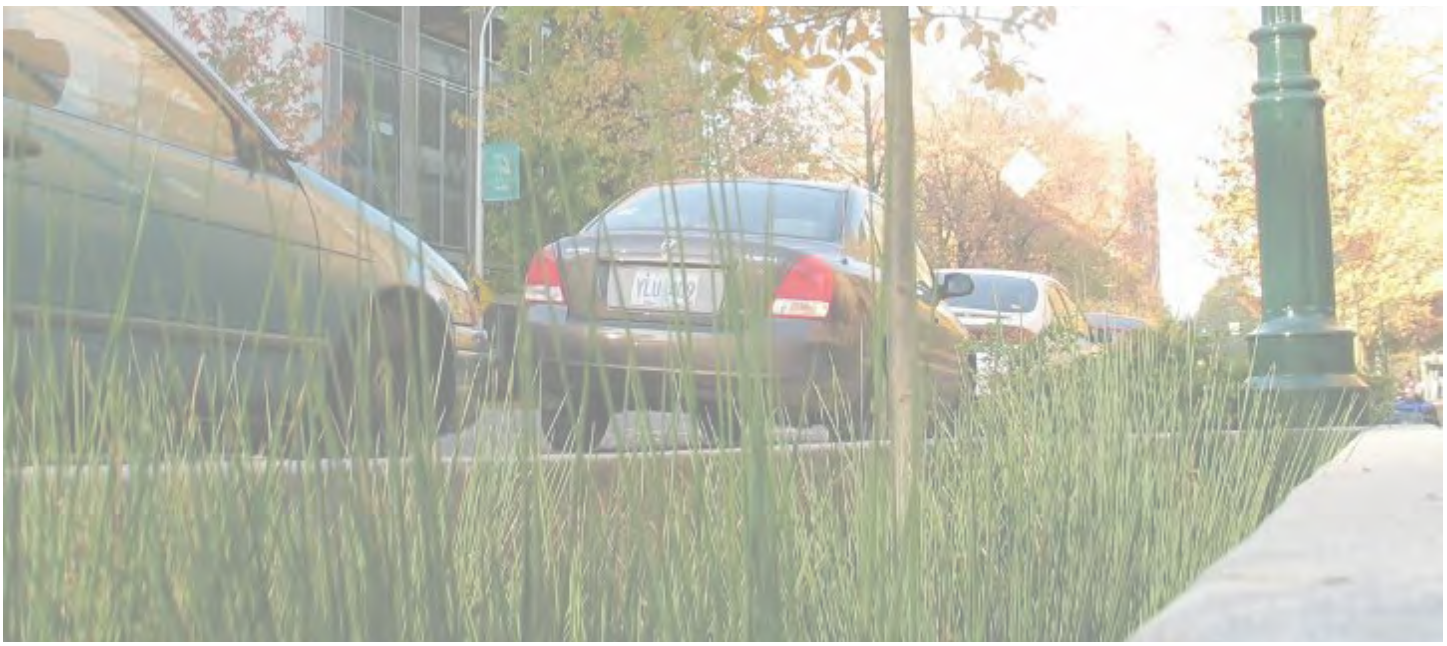


Station Area Utility Plan (Continued)

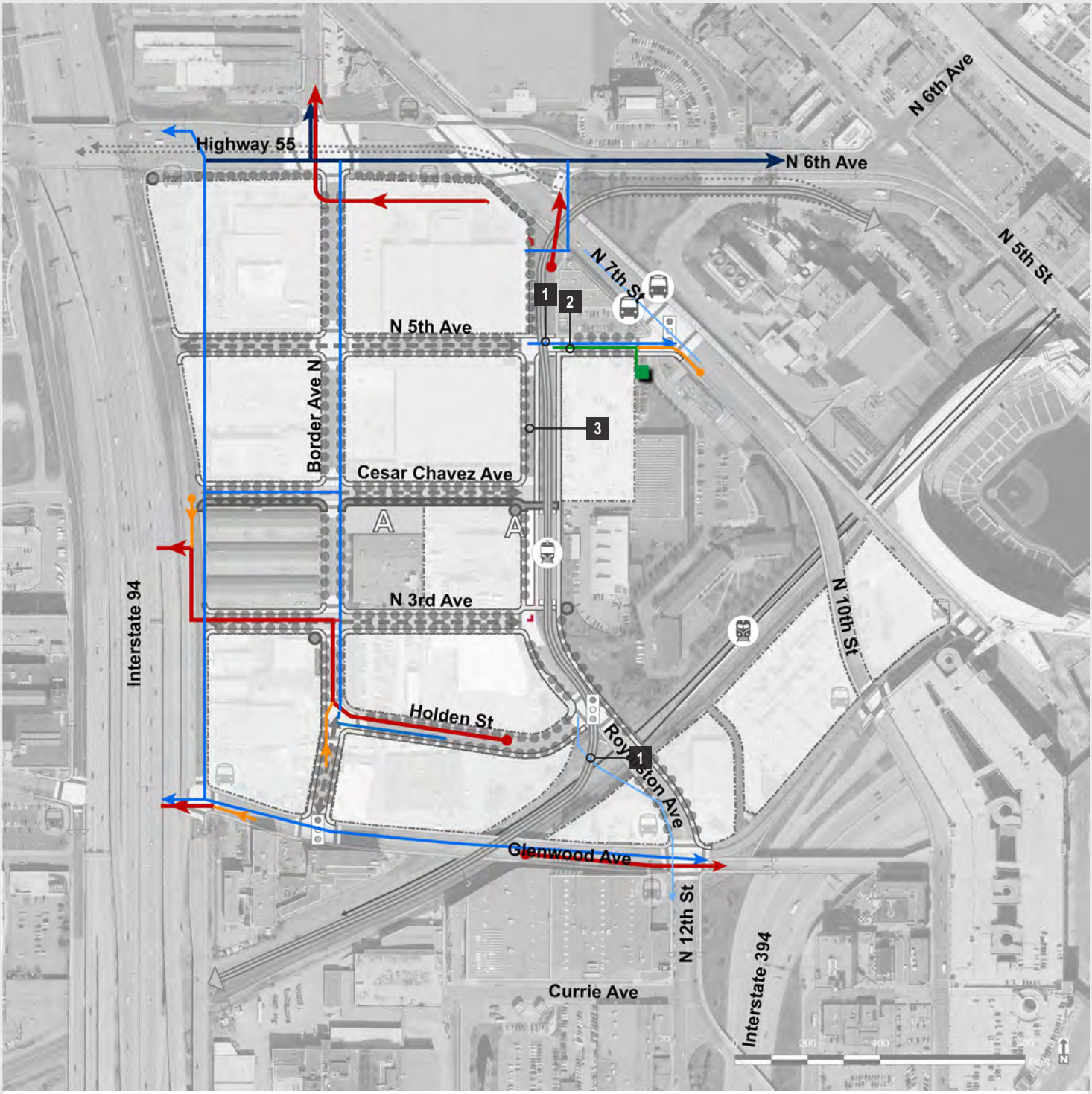
STATION AREA UTILITY RECOMMENDATIONS

The following discussion covers station-specific utility recommendations for both opening day improvements and long-term improvements. Utility recommendations (illustrated in Figure 2-16) are based on a localized analysis of proposed development. It is recommended that the City of Minneapolis take this analysis a step further and review system constraints to the existing and future sanitary sewer and water main systems using existing sewer CAD or water CAD models, or other methods of modeling these systems.

Opening Day Recommendations:

1. Encase existing sanitary sewer force main crossing LRT rail construction.
2. Encase existing water main crossing LRT rail construction.
3. Relocate existing sanitary sewer along Royalston Avenue where in conflict with LRT rail construction.

FIGURE 2-16. STATION AREA UTILITY PLAN



OPENING DAY RECOMMENDATION

EXISTING UTILITIES

- SERVICE SANITARY
- LOCAL SANITARY
- TRUNK SANITARY
- MCES SANITARY INTERCEPTOR
- SANITARY SEWER FORCE MAIN
- LIFT STATION
- SERVICE WATER MAIN
- LOCAL WATER MAIN
- TRUNK WATER MAIN
- WATER TOWER

Stormwater Management Recommendations

INVENTORY

Royalston station area is within the Mississippi Watershed Management Organization (MWMO). The station location lies about one mile west of the Mississippi River and is tributary to the river through the Bassett Creek Tunnel. By agreement, Minneapolis must obtain approval from Bassett Creek Watershed Commission (BCWMC) before it can alter the tunnel or change the tributary area of the tunnel.

The old Bassett Creek Tunnel skirts the north boundary of the station impact area. Both the old tunnel and the current tunnel discharge into the Mississippi River.

At the discharge point for the Bassett Creek tunnel, the Mississippi River is listed as impaired for fecal coliform, PCB in fish tissue, and mercury in fish tissue. In addition, there is a turbidity impairment downstream at Lake Pepin.

Minneapolis has identified flood prone areas throughout the City but has no specific flood areas defined for the station impact area.

CONSTRAINTS:

Impaired Waters

The Mississippi River has a number of listed impairments, but no TMDLs (Total Maximum Daily Load) have been approved yet. In the future, for impaired waters where TMDL has been approved, requirements may increase further.

Contamination

There may be soil contamination in the area. Infiltrating stormwater may be limited by contamination if the contamination source and surrounding soils are not able to be remediated.

Soils

The majority of the soils within the 10-minute walk zone have been identified as Urban, which are highly variable as significant development and/or fill has occurred in these areas. Historical soil information for the area indicates a strong presence of hydrologic group A and B soils which typically allow for infiltration.

Stormwater Management

The City of Minneapolis emphasizes stormwater management practices such as urban tree canopy, permeable surfaces, and green roofs. Minneapolis is the regulatory entity for approving stormwater management in the Royalston station area. Chapter 54 of the City's ordinance establishes stormwater requirements for development and redevelopment. Refer to Chapter 54 of the Minneapolis City Ordinance for detailed requirements (which vary based on receiving water) and for more information regarding the water quality and water quantity credits available (http://www.minneapolismn.gov/publicworks/stormwater/index.htm).

The site is within an area that eventually discharges stormwater to the Mississippi River and therefore land disturbing activities that disturb one or more acres of land are required to achieve 70% total suspended solids (TSS) removal.

STORMWATER MANAGEMENT CALCULATION

Total redevelopment area is approximately 47 acres. The 47 acres can be categorized into 3 groups; station improvements, ROW improvements, and individual site redevelopment. The following is the area breakdown by category. Note this breakdown is highly variable depending on the timeline of ROW and individual site redevelopment.

- Station improvements (LRT Platform) – 1 acre
- ROW improvements – 12 acres
- Individual site redevelopment – 34 acres

Based on City of Minneapolis Rules shown above, these areas will likely implement stormwater management to provide rate control and pollutant load reduction. Volume control is not a requirement but may be provided to enhance stormwater treatment and obtain stormwater utility credits.

Pollutant Removal

Based on redevelopment of 47 acres and a requirement of 70% TSS removal, based on discharge to the Mississippi River, it is estimated that approximately 8-10 tons of TSS would need to be removed annually. Assuming highly impervious land use (resulting in an estimated loading of 500 pounds of TSS per acre per year) the following equation was used to determine the annual load reduction required:

$$4\ \text{acres} \times \frac{500\ \text{lbs TSS Annually}}{\text{Acre}} \times \frac{1\ \text{ton}}{2000\ \text{lbs}} \times 0.70 = 8.2\ \text{tons TSS Annually}$$

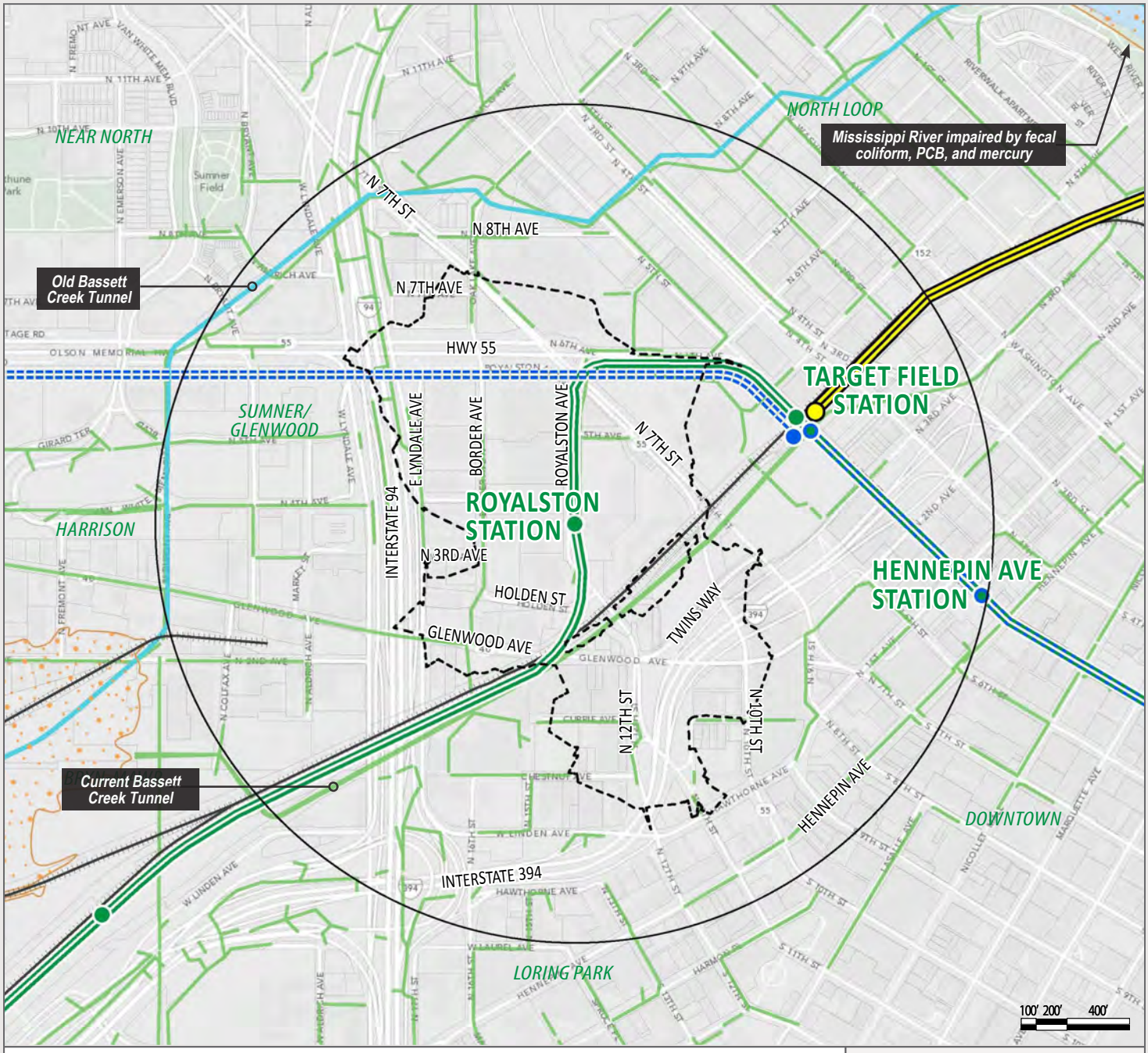
Volume Control

Volume control may be a viable option in some locations; however some areas may have high groundwater, poor soils, or contamination, which would limit the ability to provide volume control to treat stormwater.

Rate Control

Rate control is not anticipated to be a controlling requirement given the high amount of existing impervious coverage on redevelopment areas (generally over 90%) and the need to implement stormwater treatment. As a result, proposed discharge rates are anticipated to be significantly less than existing discharge rates.

FIGURE 2-17. EXISTING STORMWATER



Stormwater Management Recommendations (Continued)

OPPORTUNITIES

- The City emphasizes green and permeable surfaces as the preferred stormwater management practices. In addition, tree canopy coverage can intercept rainfall from small storms and reduce heat island effects. The City does not allow permeable pavement.
- Harvesting rainwater and storing it in cisterns and rain barrels provides water for irrigation use, conserving potable water, and effectively managing stormwater. An area-wide irrigation system is worth considering whereby a system of cisterns and rain barrels might be interconnected to provide irrigation water throughout the area. Centralized filtration systems could polish water from street areas before use on vegetation. Roof water would usually be considered suitable for irrigation without any filtering. This is similar in concept to the system utilized at Target Field.
- Green roofs should be emphasized. Green roofs are expensive and, when done right, require additional structural strength in buildings. The City of Minneapolis would like to see a hundred green roofs city-wide by 2015.
- Mississippi Watershed Management Organization offers grants through its Stewardship Fund. Planning and implementation grants are available for projects that demonstrate methods to improve water quality.

Stormwater Best Management Practices (BMP) Guide

The following section summarizes the key features and design considerations related to each of the stormwater best management practices recommended for the Royalston station area.

NOTE: These BMPs may also be applicable to the station areas at Van White, Penn, 21st Street, and West Lake. Cities should consider incorporating these practices where appropriate as development/redevelopment occurs.

LANDSCAPE FILTERS

Features:

» Volume control through infiltration and vegetative uptake

» Treatment by filtration and infiltration

» Detention capacity to reduce peak flow rates

» Irrigation of aesthetic landscaping features

» Minimal footprint

Design Considerations:

» In-situ soils determine infiltration potential

» Periodic maintenance of underground filter system will be required to ensure performance

UNDERGROUND STORAGE + REUSE

Features:

» Large detention capacity for reducing peak flows and providing treatment

» Volume reduction by reusing stormwater to irrigate trees and green spaces

» Can be used with or without reuse depending on irrigation demand

» No land needed as storage is underground

» Reduce potable water needed for wash-down or in buildings (toilets)

Design Considerations:

» Green space to be irrigated should be in close proximity to storage reservoir

» Size of green space will reflect treatment, the larger the green space the more treatment potential

» Requires large underground volume free of utilities that is above groundwater and bedrock

BIOFILTRATION CELLS

Features

» Treats stormwater through filtration, vegetative uptake, and infiltration

» Retains stormwater to reduce peak flows

» Creates naturally vegetated green space adjacent to development

Design Considerations

» Many different native vegetation options and combinations; trees, shrubs, grasses

» In-situ soils determine infiltration potential

» Noxious weeds will need to be managed to maintain native landscape

» Drain tile can be added to help facilitate filtration

ABOVE GROUND CISTERN

Features

» Large detention capacity for reducing peak flows and providing treatment

» Volume reduction by reusing stormwater to irrigate trees and green spaces

» Can be used with or without reuse depending on irrigation demand

» Reduce potable water needed for wash-down or in buildings (toilets)

Design Considerations

» Green space to be irrigated should be in close proximity to storage reservoir

» Size of green space will reflect treatment, the larger the green space the more treatment potential

» Requires above ground storage volume to collect stormwater from roof or other impervious surface

ENHANCED MEDIA FILTER

Features

- Treatment provided by filtering stormwater
- Enhanced treatment, to target dissolved pollutants, can be achieved by adding iron filings or spent lime to the filtration media
- Allows for dissolved pollutant removal without infiltration (may be necessary in or near contaminated areas)

Design Considerations

- Free draining system is necessary to achieve desired pollutant removal
- Vegetation should be planted that tolerates enhanced media
- Regular maintenance will be needed to ensure functioning filter
- Valves can be incorporated to verify system functionality.

GREEN ROOF

Features

- Treats stormwater through filtration and vegetative uptake
- Reduces runoff rates by retaining stormwater in roof landscaping features
- Reduces thermal stormwater impacts
- No land is needed as roof is utilized

Design Considerations

- Buildings may require additional structural design considerations
- Vegetation will need to withstand direct sunlight all day
- Supplemental irrigation may be needed
- Only receives direct rainfall area, no additional tributary area unless pumping is incorporated

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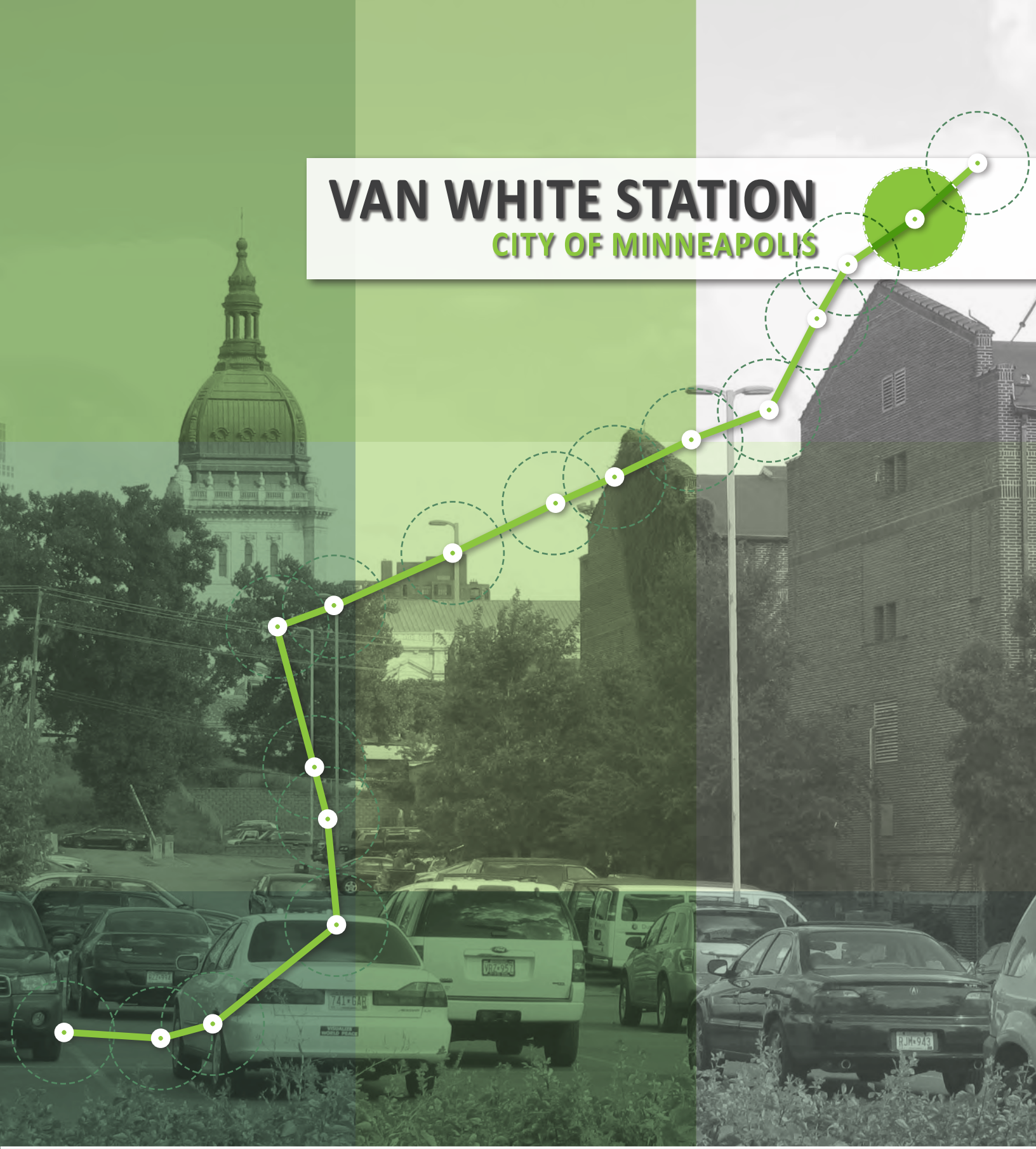
VAN WHITE STATION

CITY OF MINNEAPOLIS



SOUTHWEST CORRIDOR INVESTMENT FRAMEWORK

TRANSITIONAL STATION AREA ACTION PLAN

Hoisington Koegler Group Inc.

SOUTHWEST LRT community works
www.swlrtcommunityworks.org

Hennepin

ABOUT THIS CHAPTER:

The Transitional Station Area Action Plans are the product of a Hennepin County led effort to help communities along the Southwest LRT corridor prepare for SW LRT's opening day in 2018 and beyond.

An individualized plan has been created for each of the 17 stations in the Southwest corridor, each plan comprising a chapter in the larger Southwest Corridor Investment Framework. The station area action plans suggest ways to build on local assets, enhance mobility, identify infrastructure needs, and capitalize on promising opportunities for development and redevelopment near each station.

Plan Components:

INTRODUCTION 3-2
A brief overview of the station location and its surroundings

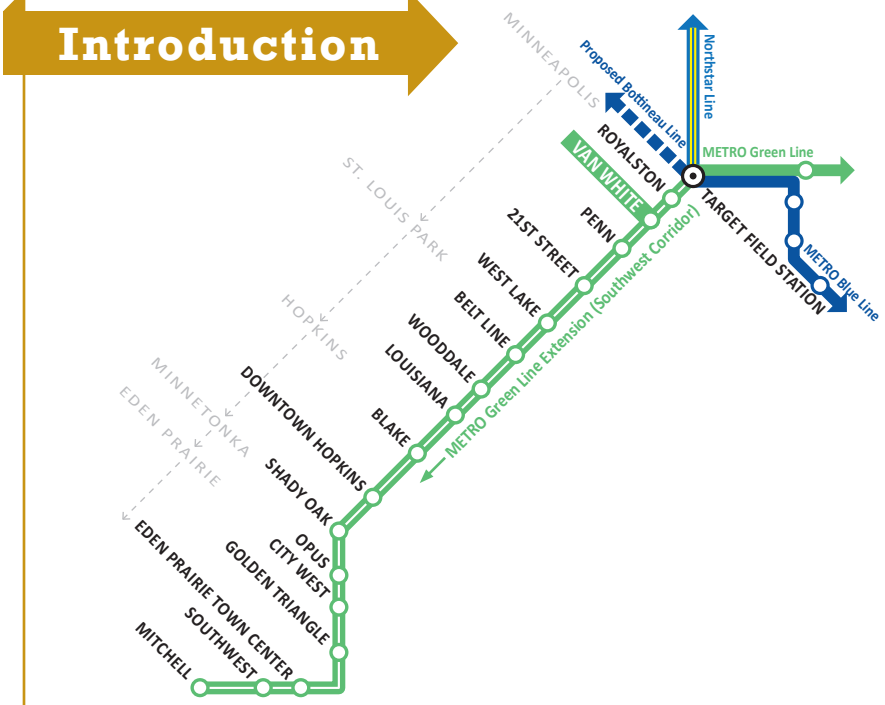
WHERE ARE WE TODAY? 3-4
A description of existing conditions in the station area, including:

- Land Use
- Transit Connections
- Access + Circulation Issues (Bike, Ped, and Auto)
- Infrastructure Needs

WHERE ARE WE GOING? 3-8
This section presents a number of recommendations for the station area in anticipation of opening day needs and the long-term TOD environment. This includes:

- Access + Circulation Plan
- Station Area Site Plan
- Infrastructure Plan
- Development Potential
- Summary of Key Initiatives

Introduction



VAN WHITE STATION WITHIN THE CORRIDOR

A new employment quarter with convenient access to downtown, regional and local trails, and institutional and cultural destinations.

EMPLOYMENT The Van White station is an *Employment* Area (see Place Types discussion beginning on p. 1-19) in the Bassett Creek Valley just south of downtown Minneapolis. While the immediate station area largely consists of industrial uses today, the Bassett Creek Valley Redevelopment Plan calls for a transition to higher densities and a mix of uses, including significant office development adjacent to the LRT station platform. New high-density office uses will generate transit ridership at this station.

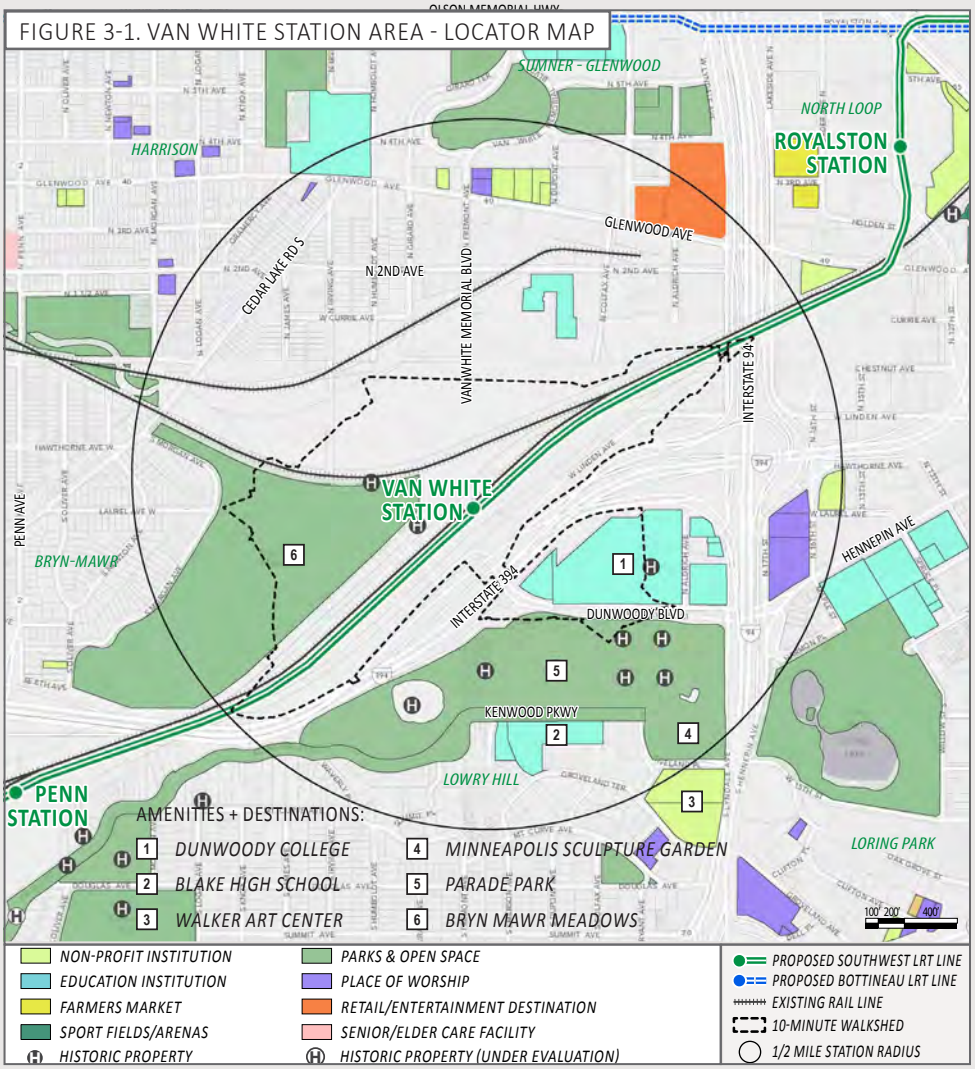
NEIGHBORHOOD The station area is surrounded by diverse residential neighborhoods, including Bryn Mawr, Harrison, Heritage Park, Lowry Hill, and Kenwood. Neighborhood amenities including restaurants and retail stores are located along Glenwood Avenue between Cedar Lake Road and Fremont Avenue. Future redevelopment in the area will increase housing options and provide additional retail and commercial opportunities. Residential growth will serve to support ridership at the station.

HERITAGE, ARTS, AND CULTURE The Walker Art Center, Minneapolis Sculpture Garden, and Parade Park are within a short distance of the proposed station. Bryan Mawr Meadows Park is also located adjacent to the station, offering visitors and area residents access to 51 acres of active regional park space, a range of recreational facilities, and views of downtown Minneapolis. National Register listed/eligible historic properties in this station area include the William Hood Dunoody Institute, portions of the Grand Rounds Historic District, and two historic railroads, including the Great Northern Main Line.

EDUCATIONAL DESTINATION The station will act as an access point for students attending the Blake High School, Dunwoody College of Technology, and Minneapolis Community & Technical College.

TRAIL CONNECTIONS The station lies within close proximity to important regional trail connections including Cedar Lake LRT Regional Trail and Luce Line Trail. These trails facilitate access to downtown Minneapolis and provide connections to other key destinations, including Bryan Mawr Meadows.

FIGURE 3-1. VAN WHITE STATION AREA - LOCATOR MAP



NOTE: 10-minute walkshed approximates the area accessible within a 10-minute walk from the station platform using only the existing sidewalk/trail network. See Glossary for walkshed assumptions and methodology.

Station Location

The Van White Station is located in Bassett Creek Valley, an area that is currently dominated with industrial and park land uses. In 2007, the City of Minneapolis approved a plan for redevelopment in Bassett Creek Valley, which calls for a transition to higher density and mixed uses, including residential, office and mixed-use development.

The proposed station platform is located adjacent to I-394 as well as the Cedar Lake LRT Regional Trail. Nearby destinations include the Dunwoody College of Technology, Blake High School, Walker Art Center, Minneapolis Sculpture Garden/Conservatory, Parade Park,and Bryn Mawr Meadows Park. This station has the potential to serve the Bryn Mawr, Harrison, Heritage Park, Lowry Hill, and Kenwood neighborhoods.

VAN WHITE STATION AREA TODAY:

Dunwoody College of Technology

Van White Bridge (photo credit: TKDA)

Walker Art Center

Cedar Lake LRT Regional Trail

Cedar Lake LRT Regional Trail

Existing pedestrian bridge

Where Are We Today?

The following section describes the station area's EXISTING CONDITIONS, including the local context, land uses, transit and transportation systems, pedestrian and bicycle facilities, assets, destinations, and barriers to accessing the station. This analysis of current conditions presents key issues and opportunities in the station area and informs the recommendations for future station area improvements.

NOTE: Existing conditions maps are based on data provided by Hennepin County and local municipalities. The data used to create each map is collected to varying degrees of accuracy and represents infrastructure and conditions at varying points in time. Actual conditions may vary slightly from what is shown.

Land Use

Existing land uses in the area include City-owned properties to the north and east of the station. These properties include the City's vehicle impound lot and concrete crushing facility. These sites are identified in the Bassett Creek Valley Master Plan as redevelopment sites for future high density office and residential uses. Several industrial uses are also located in the vicinity of the station platform.

Several civic, cultural, and institutional land uses, anticipated to generate transit ridership, exist in the area, including the Walker Art Center, Minneapolis Sculpture Garden, Parade Park, Bryn Mawr Meadows Park, Blake High School, and Dunwoody College of Technology.

FIGURE 3-2. EXISTING LAND USE

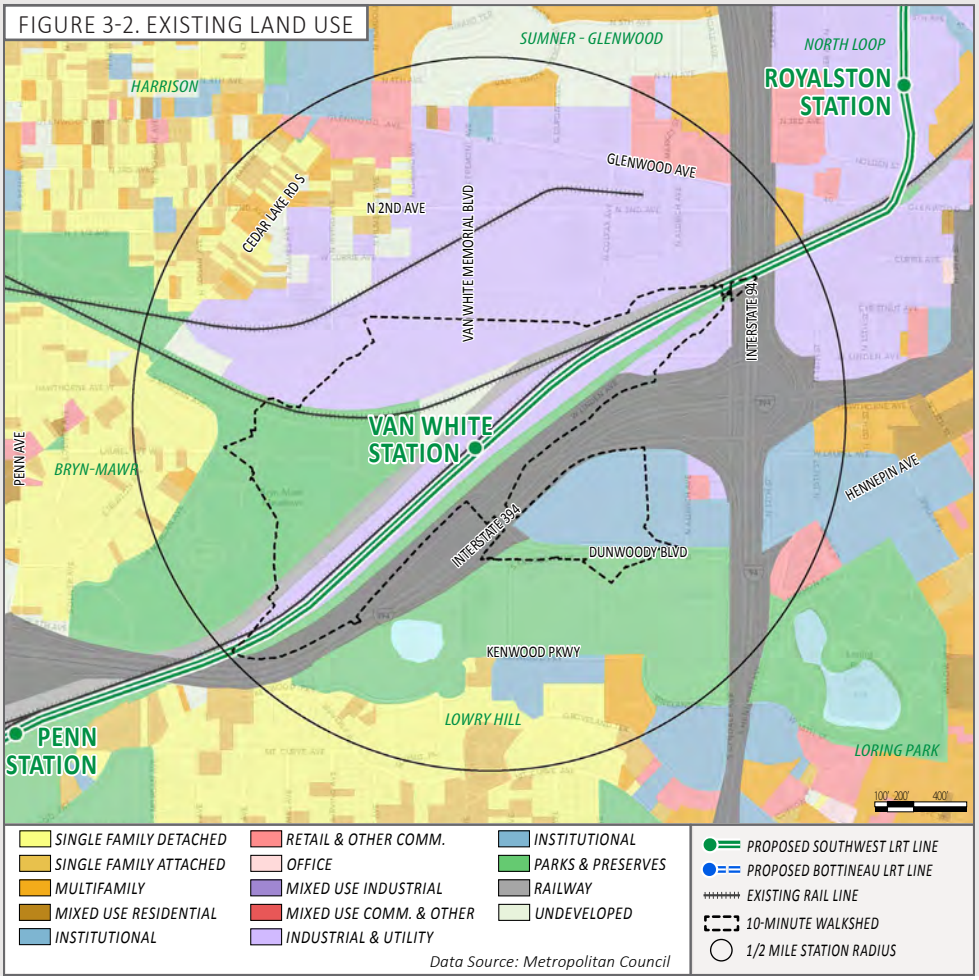
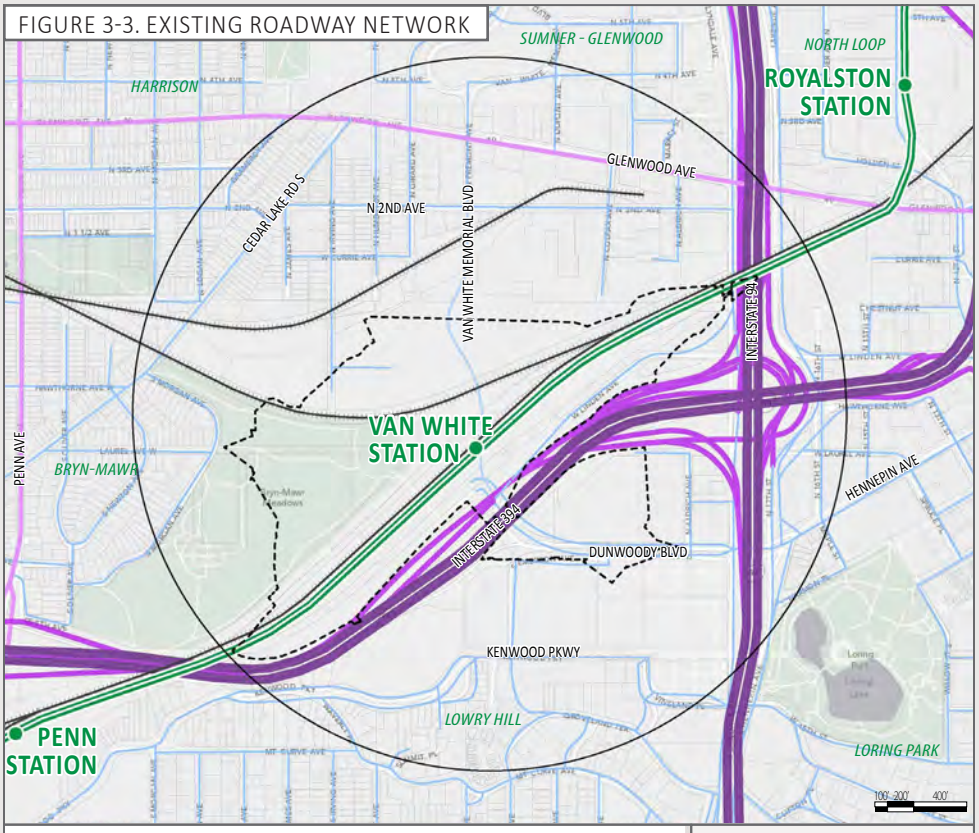


FIGURE 3-3. EXISTING ROADWAY NETWORK

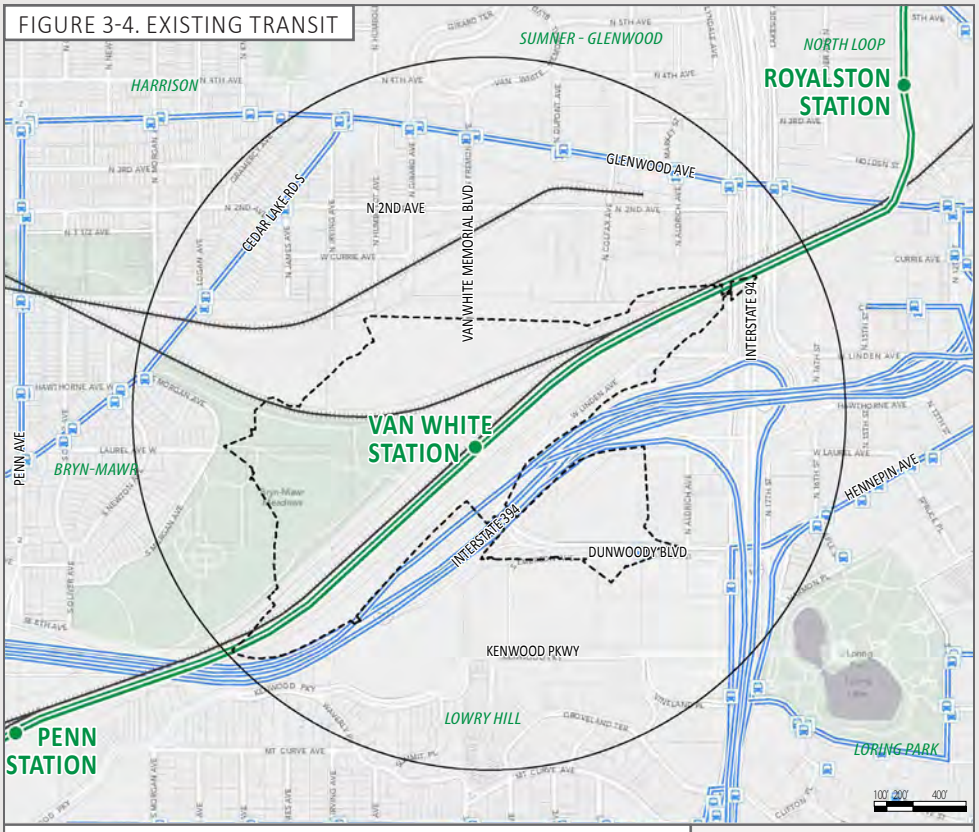


Roadway Network

The existing roadway network in the Van White Station area is limited, due to existing land uses and general lack of development in the area. The recently completed Van White Boulevard and bridge provides a north-south connection from Glenwood Avenue to Dunwoody Boulevard, greatly enhancing connections to the station platform from both north and south. The Bassett Creek Valley Master Plan identifies a future roadway network in the valley that returns the historic street grid to the area.

Planning for the City-owned Linden Yards sites indicates future roads necessary to provide access to development sites east and west of the station platform. Linden Avenue and Dunwoody Boulevard provide connections to downtown Minneapolis from the station. I-394 is a major freeway adjacent to the station platform with access to and from Van White Boulevard.

FIGURE 3-4. EXISTING TRANSIT



Transit

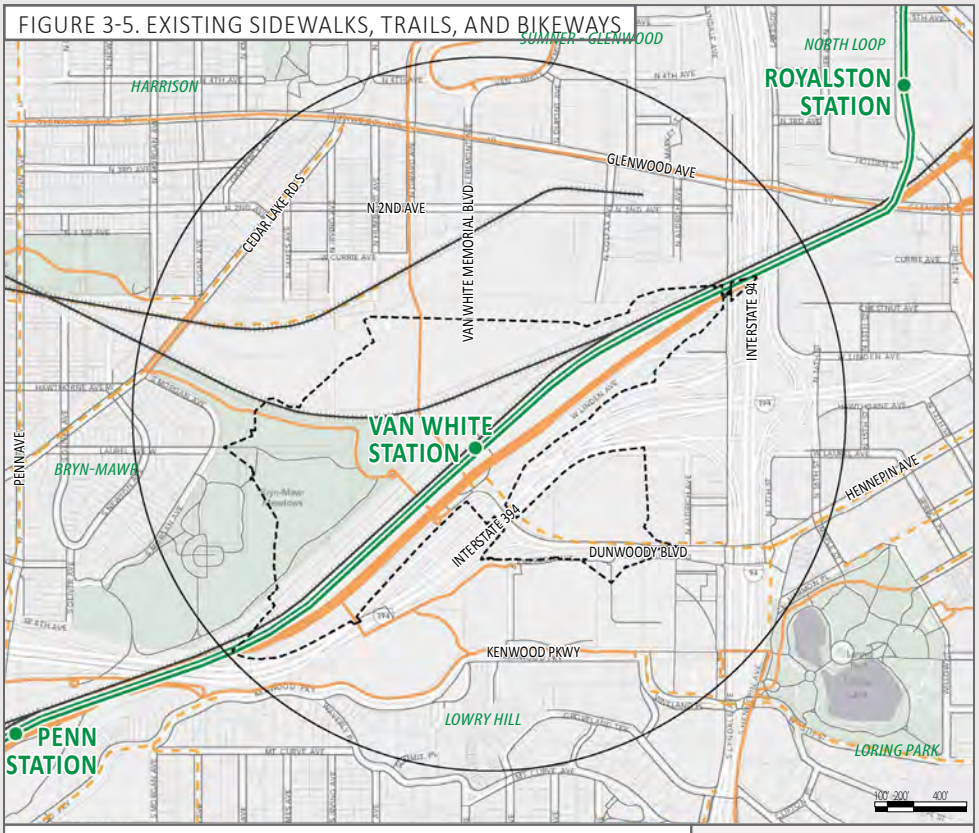
There are no existing bus routes serving the Van White station area. The closest bus routes serving the area are about a half-mile away, along Glenwood Avenue. With the completion of Van White Boulevard, which provides a north-south roadway and connects Glenwood Avenue with Dunwoody Boulevard, there is an opportunity to extend a bus route along Van White Boulevard/Dunwoody Boulevard to the station platform and serve residents/transit riders north and south of the station.

Sidewalk, Trails and Bikeways

The existing sidewalk system is limited due to a lack of development and roadway network in the area. The trail network, however, is extensive. The Cedar Lake LRT Regional Trail runs alongside the Van White station platform connecting riders to downtown or south to other parts of the regional trail system. An existing pedestrian/bike bridge connects trail users over the proposed LRT line and the existing freight line to connect with Bryn Mawr Meadows Park and the trail system within the park, which includes the Luce Line Trail. Other trails connect under I-394 to Parade Park.

The completion of Van White Boulevard offers better sidewalk connections to the Heritage Park and Harrison neighborhoods to the north, as well as better connections to the Kenwood and Lowry Hill neighborhoods to the south of the station platform. The Van White station, however, rests below the new Van White Bridge and will require vertical circulation strategies to connect the bridge sidewalks to the station platform below.

FIGURE 3-5. EXISTING SIDEWALKS, TRAILS, AND BIKEWAYS



Sanitary Sewer

Sanitary sewer infrastructure consists of a collection of gravity flow sewer mains, lift stations, and pressurized forcemains that transport sewage to a wastewater treatment plant (WWTP). An efficient collection system has the capacity to accommodate all of the existing land uses within its particular sewershed. Beyond capacity, the material and age of pipes within a system can also impact a system's effectiveness.

Sanitary sewer infrastructure within the project area is typically maintained by either the City of Minneapolis or by the Metropolitan Council Environmental Services (MCES) Division. MCES maintains a series of interceptor trunk sewers that collect sewage at key locations and convey sewage across community boundaries to regional WWTPs. Wastewater from the station area is treated by the MCES Metro WWTP located in St. Paul.

FIGURE 3-6. EXISTING SANITARY SEWER

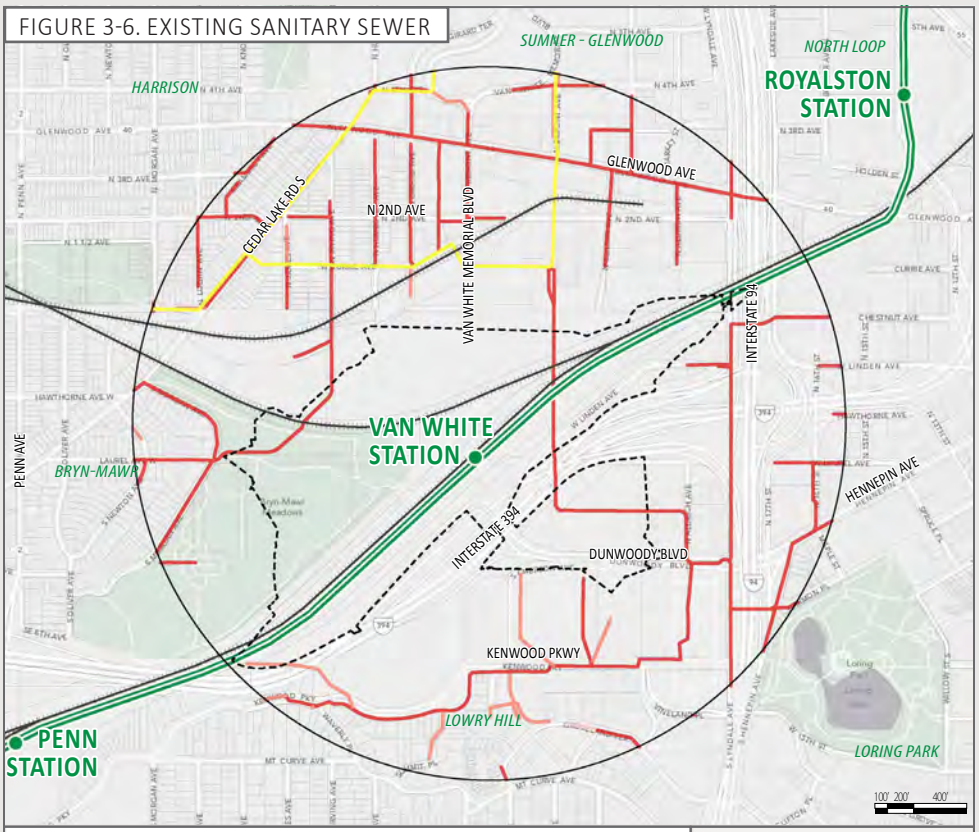
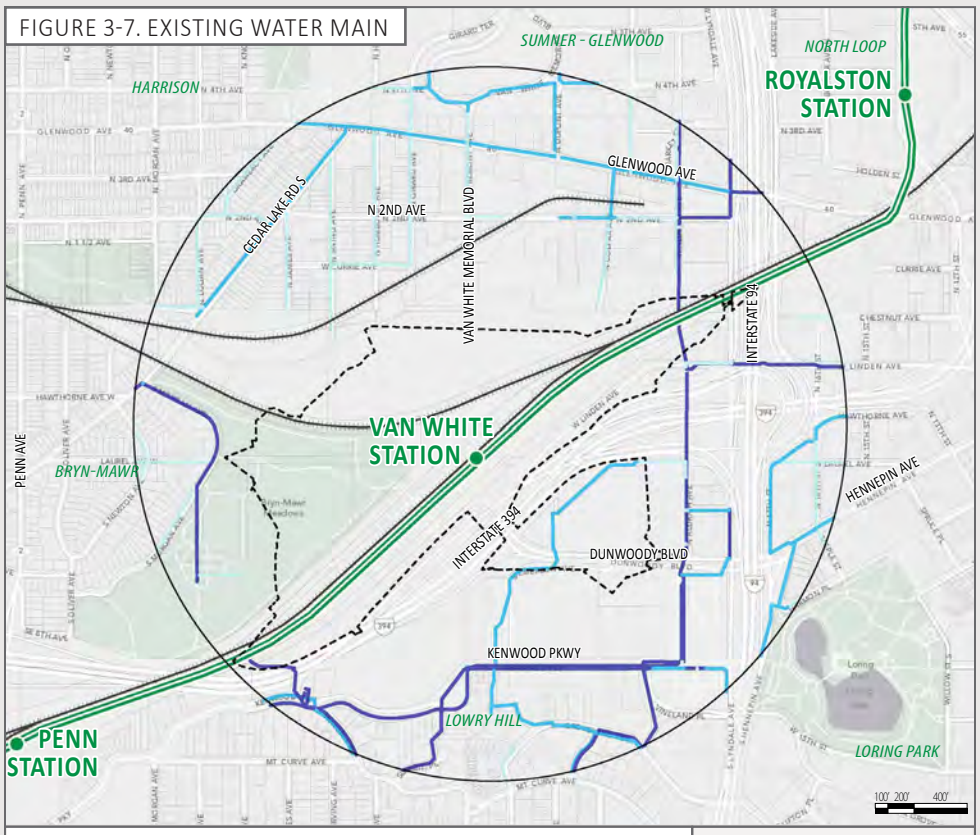
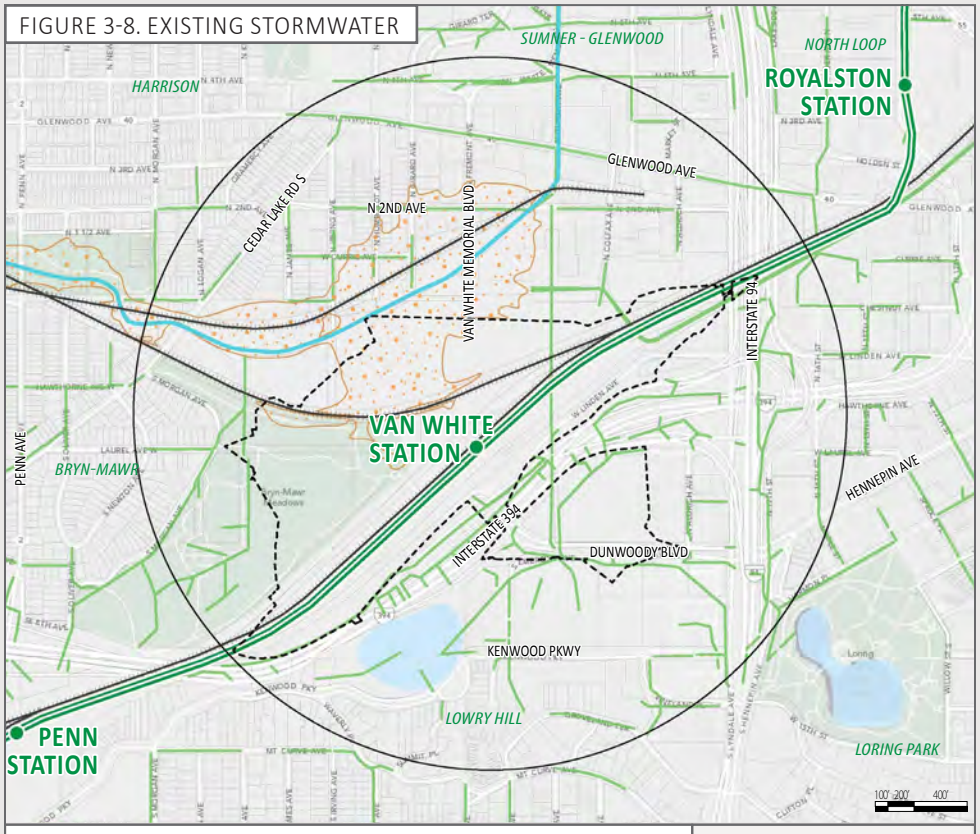


FIGURE 3-7. EXISTING WATER MAIN



- SERVICE - 6 INCHES OR LESS
- LOCAL - 8-10 INCH DIAMETER
- TRUNK - 12+ INCH DIAMETER
- WATER TOWER
- PROPOSED SOUTHWEST LRT LINE
- PROPOSED BOTTINEAU LRT LINE
- EXISTING RAIL LINE
- 10-MINUTE WALKSHED
- 1/2 MILE STATION RADIUS

FIGURE 3-8. EXISTING STORMWATER



- IMPAIRED WATERS
- 100-YEAR FLOOD ZONE
- STORM MAIN
- IMPAIRED STREAMS
- WETLANDS
- PROPOSED SOUTHWEST LRT LINE
- PROPOSED BOTTINEAU LRT LINE
- EXISTING RAIL LINE
- 10-MINUTE WALKSHED
- 1/2 MILE STATION RADIUS

Water Main

Water main distribution systems serve to supply potable water to individual properties and to support fire suppression throughout the community. A well-designed system can maintain adequate pressure to support demand of individual properties and provide high flow rates to fire hydrants/fire suppression systems in emergency situations. Because of the complexity of water distribution networks and the importance of pressure, flow, and water quality, City water system models are used to evaluate a system's adequacy. The material and age of the system's water mains can also be factors in system breaks, leaks, and pressure and flow degradations.

Water pressure and flow rates can be influenced by: the size of water main serving an area, proximity and elevation relative to a water tower, proximity to a trunk water main with high flow capacity, if the water main creates a loop, the demand of adjacent land uses, and the condition of the water main.

Stormwater

Van White station is located within the Bassett Creek Watershed Management Commission (BCWMC) with the southeast quadrant of the 10-minute walkshed within the Mississippi River Watershed Management Organization (MWMO). There is a significant 100-year floodplain of Bassett Creek just north of I-394. The reach of Bassett Creek adjacent to the Van White station is impaired by chloride (TMDL approved), fecal coliform, and fish biology.

Discharging within one mile of impaired water may trigger additional MN Pollution Control Agency NPDES (National Pollution Discharge Elimination System) requirements for additional stormwater management. For impaired waters where a TMDL (Total Maximum Daily Load) has been approved, these requirements may increase further. Zoning requirements for areas within the 100-year floodplain may limit development/redevelopment potential.

Any development/redevelopment that occurs as a result of constructing this station is anticipated to improve the existing drainage conditions as a result of enforcing the City and the watershed requirements.

Where Are We Going?

The plans and diagrams on the following pages illustrate a range of recommendations for infrastructure improvements, station amenities, and potential redevelopment opportunities within the station area.

The ACCESS AND CIRCULATION PLAN shown in Figure 3-9 provides a high level view of how future transit, automobile, bike, and pedestrian systems will connect to the station area and its surroundings.

Figure 3-10 illustrates the STATION AREA IMPROVEMENTS that will facilitate access to and from the station and catalyze redevelopment in the station area. This includes opening day and long-term station area improvements

Figure 3-11 focuses on OPENING DAY STATION AREA IMPROVEMENTS only. These recommendations represent the improvements necessary to enhance the efficient function of the transit station, roadways, pedestrian and bicycle connections, and transit connections on opening day in 2018.

Station Area Improvements

The discussion below outlines a range of future station area improvements. While some of the identified improvements may be constructed as part of the LRT project itself, other improvements must be funded, designed and constructed by other entities and will require coordination between the City, County, and Metro Transit as well as local stakeholder and community groups.

ROADWAYS

Opening Day Improvements:

» Provide new roadway access under the Van White Bridge to enable auto and bus traffic to conveniently connect to the LRT station platform. Connect this new loop road to Linden Ave and Van White Blvd.

» Design the new loop road to ensure that additional roadway connections can be made to access future development sites at Linden Yards East and West, adjacent to the station.

» Design new and existing roadways to include multi-modal facilities for pedestrians, bicyclists, autos and transit.

» Add a traffic signal at the intersection of Van White Blvd, Dunwoody Blvd, and Linden Ave.

Long-Term Improvements:

» Build the second span of the Van White Boulevard Bridge.

PEDESTRIAN CONNECTIONS

Opening Day Improvements:

» In order to accommodate redevelopment of the area west of Van White Memorial Boulevard, realign the Cedar Lake LRT Regional Trail to run directly along the south side of the LRT line. Provide convenient and safe access to the LRT station platform from the trail. Design the system to minimize conflicts between trail users, transit users, and autos in the vicinity of the LRT station.

» Improve pedestrian/bike crossings and streetscape enhancements along Van White Blvd, Dunwoody Blvd, Linden Ave, Parade Parkway and other local streets to improve connectivity to nearby neighborhoods (Harrison, Bryn Mawr, Lowry Hill, and Kenwood) and local cultural/institutional destinations (Dunwoody College of Technology, Blake High School, Parade Stadium/Ice Garden, Minneapolis Sculptural Garden, Walker Art Center, Loring Park, etc.)

» Due to the LRT station's location below the Van White Bridge, which is a key new roadway connection to neighborhoods to the north, provide vertical circulation between bridge and the station platform.

» Replace and relocate the existing pedestrian/bike bridge over the LRT and freight lines to a location adjacent to the LRT station platform.

Long-Term Improvements:

» Ensure future redevelopment sites incorporate convenient and complete pedestrian connections to the LRT station.

» Build the second span of the Van White Boulevard Bridge.

» Provide a pedestrian connection between the Van White Bridge and the multi-use path on the north side of both freight rail corridors.

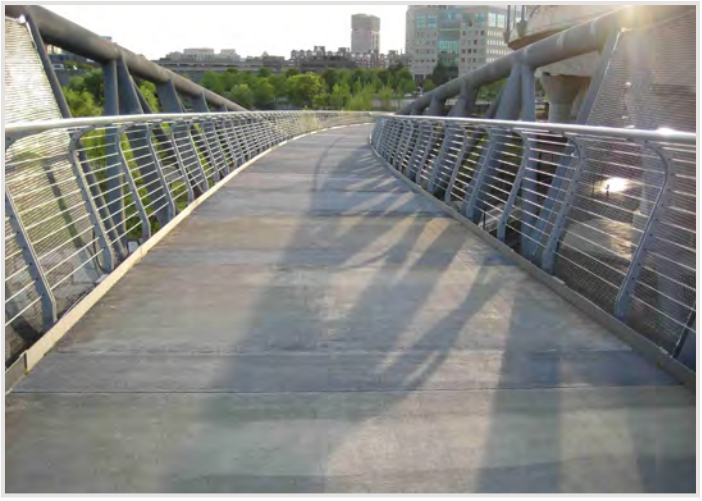
BIKE CONNECTIONS

Opening Day Improvements:

» Provide on-street bike facilities (lanes, routes, signage, etc.) on local streets to better connect the LRT station to nearby neighborhoods, businesses, amenities, and destinations.

» Provide bike parking, lockers and bike sharing facilities in a highly visible area near the station platform.

» Accommodate the Cedar Lake LRT Regional Trail realignment and provide convenient and safe access to the LRT station platform from the trail. Design the system to minimize conflicts between trail users, transit users, and autos near the station platform.



Pedestrian/bike bridge

Wayfinding signage

» Replace and relocate the existing pedestrian/bike bridge over the LRT and freight lines to better connect to the Bryn Mawr and Harrison neighborhoods, as well as provide a key connection to regional trails to the west.

Long-Term Improvements:

» Build the second span of the Van White Boulevard Bridge.

TRANSIT CONNECTIONS

Opening Day Improvements:

» Provide new bus facilities near station platform for connecting bus routes.

» Provide space for bus circulation and boardings on a transit loop street adjacent to the LRT station platform.

KISS AND RIDE

Opening Day Improvements:

» Provide space for kiss and ride activities alongside the new loop street near the LRT station platform.

STATION AMENITIES (*Beyond SW LRT Base Project Scope*)

Opening Day Improvements:

» Wayfinding- define and install a cohesive and contextual wayfinding system near the LRT station platform, major nearby destinations (Dunwoody College of Technology, Blake High School, Parade Stadium/Ice Garden, Minneapolis Sculptural Garden, Walker Art Center, Loring Park, etc.) and major gateways (such as Cedar Lake LRT Regional Trail, Van White Bridge, Dunwoody Blvd/Hennepin Ave, I-394 and I-94 exit ramps).

» Seating – provide comfortable and durable seating near the station platform.

» Lighting – provide adequate lighting for the safety of pedestrians, bicyclists and motorists near the station platform, particularly under the Van White Boulevard Bridge and along roadway connections to W. Linden Avenue, Dunwoody Boulevard, and W. Van White Avenue.

» Pedestrian Facilities – provide pedestrian connections from the station platform to the Cedar Lake LRT Regional Trail and the Van White Boulevard Bridge, including vertical circulation between the bridge and the station platform.

» Bike Facilities – provide bicycle parking, lockers, and bike sharing facilities in a highly visible area near the station platform.

» Plaza – provide a small public plaza area near the station platform to provide transit users with a paved queue area to wait for LRT trains and move about the station area.

» Public Art- incorporate public art in the station area to create an attractive and identifiable place.

Long-Term Improvements:

» Explore opportunities for linking the design of the future park space adjacent to the transit loop street to the LRT station platform and its activities and also increase visibility and identity of the LRT station area.

DEVELOPMENT POTENTIAL

Opening Day Improvements:

» The site immediately adjacent to and west of the station platform could be developed by opening day. Preserve the potential for a future access road to this development site.

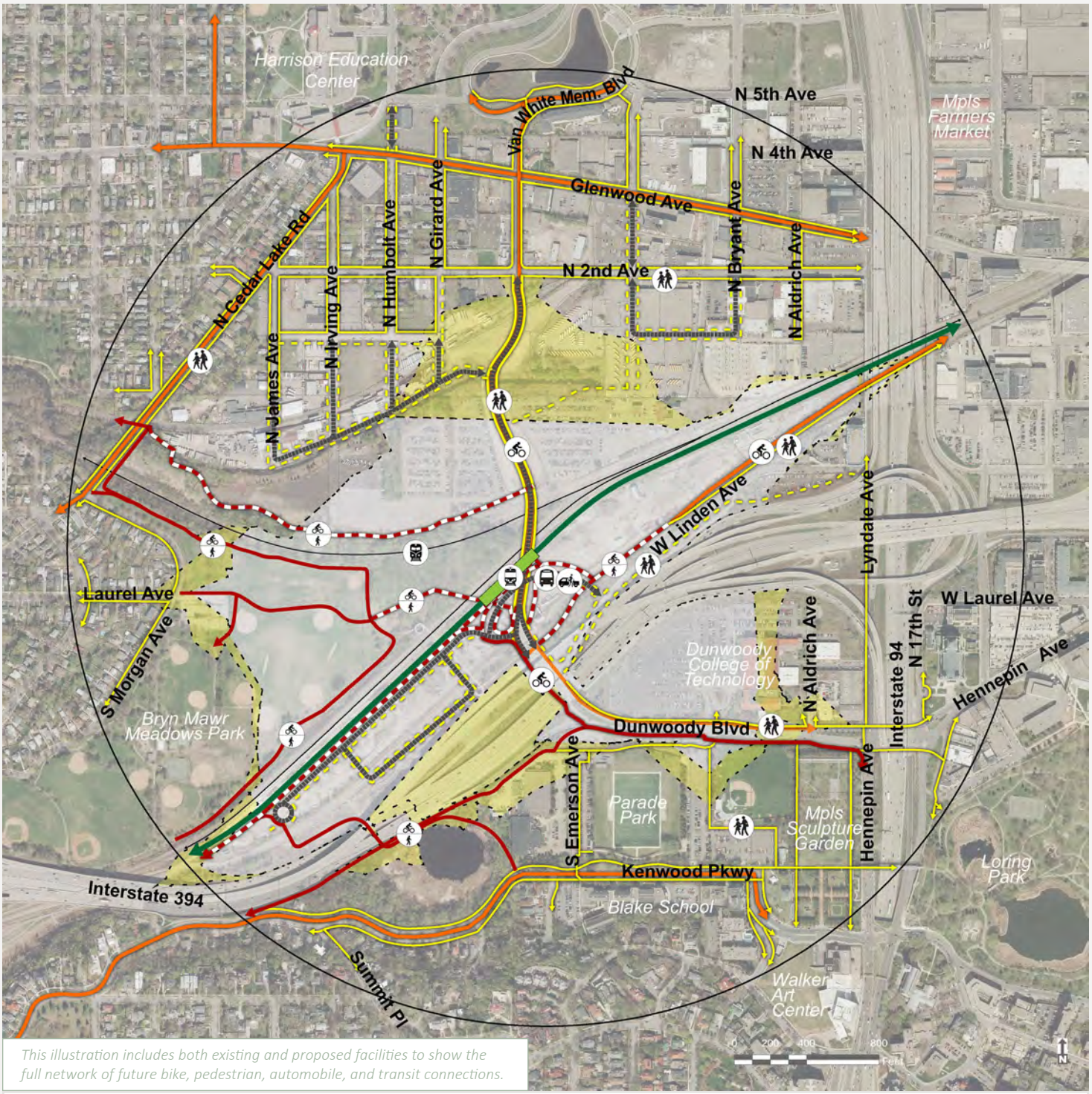
Long-Term Improvements:

» See the "Development Potential" discussion on page 3-16 for more on long-term development opportunities.

UTILITIES

» See the "Station Area Utility Plan" beginning on page 3-18 for all utility recommendations.

FIGURE 3-9. ACCESS + CIRCULATION PLAN

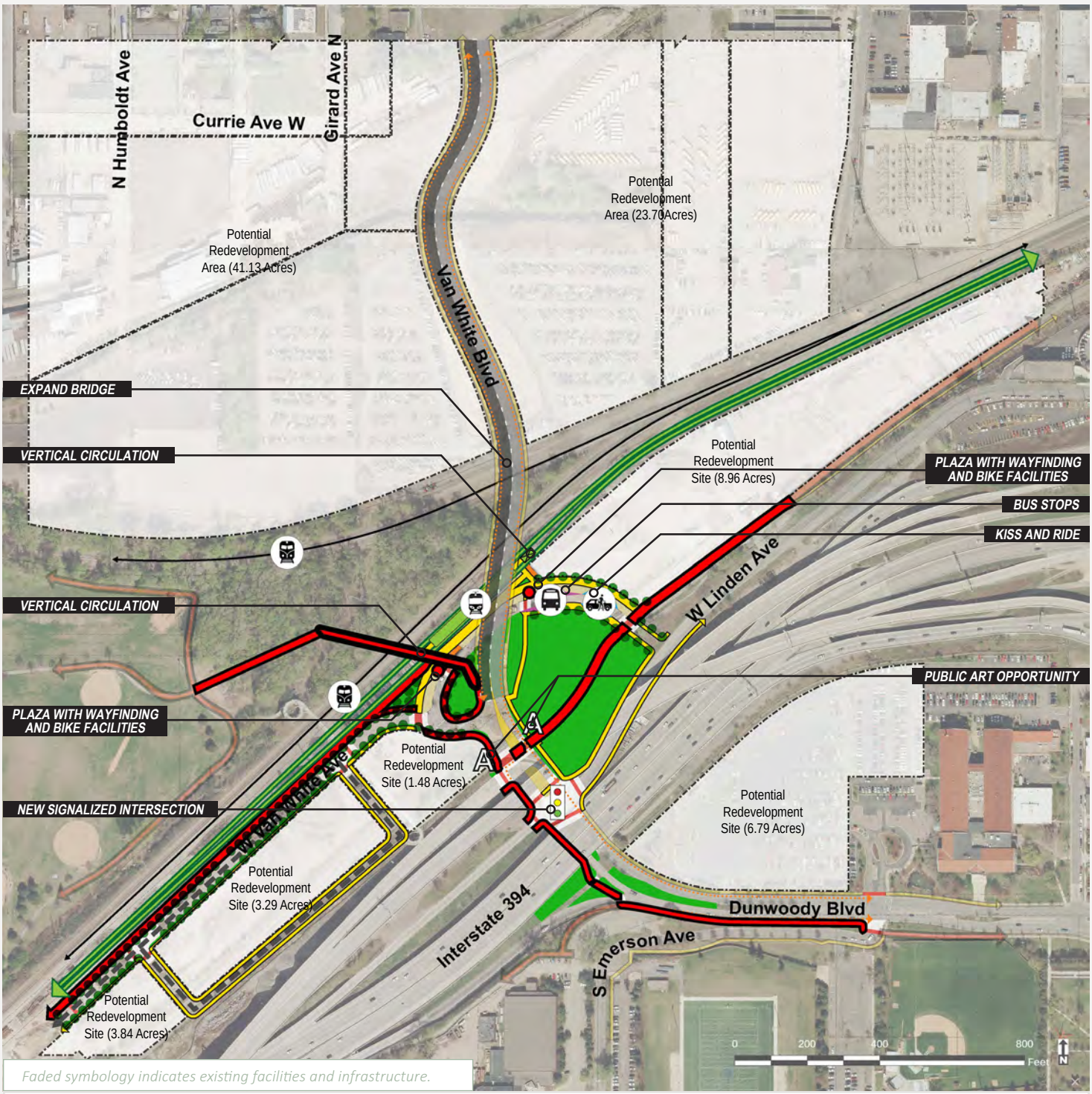


This illustration includes both existing and proposed facilities to show the full network of future bike, pedestrian, automobile, and transit connections.

- LRT PLATFORM
- LRT LINE
- BUS STOP
- PARK AND RIDE
- FREIGHT LINE
- NEW ROADWAY
- KISS AND RIDE
- EXISTING WALKSHED
- EXISTING PEDESTRIAN CONNECTION
- EXISTING BIKE CONNECTION
- EXISTING MULTI USE CONNECTION
- FUTURE WALKSHED (WITH TSAAP IMPROVEMENTS)
- PROPOSED(DASHED) PEDESTRIAN CONNECTION
- PROPOSED(DASHED) BIKE CONNECTION
- PROPOSED(DASHED) MULTI USE CONNECTION

NOTE: Existing walkshed approximates the area accessible within a 10-minute walk from the station platform using only the existing sidewalk/trail network. Future walkshed incorporates all proposed improvements to the sidewalk/trail network. Walksheds are based on GIS modeling and available sidewalk/trail information- and may not reflect exact on-the-ground conditions. See Glossary for detailed explanation of walkshed assumptions and methodology.

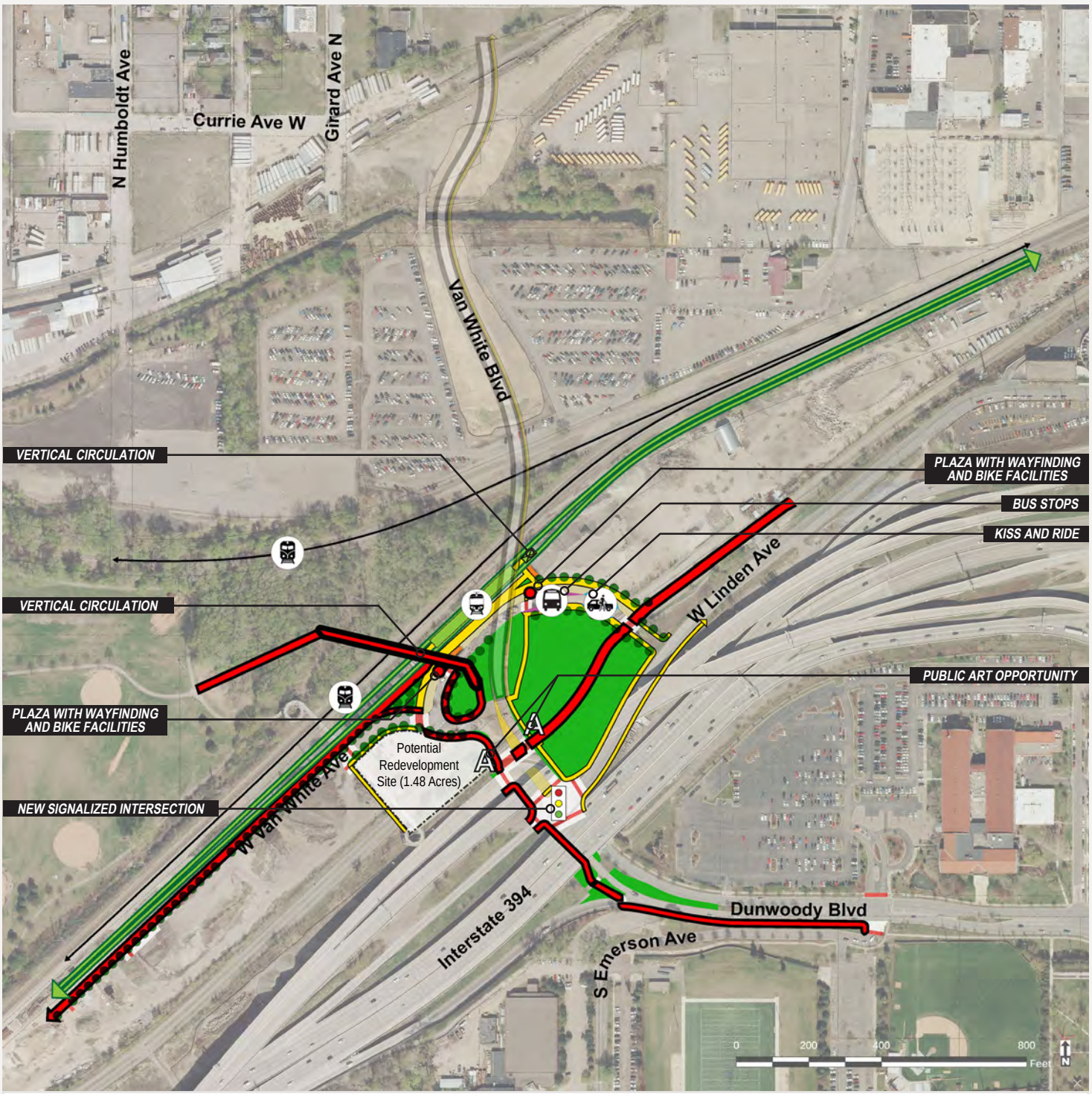
FIGURE 3-10. STATION AREA IMPROVEMENTS



Faded symbology indicates existing facilities and infrastructure.

- LRT PLATFORM
- FREIGHT LINE
- BUS STOP
- BUS SHELTER
- NEW SIDEWALK / SIDEWALK IMPROVEMENT
- ON STREET BIKE INFRASTRUCTURE
- MULTI-USE PATH
- NEW CROSSING / CROSSING IMPROVEMENT
- NEW ROADWAY
- STREETSCAPE
- PARK AND RIDE
- KISS AND RIDE
- NEW SIGNALIZED INTERSECTION
- BIKE PARKING
- WAYFINDING
- PUBLIC ART OPPORTUNITY
- POTENTIAL DEVELOPMENT SITE
- PLAZA SPACE / BUILDING SETBACK AREA

FIGURE 3-11. OPENING DAY STATION AREA IMPROVEMENTS



LRT PLATFORM
FREIGHT LINE
BUS STOP
BUS SHELTER
NEW SIDEWALK / SIDEWALK IMPROVEMENT
ON STREET BIKE INFRASTRUCTURE
MULTI-USE PATH
NEW CROSSING / CROSSING IMPROVEMENT
NEW ROADWAY
STREETSCAPE
PARK AND RIDE
KISS AND RIDE
NEW SIGNALIZED INTERSECTION
BIKE PARKING
WAYFINDING
PUBLIC ART OPPORTUNITY
POTENTIAL DEVELOPMENT SITE
PLAZA SPACE / BUILDING SETBACK AREA

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Opening Day Improvements

The following tables and diagrams outline the proposed improvements to be implemented in advance of SW LRT's opening day in 2018. Table 3-1 and Figure 3-12 show opening day improvements that are part of the SW LRT anticipated base project scope; these improvements will be part of the overall project cost for construction of the LRT line. Table 3-2 and Figure 3-13 include opening day improvements that are recommended as part of the Southwest Corridor Investment Framework and are beyond the SW LRT anticipated base project scope.

TABLE 3-1. SOUTHWEST LRT ANTICIPATED BASE PROJECT SCOPE - OPENING DAY STATION AREA IMPROVEMENTS

PLAN KEY	IMPROVEMENT	PROJECT LOCATION	PROJECT NOTES
A	LRT Platform	North of I-394, under the Van White Blvd Bridge	Includes related LRT infrastructure
B	Kiss and Ride	Along new station access road	Pullout dropoff area
C	Bus Facilities	Along new station access road	Bus bay along new access road to accommodate 1 bus route in each direction
D	Roadways	Linden Ave to Van White Blvd Bridge and Dunwoody Blvd	New station access road (loop road) with stub to accommodate future access to Linden Yards West development site
E	Sidewalk/Trail	Station platform area vertically up to Van White Blvd Bridge	New vertical circulation (includes elevator and stairs)
F	Sidewalk/Trail	Station platform area	New sidewalks connecting station to Van White Blvd Bridge sidewalks, the kiss and ride area, and proposed trails
G	Sidewalk/Trail	Station platform area	Reconstruction of regional trail and new connection on both sides of station platform
H	Bike Facilities	Near station platform	Allowance for bike storage
I	Wayfinding	Near station platform	Allowance
J	Landscaping	Near station platform	Allowance
K	Water*	Near station platform	New water service and fire hydrant to station
L	Sanitary Sewer*	Near station platform	New sanitary sewer to station
M	Utilities*	Project limit area	Adjustment of existing utilities
N	Stormwater management*	Near station platform and park and ride lot	Allowance

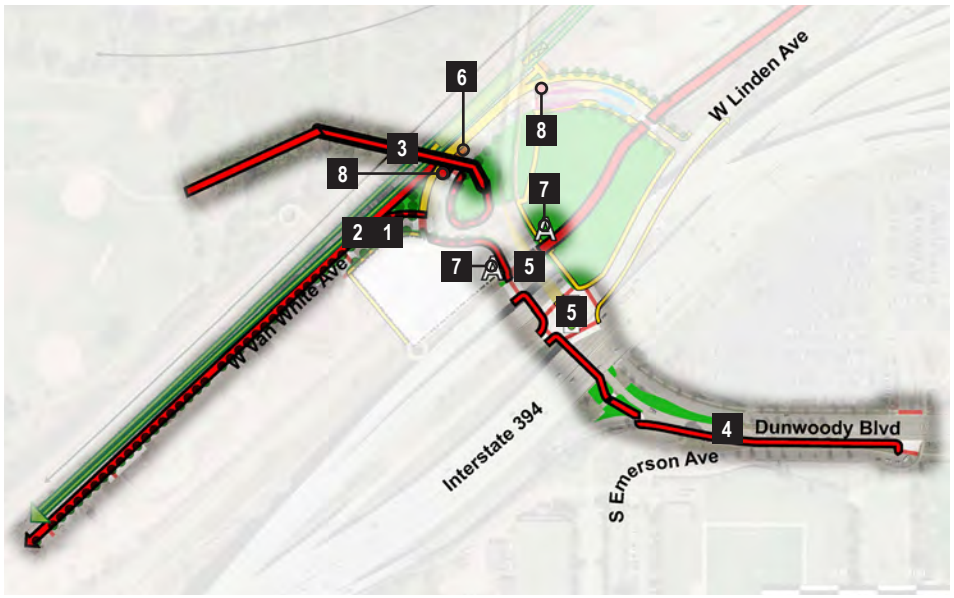
Note: Anticipated Southwest LRT Base Project Scope as of December 2013 (subject to change)
** Improvement not symbolized on opening day figures (exact location to be determined as part of the base project scope)*

TABLE 3-2. SOUTHWEST CORRIDOR INVESTMENT FRAMEWORK (TSAAP) - OPENING DAY STATION AREA IMPROVEMENTS

PLAN KEY	IMPROVEMENT	PROJECT LOCATION	PROJECT NOTES	PRIORITY
1	Roadway	Linden Yards West (new access road)	Construct new access roadway in conjunction with Linden Yards West development	Primary
2	Streetscape	Linden Yards West (new access road)	Includes sidewalk, multi-use trail, streetscape plantings, furnishings, lighting and signage	Primary
3	Sidewalk/Trail	Van White Blvd Bridge connection over freight and LRT lines to park/trail system	Construction of new ped/bike bridge in conjunction with Linden Yards West development	Primary
4	Sidewalk/Trail	Dunwoody Blvd, W. Linden Ave to Stadium Parkway	Multi-use trail along south side of Dunwoody Blvd	Primary
5	Intersection Enhancement	Dunwoody Blvd, W. Linden Ave to Stadium Parkway	New signal at Linden; Enhanced crosswalk markings in conjunction with multi-use trail	Primary
6	Bike Facilities	Near station platform	Bike parking, lockers, pump station and bike share facilities (beyond SPO improvements)	Primary
7	Public Art	Near station platform	Public art along Van White Blvd near I-394 (beyond SPO improvements)	Primary
8	Wayfinding	Near station platform	Signage and wayfinding (beyond SPO improvements)	Primary
9	Public Plaza	Near station platform	Includes paving, seating, lighting, and signage (beyond SPO improvements)	Primary

FIGURE 3-12. SOUTHWEST LRT ANTICIPATED BASE PROJECT SCOPE - OPENING DAY STATION AREA IMPROVEMENTS

FIGURE 3-13. SOUTHWEST CORRIDOR INVESTMENT FRAMEWORK (TSAAP) - OPENING DAY STATION AREA IMPROVEMENTS



PRIMARY PRIORITY

[#] *SECONDARY PRIORITY*

Development Potential

OVERVIEW

Several factors surrounding the Van White station present opportunities for future redevelopment. In addition to a new LRT station, other nearby destinations and amenities that might drive development interest include the Dunwoody College of Technology, Walker Art Center, Parade Park, Bryn Mawr Meadows Park, Loring Park, Blake High School, Bryn Mawr, Harrison, Heritage, Kenwood, and Lowry Hill neighborhoods.

The Van White station area is dominated by longstanding industrial uses, many of which are publicly owned. This also presents opportunities for future redevelopment in the area, particularly the City-owned impound lot and concrete crushing facilities, both of which are considered an underutilization of the property. Current planning for these sites is consistent with the Bassett Creek Valley Master Plan, calling for high-density employment and residential uses. Access from adjacent I-394 is also likely to influence development interest near the station. The development potential for the Van White station area is likely to be short- to long-term.

Key challenges that should be addressed to facilitate long-term development potential include land uses, block sizes, lack of utilities, and limited access and connectivity to the station platform. Potential environmental obstacles related to poor soils and rail layover issues may also delay development in the area. Given these challenges and the changing market for redevelopment, the City should review the land use direction of the Bassett Creek Valley Master Plan for possible revisions that may allow additional uses beyond residential.

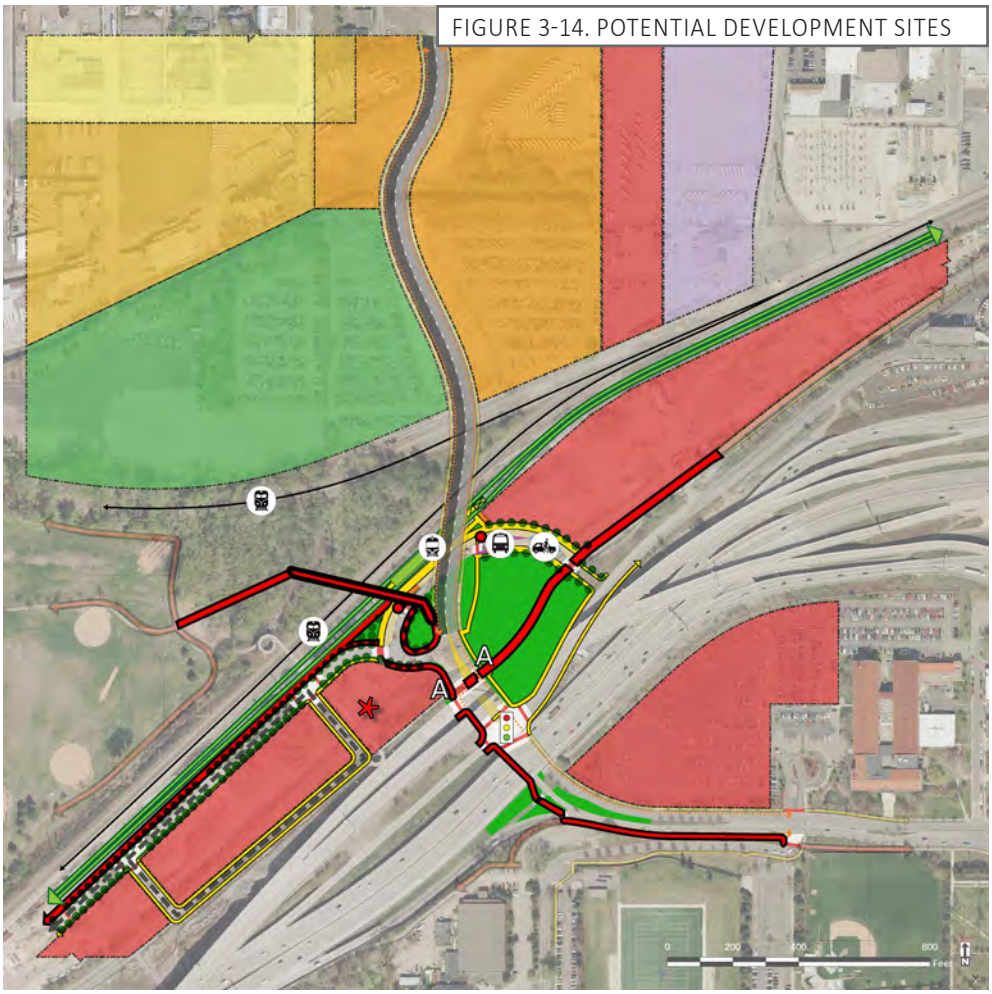
LAND USES

Higher density, mixed-use development is likely to occur near the Van White station in the long-term. The Bassett Creek Valley Master Plan identifies future land uses in the Van White station area to be higher density consisting of a mix of office, residential, industrial, retail and park/open space uses.

PLANNING STRATEGIES

Several strategies should be addressed to facilitate future development in the station area. Existing land uses, lack of a local roadway network, I-394 and the freight rail line create challenges to accessing the station. The construction of Van White Boulevard provides much needed roadway access to the station and a north-south connection. Redevelopment should seek opportunities to introduce additional streets and development blocks near the station to enhance station access. New sidewalks, trail connections, and enhanced pedestrian crossings that connect the station area with potential development sites, local destinations, and neighborhoods will also enhance development potential in the area.

FIGURE 3-14. POTENTIAL DEVELOPMENT SITES



FUTURE LAND USE:

- *SINGLE FAMILY DETACHED*
- *SINGLE FAMILY ATTACHED*
- *MULTIFAMILY*
- *MIXED-USE, COMM. & OTHER*
- *INDUSTRIAL*
- *PARKS & PRESERVES*
- *OPENING DAY DEVELOPMENT POTENTIAL*

Key Considerations for Change and Development Over Time

Development within the station area should help to increase activity and natural surveillance at the station and support the improvement of street and trail connections throughout the station area. Key considerations should include:

BUILT FORM AND LAND USE

» South of the rail corridor, introduce higher density commercial/office development with active street level uses along Dunwoody Blvd and facing the street in order to support transit ridership and make it easier for employees to access food and other services without having to drive.

» North of the rail corridor, introduce higher density residential development structured on a new street and block pattern.

» Design new buildings to enhance pedestrian access by orienting them towards the street and locating them as close to the street line as possible.

PUBLIC REALM

» Restrict outdoor storage within the station area so that it does not detract from the image of the area or discourage new higher density employment uses.

» Introduce a public plaza adjacent to the station to act as a receiving point for passengers walking to the station or transferring to the LRT by bus or riding to the station along the Cedar Lake LRT Regional Trail or Bassett Creek Trail.

» Initiate underpass enhancements including public art and a higher standard of lighting beneath the Van White Bridge and I-394 underpass to improve the image and safety of the station and enhance access for pedestrians.

» Improve connections between the station and area institutional destinations, such as the Dunwoody College of Technology, Blake High School, and Sculpture Garden by initiating public realm improvements along Dunwoody Blvd between the station and I-94. Improvements should include an extension of the sidewalk along the south side of the street to the station, new pedestrian-oriented lighting and crossing enhancements such as zebra striping and pedestrian-activated signals at key intersections.

MOBILITY

» Support pedestrians through the introduction of sidewalks on all streets, new crossings, and curb cuts for people in wheel chairs or other mobility devices.

» Introduce a new street and block pattern to the north of the rail corridor that aligns with streets north of 2nd Avenue to strengthen connections between the station area and the Harrison neighborhood to the north.

» Accommodate short-term parking on-street.

» Encourage shared structured parking facilities to support new development and minimize the construction and impact of single-use parking areas.

» Minimize the impact of parking and circulation on pedestrians by locating parking to the rear or sides of new commercial buildings, and consolidating access and service drives. Parking for new residential buildings should be accommodated to the rear of new development where it can be shielded from streets and open spaces.

» Limit vehicular access points along Van White Boulevard.

» Preserve opportunities for a new pedestrian bridge connecting the Bassett Creek Trail with the station plaza over the long term.

High-density residential

High-rise office building

New pedestrian and bicycle bridge

Station Area Utility Plan

OVERVIEW + APPROACH

The station area utility plan and strategies recommended below were developed by considering impacts on existing utilities by the construction of the LRT line, and potential future transit-oriented development within the station area, as depicted by the Station Area Improvements Plan (Figure 3-10). Opening day improvements identified in this plan should be considered prior to 2018 due to their proximity to or impact from the proposed LRT line. More improvements may be necessary by 2018, but should be reviewed with any redevelopment in the area. The City of Minneapolis should continue to follow their standard review procedures as it relates to utilities within project areas.

For any publicly initiated projects in the ROW, the City should follow current utility review procedures. This may include identifying needs and opportunities that may be coordinated with proposed improvements to the roadway or other elements in City ROW.

For any privately initiated projects in the area, the City should follow current development/ redevelopment procedures which will likely require developers to show anticipated utility system demand. Developers will need to coordinate with the City to ensure utilities are sized and located properly prior to construction. The City of Minneapolis Community Planning and Economic Development website can be found here: http://www.ci.minneapolis.mn.us/cped/. This study recognizes that the ultimate station area development/redevelopment (in 2030) will be driven by market conditions.

GENERAL RECOMMENDATIONS - SANITARY SEWER & WATER MAIN

Utility recommendations for station area improvements include opportunities for Minneapolis to improve the existing sanitary sewer and water main networks without necessarily replacing existing sanitary sewer. As part of the City's standard practice, utilities will be reviewed in conjunction with proposed station area improvements within the ROW; Any necessary utility improvements will be determined at the time of said review. As redevelopment occurs, developers will be required to provide documentation to verify that existing utilities meet the needs of the proposed development. Developers will coordinate with the City prior to project approvals.

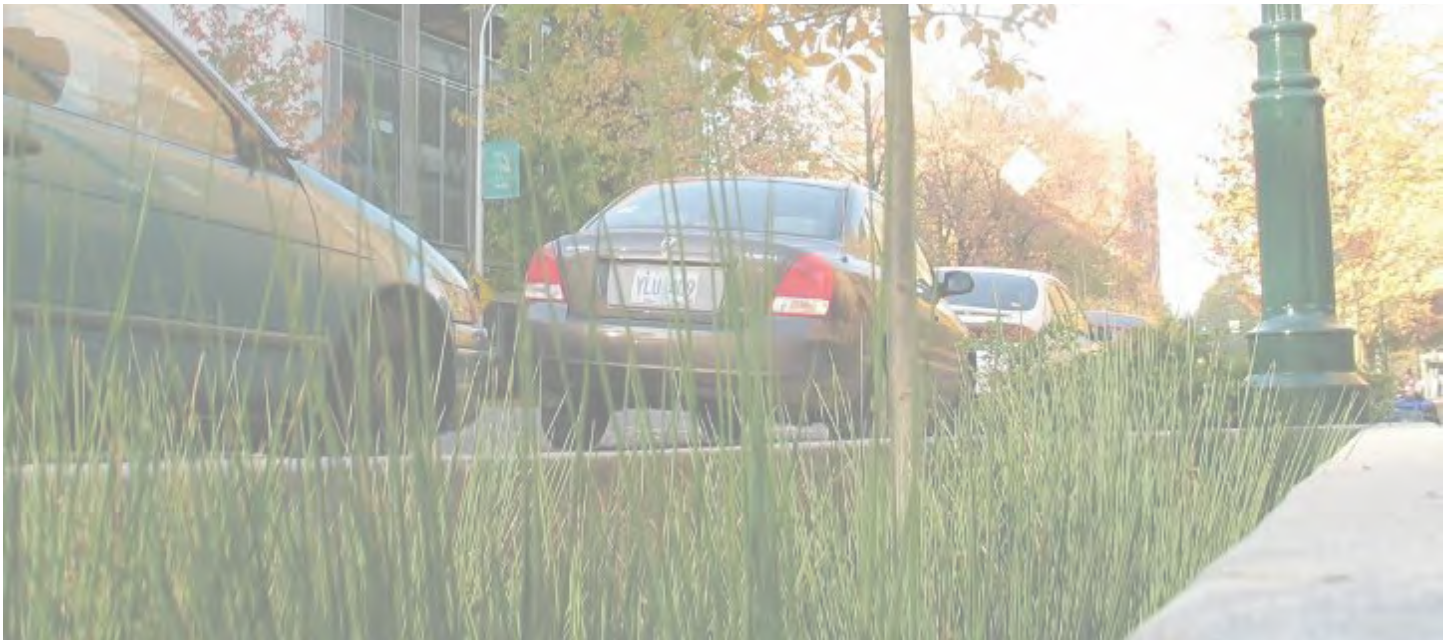
GENERAL RECOMMENDATIONS – STORM SEWER

Local storm sewer improvements are recommended to be completed in conjunction with other improvements in the station area. Improvements which may require storm sewer modifications include: roadway realignments, roadway extensions, and pedestrian sidewalk/street scape improvements. Storm sewer improvements may consist of: storm sewer construction, manhole reconstruction, drain tile extensions, storm sewer relocation, and complete replacement. These local storm sewer improvements are included as part of the overall cost of roadway and streetscape improvements recommended in this plan. Where roadway/streetscape improvements are part of the SW LRT anticipated base project scope, associated storm sewer improvements are assumed to be a project cost. Coordination with the local watershed district and other agencies may be needed to review the condition of and capacity of existing trunk storm sewer systems serving more regional surface water needs.

STORMWATER BEST MANAGEMENT PRACTICES

There are numerous stormwater best management practices (BMPs) that can be used to address stormwater quality and quantity. As part of this project, BMP guides were developed for four stations (Royalston, Blake, Shady Oak, and Mitchell) which exemplify the range of development intensity and character in the urbanized environment along the Southwest LRT Corridor. The recommendations and practices identified in each of the four BMP guides are applicable to various stations along the corridor.

Potential stormwater management strategies for this station area may be similar to those shown in the BMP guide for the Royalston Station (see p. 2-26). Minneapolis should consider implementing applicable best management practices similar to those in the Royalston Station BMP guide. Stormwater management recommendations should be constructed in conjunction with public and private improvements and future development/redevelopment in the station area.



Station Area Utility Plan (Continued)

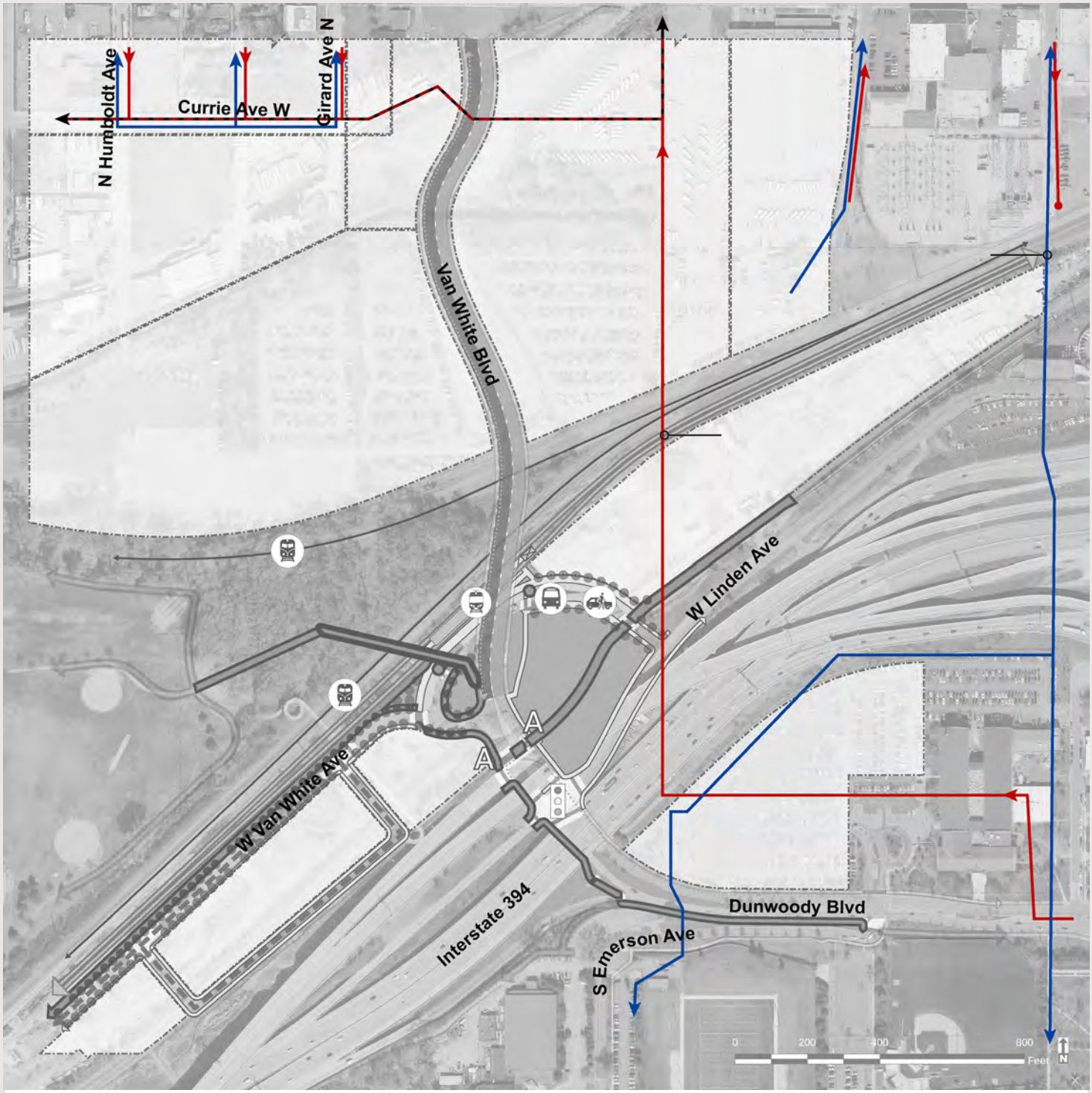
STATION AREA UTILITY RECOMMENDATIONS

Utility recommendations (illustrated in Figure 3-15) are based on a localized analysis of proposed development. It is recommended that the City of Minneapolis take this analysis a step further and review system constraints to the existing and future sanitary sewer and water main systems using existing sewer CAD or water CAD models, or other methods of modeling these systems.

Opening Day Recommendations:

1. Encase existing sanitary sewer crossing LRT rail construction.
2. Encase existing water main crossing LRT rail construction.

FIGURE 3-15. STATION AREA UTILITY PLAN



OPENING DAY RECOMMENDATION

EXISTING UTILITIES

- SERVICE SANITARY
- LOCAL SANITARY
- TRUNK SANITARY
- MCES SANITARY INTERCEPTOR
- SANITARY SEWER FORCEMAIN
- LIFT STATION
- SERVICE WATER MAIN
- LOCAL WATER MAIN
- TRUNK WATER MAIN
- WATER TOWER

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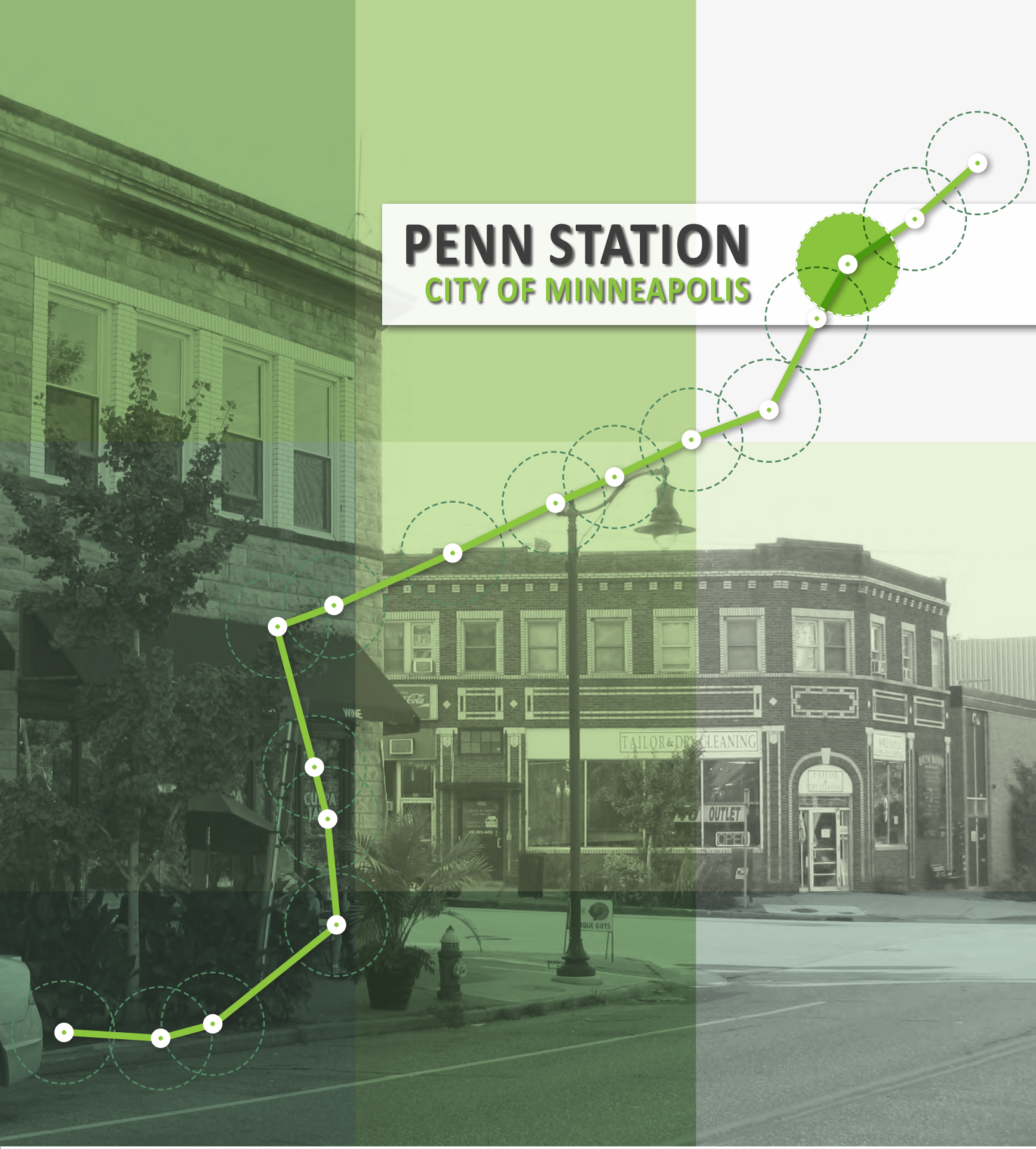


PENN STATION

CITY OF MINNEAPOLIS

SOUTHWEST CORRIDOR INVESTMENT FRAMEWORK

TRANSITIONAL STATION AREA ACTION PLAN

Hoisington Koegler Group Inc.

SOUTHWEST LRT community works
www.swlrtcommunityworks.org

Hennepin

ABOUT THIS CHAPTER:

The Transitional Station Area Action Plans are the product of a Hennepin County led effort to help communities along the Southwest LRT corridor prepare for SW LRT's opening day in 2018 and beyond.

An individualized plan has been created for each of the 17 stations in the Southwest corridor, each plan comprising a chapter in the larger Southwest Corridor Investment Framework. The station area action plans suggest ways to build on local assets, enhance mobility, identify infrastructure needs, and capitalize on promising opportunities for development and redevelopment near each station.

Plan Components:

INTRODUCTION 4-2
A brief overview of the station location and its surroundings

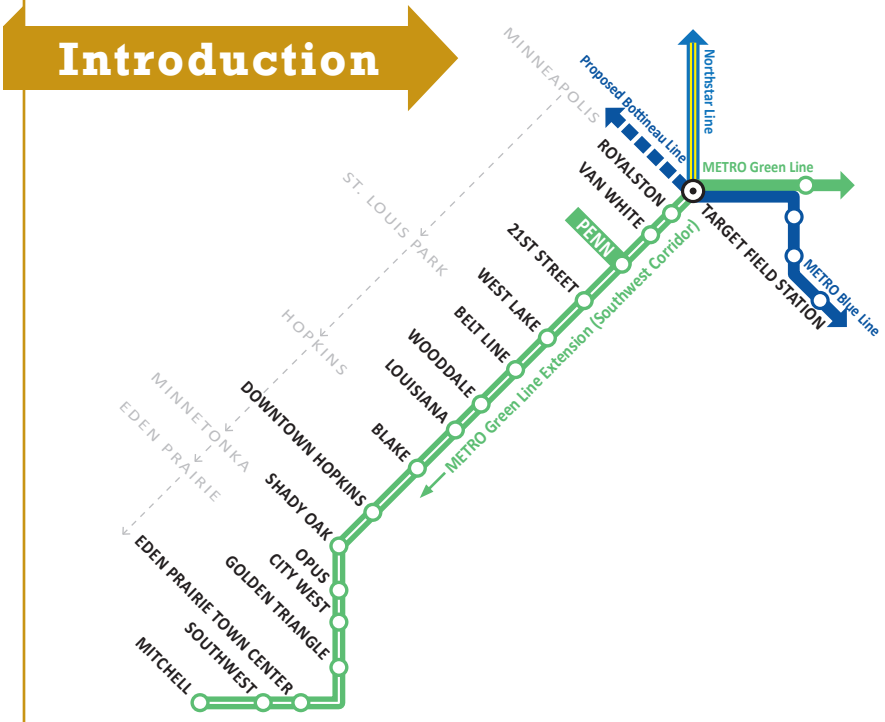
WHERE ARE WE TODAY? 4-4
A description of existing conditions in the station area, including:

- Land Use
- Transit Connections
- Access + Circulation Issues (Bike, Ped, and Auto)
- Infrastructure Needs

WHERE ARE WE GOING? 4-8
This section presents a number of recommendations for the station area in anticipation of opening day needs and the long-term TOD environment. This includes:

- Access + Circulation Plan
- Station Area Site Plan
- Infrastructure Plan
- Development Potential
- Summary of Key Initiatives

Introduction



PENN STATION WITHIN THE CORRIDOR:

An important recreational and neighborhood destination providing access for residents living along the Penn Avenue corridor.

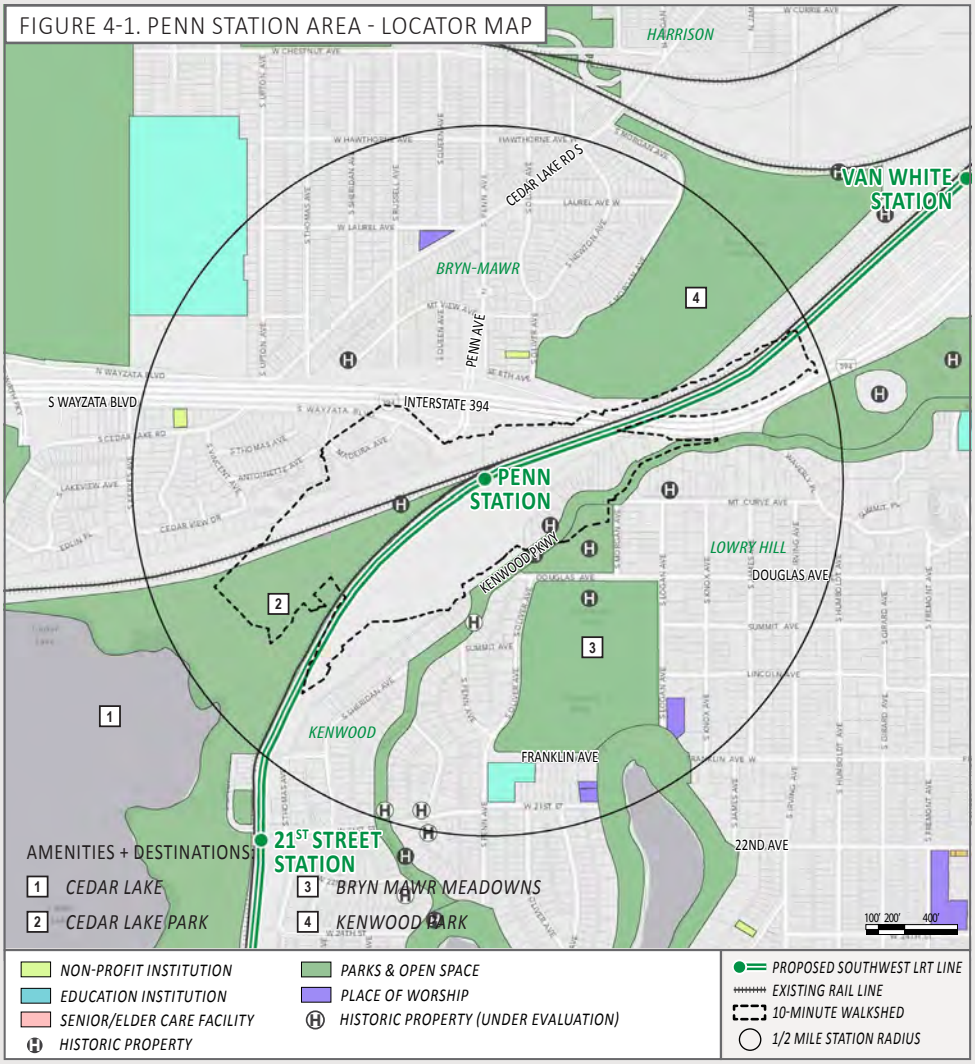
URBAN VILLAGE The Penn Station is an Urban Village (see Place Types discussion beginning on p. 1-19) in Minneapolis and an important gateway to the regional trail network. Situated between I-394 and Kenwood Parkway, the station contains a small number of industrial and office buildings among which is the Joffee MediCentre. While, I-394 enables access to downtown Minneapolis and beyond, it has restricted cycling and pedestrian travel. The introduction of the Penn Station will increase accessibility and desirability of properties surrounding the station and a significant opportunity exists here to redevelop underutilized and vacant lands in the area.

NEIGHBORHOOD The station is nestled between the Bryn Mawr neighborhood to the north, and Kenwood and Lowry neighborhoods to the east and south. Access to area trails and the station from these neighborhoods is constrained by I-394 and the bluffs that stretch along the southern border of the Bryn Mawr neighborhood. Transit ridership will largely be derived from area residents traveling to downtown for work and leisure from north along Penn Avenue. Improvements at the Penn Station should be coordinated with the on-going Penn Avenue Community Works projects. Nation Register listed/eligible properties in the area include elements of the Grand Rounds Historic District (Kenwood Parkway, Kenwood Park, and Kenwood Water Tower), a historic railroad (Great Northern), and several historic homes.

TRAIL CONNECTIONS The station is proposed to be located within the valley floor near the intersection of two major trail networks: the Cedar Lake LRT Regional Trail and Kenilworth Trail. The Cedar Lake LRT Regional Trail is a major bicycle commuter trail. To the immediate west of the station, the Kenilworth Trail intersects the Cedar Lake Trail providing an additional southwest/northeast connecting route. Cyclists and pedestrians wishing to access these trails will also support transit ridership at the Penn station.

OTHER DESTINATIONS Additional area destinations include Cedar Lake, Cedar Lake Park, Bryn Mawr Meadows Park, and Theodore Wirth Park.

FIGURE 4-1. PENN STATION AREA - LOCATOR MAP



NOTE: 10-minute walkshed approximates the area accessible within a 10-minute walk from the station platform using only the existing sidewalk/trail network. See Glossary for walkshed assumptions and methodology.

Station Location

The Penn station is located in a valley just south of I-394 near the Penn Avenue Bridge. The proposed station platform lies in the valley floor near the place where the Cedar Lake LRT Regional Trail and Kenilworth Trail merge.

In this location, the platform sits approximately thirty feet below the nearest road access (S. Wayzata Blvd.) and is separated from that road access by the active freight rail line. This separation will require vertical circulation (elevator and bridge) to provide access to the station platform from the north and west. Access to the station from the south and east will also require vertical circulation (staircase and ramps) to provide connections to the Kenwood and Lowry Hill neighborhoods. The Penn station serves Bryn Mawr, Kenwood, and Lowry Hill neighborhoods. It also provides recreational access to Cedar Lake, the Minneapolis Chain of Lakes, and the Grand Rounds.

PENN STATION AREA TODAY:

Existing office adjacent to future station

Existing freeway

Byrn-Mawr neighborhood commercial node

Views of downtown Minneapolis

Existing rail corridor

Cedar Lake LRT Regional Trail

Where Are We Today?

The following section describes the station area's EXISTING CONDITIONS, including the local context, land uses, transit and transportation systems, pedestrian and bicycle facilities, assets, destinations, and barriers to accessing the station. This analysis of current conditions presents key issues and opportunities in the station area and informs the recommendations for future station area improvements.

NOTE: Existing conditions maps are based on data provided by Hennepin County and local municipalities. The data used to create each map is collected to varying degrees of accuracy and represents infrastructure and conditions at varying points in time. Actual conditions may vary slightly from what is shown.

Land Use

Much of the land use in the Penn station area is single-family residential. The Bryn Mawr neighborhood lies to the north and west of the station. The Kenwood and Lowry Hill neighborhoods lie to the east and south of the station. There is also a great deal of park and open space within the walkshed. Cedar Lake and Cedar Lake Park lie to the southwest of the station and Bryn Mawr Meadows Park is located to the northeast of the station. The station platform is located in the valley floor, sandwiched between these two open space amenities and is surrounded by passive open space and a regional trail network. Along the west side of the station platform is an active freight rail line. To the north of the station is I-394. A small amount of commercial/light industrial use is located just to the west of the station platform, along S. Wayzata Blvd.

FIGURE 4-2. EXISTING LAND USE

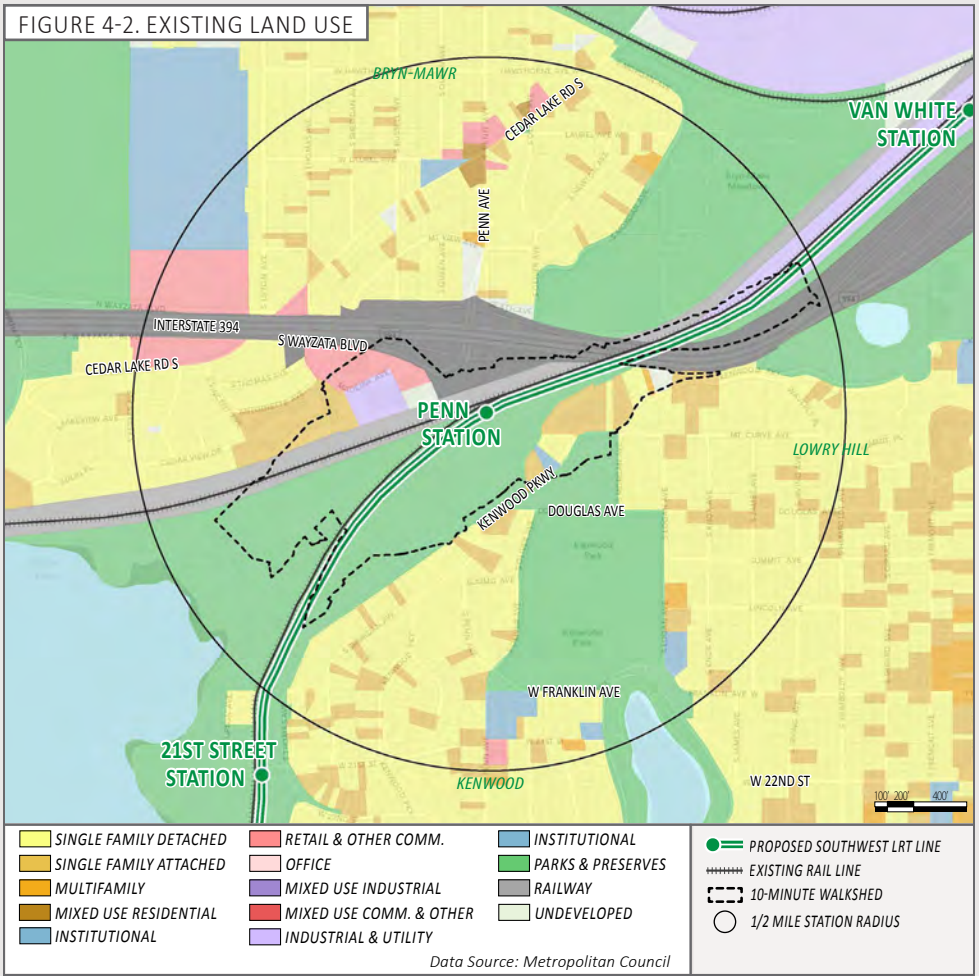
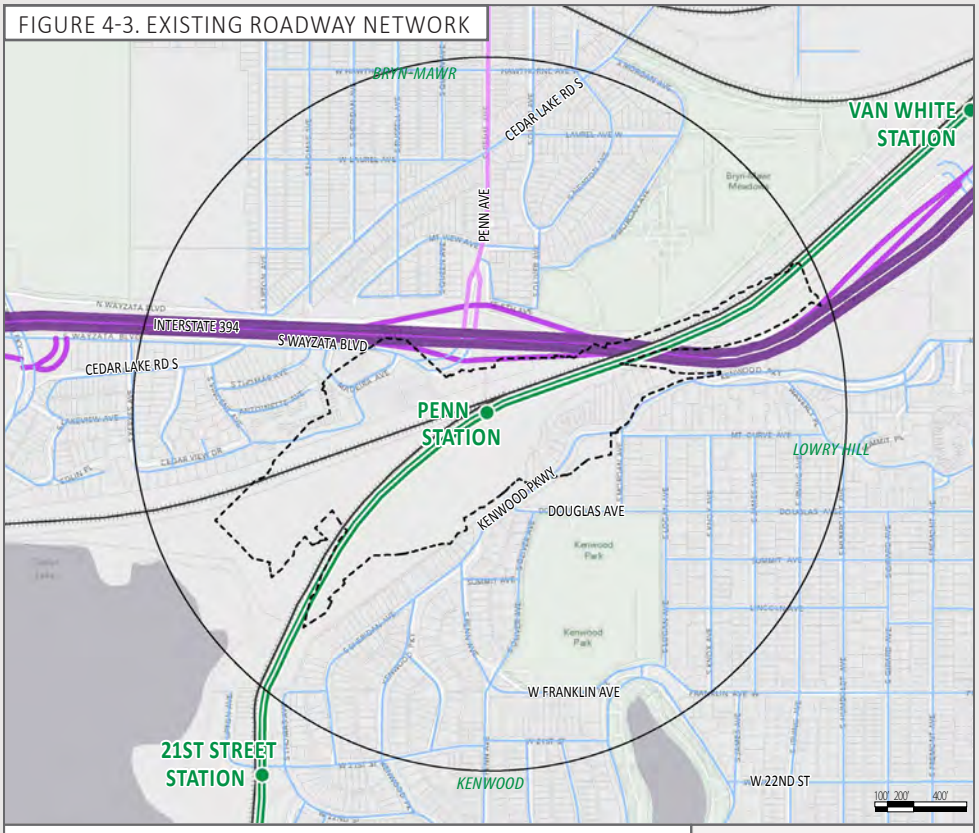


FIGURE 4-3. EXISTING ROADWAY NETWORK



INTERSTATE
U.S. HIGHWAY
STATE HIGHWAY
RAMP
CSAH/ COUNTY ROAD
LOCAL/CITY STREET

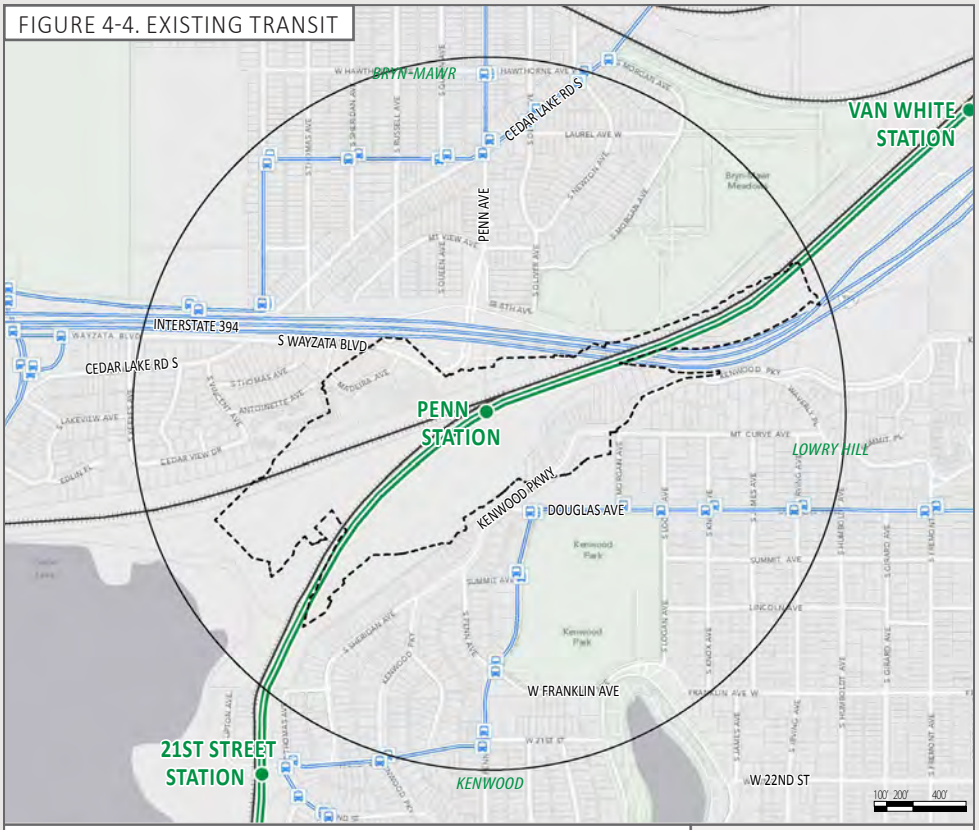
Data Source: Hennepin County

PROPOSED SOUTHWEST LRT LINE
EXISTING RAIL LINE
10-MINUTE WALKSHED
1/2 MILE STATION RADIUS

Roadway Network

There is currently no public roadway access to the Penn station platform. The bluffs and freight rail are barriers to completing a roadway network to the station platform. The proposed station platform is located between I-394 and Kenwood Parkway, with no vehicular access to either. The nearest roadway connection to the station is at the south end of the Penn Avenue Bridge at S. Wayzata Blvd. Accessing the station platform from this roadway will require a pedestrian bridge and elevator to negotiate the bluff grade separation and pass over the freight rail line. This will provide access to areas north of the station. There is no vehicular access from the station to the Kenwood neighborhood.

FIGURE 4-4. EXISTING TRANSIT



EXISTING BUS LINE
EXISTING BUS STOP

PROPOSED SOUTHWEST LRT LINE
EXISTING RAIL LINE
10-MINUTE WALKSHED
1/2 MILE STATION RADIUS

Transit

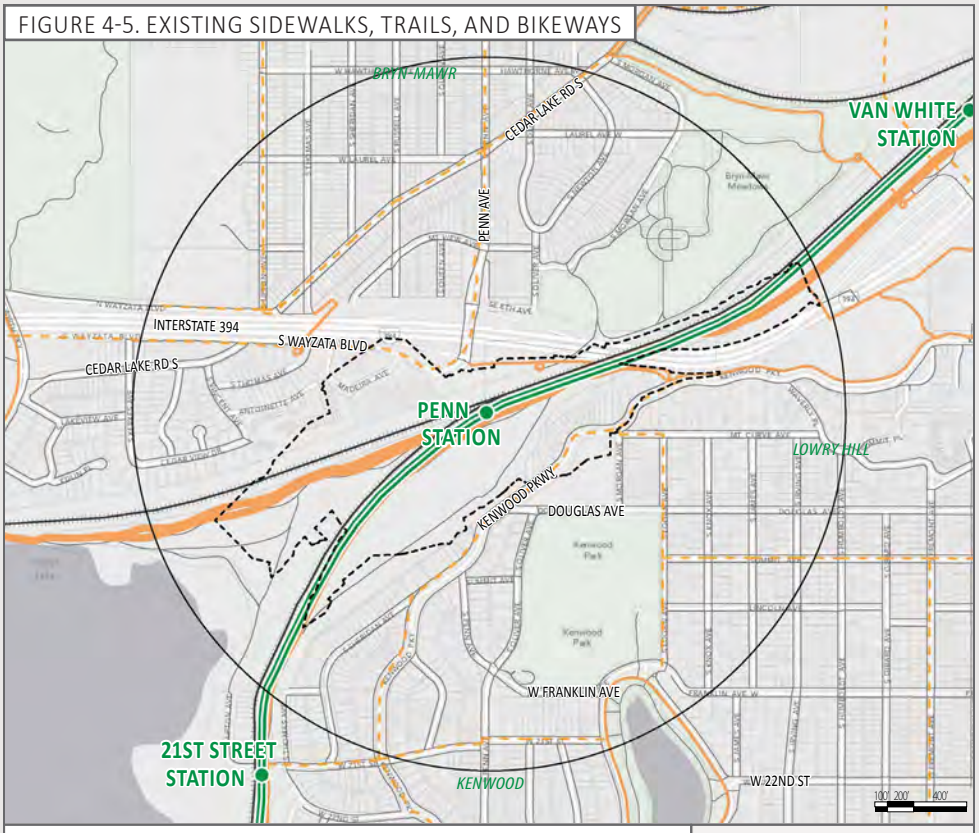
Existing bus transit connections to the Penn station are limited. Bus route #9 runs about a half-mile north of the station and route #25 runs about a half-mile south of the station. Express bus routes on I-394 do not stop near the station. There is an opportunity to increase transit ridership and connect the station with a bus route running north along Penn Avenue, with a bus dropoff and turnaround at S. Wayzata Blvd, just south of the Penn Avenue Bridge.

Sidewalk, Trails and Bikeways

The street network in Bryn Mawr, Kenwood, and Lowry Hill neighborhoods has adequate sidewalks, however, they are disconnected from the station by the bluffs and the freight rail line. In the valley floor, where the station platform is located, the Kenilworth Trail and Cedar Lake LRT Regional Trails merge and run near the station platform, offering recreational and bicycle commuter users of these trails access to LRT.

There is an existing pedestrian/bicycle overpass on I-394, connecting the Bryn Mawr neighborhood to S. Wayzata Blvd., however, pedestrian and bicycle access to the station platform from the Bryn Mawr neighborhood will require vertical circulation (bridge and elevator) to transcend the bluffs and freight rail line. Pedestrian and bicycle access to the Kenwood and Lowry Hill neighborhoods can be enhanced with a new trail connection, staircase and ramps, offering more direct access to Kenwood Parkway.

FIGURE 4-5. EXISTING SIDEWALKS, TRAILS, AND BIKEWAYS



Sanitary Sewer

Sanitary sewer infrastructure consists of a collection of gravity flow sewer mains, lift stations, and pressurized forcemains that transport sewage to a wastewater treatment plant (WWTP). An efficient collection system has the capacity to accommodate all of the existing land uses within its particular sewershed. Beyond capacity, the material and age of pipes within a system can also impact a system's effectiveness.

Sanitary sewer infrastructure within the project area is typically maintained by either the City of Minneapolis or by the Metropolitan Council Environmental Services (MCES) Division. MCES maintains a series of interceptor trunk sewers that collect sewage at key locations and convey sewage across community boundaries to regional WWTPs. Wastewater from the station area is treated by the MCES Metro WWTP located in St. Paul.

FIGURE 4-6. EXISTING SANITARY SEWER

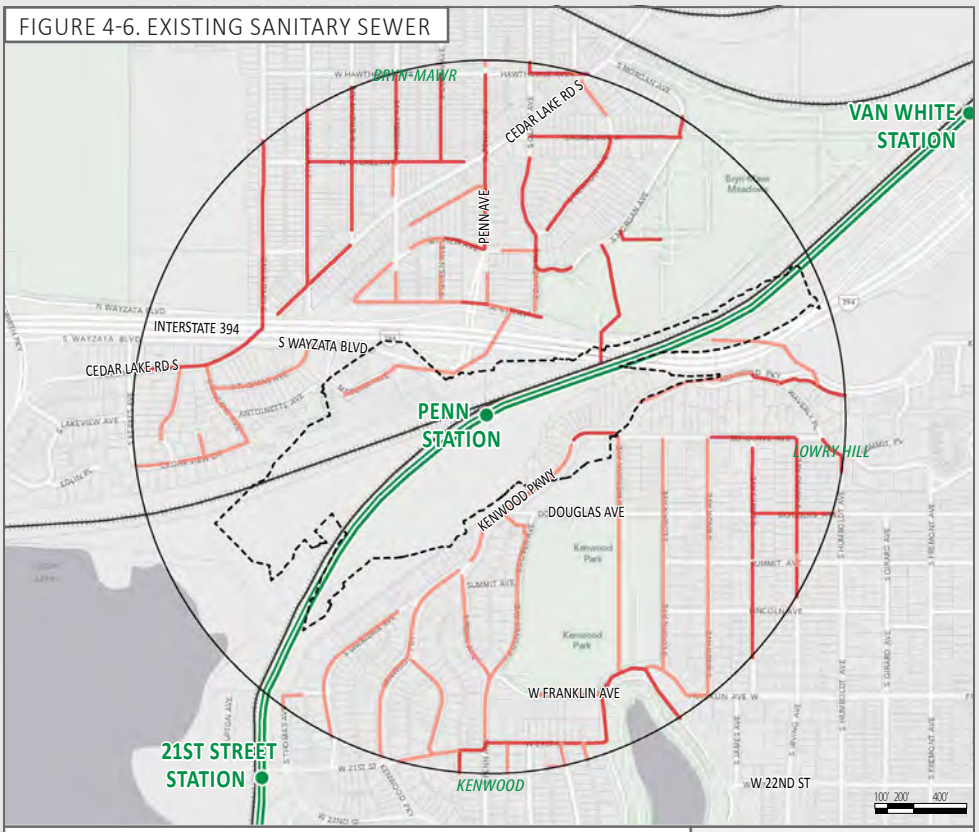
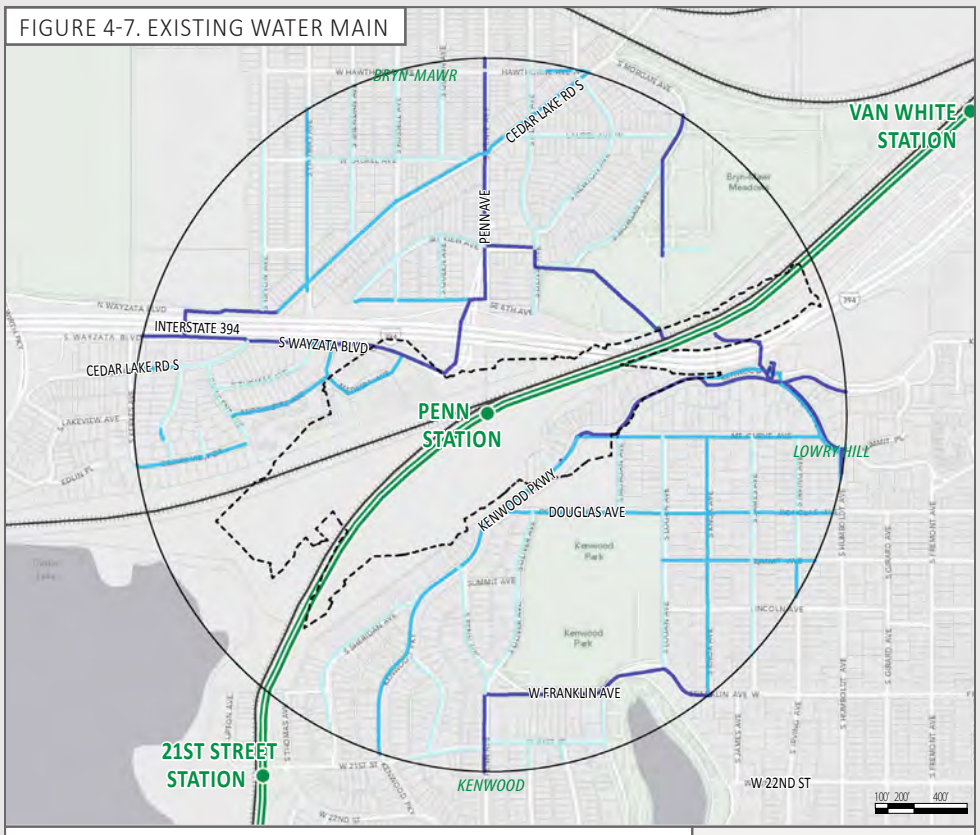
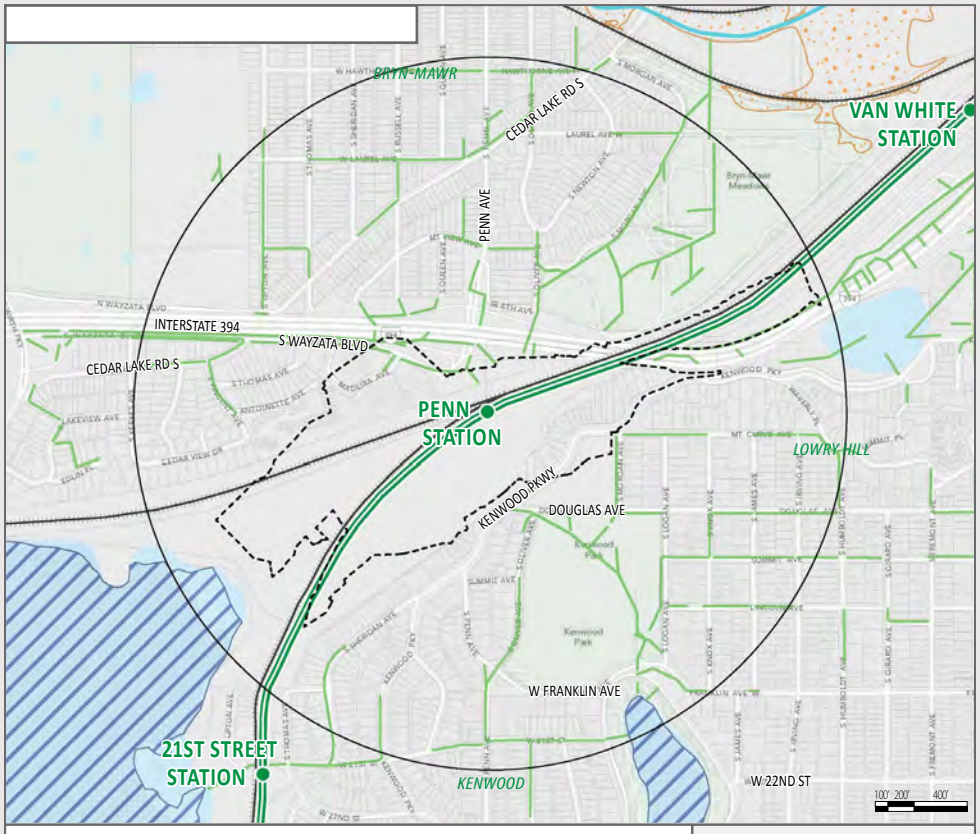


FIGURE 4-7. EXISTING WATER MAIN





Water Main

Water main distribution systems serve to supply potable water to individual properties and to support fire suppression throughout the community. A well-designed system can maintain adequate pressure to support demand of individual properties and provide high flow rates to fire hydrants/fire suppression systems in emergency situations. Because of the complexity of water distribution networks and the importance of pressure, flow, and water quality, City water system models are used to evaluate a system's adequacy. The material and age of the system's water mains can also be factors in system breaks, leaks, and pressure and flow degradations.

Water pressure and flow rates can be influenced by: the size of water main serving an area, proximity and elevation relative to a water tower, proximity to a trunk water main with high flow capacity, if the main creates a loop, the demand of adjacent land uses, and the condition of the main.

Stormwater

Penn station is located within the Minnehaha Creek Watershed District (MCWD), while the north half of the 10-minute walk zone is within the Bassett Creek Watershed Management Commission (BCWMC). The north half of the 10-minute walk zone drains to Bassett Creek which is impaired by chloride (TMDL approved), fecal coliform, and fish biology. The south half of the 10-minute walk zone drains to Lake of the Isles or Cedar Lake, both of which are impaired by PFOS (Fluorinated chemical used in coatings) and mercury.

Discharging within one mile of an impaired water may trigger additional MN Pollution Control Agency NPDES (National Pollution Discharge Elimination System) requirements for additional stormwater management. For impaired waters where a TMDL (Total Maximum Daily Load) has been approved, these requirements may increase further.

Any development/redevelopment that occurs as a result of constructing this station is anticipated to improve the existing drainage conditions as a result of enforcing the City and the watershed requirements.

Where Are We Going?

The plans and diagrams on the following pages illustrate a range of recommendations for infrastructure improvements, station amenities, and potential redevelopment opportunities within the station area.

The ACCESS AND CIRCULATION PLAN shown in Figure 4-9 provides a high level view of how future transit, automobile, bike, and pedestrian systems will connect to the station area and its surroundings.

Figure 4-10 illustrates the STATION AREA IMPROVEMENTS that will facilitate access to and from the station and catalyze redevelopment in the station area. This includes opening day and long-term station area improvements

Figure 4-11 focuses on OPENING DAY STATION AREA IMPROVEMENTS only. These recommendations represent the improvements necessary to enhance the efficient function of the transit station, roadways, pedestrian and bicycle connections, and transit connections on opening day in 2018.

Station Area Improvements

The discussion below outlines a range of future station area improvements. While some of the identified improvements may be constructed as part of the LRT project itself, other improvements must be funded, designed and constructed by other entities and will require coordination between the City, County, and Metro Transit as well as local stakeholder and community groups.

Since the Penn Avenue LRT station will be located down in the Cedar Lake Park valley at a lower grade than surrounding neighborhoods, destinations and streets, access and circulation will need to be expanded and improved to navigate this grade change. The I-394 freeway corridor and freight rail lines will also need to be navigated with streets, pedestrianways, and bikeways. Specific actions that could enhance the station area include the following:

PEDESTRIAN CONNECTIONS

Opening Day Improvements:

» Penn Avenue is a key spine to neighborhoods and businesses north of the station. Improve the pedestrian environment (sidewalks, pedestrian crossings, street trees, etc.) along Penn Avenue to provide better connections to the station.

» Improve pedestrian connections to surrounding neighborhoods (Bryn Mawr, Kenwood, Lowry Hill, Harrison) with enhanced streetscapes, trails and pedestrian crossings.

» Enhance the pedestrian connections on the Penn Avenue Bridge crossing over I-394. Consider aesthetic improvements to the bridge – create a landmark bridge/gateway feature into downtown Minneapolis.

» Create a new bridge at the south end of Penn Avenue crossing the freight and LRT lines down to the LRT station platform. Design an attractive, identifiable bridge structure that provides access to the station platform for all users.

» Provide vertical circulation (elevator) to the LRT station platform from the proposed pedestrian/bike bridge.

» Provide connections to the existing trail system (Cedar Lake LRT Regional Trail and Kenilworth Trail) from the LRT station.

» Provide a new direct trail connection to Kenwood Parkway/ Douglas Avenue.

» Construct new sidewalks along S. Wayzata Boulevard and Madeira Avenue.

BIKE CONNECTIONS

Opening Day Improvements:

» Provide bike parking, lockers, and bike pumping facilities in a highly visible area near the LRT station and near the bus stop area at the north end of the pedestrian/bike bridge above the bluff.

» Provide vertical circulation to the station platform from the proposed pedestrian bridge.

» Provide connections to the existing trail system (Cedar Lake LRT Regional Trail and Kenilworth Trail) from the station.

Multi-use path

Multi-modal transit hub

Public art integration in station platform design

Long-Term Improvements:

» Penn Avenue is a key spine to the north. Improve the bicycle environment (lanes or multi-use path) along Penn Avenue to provide better connections to the LRT station from the north.

» Provide on-street bike facilities (lanes, routes, signage, etc.) or multi-use paths along local streets to better connect the LRT station to nearby neighborhoods, businesses, amenities, and destinations.

TRANSIT CONNECTIONS

Opening Day Improvements:

» Improve transit connections between north and south Minneapolis neighborhoods by extending bus service to the south end of Penn Avenue and the LRT station.

» Accomodate future bus route facilities at the Penn Avenue and S. Wayzata Boulevard intersection.

KISS AND RIDE

Opening Day Improvements:

» Provide space for kiss and ride activities near the south end of Penn Avenue.

STATION AMENITIES (Beyond SW LRT Base Project Scope)

Opening Day Improvements:

» Wayfinding- define and install a cohesive and contextual wayfinding system near the LRT station platform and major gateways, such as Penn Ave/Wayzata Blvd, Cedar Lake LRT Regional Trail, Kenilworth Trail, Kenwood Pkwy/Douglas Ave.

» Shelter- provide shelter from weather, seating, lighting, and transit information at the bus dropoff area to make use of the transit system a convenient, safe and comfortable experience. Since the station has a somewhat isolated location down in the valley, the station should be designed to ensure actual and perceived safety for transit riders.

» Seating – provide comfortable and durable seating near the station platform and at the bridge/bus dropoff area above the station platform.

» Lighting – provide adequate lighting for the safety of pedestrians, bicyclists and transit users near the station platform, particularly at the bus dropoff area, bridge and elevator.

» Pedestrian Facilities – provide pedestrian connections from the station platform to the Cedar Lake LRT Regional Trail and Kenilworth Trail. Provide a pedestrian/bike bridge for the Cedar Lake LRT Regional Trail from the west over the freight and LRT line. Provide a pedestrian/bike bridge from the south end of Penn Ave over the freight and LRT lines and vertical circulation down to the LRT station platform.

» Bike Facilities – provide bicycle parking, lockers, and bike sharing facilities in a highly visible area near the station platform and bus dropoff area.

» Plaza – provide a small public plaza area near the bus dropoff area. The plaza will fulfill the role of a transit hub on top of the bluff that accommodates a bus stop, bike facilities, pedestrian facilities, and a kiss & ride.

» Public Art- incorporate public art in the station area to create an attractive and identifiable place.

DEVELOPMENT POTENTIAL

Opening Day Improvements:

» The property between Madeira Ave and the LRT line could be developed by opening day.

Long-Term Improvements:

» See the “Development Potential” discussion on page 4-16 for more on long-term development opportunities.

UTILITIES

» See the “Station Area Utility Plan” beginning on page 4-18 for all utility recommendations.

FIGURE 4-9. ACCESS + CIRCULATION PLAN

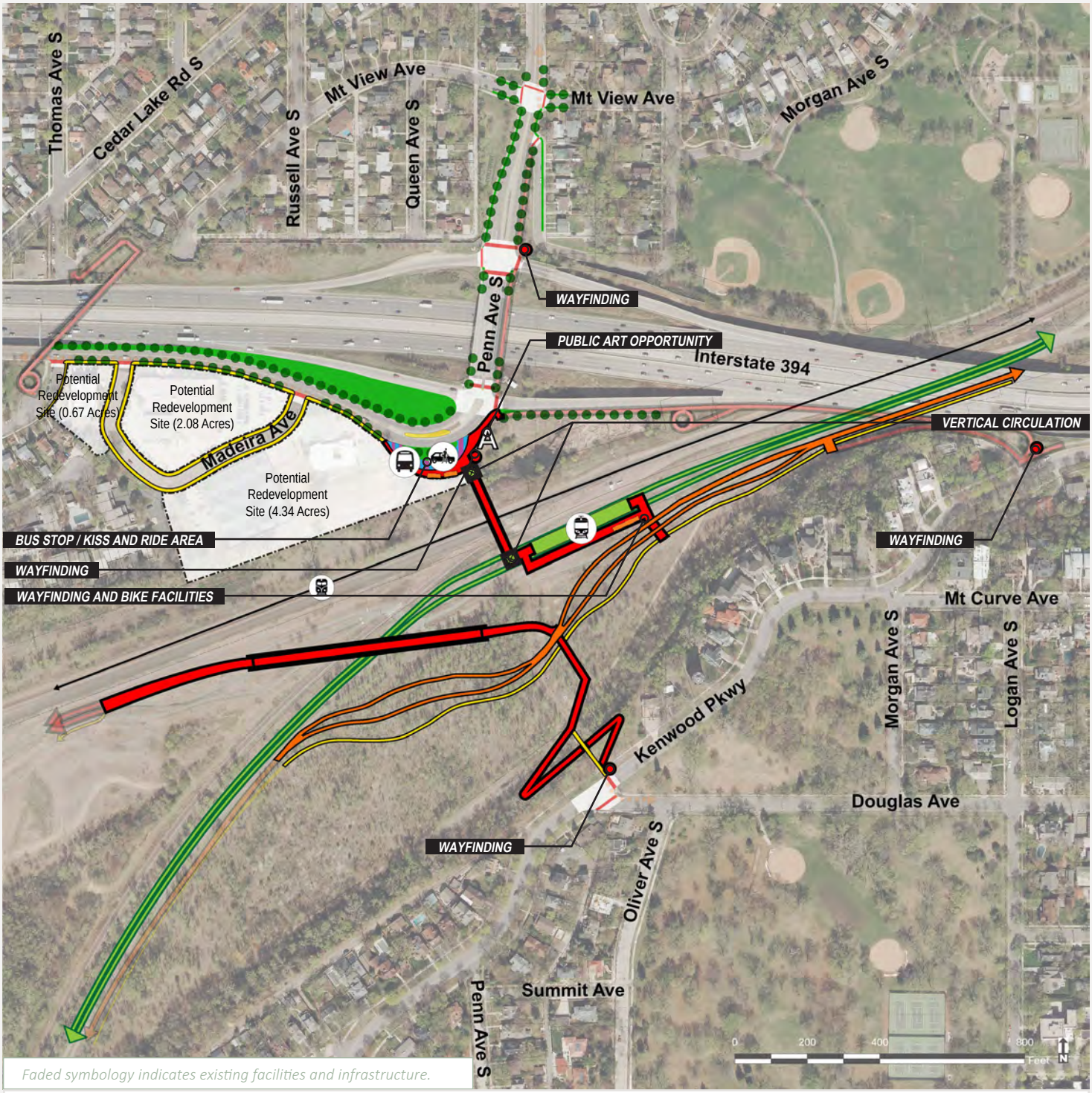
This illustration includes both existing and proposed facilities to show the full network of future bike, pedestrian, automobile, and transit connections.

PENN

- LRT PLATFORM
- LRT LINE
- BUS STOP
- PARK AND RIDE
- FREIGHT LINE
- NEW ROADWAY
- KISS AND RIDE
- EXISTING WALKSHED
- EXISTING PEDESTRIAN CONNECTION
- EXISTING BIKE CONNECTION
- EXISTING MULTI USE CONNECTION
- FUTURE WALKSHED (WITH TSAAP IMPROVEMENTS)
- PROPOSED(DASHED) PEDESTRIAN CONNECTION
- PROPOSED(DASHED) BIKE CONNECTION
- PROPOSED(DASHED) MULTI USE CONNECTION

NOTE: Existing walkshed approximates the area accessible within a 10-minute walk from the station platform using only the existing sidewalk/trail network. Future walkshed incorporates all proposed improvements to the sidewalk/trail network. Walksheds are based on GIS modeling and available sidewalk/trail information- and may not reflect exact on-the-ground conditions. See Glossary for detailed explanation of walkshed assumptions and methodology.

FIGURE 4-10. STATION AREA IMPROVEMENTS



LRT PLATFORM

FREIGHT LINE

BUS STOP

BUS SHELTER

NEW SIDEWALK / SIDEWALK IMPROVEMENT

ON STREET BIKE INFRASTRUCTURE

MULTI-USE PATH

NEW CROSSING / CROSSING IMPROVEMENT

NEW ROADWAY

STREETSCAPE

PARK AND RIDE

KISS AND RIDE

NEW SIGNALIZED INTERSECTION

BIKE PARKING

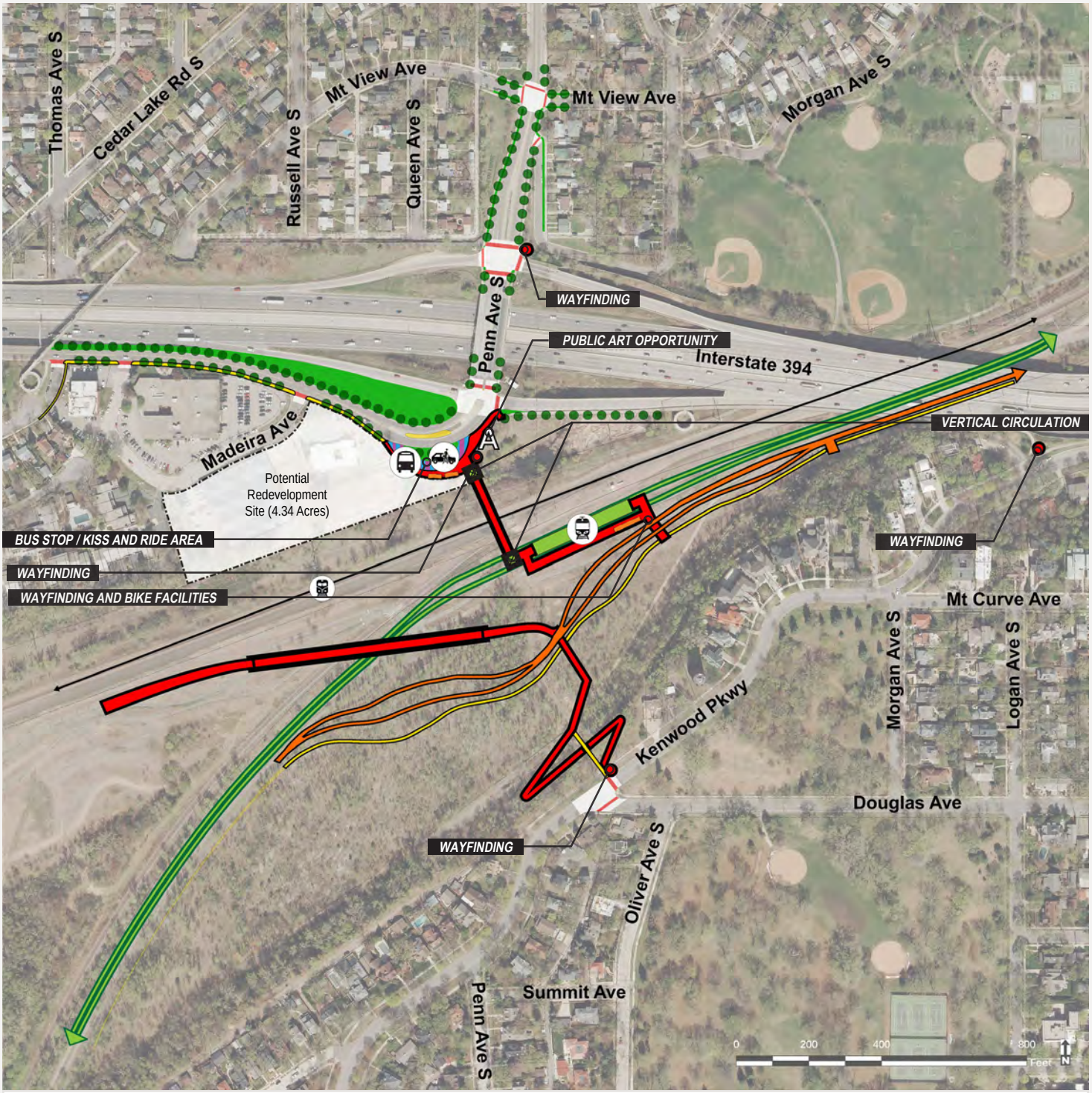
WAYFINDING

PUBLIC ART OPPORTUNITY

POTENTIAL DEVELOPMENT SITE

PLAZA SPACE / BUILDING SETBACK AREA

FIGURE 4-11. OPENING DAY STATION AREA IMPROVEMENTS



LRT PLATFORM
FREIGHT LINE
BUS STOP
BUS SHELTER
NEW SIDEWALK / SIDEWALK IMPROVEMENT
ON STREET BIKE INFRASTRUCTURE
MULTI-USE PATH
NEW CROSSING / CROSSING IMPROVEMENT
NEW ROADWAY
STREETSCAPE
PARK AND RIDE
KISS AND RIDE
NEW SIGNALIZED INTERSECTION
BIKE PARKING
WAYFINDING
PUBLIC ART OPPORTUNITY
POTENTIAL DEVELOPMENT SITE
PLAZA SPACE / BUILDING SETBACK AREA

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Opening Day Improvements

The following tables and diagrams outline the proposed improvements to be implemented in advance of SW LRT's opening day in 2018. Table 4-1 and Figure 4-12 show opening day improvements that are part of the SW LRT anticipated base project scope; these improvements will be part of the overall project cost for construction of the LRT line. Table 4-2 and Figure 4-13 include opening day improvements that are recommended as part of the Southwest Corridor Investment Framework and are beyond the SW LRT anticipated base project scope.

TABLE 4-1. SOUTHWEST LRT ANTICIPATED BASE PROJECT SCOPE - OPENING DAY STATION AREA IMPROVEMENTS

PLAN KEY	IMPROVEMENT	PROJECT LOCATION	PROJECT NOTES
A	LRT Platform	In regional trail valley, south of I-394, near Penn Ave and Wayzata Blvd	Includes related LRT infrastructure
B	Kiss and Ride	At Penn Ave and Wayzata Blvd intersection	Pullout dropoff area and turnaround; this area can also accomodate future bus routes
C	Roadways	At Penn Ave and Wayzata Blvd intersection	Roadway and median modifications to accomodate Kiss and Ride facility
D	Sidewalk/Trail	Station platform area vertically up to Penn Ave and Wayzata Blvd intersection	New ped bridge and vertical circulation (elevator)
E	Sidewalk/Trail	Station platform area	New grade separated trail crossing of freight rail and LRT lines
F	Bike Facilities	Near station platform	Allowance for bike storage
G	Wayfinding	Near station platform	Allowance
H	Landscaping	Near station platform	Allowance
I	Water*	Near station platform	New water service and fire hydrant to station
J	Sanitary Sewer*	Near station platform	New sanitary sewer to station
K	Utilities*	Project limit area	Adjustment of existing utilities
L	Stormwater management*	Near station platform	Allowance

Note: Anticipated Southwest LRT Base Project Scope as of December 2013 (subject to change)

** Improvement not symbolized on opening day figures (exact location to be determined as part of the base project scope)*

TABLE 4-2. SOUTHWEST CORRIDOR INVESTMENT FRAMEWORK (TSAAP) - OPENING DAY STATION AREA IMPROVEMENTS

PLAN KEY	IMPROVEMENT	PROJECT LOCATION	PROJECT NOTES	PRIORITY
1	Streetscape	Wayzata Blvd, Penn Ave west to I-394 ped/bike bridge	Includes streetscape plantings, furnishings, lighting , bike facilities and signage	Secondary
2	Streetscape	Penn Ave, Mt View Ave to Wayzata Blvd	Includes streetscape plantings, furnishings, lighting and signage	Secondary
3	Sidewalk/Trail	Wayzata Blvd, Penn Ave west to I-394 ped/bike bridge	Sidewalk along south side of road	Primary
4	Sidewalk/Trail	I-394, Penn Ave east to Kenwood Pkwy	Lighting, safety and wayfinding elements along existing ground-level trail on south side of I-394	Primary
5	Sidewalk/Trail	LRT station to Kenwood Pkwy	New trail connection from station platform to Kenwood Pkwy (includes stairs and ramps)	Primary
6	Intersection Enhancements	Varies- along Penn Ave, Wayzata Blvd and Kenwood Pkwy	Enhanced crosswalk markings	Primary and secondary
7	Bike Facilities	Near station platform	Bike parking, lockers, pump station and bike share facilities (beyond SPO improvements)	Primary
8	Wayfinding	Near station platform	Signage and wayfinding (beyond SPO improvements)	Primary
9	Public Art	Near station platform	Public art (beyond SPO imporvements)	Secondary
10	Public Plaza	South end of Penn Avenue	Plaza includes paving, plantings, seating, lighting, and signage (beyond SPO improvements)	Primary

FIGURE 4-12. SOUTHWEST LRT ANTICIPATED BASE PROJECT SCOPE - OPENING DAY STATION AREA IMPROVEMENTS

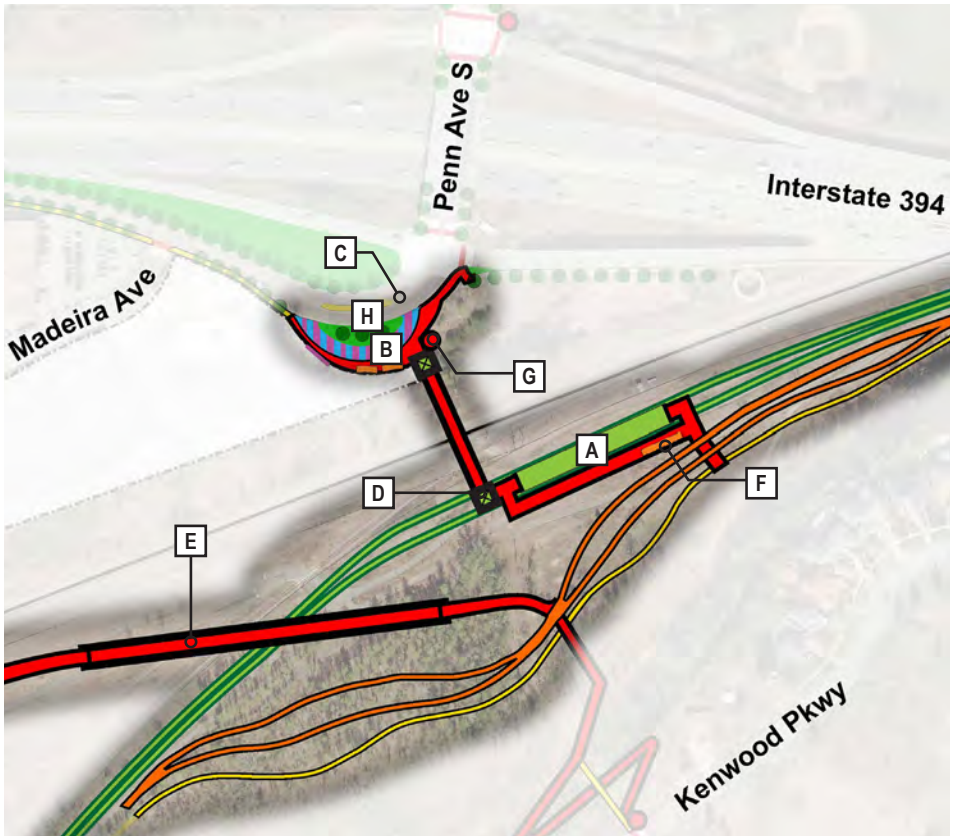
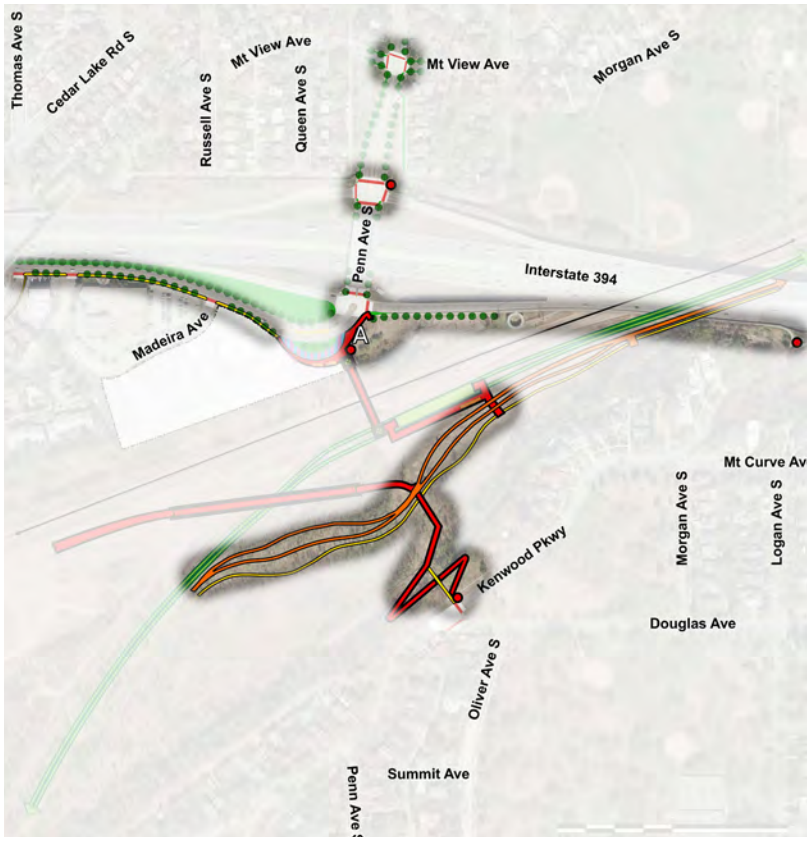


FIGURE 4-13. SOUTHWEST CORRIDOR INVESTMENT FRAMEWORK (TSAAP) - OPENING DAY STATION AREA IMPROVEMENTS



PRIMARY PRIORITY # *SECONDARY PRIORITY*

Development Potential

OVERVIEW

Visibility and vehicular access from I-394 could spur development near the Penn station, however, the lack of available sites beyond the parcels immediately adjacent to the station and poor connections to the neighborhoods to the north and south may limit potential future development at the Penn station.

Convenient access from I-394, proximity to the Cedar Lake LRT Regional Trail/Kenilworth Trail system and views of the downtown Minneapolis skyline are site factors that are likely to drive development interest near Penn station. Development potential near the Penn station is likely to be high-density residential and/or office, capitalizing on these station assets.

Key challenges that should be addressed to facilitate development potential include access and connections to surrounding destinations and neighborhoods from the station.

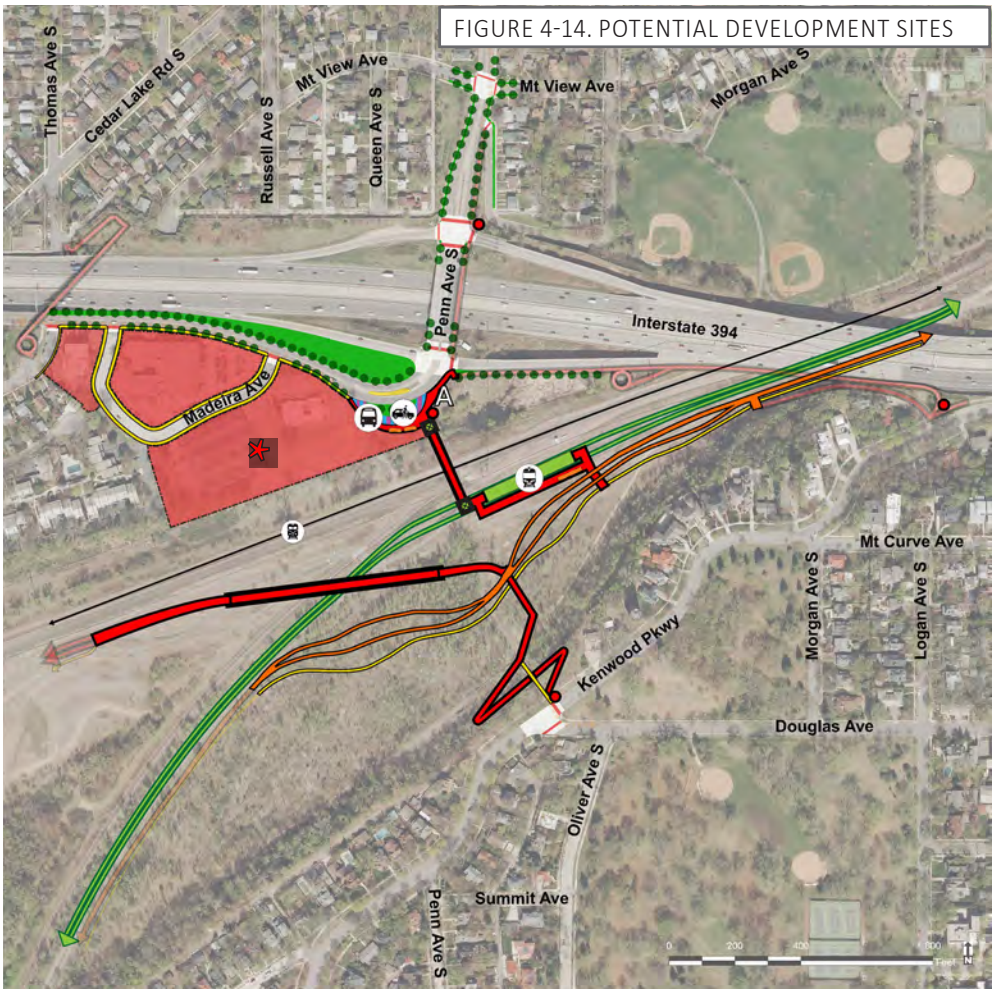
LAND USES

The Bryn Mawr Neighborhood Land Use Plan calls for transit-oriented development in the Penn station area. There is potential for high-density residential and/or office development near the Penn station.

PLANNING STRATEGIES

Several strategies should be addressed to facilitate future development in the station area. Poor north-south connectivity creates challenges to accessing the station. Redevelopment should seek opportunities to enhance access and circulation to the station from surrounding neighborhoods and amenities.

FIGURE 4-14. POTENTIAL DEVELOPMENT SITES



Key Considerations for Change and Development Over Time

Redevelopment of the station area should focus on providing higher density residential or commercial uses along Madiera Avenue and improving pedestrian connections along Penn Avenue and west towards the pedestrian and cycling bridge. Key considerations should include:

BUILT FORM AND LAND USE

» Introduce higher density residential or office development to support transit ridership and increase levels of activity at the station.

» Explore opportunities for a moderate amount of retail or service related uses at street level immediately adjacent to the station to serve passengers transferring between bus and LRT services or being dropped off by car.

» Design new buildings to enhance pedestrian access by orienting them towards the street and locating them as close to the street line as possible.

» Organize new development so that it addresses Madiera Avenue in order to create a comfortable walking street between the station and pedestrian bridge at the foot of Thomas Avenue.

» Organize development adjacent to the pedestrian bridge to preserve a clear and direct pedestrian connection between the foot of the bridge at Thomas Avenue and Madiera Avenue.

» Organize new buildings adjacent to the valley to preserve views from Madeira Avenue south.

» Design and orient the pedestrian and cycling bridge to the station so that it anchors the vista along Penn Avenue and creates a highly visible landmark for the station.

PUBLIC REALM

» Initiate intersection improvements at Penn Avenue and the highway off-ramps to improve safety and enhance access between the Bryn Mawr neighborhood and the station.

» Initiate bridge enhancements including the widening of sidewalk widths, introduction of railings and provision of pedestrian-oriented lighting in order to improve the walk between the Bryn Mawr neighborhood and the station.

» Provide a higher level of illumination in and around the station platform including the provision of a designated waiting area with two-way intercom system and video surveillance.

MOBILITY

» Develop an accessible pedestrian and cycling bridge from the foot of Penn Avenue to the end of the station platform.

» Provide a direct, public access route between the pedestrian and cycling bridge and the Kenilworth Trail and Cedar Lake LRT Regional Trail.

» Develop a trail and accessible connection between the pedestrian and cycling bridge and Kenwood Parkway to the south.

» Support pedestrians through the introduction of sidewalks on all streets within the station area.

» Accommodate short-term parking on Madeira Avenue.

» Minimize the impact of parking and circulation on pedestrians by locating parking below grade or to the rear of new development where it can be shielded from streets and open spaces.

» Limit vehicular access points along S. Wayzata Boulevard.

Bridge from station to Penn Avenue and development sites

High density residential

Pedestrian and bike bridge

Station Area Utility Plan

OVERVIEW + APPROACH

The station area utility plan and strategies recommended below were developed by considering impacts on existing utilities by the construction of the LRT line, and potential future transit-oriented development within the station area, as depicted by the Station Area Improvements Plan (Figure 4-10). Opening day improvements identified in this plan should be considered prior to 2018 due to their proximity to or impact from the proposed LRT line. More improvements may be necessary by 2018, but should be reviewed with any redevelopment in the area. The City of Minneapolis should continue to follow their standard review procedures as it relates to utilities within project areas.

For any publicly initiated projects in the ROW, the City should follow current utility review procedures. This may include identifying needs and opportunities that may be coordinated with proposed improvements to the roadway or other elements in City ROW.

For any privately initiated projects in the area, the City should follow current development/ redevelopment procedures which will likely require developers to show anticipated utility system demand. Developers will need to coordinate with the City to ensure utilities are sized and located properly prior to construction. The City of Minneapolis Community Planning and Economic Development website can be found here: http://www.ci.minneapolis.mn.us/cped/. This study recognizes that the ultimate station area development/redevelopment (in 2030) will be driven by market conditions.

GENERAL RECOMMENDATIONS - SANITARY SEWER & WATER MAIN

Utility recommendations for station area improvements include opportunities for Minneapolis to improve the existing sanitary sewer and water main networks without necessarily replacing existing sanitary sewer. As part of the City's standard practice, utilities will be reviewed in conjunction with proposed station area improvements within the ROW; Any necessary utility improvements will be determined at the time of said review. As redevelopment occurs, developers will be required to provide documentation to verify that existing utilities meet the needs of the proposed development. Developers will coordinate with the City prior to project approvals.

GENERAL RECOMMENDATIONS – STORM SEWER

Local storm sewer improvements are recommended to be completed in conjunction with other improvements in the station area. Improvements which may require storm sewer modifications include: roadway realignments, roadway extensions, and pedestrian sidewalk/street scape improvements. Storm sewer improvements may consist of: storm sewer construction, manhole reconstruction, drain tile extensions, storm sewer relocation, and complete replacement. These local storm sewer improvements are included as part of the overall cost of roadway and streetscape improvements recommended in this plan. Where roadway/streetscape improvements are part of the SW LRT anticipated base project scope, associated storm sewer improvements are assumed to be a project cost. Coordination with the local watershed district and other agencies may be needed to review the condition of and capacity of existing trunk storm sewer systems serving more regional surface water needs.

NOTE: No site specific utility needs have been identified for this station beyond these general utility recommendations and utility improvements identified as part of the SW LRT Anticipated Base Project Scope (see Table 4-1). As such, no diagram is provided for the station area utility plan. General utility recommendations should be reviewed prior to site construction.

STORMWATER BEST MANAGEMENT PRACTICES

There are numerous stormwater best management practices (BMPs) that can be used to address stormwater quality and quantity. As part of this project, BMP guides were developed for four stations (Royalston, Blake, Shady Oak, and Mitchell) which exemplify the range of development intensity and character in the urbanized environment along the Southwest LRT Corridor. The recommendations and practices identified in each of the four BMP guides are applicable to various stations along the corridor.

Potential stormwater management strategies for this station area may be similar to those shown in the BMP guide for the Royalston Station (see p. 2-26). Minneapolis should consider implementing applicable best management practices similar to those in the Royalston Station BMP guide. Stormwater management recommendations should be constructed in conjunction with public and private improvements and future development/redevelopment in the station area.

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21ST STREET STATION

CITY OF MINNEAPOLIS

SOUTHWEST CORRIDOR INVESTMENT FRAMEWORK

TRANSITIONAL STATION AREA ACTION PLAN

Hoisington Koegler Group Inc.

SOUTHWEST LRT community works

www.swlrtcommunityworks.org

Hennepin

ABOUT THIS CHAPTER:

The Transitional Station Area Action Plans are the product of a Hennepin County led effort to help communities along the Southwest LRT corridor prepare for SW LRT's opening day in 2018 and beyond.

An individualized plan has been created for each of the 17 stations in the Southwest Corridor, each plan comprising a chapter in the larger Southwest Corridor Investment Framework. The station area action plans suggest ways to build on local assets, enhance mobility, identify infrastructure needs, and capitalize on promising opportunities for development and redevelopment near each station.

Note: The Metropolitan Council has not determined the Southwest LRT project scope and budget. As of December 2013, the Southwest Project Office recommends two (2) shallow tunnels through the Kenilworth Corridor and the elimination of the 21st Street Station.

Plan Components:

INTRODUCTION 5-2
A brief overview of the station location and its surroundings

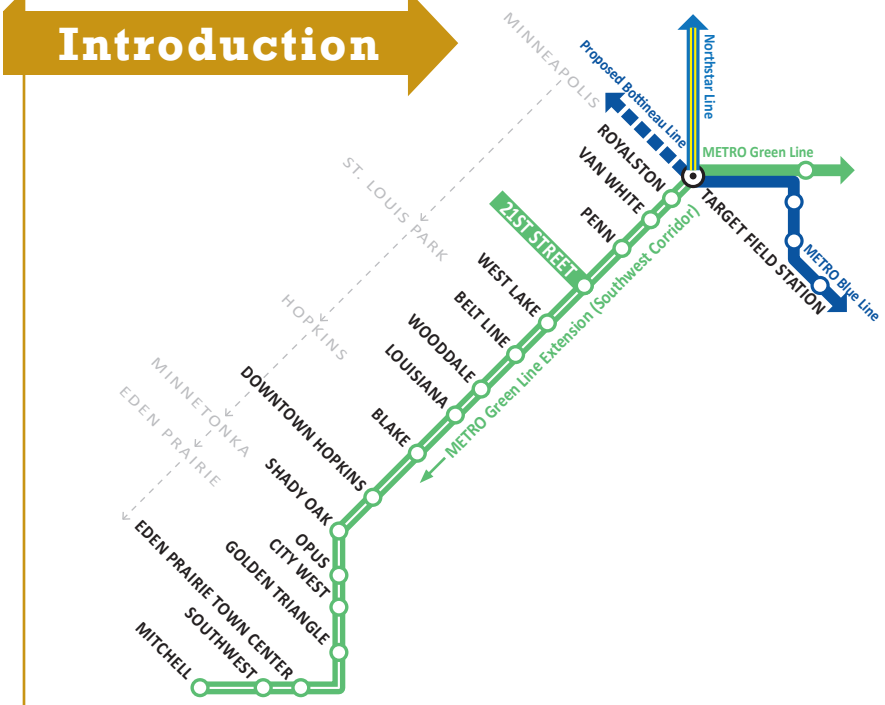
WHERE ARE WE TODAY? 5-4
A description of existing conditions in the station area, including:

- Land Use
- Transit Connections
- Access + Circulation Issues (Bike, Ped, and Auto)
- Infrastructure Needs

WHERE ARE WE GOING? 5-8
This section presents a number of recommendations for the station area in anticipation of opening day needs and the long-term TOD environment. Recommendations are provided for both potential station locations. This includes:

- Access + Circulation Plan
- Station Area Site Plan
- Infrastructure Plan
- Development Potential
- Summary of Key Initiatives

Introduction



21ST STREET STATION WITHIN THE CORRIDOR:

An important gateway to the regional trail and open space network and neighborhood station.

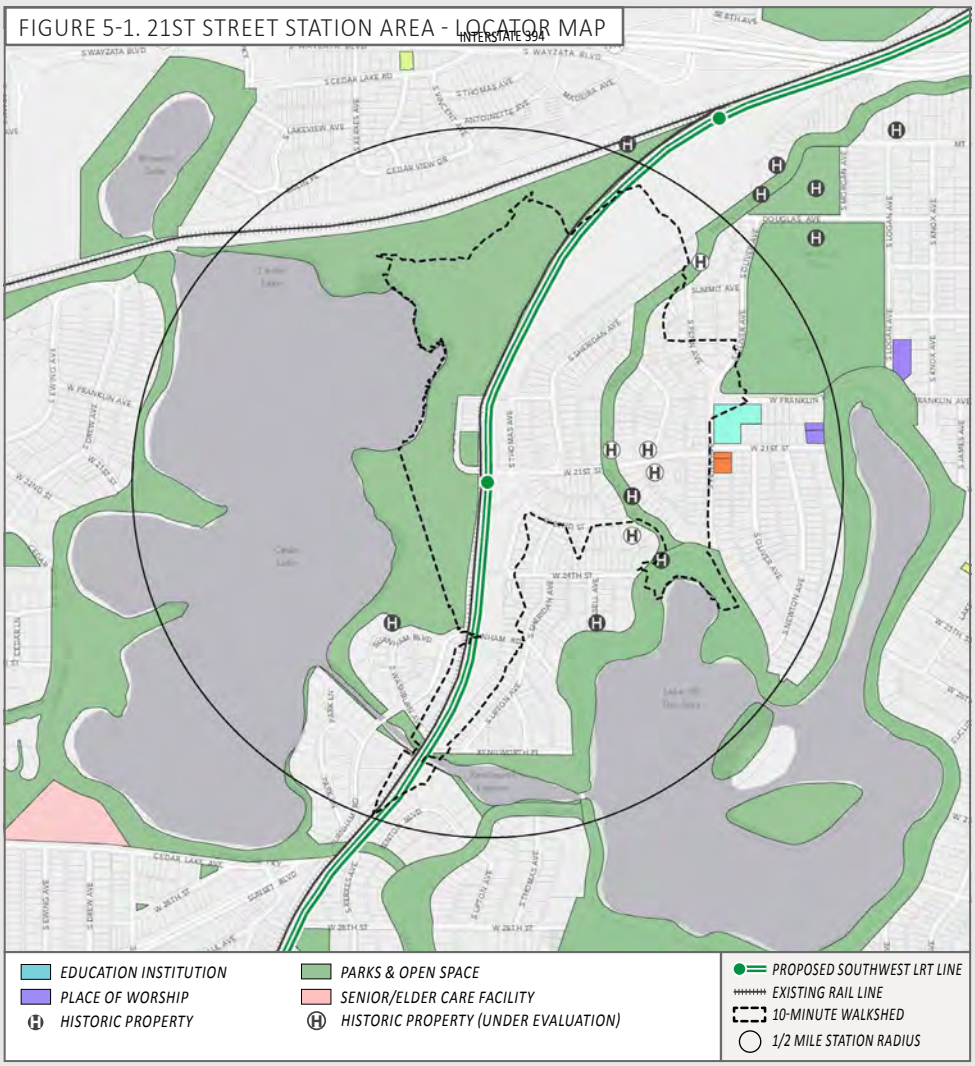
GREEN GATEWAY The 21st Station is the most significant Green Gateway (see Place Types discussion beginning on p.1-19) along the Southwest LRT Corridor providing access to trails and open space networks that extend throughout the region. East Cedar Beach on Cedar Lake and the Minneapolis Chain of Lakes are within close proximity of the station and provide area residents and visitors with a range of recreational activities.

TRAIL CONNECTIONS The busy Kenilworth Trail can be accessed from the east end of the station. With links to the Cedar Lake LRT Regional Trail and the Minneapolis Grand Rounds bike network, the Kenilworth Trail serves as both a recreational destination, commuter bicycling route, and an important neighborhood connector.

NEIGHBORHOOD The station borders the Kenwood neighborhood which consists of mainly single-family housing. Local residents travelling to metro area destinations are expected to generate the transit ridership at the station. The general inaccessibility from arterial streets will make access to the station more challenging for those commuting into the station from beyond local neighborhoods. National Register listed/eligible historic properties in the station area include elements of the Grand Rounds Historic District (Kenwood Parkway, Lake of the Isles Parkway, and Cedar Lake) and several historic houses.

OTHER DESINTATIONS The Kenwood Community Center, situated just north of Lake of Isles on W. Franklin Ave, offers year-round recreational services and facilities. Adjacent to the community center are Kenwood Park and Kenwood Elementary School.

FIGURE 5-1. 21ST STREET STATION AREA - LOCATOR MAP



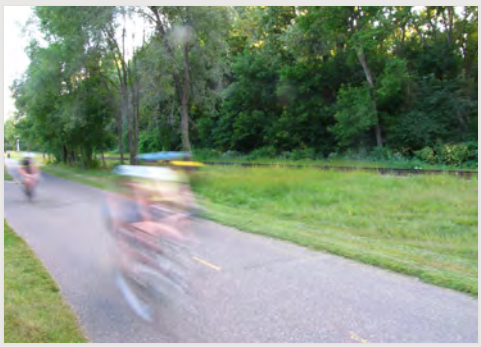
NOTE: 10-minute walkshed approximates the area accessible within a 10-minute walk from the station platform using only the existing sidewalk/trail network. See Glossary for walkshed assumptions and methodology.

Station Location

The 21st Street station is located between Cedar Lake and the Kenwood neighborhood. The station will likely serve recreational users enjoying Cedar Lake, the Minneapolis Chain of Lakes, the regional trail system, and the Grand Rounds,as well as residents living in the station area.

21ST STREET STATION AREA TODAY:

Rail and trail corridor



Cedar Lake LRT Regional Trail

Single-family housing surrounding the station

East Cedar Beach adjacent to the station

Neighborhood residential

Where Are We Today?

The following section describes the station area's EXISTING CONDITIONS, including the local context, land uses, transit and transportation systems, pedestrian and bicycle facilities, assets, destinations, and barriers to accessing the station. This analysis of current conditions presents key issues and opportunities in the station area and informs the recommendations for future station area improvements.

NOTE: Existing conditions maps are based on data provided by Hennepin County and local municipalities. The data used to create each map is collected to varying degrees of accuracy and represents infrastructure and conditions at varying points in time. Actual conditions may vary slightly from what is shown.

Land Use

Land uses in the 21st Street station area are split between single-family residential and park land. Much of the area within the half-mile radius around the station consist of Cedar Lake and Lake of the Isles. The Kenilworth Trail runs adjacent to the proposed station platform, as well as the freight rail line. East Cedar Beach is located a block to the west of the station on Cedar Lake. A community center, elementary school, and neighborhood commercial node are located to the east of the station, in the center of the Kenwood neighborhood.

FIGURE 5-2. EXISTING LAND USE

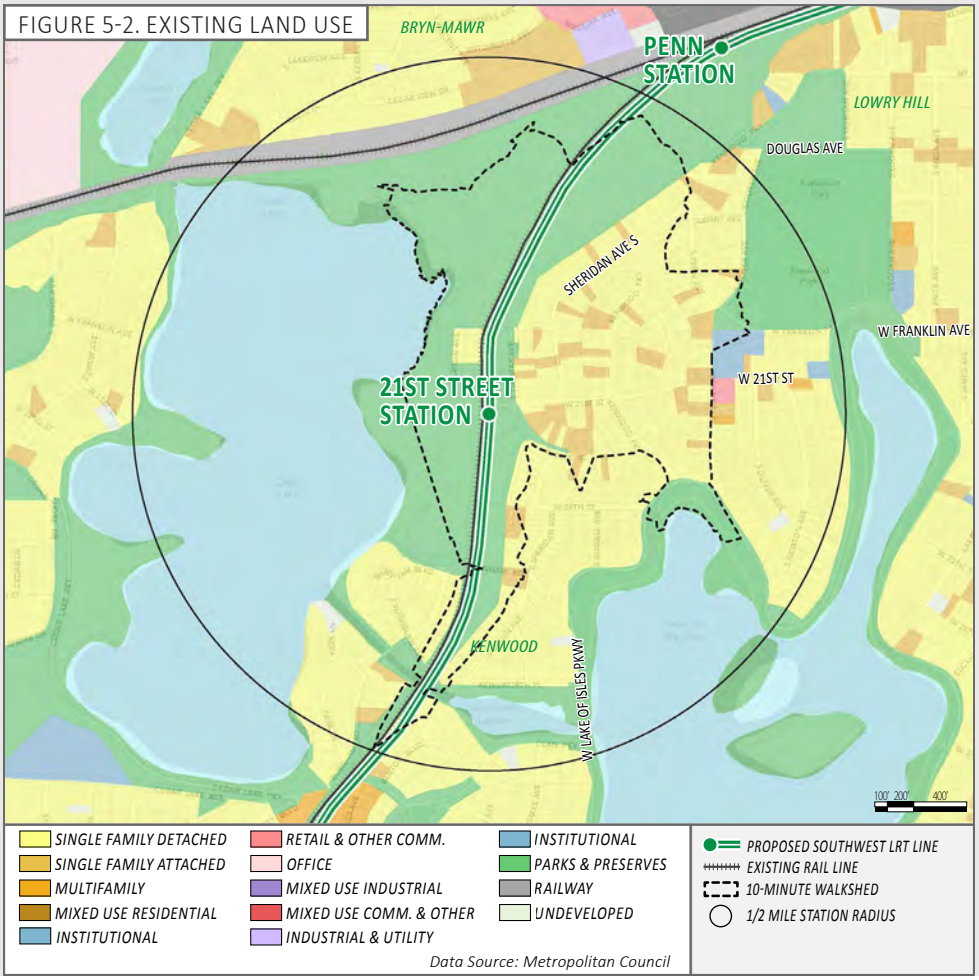
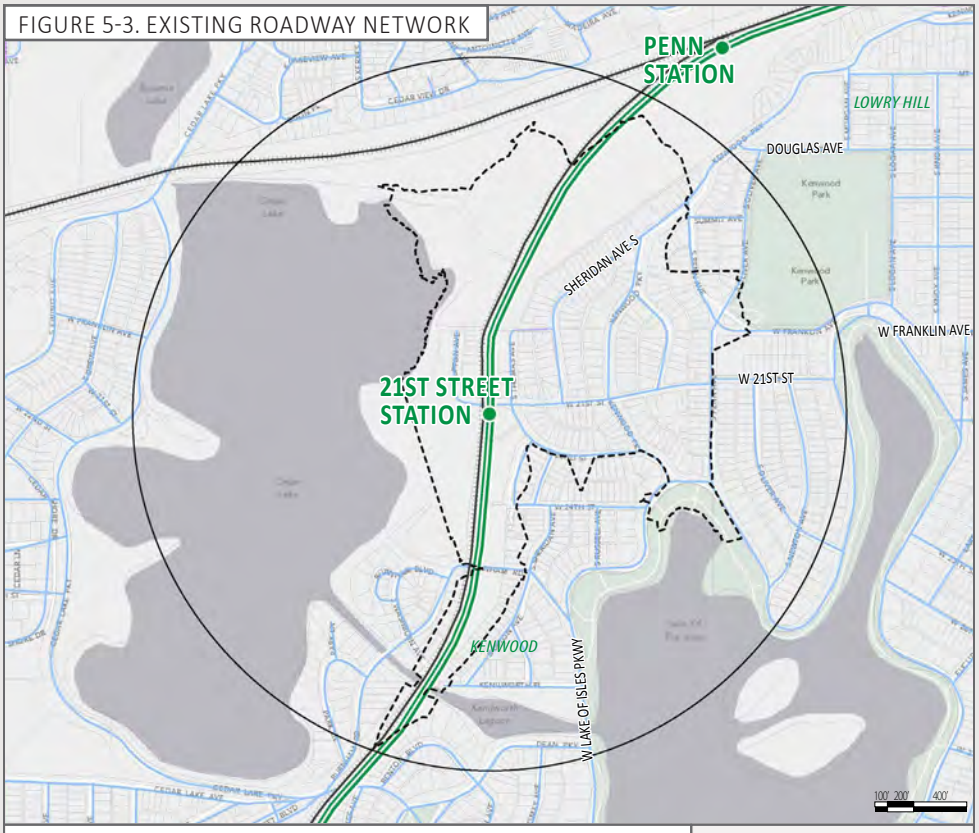


FIGURE 5-3. EXISTING ROADWAY NETWORK

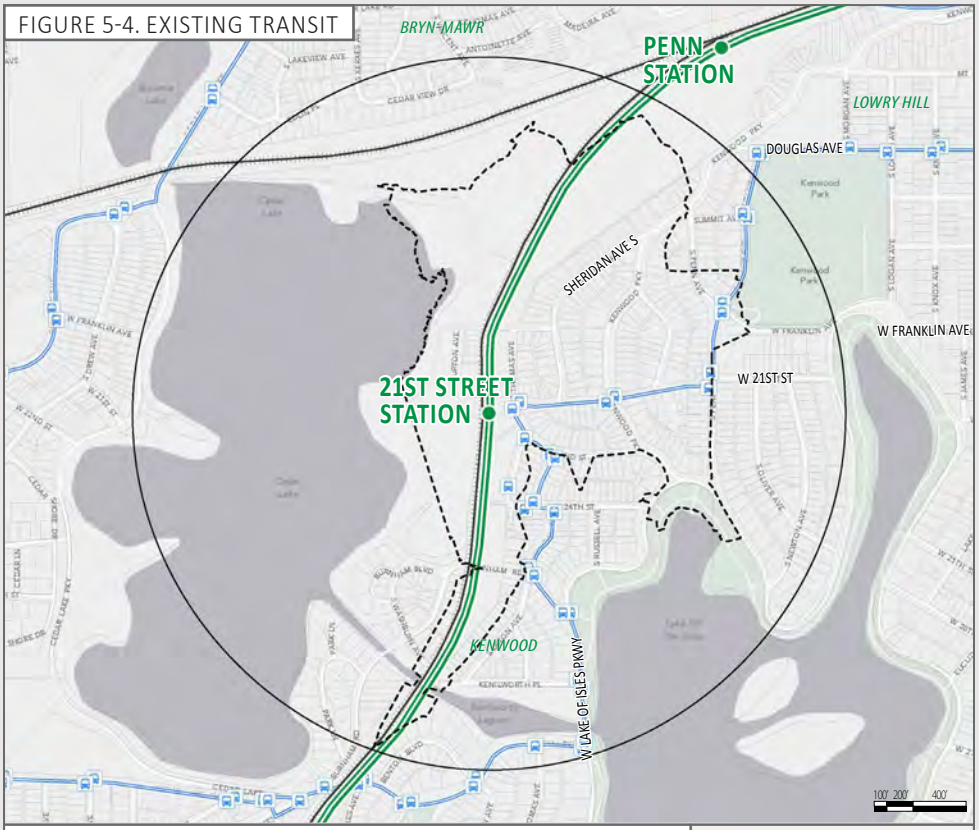


Data Source: Hennepin County

Roadway Network

The roadway system in the station area is dominated by local residential streets. The local street system is circuitous and confusing, making access to the station difficult for people not familiar with the area. This environment might suggest that the primary users of the LRT line at this station will primarily be local residents. There is no direct highway access to the station area and collector roadways are a fair distance from the station.

FIGURE 5-4. EXISTING TRANSIT



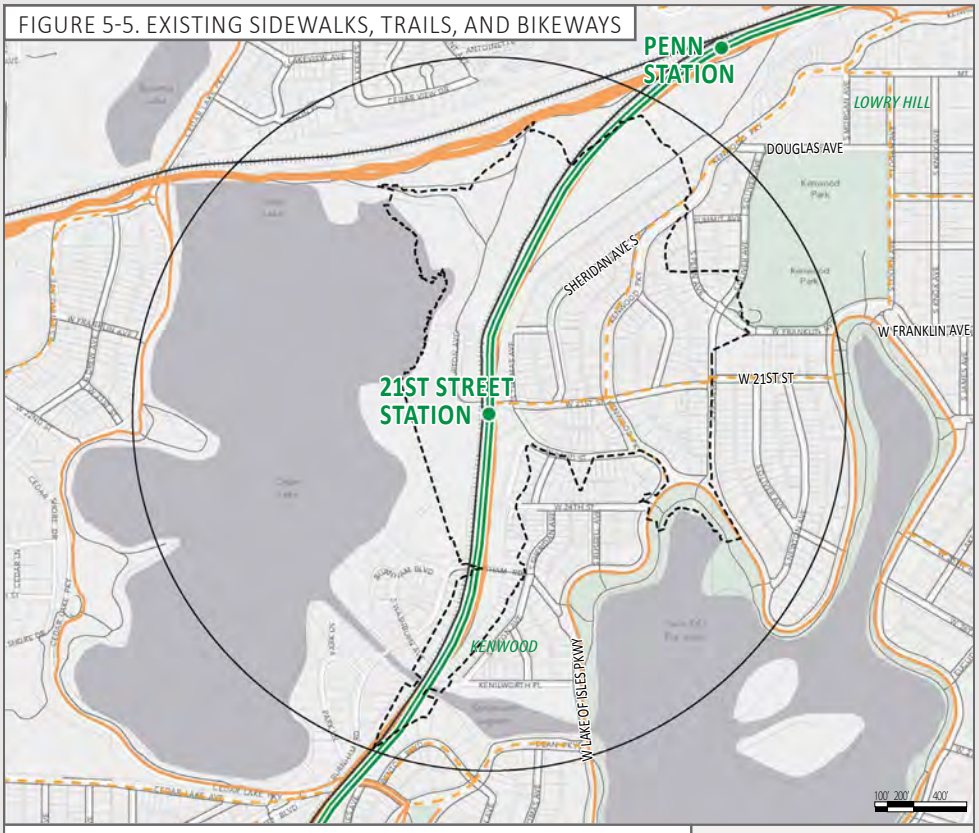
Transit

The station area is currently served by bus route #25. The closest bus stop is currently 300 feet from the proposed station platform.

Sidewalk, Trails and Bikeways

The proposed 21st Street Station is located adjacent to the multi-use Kenilworth Trail. This trail connects to the Cedar Lake LRT Regional Trail and the Minneapolis Grand Rounds system, so it is well connected to regional trail systems. Local streets in the station area contain sidewalks with only a few exceptions. Bike routes have been planned on 21st Street and Sheridan Ave by the City of Minneapolis. These routes will connect transit/bike users to the Chain of Lakes trail system.

FIGURE 5-5. EXISTING SIDEWALKS, TRAILS, AND BIKEWAYS



Sanitary Sewer

Sanitary sewer infrastructure consists of a collection of gravity flow sewer mains, lift stations, and pressurized forcemains that transport sewage to a wastewater treatment plant (WWTP). An efficient collection system has the capacity to accommodate all of the existing land uses within its particular sewershed. Beyond capacity, the material and age of pipes within a system can also impact a system's effectiveness.

Sanitary sewer infrastructure within the project area is typically maintained by either the City of Minneapolis or by the Metropolitan Council Environmental Services (MCES) Division. MCES maintains a series of interceptor trunk sewers which collect sewage at key locations and convey sewage across community boundaries to regional WWTPs. Wastewater from the station area is treated by the MCES Metro WWTP located in St. Paul.

FIGURE 5-6. EXISTING SANITARY SEWER

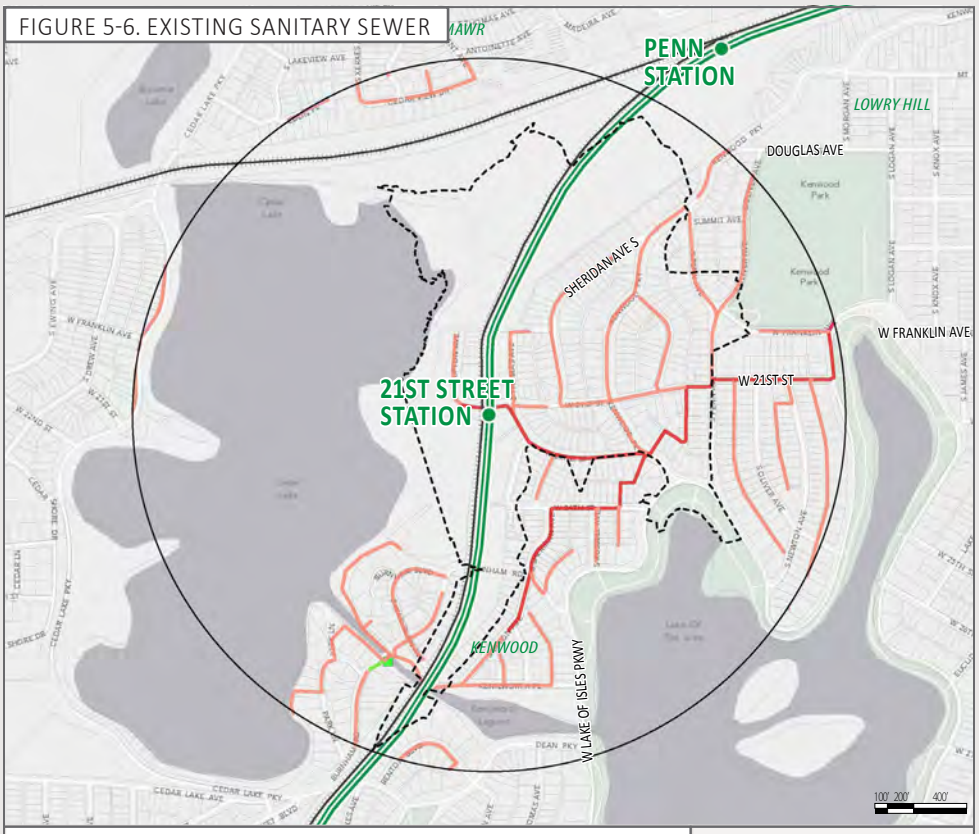
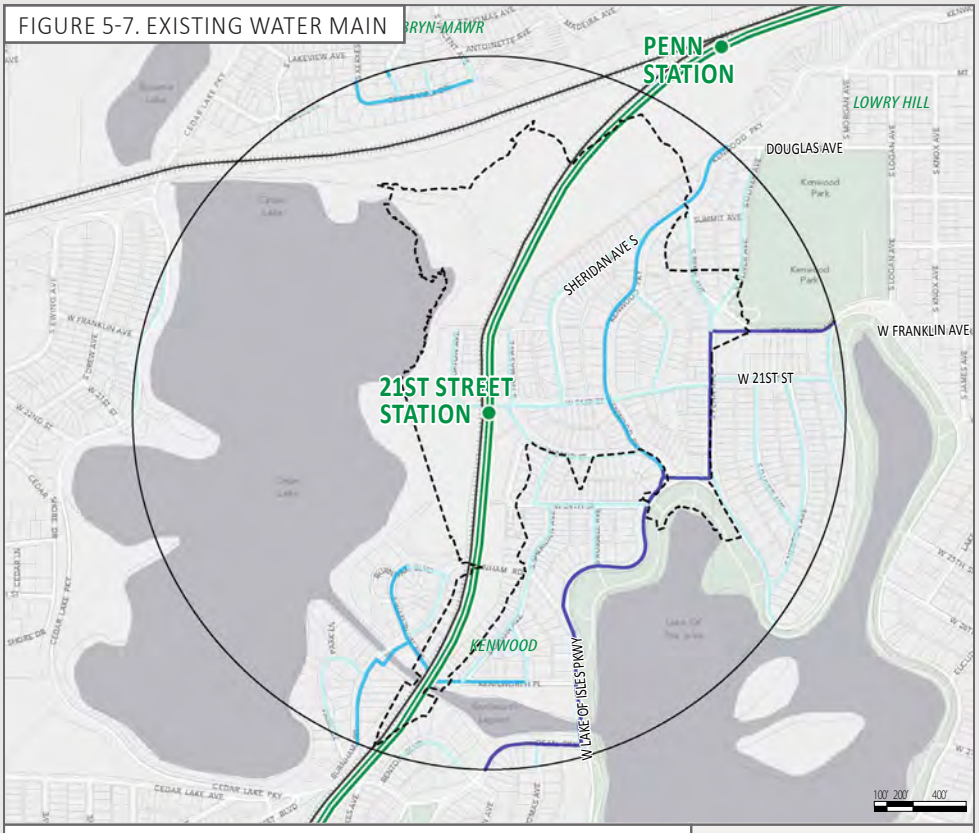


FIGURE 5-7. EXISTING WATER MAIN

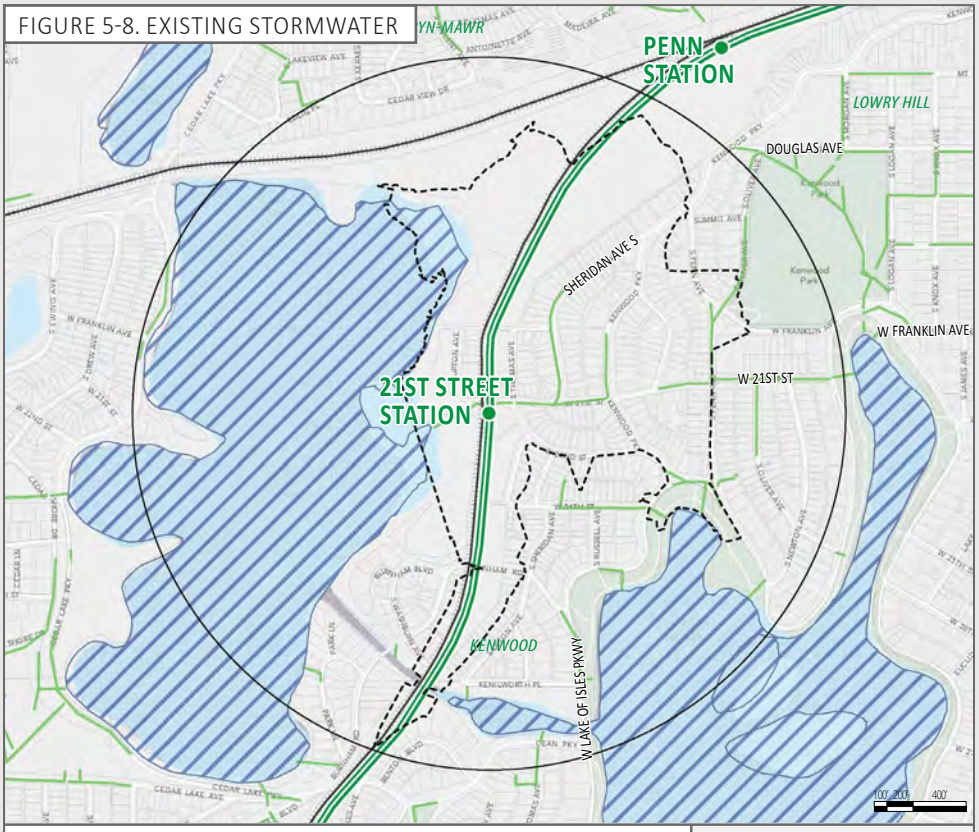


Water Main

Water main distribution systems serve to supply potable water to individual properties and to support fire suppression throughout the community. A well-designed system can maintain adequate pressure to support demand of individual properties and provide high flow rates to fire hydrants/fire suppression systems in emergency situations. Because of the complexity of water distribution networks and the importance of pressure, flow, and water quality, City water system models are used to evaluate a system's adequacy. The material and age of the system's water mains can also be factors in system breaks, leaks, and pressure and flow degradations.

Water pressure and flow rates can be influenced by: the size of water main serving an area, proximity and elevation relative to a water tower, proximity to a trunk water main with high flow capacity, if the main creates a loop, the demand of adjacent land uses, and the condition of the main.

FIGURE 5-8. EXISTING STORMWATER



Stormwater

21st Street station is located within the Minnehaha Creek Watershed District (MCWD). Drainage from the 10-minute walk zone drains to Lake of the Isles or Cedar Lake, both of which are impaired by PFOS (Fluorinated chemical used in coatings) and mercury.

Discharging within one mile of impaired water may trigger additional MN Pollution Control Agency NPDES (National Pollution Discharge Elimination System) requirements for additional stormwater management. For impaired waters where a TMDL (Total Maximum Daily Load) has been approved, these requirements may increase further.

Any development/redevelopment that occurs as a result of constructing this station is anticipated to improve the existing drainage conditions as a result of enforcing the City and the watershed requirements.

Where Are We Going?

The plans and diagrams on the following pages illustrate a range of recommendations for infrastructure improvements, station amenities, and potential redevelopment opportunities within the station area.

The ACCESS AND CIRCULATION PLAN shown in Figure 5-9 provides a high level view of how future transit, automobile, bike, and pedestrian systems will connect to the station area and its surroundings.

Figure 5-10 illustrates the STATION AREA IMPROVEMENTS that will facilitate access to and from the station and catalyze redevelopment in the station area (Note: As there are no long-term improvements recommended for this station area, all of the improvements below are targeted for opening day in 2018. These recommendations represent the improvements necessary to enhance the efficient function of the transit station, roadways, pedestrian and bicycle connections, and transit connections on opening day in 2018).

Station Area Improvements

The discussion below outlines a range of future station area improvements. While some of the identified improvements may be constructed as part of the LRT project itself, other improvements must be funded, designed and constructed by other entities and will require coordination between the City, County, and Metro Transit as well as local stakeholder and community groups.

PEDESTRIAN CONNECTIONS

Opening Day Improvements:

» Focus sidewalk, trail, and streetscape enhancements immediately adjacent to the station platform, connecting with existing sidewalks and trails.

» Improve pedestrian crossings where needed to provide safe access to the LRT station and nearby destinations (such as Cedar Lake, Lake of the Isles, Kenwood School, Kenwood Park, Kenwood Community Center, Kenwood commercial node at Penn Avenue and 21st Street), particularly along West 21st Street, Kenwood Parkway, and Lake of the Isles Parkway.

BIKE CONNECTIONS

Opening Day Improvements:

» Provide on-street bike facilities (lanes, routes, signage, etc.) on local streets, such as West 21st Street, Kenwood Parkway, and Burnham Blvd.

» Provide bike parking, pumping station, and locker facilities in a highly visible area near the station platform.

TRANSIT CONNECTIONS

Opening Day Improvements:

» Provide additional rider dropoff space at the existing bus stop at the corner of West 21st and 22nd Streets.

KISS AND RIDE

Opening Day Improvements:

» Provide space for kiss and ride activities near the bus stop at the corner of West 21st and 22nd Streets.

STATION AMENITIES *(Beyond SW LRT Base Project Scope)*

Opening Day Improvements:

» Wayfinding- define and install a cohesive and contextual wayfinding system at the LRT station platform and major gateways, such as West 21st Street, Kenilworth Trail, Lake of the Isles, Kenwood Parkway, and Kenwood commercial node.

» Seating – provide comfortable and durable seating near the station platform and at the bus dropoff area near the station platform.

» Lighting – provide adequate lighting for the safety of pedestrians, bicyclists, and transit users near the station platform and the bus dropoff area.

» Pedestrian and Bike Facilities- add pedestrian/bike crossing improvements at intersections along West 21st Street, Kenwood Parkway, and Lake of the Isles Parkway.

» Public Art- incorporate public art in the station area to create an attractive and identifiable place.

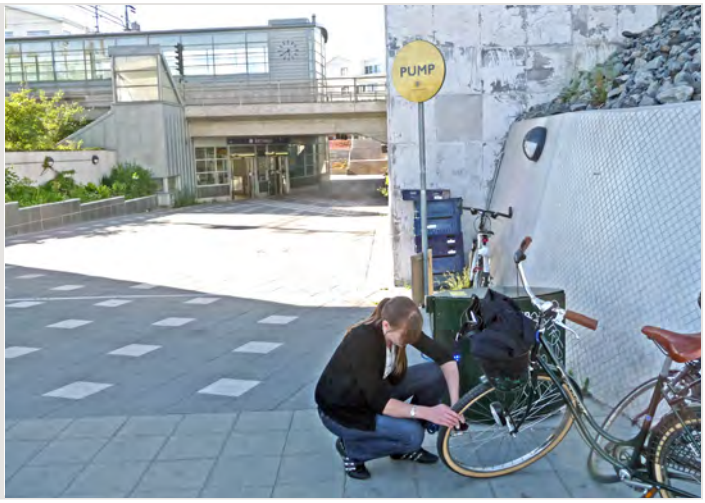
DEVELOPMENT POTENTIAL

» Hennepin County owns land adjacent to the station, however, development due to LRT transit facilities and services is not expected.

UTILITIES

» See the "Station Area Utility Plan" beginning on page 5-14 for all utility recommendations.

Transit shelter with informational signage, lighting, and seating



Bike amenities at the station

Key Considerations for Change and Development Over Time

Investments around the station should focus on increasing visibility and enhancing access for pedestrians and cyclists. Key considerations should include:

PUBLIC REALM

- Developing a small pedestrian plaza at the southwest intersection of West 21st Street and West 22nd Street to enhance views to and from the station platform and create a location for pedestrian and cycling amenities.
- Initiate streetscape enhancements along West 21st Street including the provision of zebra crossings at intersections and pedestrian-oriented lighting.
- Provide a higher level of illumination in and around the station platform including the provision of a designated waiting area with two-way intercom system and video surveillance.

MOBILITY

- Incorporate signed on-street bike facilities along 21st Street to improve access for cyclists traveling between the station and neighborhoods to the east.
- Create an additional emphasis on wayfinding at the station plaza and trail heads to guide visitors to local destinations and illustrate regional destinations accessible via the trail network.
- Incorporate a higher level of cycling amenity at the station including the provision of a repair stand, water fountain, and bike pumps.
- Improve trail crossings of West 21st Street through special paving treatments that can alert drivers to the trail.

FIGURE 5-9. ACCESS + CIRCULATION PLAN

This illustration includes both existing and proposed facilities to show the full network of future bike, pedestrian, automobile, and transit connections.

- LRT PLATFORM
- LRT LINE
- BUS STOP
- PARK AND RIDE
- FREIGHT LINE
- NEW ROADWAY
- KISS AND RIDE
- EXISTING WALKSHED
- EXISTING PEDESTRIAN CONNECTION
- EXISTING BIKE CONNECTION
- EXISTING MULTI USE CONNECTION
- FUTURE WALKSHED (WITH TSAAP IMPROVEMENTS)
- PROPOSED(DASHED) PEDESTRIAN CONNECTION
- PROPOSED(DASHED) BIKE CONNECTION
- PROPOSED(DASHED) MULTI USE CONNECTION

NOTE: Existing walkshed approximates the area accessible within a 10-minute walk from the station platform using only the existing sidewalk/trail network. Future walkshed incorporates all proposed improvements to the sidewalk/trail network. Walksheds are based on GIS modeling and available sidewalk/trail information- and may not reflect exact on-the-ground conditions. See Glossary for detailed explanation of walkshed assumptions and methodology.

FIGURE 5-10. STATION AREA IMPROVEMENTS

Faded symbology indicates existing facilities and infrastructure.

- LRT PLATFORM
- FREIGHT LINE
- BUS STOP
- BUS SHELTER
- NEW SIDEWALK / SIDEWALK IMPROVEMENT
- ON STREET BIKE INFRASTRUCTURE
- MULTI-USE PATH
- NEW CROSSING / CROSSING IMPROVEMENT
- NEW ROADWAY
- STREETSCAPE
- PARK AND RIDE
- KISS AND RIDE
- NEW SIGNALIZED INTERSECTION
- BIKE PARKING
- WAYFINDING
- PUBLIC ART OPPORTUNITY
- POTENTIAL DEVELOPMENT SITE
- PLAZA SPACE / BUILDING SETBACK AREA

Opening Day Improvements

The following tables and diagrams outline the proposed improvements to be implemented in advance of SW LRT's opening day in 2018. As of December 2013, the 21st Street Station is not part of the SW LRT base project scope, but is presented here as a concept scope. Table 5-1 and Figure 5-11 show opening day improvements that are part of the concept scope (i.e. improvements that could be part of the SW LRT base project scope should this station ultimately be built). Table 5-2 and Figure 5-12 include opening day improvements that are recommended as part of the Southwest Corridor Investment Framework and are beyond the concept scope.

TABLE 5-1. CONCEPT SCOPE (NOT IN SW LRT BASE PROJECT SCOPE) - OPENING DAY STATION AREA IMPROVEMENTS

PLAN KEY	IMPROVEMENT	PROJECT LOCATION	PROJECT NOTES
A	LRT Platform	Along Kenilworth Trail at W. 21st Street	Includes related LRT infrastructure
B	Kiss and Ride	Along W. 22nd Street, south of W. 21st Street	Pullout dropoff area (share with bus dropoff)
C	Bus Facilities	Along W. 22nd Street, south of W. 21st Street	Pullout dropoff area
D	Sidewalk/Trail	Station platform to bus dropoff	New sidewalk
E	Bike Facilities	Near station platform	Allowance for bike storage
F	Wayfinding	Near station platform	Allowance
G	Landscaping	Near station platform	Allowance
H	Water*	Near station platform	New water service and fire hydrant to station
I	Utilities*	Project limit area	Adjustment of existing utilities
J	Stormwater management*	Near station platform	Allowance

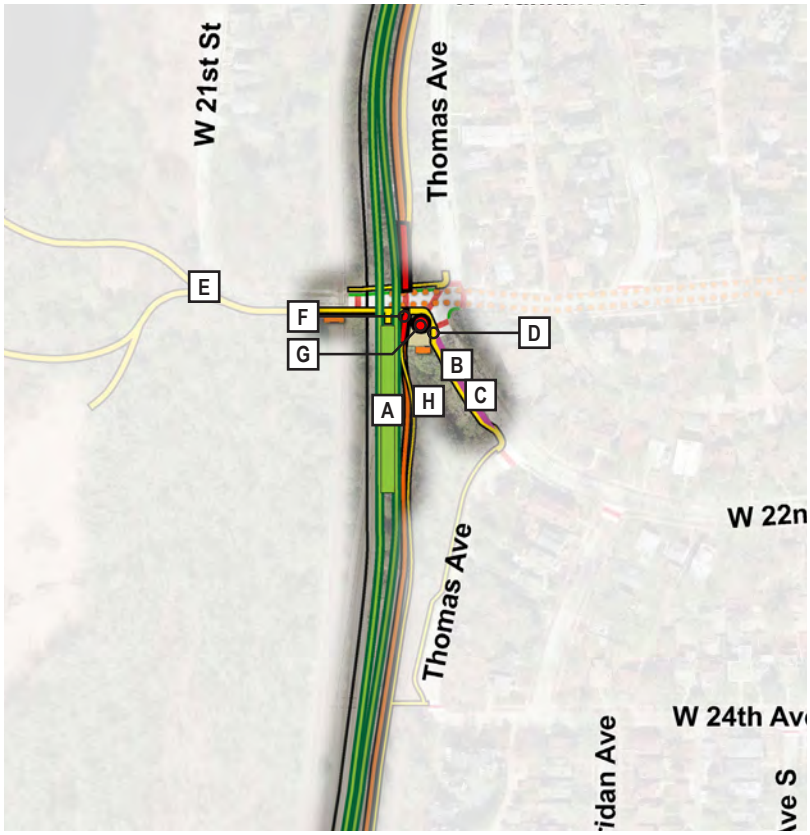
Note: The Metropolitan Council has not determined the project scope and budget. As of December 2013, the Southwest Project Office recommends two (2) shallow tunnels through the Kenilworth Corridor and the elimination of the 21st Street Station.

** Improvement not symbolized on opening day figures*

TABLE 5-2. SOUTHWEST CORRIDOR INVESTMENT FRAMEWORK (TSAAP) - OPENING DAY STATION AREA IMPROVEMENTS

PLAN KEY	IMPROVEMENT	PROJECT LOCATION	PROJECT NOTES	PRIORITY
1	Sidewalk/Trail	Varies- within 10 minute walkshed from station platform	Complete any gaps in sidewalk system	Primary
2	Intersection Enhancements	Along W. 21st Street, station platfrom to Kenwood Pkwy	Enhanced crosswalk markings	Primary
3	Intersection Enhancements	Along W. 22nd Street, Thomas Avenue to Sheridan Avenue	Enhanced crosswalk markings	Primary
4	Intersection Enhancements	Along W. 24th Street, Thomas Avenue to Sheridan Avenue	Enhanced crosswalk markings	Primary
5	Bike Facilities	Near station platform	Bike parking, lockers, pump station and bike share facilities (beyond SPO improvements)	Primary
6	Wayfinding	Near station platform	Signage and wayfinding (beyond SPO improvements)	Primary
7	Public Art	Near station platform	Public art (beyond SPO improvements)	Secondary
8	Public Plaza	Southwest intersection of 21st Street and 22nd Street	Plaza includes, paving, planting and seating (beyond SPO improvements)	Secondary
9	Bike Connection	Along West 24th Street from Lake of the Isles to Kenilworth Trail	Bike lanes and bike path	Secondary

FIGURE 5-11. CONCEPT SCOPE (NOT IN SW LRT BASE PROJECT SCOPE) - OPENING DAY STATION AREA IMPROVEMENTS



Note: The Metropolitan Council has not determined the project scope and budget. As of December 2013, the Southwest Project Office recommends two (2) shallow tunnels through the Kenilworth Corridor and the elimination of the 21st Street Station.

FIGURE 5-12. SOUTHWEST CORRIDOR INVESTMENT FRAMEWORK (TSAAP) - OPENING DAY STATION AREA IMPROVEMENTS

PRIMARY PRIORITY

SECONDARY PRIORITY

Station Area Utility Plan

OVERVIEW + APPROACH

The station area utility plan and strategies recommended below were developed by considering impacts on existing utilities by the construction of the LRT line, and potential future transit-oriented development within the station area, as depicted by the Station Area Improvements Plan (Figure 5-10). Opening day improvements identified in this plan should be considered prior to 2018 due to their proximity to or impact from the proposed LRT line. More improvements may be necessary by 2018, but should be reviewed with any redevelopment in the area. The City of Minneapolis should continue to follow their standard review procedures as it relates to utilities within project areas.

For any publicly initiated projects in the ROW, the City should follow current utility review procedures. This may include identifying needs and opportunities that may be coordinated with proposed improvements to the roadway or other elements in City ROW.

For any privately initiated projects in the area, the City should follow current development/ redevelopment procedures which will likely require developers to show anticipated utility system demand. Developers will need to coordinate with the City to ensure utilities are sized and located properly prior to construction. The City of Minneapolis Community Planning and Economic Development website can be found here: http://www.ci.minneapolis.mn.us/cped/. This study recognizes that the ultimate station area development/redevelopment (in 2030) will be driven by market conditions.

GENERAL RECOMMENDATIONS - SANITARY SEWER & WATER MAIN

Utility recommendations for station area improvements include opportunities for Minneapolis to improve the existing sanitary sewer and water main networks without necessarily replacing existing sanitary sewer. As part of the City's standard practice, utilities will be reviewed in conjunction with proposed station area improvements within the ROW; Any necessary utility improvements will be determined at the time of said review. As redevelopment occurs, developers will be required to provide documentation to verify that existing utilities meet the needs of the proposed development. Developers will coordinate with the City prior to project approvals.

GENERAL RECOMMENDATIONS – STORM SEWER

Local storm sewer improvements are recommended to be completed in conjunction with other improvements in the station area. Improvements which may require storm sewer modifications include: roadway realignments, roadway extensions, and pedestrian sidewalk/streetscape improvements. Storm sewer improvements may consist of: storm sewer construction, manhole reconstruction, drain tile extensions, storm sewer relocation, and complete replacement. These local storm sewer improvements are included as part of the overall cost of roadway and streetscape improvements recommended in this plan. Where roadway/streetscape improvements are part of the SW LRT anticipated base project scope, associated storm sewer improvements are assumed to be a project cost. Coordination with the local watershed district and other agencies may be needed to review the condition of and capacity of existing trunk storm sewer systems serving more regional surface water needs.

NOTE: No site specific utility needs have been identified for this station beyond these general utility recommendations and utility improvements identified as part of the SW LRT Anticipated Base Project Scope (see Table 5-1). As such, no diagram is provided for the station area utility plan. General utility recommendations should be reviewed prior to site construction.

STORMWATER BEST MANAGEMENT PRACTICES

There are numerous stormwater best management practices (BMPs) that can be used to address stormwater quality and quantity. As part of this project, BMP guides were developed for four stations (Royalston, Blake, Shady Oak, and Mitchell) which exemplify the range of development intensity and character in the urbanized environment along the Southwest LRT Corridor. The recommendations and practices identified in each of the four BMP guides are applicable to various stations along the corridor.

Potential stormwater management strategies for this station area may be similar to those shown in the BMP guide for the Royalston Station (see p. 2-26). Minneapolis should consider implementing applicable best management practices similar to those in the Royalston station BMP guide. Stormwater management recommendations should be constructed in conjunction with public and private improvements and future development/redevelopment in the station area.

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WEST LAKE STATION

CITY OF MINNEAPOLIS

SOUTHWEST CORRIDOR INVESTMENT FRAMEWORK

TRANSITIONAL STATION AREA ACTION PLAN

Hoisington Koegler Group Inc.

SOUTHWEST LRT community works
www.swlrtcommunityworks.org

Hennepin

ABOUT THIS CHAPTER:

The Transitional Station Area Action Plans are the product of a Hennepin County led effort to help communities along the Southwest LRT corridor prepare for SW LRT's opening day in 2018 and beyond.

An individualized plan has been created for each of the 17 stations in the Southwest corridor, each plan comprising a chapter in the larger Southwest Corridor Investment Framework. The station area action plans suggest ways to build on local assets, enhance mobility, identify infrastructure needs, and capitalize on promising opportunities for development and redevelopment near each station.

Plan Components:

INTRODUCTION 6-2
A brief overview of the station location and its surroundings

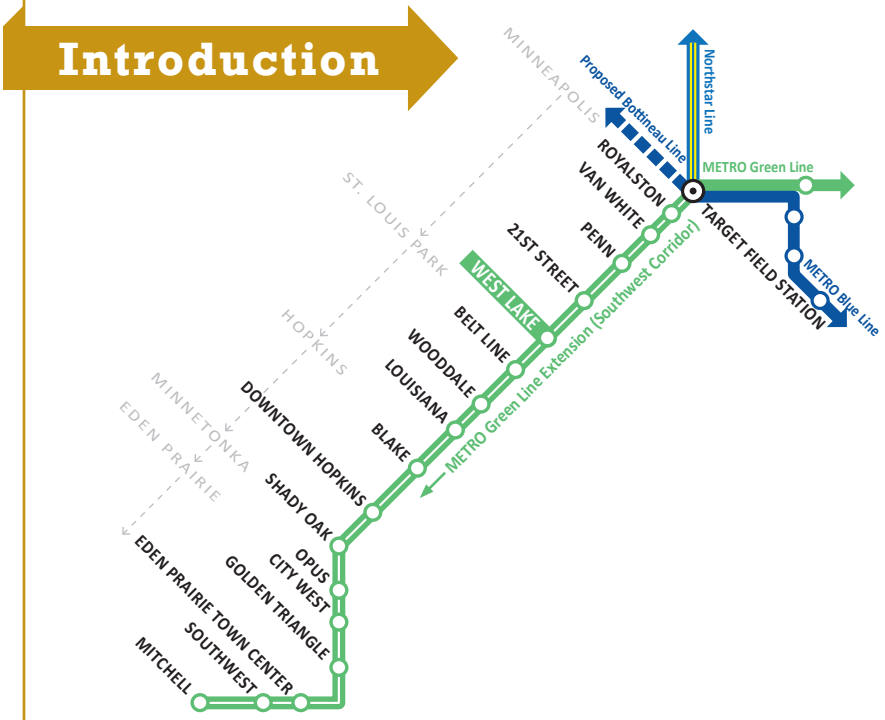
WHERE ARE WE TODAY? 6-4
A description of existing conditions in the station area, including:

- Land Use
- Transit Connections
- Access + Circulation Issues (Bike, Ped, and Auto)
- Infrastructure Needs

WHERE ARE WE GOING? 6-8
This section presents a number of recommendations for the station area in anticipation of opening day needs and the long-term TOD environment. This includes:

- Access + Circulation Plan
- Station Area Site Plan
- Infrastructure Plan
- Development Potential
- Summary of Key Initiatives

Introduction



WEST LAKE STATION WITHIN THE CORRIDOR:

A hub of mobility with a mix of higher density residential and retail uses structured on a walkable street and block pattern.

URBAN VILLAGE The West Lake station is characterized as an Urban Village (see Place Types discussion beginning on p. 1-19), located within close proximity to a popular retail hub, high-density residential neighborhoods, and major office buildings. Future infill residential and mixed-use development will further increase population density and generate transit ridership at this station.

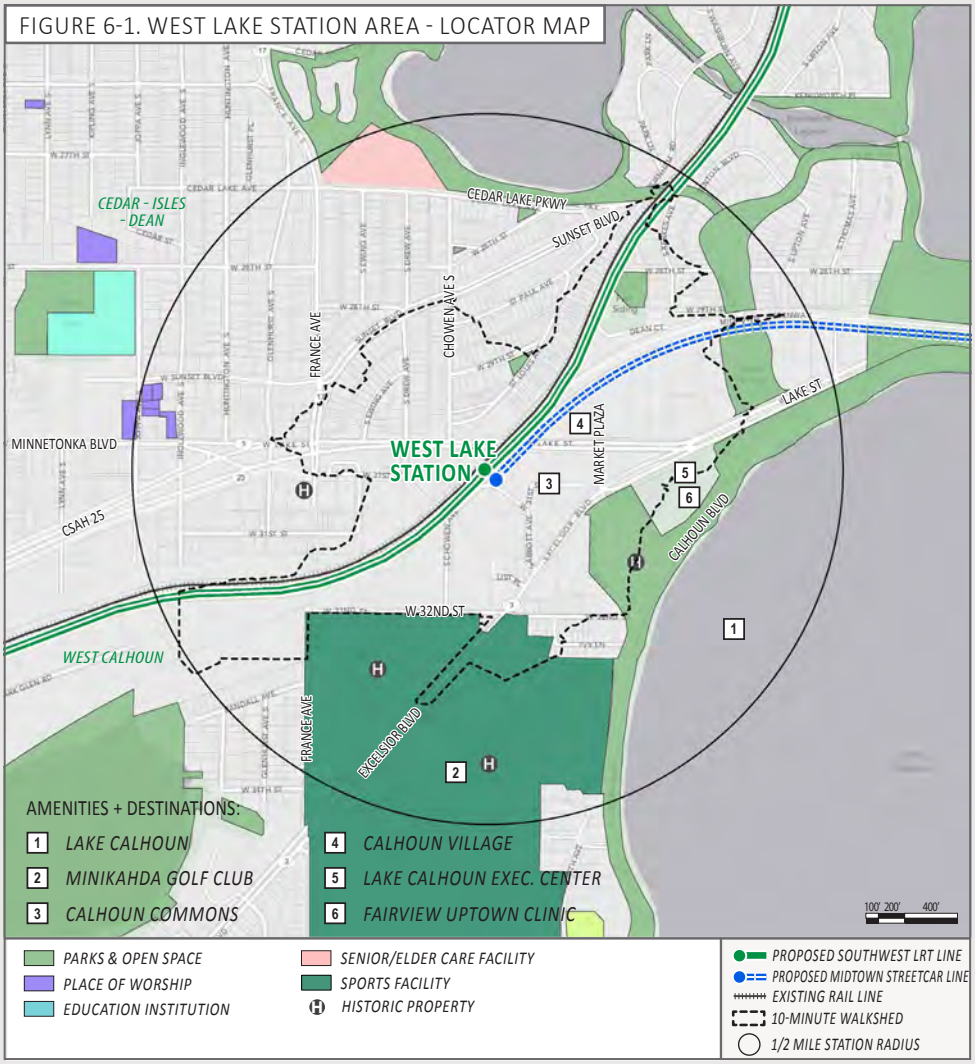
NEIGHBORHOOD The area contains single- and multi-family housing with higher density buildings located closer to the station. West Lake has the highest housing densities of any station area along the Southwest LRT Corridor. Neighborhood-serving amenities include restaurants, shops and health/fitness services in Calhoun Commons and Calhoun Village commercial areas. National Register listed/eligible historic properties in the station area include the Minikahda Club, playing fields near Lake Calhoun (part of the historic Grand Rounds), and the Hoffman Callan Printing Company.

TRAIL CONNECTIONS The West Lake station will serve as an access point to the Midtown Greenway, Cedar Lake LRT Regional Trail, and Kenilworth Trail, which are major city and regional trail connections. The Midtown Greenway is a major cycling trail that runs east-west across the city. The Kenilworth Trail runs between Cedar Lake and the Lake of the Isles.

TRANSIT CONNECTIONS The station will be one of the most important transit hubs along the Southwest Corridor connecting LRT to multiple bus routes serving Minneapolis and St Louis Park. The station is also the proposed terminus of a streetcar line and/or enhanced bus route which will connect the Metro Green Line (Southwest) with the Metro Blue Line (Hiawatha).

OTHER DESTINATIONS Lake Calhoun is a short distance east of the station platform. Part of the Chain of Lakes and the largest lake in the City of Minneapolis, Lake Calhoun is a major draw for passive and active recreation. Additional leisure and social activities are available to the south at the Minikahda Country Golf Club.

FIGURE 6-1. WEST LAKE STATION AREA - LOCATOR MAP



NOTE: 10-minute walkshed approximates the area accessible within a 10-minute walk from the station platform using only the existing sidewalk/trail network. See Glossary for walkshed assumptions and methodology.

Station Location

The West Lake station is located within an active and vibrant mixed-use area near Lake Calhoun. Land uses in the proposed station area include a mix of residential densities and housing types along with some office and retail uses near the intersection of West Lake Street and Excelsior Boulevard. Major office buildings in the area include the Lake Calhoun Executive Centre, Lake Pointe Corporate Centre and the Fairview Uptown Clinic. Nearby retail uses include grocery, restaurants, and neighborhood-serving retail shops and services.

The station is located near the intersection of the popular Midtown Greenway, Cedar Lake LRT Regional Trail, and Kenilworth Trail, as well as the terminus of the proposed Midtown Streetcar Line. Lake Calhoun, a major draw for recreational users, lies a few blocks to the east of the station. The station is anticipated to serve local residents as well as users attracted to the area's amenities and destinations.

WEST LAKE STATION AREA TODAY:

Condominiums within the station area

Existing medium-density residential

Cedar Lake LRT Regional Trail

Abbott Avenue near the station area

Existing retail within the station area

Lake Calhoun

Where Are We Today?

The following section describes the station area's EXISTING CONDITIONS, including the local context, land uses, transit and transportation systems, pedestrian and bicycle facilities, assets, destinations, and barriers to accessing the station. This analysis of current conditions presents key issues and opportunities in the station area and informs the recommendations for future station area improvements.

NOTE: Existing conditions maps are based on data provided by Hennepin County and local municipalities. The data used to create each map is collected to varying degrees of accuracy and represents infrastructure and conditions at varying points in time. Actual conditions may vary slightly from what is shown.

Land Use

The West Lake station has a wide variety of land uses which should generate transit ridership. Within the walkshed of the proposed station area, land uses include a mix of residential types and densities, office, retail, and recreational land uses. Significant parks, open space and trail uses exist within the station area, including the Midtown Greenway, Kenilworth Trail, Lake Calhoun with its parks and parkways along its shoreline, and the Minikahda Golf Club lies just to the south of the station.

The successful retail uses located just to the east of the station platform dominate the West Lake Street and Excelsior Boulevard intersection. Along with other attractions and destinations in the area, the retail destinations generate significant traffic congestion during peak travel hours. Immediately adjacent to the proposed station, sandwiched between the platform and the existing retail to the east, is an undeveloped Hennepin County Regional Rail Authority site.

FIGURE 6-2. EXISTING LAND USE

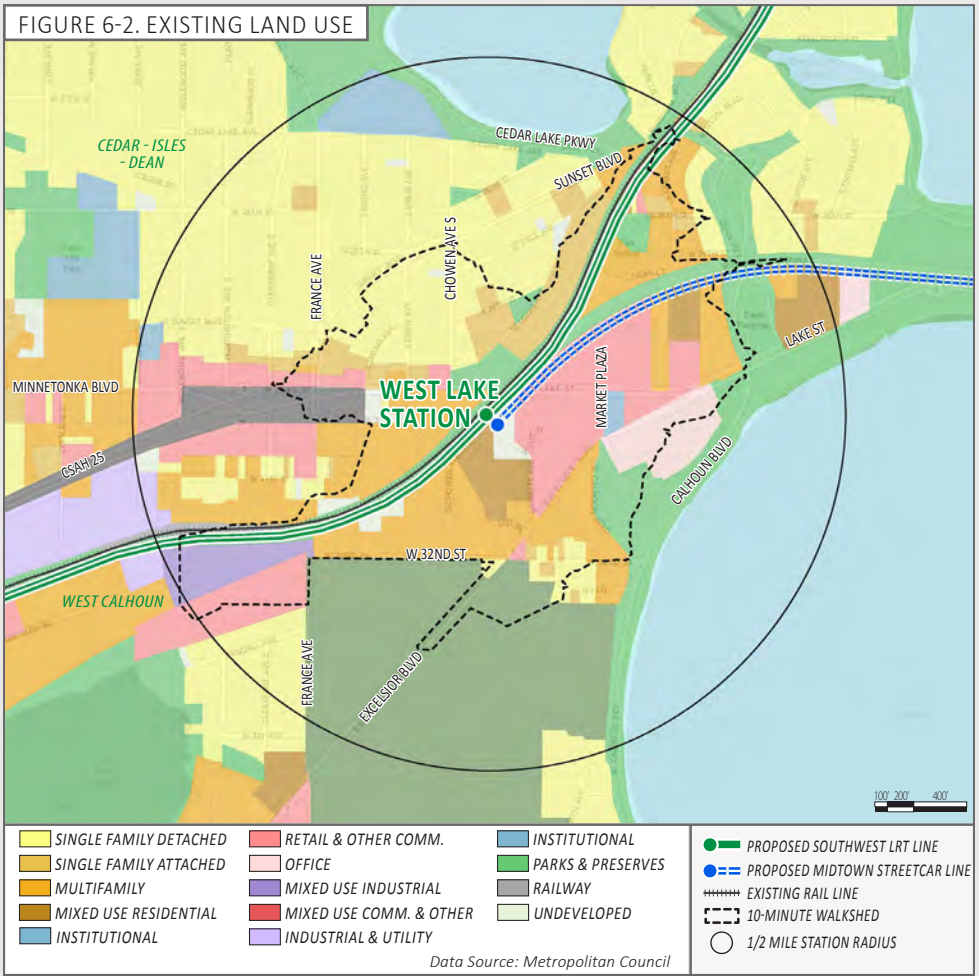
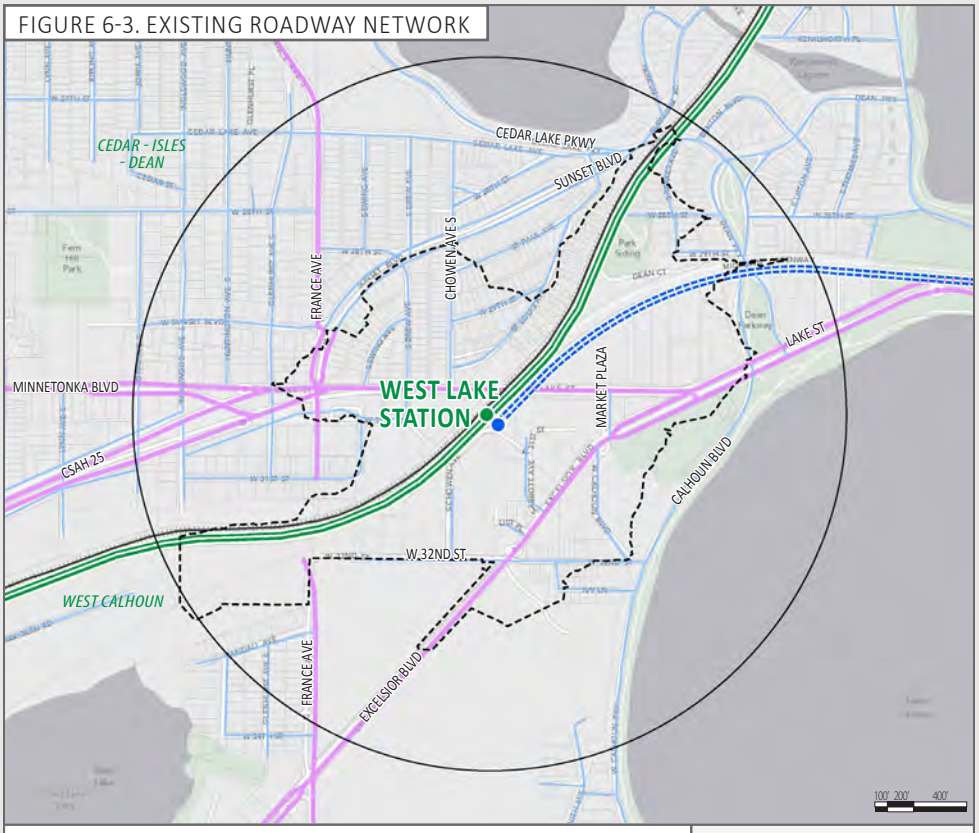


FIGURE 6-3. EXISTING ROADWAY NETWORK



INTERSTATE
U.S. HIGHWAY
STATE HIGHWAY
RAMP
CSAH/ COUNTY ROAD
LOCAL/CITY STREET

Data Source: Hennepin County

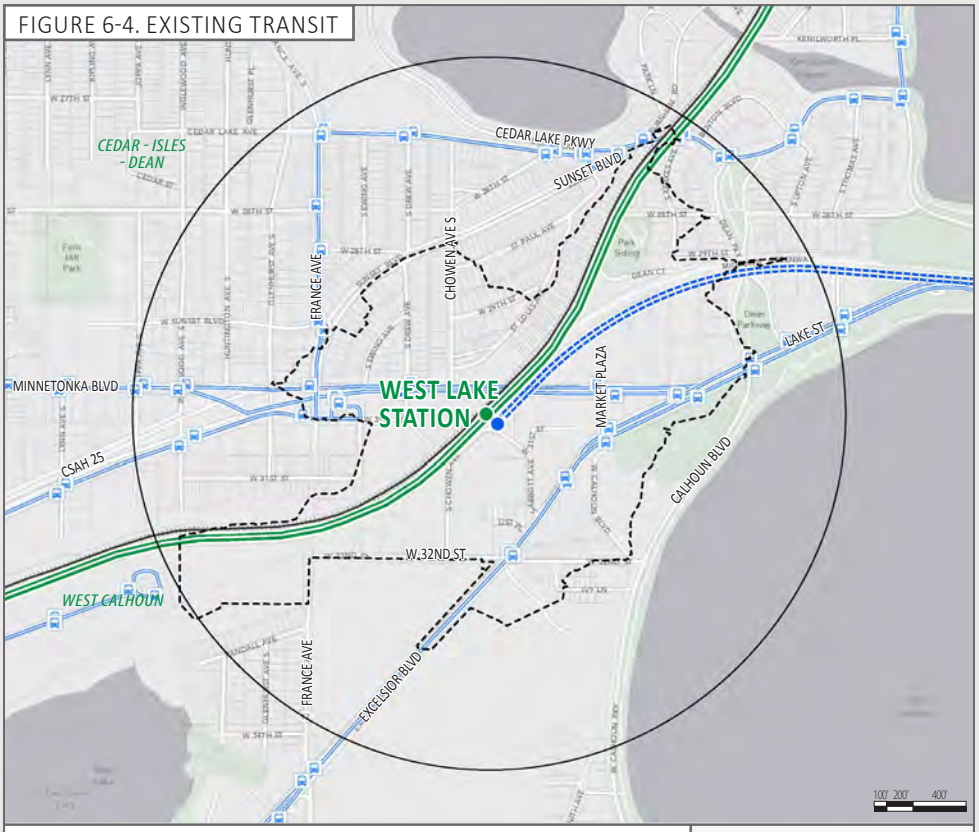
PROPOSED SOUTHWEST LRT LINE
PROPOSED MIDTOWN STREETCAR LINE
EXISTING RAIL LINE
10-MINUTE WALKSHED
1/2 MILE STATION RADIUS

Roadway Network

The roadway system in the West Lake Station area includes two major roadways: Excelsior Boulevard and West Lake Street. These two busy arterials intersect just east of the station. The two streets are laid out at acute angles to each other causing awkward intersections that are difficult to negotiate for all users, including motorists, pedestrians and bicyclists.

Roadway access to the station platform is achieved on a set of local streets – Abbott Avenue, Chowen Avenue, and West 32nd Street. These are narrow streets that include on-street parking for nearby residents. The Abbott Avenue and Excelsior Boulevard intersection is not signalized. Lake Street is grade-separated from the station platform. The LRT, freight line, streetcar, and regional trail system travel under the West Lake Street Bridge.

FIGURE 6-4. EXISTING TRANSIT



EXISTING BUS LINE
EXISTING BUS STOP

PROPOSED SOUTHWEST LRT LINE
PROPOSED MIDTOWN STREETCAR LINE
EXISTING RAIL LINE
10-MINUTE WALKSHED
1/2 MILE STATION RADIUS

Transit

The West Lake station is currently served by several major bus routes on Excelsior Boulevard and Lake Street. Bus stops are located along West Lake Street and Excelsior Boulevard, near the proposed LRT station, providing good access to LRT.

Current bus routes in the area include:

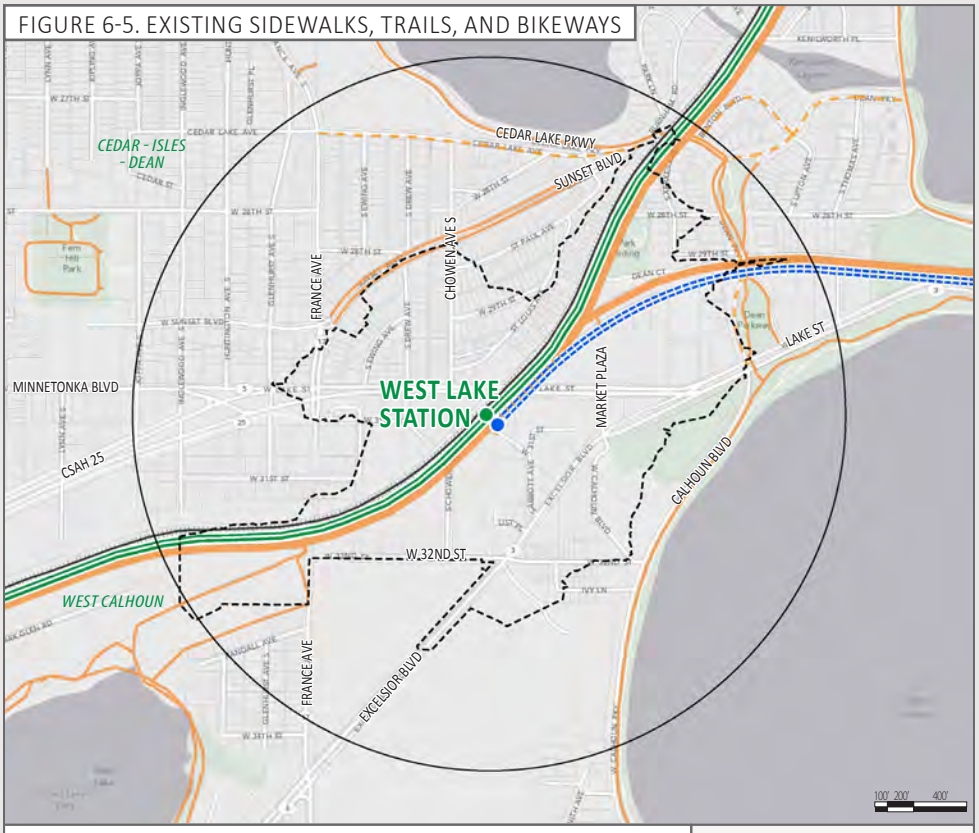
- Route 17 (West Lake Street)
- Route 12 (Excelsior Boulevard)
- Route 114 (Excelsior Boulevard- limited)
- Route 25 (France Avenue north to Kenwood)

Sidewalks, Trails and Bikeways

Current sidewalk connections in the West Lake station area are poor, with many gaps in the system. Several streets near the station do not have sidewalks, including Abbott Ave and Chowen Ave, the streets closest to the station platform. Auto-oriented retail uses and large block sizes in the area also contribute to a poor pedestrian and bicycle environment. Existing pedestrian and bike connections from the station to Lake Calhoun (a major destination in the area) are challenging. The routes are confusing and the roadways lack sidewalk and bikeway facilities. Other challenges for bikes and pedestrians include the grade separation between the station platform and West Lake Street. Some form of vertical circulation strategy/ facility will be necessary to overcome this access problem.

Regional trail connections in the area are good. The Midtown Greenway and Kenilworth Trail merge near the station providing excellent bicycle and pedestrian connections from other parts of the regional trails system to the station.

FIGURE 6-5. EXISTING SIDEWALKS, TRAILS, AND BIKEWAYS



EXISTING REGIONAL TRAILS
EXISTING LOCAL TRAILS (BIKE ROUTES)
PLANNED TRAILS
EXISTING SIDEWALKS

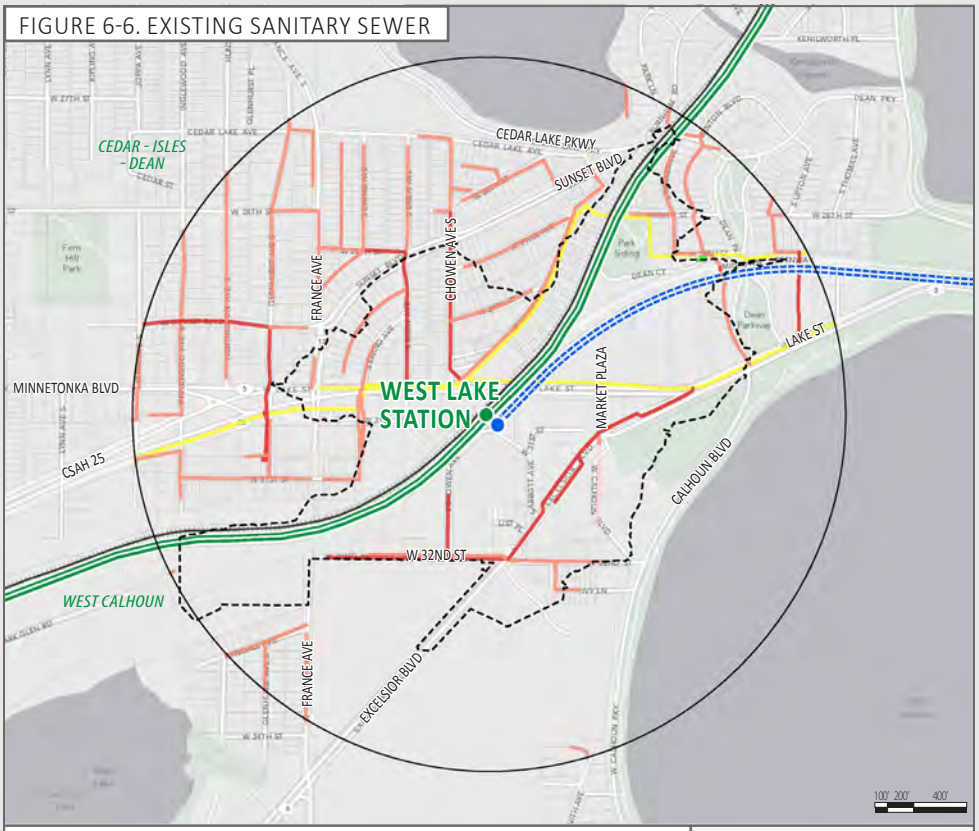
PROPOSED SOUTHWEST LRT LINE
PROPOSED MIDTOWN STREETCAR LINE
EXISTING RAIL LINE
10-MINUTE WALKSHED
1/2 MILE STATION RADIUS

Sanitary Sewer

Sanitary sewer infrastructure consists of a collection of gravity flow sewer mains, lift stations, and pressurized forcemains that transport sewage to a wastewater treatment plant (WWTP). An efficient collection system has the capacity to accommodate all of the existing land uses within its particular sewershed. Beyond capacity, the material and age of pipes within a system can also impact a system's effectiveness.

Sanitary sewer infrastructure within the project area is typically maintained by either the City of Minneapolis or the Metropolitan Council Environmental Services (MCES) Division. MCES maintains a series of interceptor trunk sewers which collect sewage at key locations and convey sewage across community boundaries to regional WWTPs. Wastewater from the station area is treated by the MCES Metro WWTP located in St. Paul.

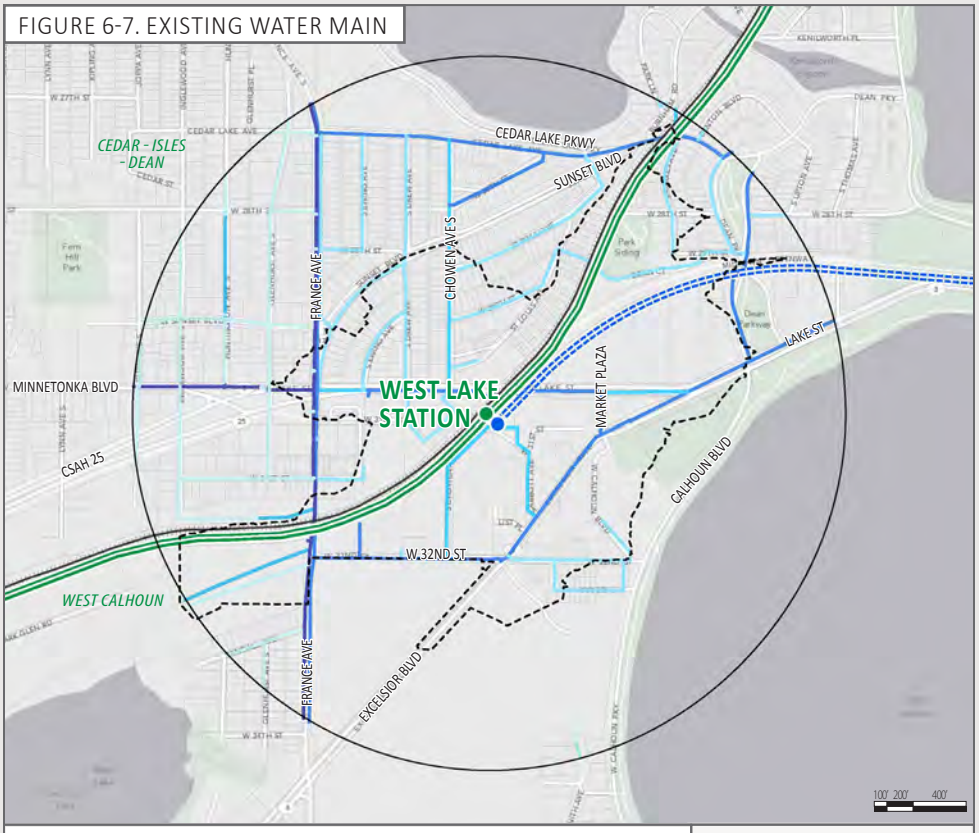
FIGURE 6-6. EXISTING SANITARY SEWER



SERVICE - 6 INCH OR LESS
LOCAL - 8-10 INCH
TRUNK - 10 INCH OR GREATER
FORCE MAIN
LIFT STATION
INTERCEPTOR

PROPOSED SOUTHWEST LRT LINE
PROPOSED MIDTOWN STREETCAR LINE
EXISTING RAIL LINE
10-MINUTE WALKSHED
1/2 MILE STATION RADIUS

FIGURE 6-7. EXISTING WATER MAIN



SERVICE - 6 INCHES OR LESS
LOCAL - 8-10 INCH DIAMETER
TRUNK - 12+ INCH DIAMETER
WATER TOWER

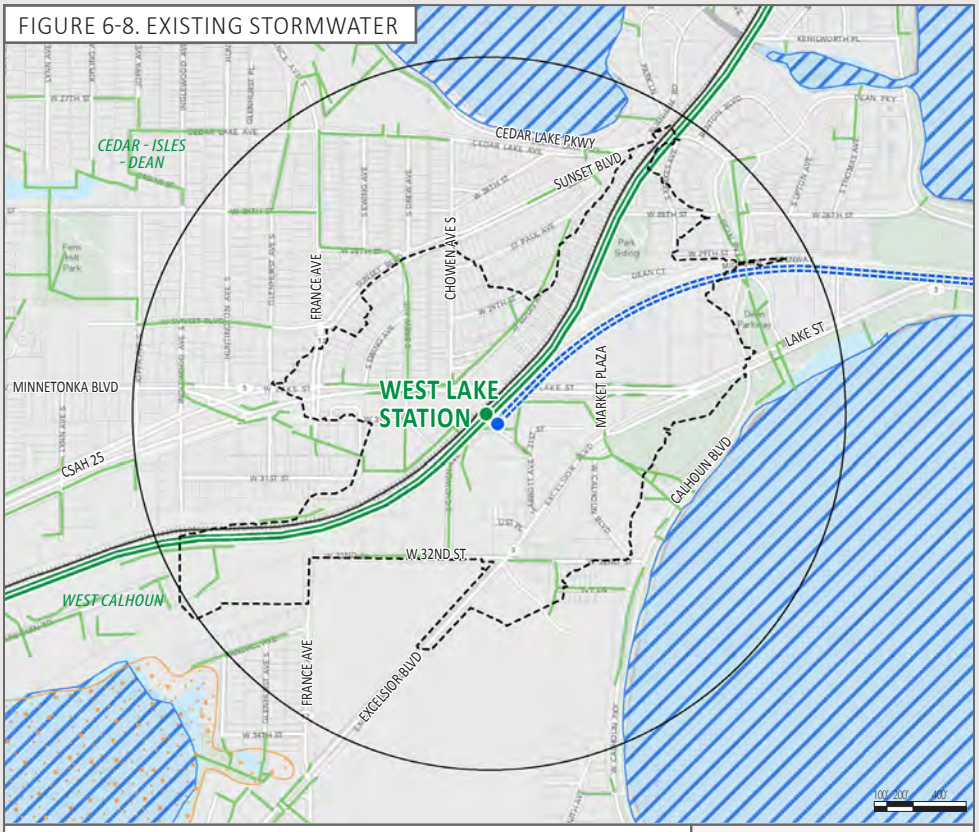
PROPOSED SOUTHWEST LRT LINE
PROPOSED MIDTOWN STREETCAR LINE
EXISTING RAIL LINE
10-MINUTE WALKSHED
1/2 MILE STATION RADIUS

Water Main

Water main distribution systems serve to supply potable water to individual properties and to support fire suppression throughout the community. A well-designed system can maintain adequate pressure to support demand of individual properties and provide high flow rates to fire hydrants/fire suppression systems in emergency situations. Because of the complexity of water distribution networks and the importance of pressure, flow, and water quality, City water system models are used to evaluate a system's adequacy. The material and age of the system's water mains can also be factors in system breaks, leaks, and pressure and flow degradations.

Water pressure and flow rates can be influenced by: the size of water main serving an area, proximity and elevation relative to a water tower, proximity to a trunk water main with high flow capacity, if the water main creates a loop, the demand of adjacent land uses, and the condition of the water main.

FIGURE 6-8. EXISTING STORMWATER



IMPAIRED WATERS
100-YEAR FLOOD ZONE
STORM MAIN
IMPAIRED STREAMS
WETLANDS

PROPOSED SOUTHWEST LRT LINE
PROPOSED MIDTOWN STREETCAR LINE
EXISTING RAIL LINE
10-MINUTE WALKSHED
1/2 MILE STATION RADIUS

Stormwater

West Lake station is located within Minnehaha Creek Watershed District. (MCWD) Drainage from the 10-minute walk zone drains to Lake Calhoun or Cedar Lake, both of which are impaired by PFOS (Fluorinated chemical used in coatings) and mercury.

Discharging within one mile of impaired water may trigger additional MN Pollution Control Agency NPDES (National Pollution Discharge Elimination System) requirements for additional stormwater management. For impaired waters where a TMDL (Total Maximum Daily Load) has been approved these requirements may increase further.

Any development/redevelopment that occurs as a result of constructing this station is anticipated to improve the existing drainage conditions as a result of enforcing the City and the watershed requirements.

Where Are We Going?

The plans and diagrams on the following pages illustrate a range of recommendations for infrastructure improvements, station amenities, and potential redevelopment opportunities within the station area.

The ACCESS AND CIRCULATION PLAN shown in Figure 6-9 provides a high level view of how future transit, automobile, bike, and pedestrian systems will connect to the station area and its surroundings.

Figure 6-10 illustrates the STATION AREA IMPROVEMENTS that will facilitate access to and from the station and catalyze redevelopment in the station area. This includes opening day and long-term station area improvements

Figure 6-11 focuses on OPENING DAY STATION AREA IMPROVEMENTS only. These recommendations represent the improvements necessary to enhance the efficient function of the transit station, roadways, pedestrian and bicycle connections, and transit connections on opening day in 2018.

Station Area Improvements

The discussion below outlines a range of future station area improvements. While some of the identified improvements may be constructed as part of the LRT project itself, other improvements must be funded, designed and constructed by other entities and will require coordination between the City, County, and Metro Transit as well as local stakeholder and community groups.

ROADWAYS

Opening Day Improvements:

» Realign Abbott Avenue south of the station platform to create a larger potential redevelopment site just east of the station platform.

» Realign Abbott Avenue east of the station platform to create a more direct connection to the LRT station and a perpendicular connection to Excelsior Boulevard.

» Add a new traffic signal at Excelsior Boulevard/Abbott Avenue intersection.

Long-Term Improvements:

» Extend Market Plaza south to connect directly and perpendicularly to a realigned West Calhoun Parkway (per Minneapolis Park and Recreation Board plans).

PEDESTRIAN CONNECTIONS

Opening Day Improvements:

» Focus sidewalk and streetscape enhancements along Lake Street, Excelsior Boulevard, Abbott Avenue, Chowen Avenue, and 32nd Street near the station platform.

» Improve pedestrian facilities along Lake Street and provide vertical access (elevator and ramps) from the Lake Street Bridge down to the LRT station platform area.

» Improve pedestrian crossings of Lake Street and Excelsior Boulevard to enhance connections to the station.

» Improve pedestrian connections to the Cedar Lake LRT Regional Trail near the station area.

Long-Term Improvements:

» Improve connections to Lake Calhoun (integrate with the MPRB plans).

BIKE CONNECTIONS

Opening Day Improvements:

» Provide bike parking, lockers, bike sharing, and pump stations in a highly visible area near the station platform.

» Provide bike connections to the Cedar Lake LRT Regional Trail and Midtown Greenway.

» Provide vertical circulation for bikes at the Lake Street Bridge.

Long-Term Improvements:

» Improve bike connections to Lake Calhoun.

» Provide on-street bike facilities (lanes, routes, signage, etc.) on local streets to better connect the LRT station to nearby neighborhoods, businesses, amenities, and destinations.

» Promote bike sales/service/rental businesses near the station platform.

TRANSIT CONNECTIONS

Opening Day Improvements:

» Provide bus dropoff (on-street layby facility) on Abbott Avenue near the LRT station platform.

» Provide vertical circulation at the Lake Street Bridge to enable station access to/from bus stops on the Bridge.

» Improve bus stops/shelters and signage on the Lake Street Bridge and Excelsior Blvd.

Enhanced bike and pedestrian connections

Public plaza example

» Provide bus stops on Lake Street located as near to the station elevators as possible. Existing grades on the bridge pose challenges regarding views and accessibility of potential bus stops. These challenges must be studied and resolved with greater design focus.

Long-Term Improvements:

» Provide safe and convenient connections to the proposed Midtown Streetcar Line station platform.

KISS AND RIDE

Opening Day Improvements:

» Provide space for kiss and ride activities near the station platform along Abbott Ave.

STATION AMENITIES *(Beyond SW LRT Base Project Scope)*

Opening Day Improvements:

» Roadways- realign Abbott Ave and reconstruct with pedestrian and bike facilities, bus stop facilities, kiss and ride facilities, and street trees. Install intersection improvements along Excelsior Blvd and West Lake Street.

» Wayfinding- define and install a cohesive and contextual wayfinding system at the LRT station platform, major gateways (Excelsior Blvd/32nd St, West Lake Street, Cedar Lake LRT Regional Trail, Midtown Greenway), and major destinations (commercial developments, Lake Calhoun).

» Seating – provide comfortable and durable seating near the station platform.

» Lighting – provide adequate lighting for the safety of pedestrians, bicyclists, and motorists near the station platform and along Abbott Avenue, Chowen Avenue, Excelsior Boulevard, and Lake Street.

» Pedestrian facilities- provide pedestrian/bike connections from West Lake Street down to the station platform area, including vertical circulation and at-grade access points. Improve pedestrian crossings along Excelsior Boulevard and Lake Street – including special pavement/markings and countdown traffic signals.

» Bike Facilities- add bike crossing enhancements at Excelsior Boulevard and West Lake Street intersections. Provide bike parking, lockers, pumping station, and bike sharing facilities near the station platform.

» Plaza- create a plaza between the station platform and realigned Abbott Ave.

» Public Art- incorporate public art in the station area to create an attractive and identifiable place.

POTENTIAL DEVELOPMENT

Opening Day Improvements:

» The Hennepin County property, adjacent to and east of the proposed station platform, is a potential opening day development site. Development should front Abbott Ave and the station platform, allowing for some public space on the station platform side of the building. Access to this parcel should be off of Abbott Ave.

Long-Term Improvements:

» See the “Development Potential” discussion on page 6-16 for more on long-term development opportunities.

UTILITIES

» See the “Station Area Utility Plan” beginning on page 6-18 for all utility recommendations.

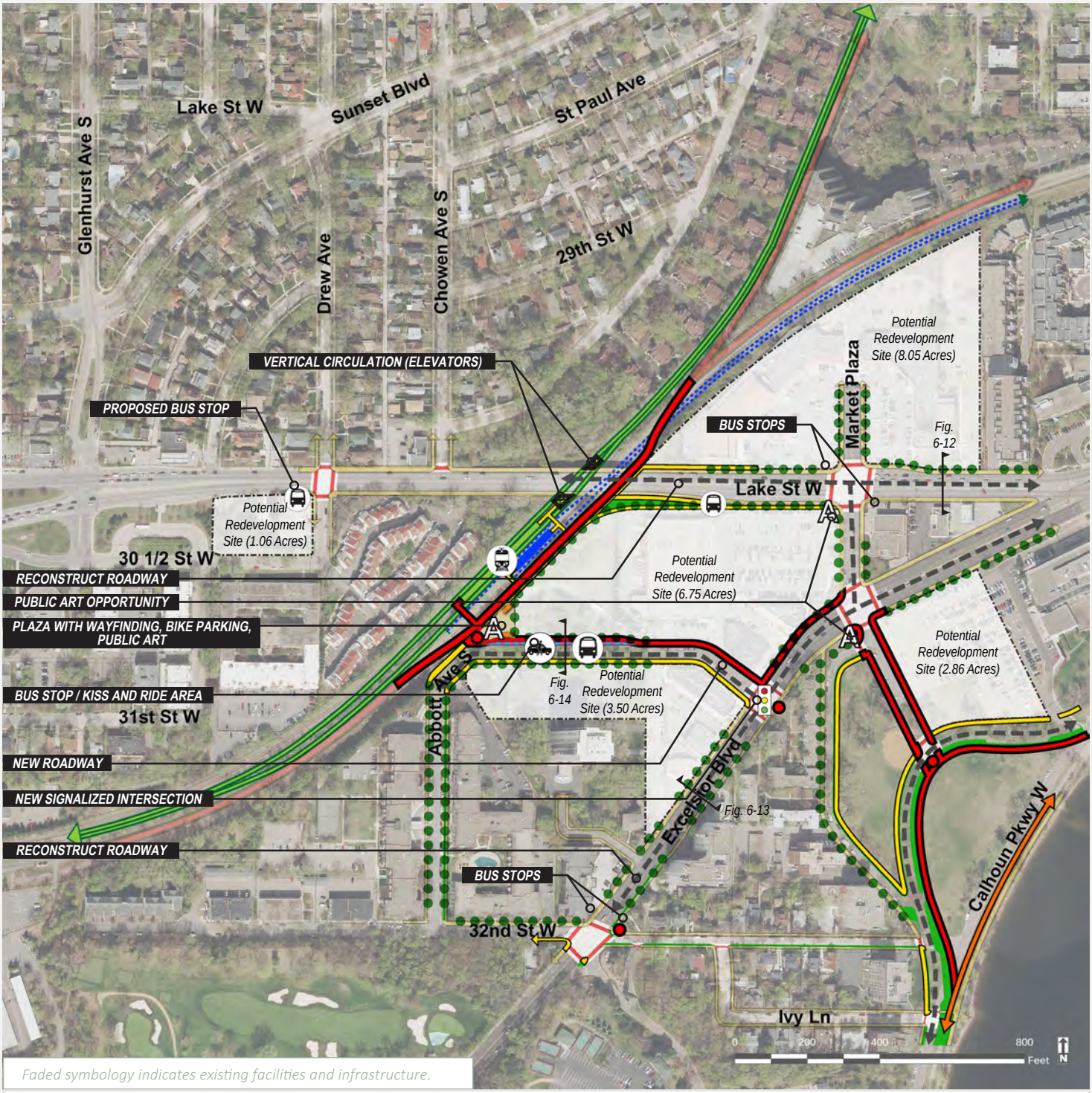
FIGURE 6-9. ACCESS + CIRCULATION PLAN

This illustration includes both existing and proposed facilities to show the full network of future bike, pedestrian, automobile, and transit connections.

- LRT PLATFORM
- LRT LINE
- BUS STOP
- PARK AND RIDE
- FREIGHT LINE
- NEW ROADWAY
- KISS AND RIDE
- EXISTING WALKSHED
- EXISTING PEDESTRIAN CONNECTION
- EXISTING BIKE CONNECTION
- EXISTING MULTI USE CONNECTION
- FUTURE WALKSHED (WITH TSAAP IMPROVEMENTS)
- PROPOSED(DASHED) PEDESTRIAN CONNECTION
- PROPOSED(DASHED) BIKE CONNECTION
- PROPOSED(DASHED) MULTI USE CONNECTION

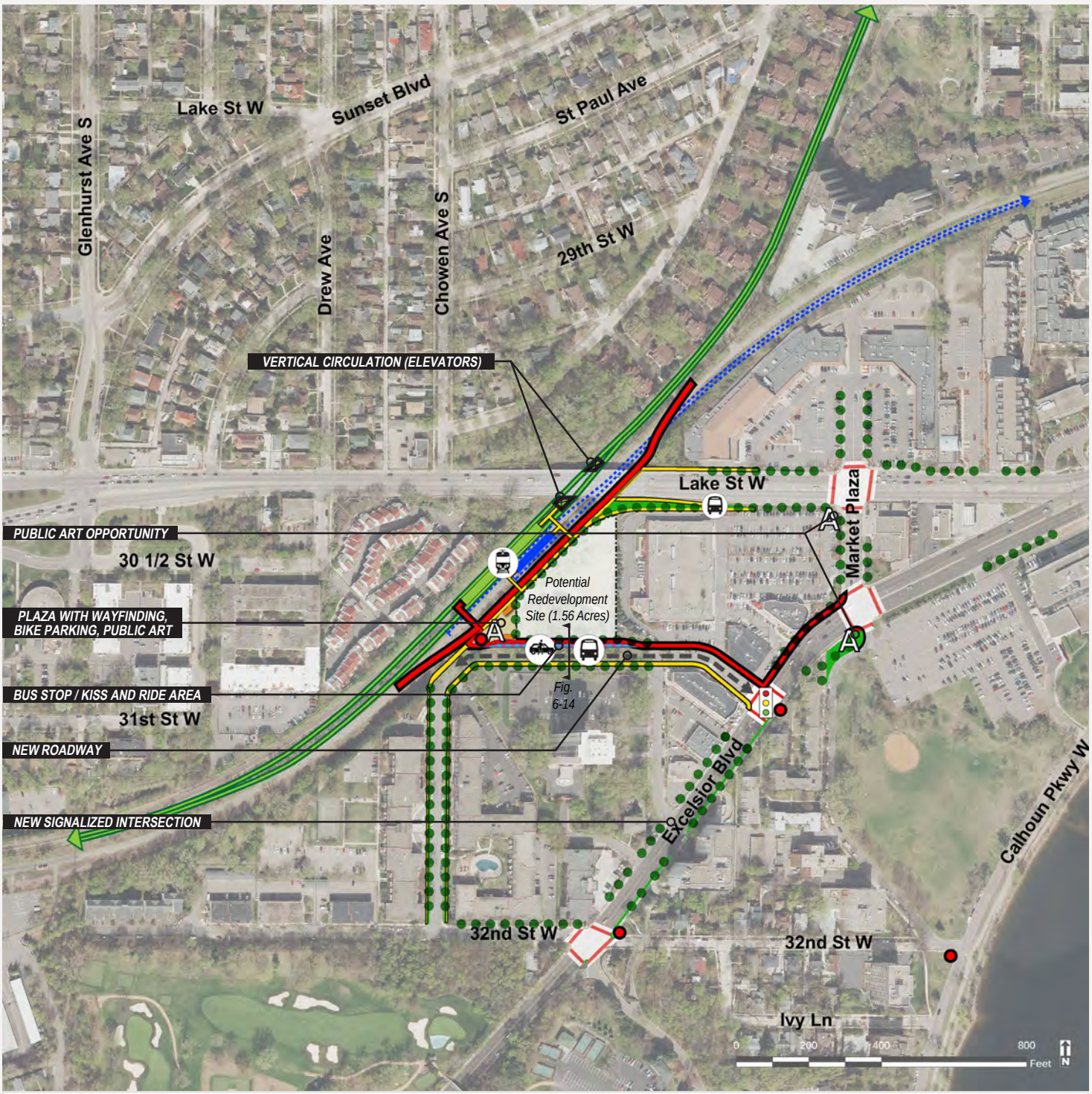
NOTE: Existing walkshed approximates the area accessible within a 10-minute walk from the station platform using only the existing sidewalk/trail network. Future walkshed incorporates all proposed improvements to the sidewalk/trail network. Walksheds are based on GIS modeling and available sidewalk/trail information- and may not reflect exact on-the-ground conditions. See Glossary for detailed explanation of walkshed assumptions and methodology.

FIGURE 6-10. STATION AREA IMPROVEMENTS



LRT PLATFORM
FREIGHT LINE
BUS STOP
BUS SHELTER
NEW SIDEWALK / SIDEWALK IMPROVEMENT
ON STREET BIKE INFRASTRUCTURE
MULTI-USE PATH
NEW CROSSING / CROSSING IMPROVEMENT
NEW ROADWAY
STREETSCAPE
PARK AND RIDE
KISS AND RIDE
NEW SIGNALIZED INTERSECTION
BIKE PARKING
WAYFINDING
PUBLIC ART OPPORTUNITY
POTENTIAL DEVELOPMENT SITE
PLAZA SPACE / BUILDING SETBACK AREA

FIGURE 6-11. OPENING DAY STATION AREA IMPROVEMENTS



LRT PLATFORM
FREIGHT LINE
BUS STOP
BUS SHELTER
NEW SIDEWALK / SIDEWALK IMPROVEMENT
ON STREET BIKE INFRASTRUCTURE
MULTI-USE PATH
NEW CROSSING / CROSSING IMPROVEMENT
NEW ROADWAY
STREETSCAPE
PARK AND RIDE
KISS AND RIDE
NEW SIGNALIZED INTERSECTION
BIKE PARKING
WAYFINDING
PUBLIC ART OPPORTUNITY
POTENTIAL DEVELOPMENT SITE
PLAZA SPACE / BUILDING SETBACK AREA

Conceptual Street Sections

The street cross section illustrated below is conceptual and represents a potential future streetscape condition, addressing facilities for a variety of transportation modes, streetscape amenities, and the relationship between buildings and the street edge. Further design and engineering work will be required to ensure the streetscape is in compliance with City and/or County design standards and needs.

WEST LAKE STREET

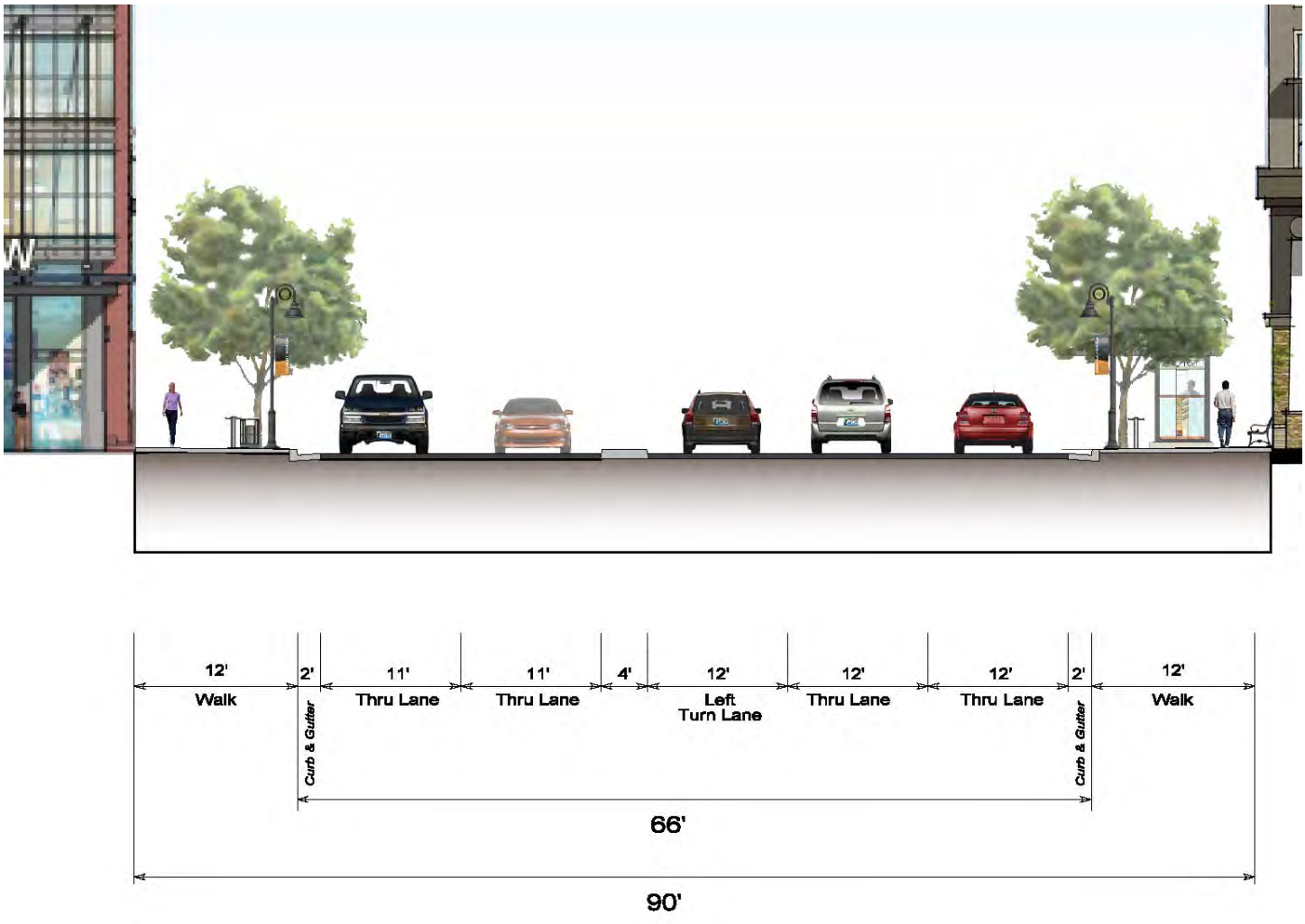
Dimensional Criteria

- » 90 feet — Right-of-Way Width
- » 66 feet — Pavement Width (2-way)
- » 4'-0" — Median Width
- » 20'-30' o/c — Street Tree Spacing
- » 12'-0" — Sidewalk Width

Design Features

- » Sidewalks
- » Street Trees/Tree grates
- » Streetscape Furnishings (seating, planters, trash receptacles, bicycle racks)
- » Signage/Wayfinding
- » Transit Facilities (bus stops/layovers, shelters, seating, signage, lighting)
- » Street and Pedestrian Lighting
- » Public Art
- » Pedestrian-Friendly Crossings (markings, special paving, countdown traffic signals, ADA features)

FIGURE 6-12. CONCEPTUAL STREET SECTION - WEST LAKE STREET



Conceptual Street Sections (Continued)

The street cross section illustrated below is conceptual and represents a potential future streetscape condition, addressing facilities for a variety of transportation modes, streetscape amenities, and the relationship between buildings and the street edge. Further design and engineering work will be required to ensure the streetscape is in compliance with City and/or County design standards and needs.

EXCELSIOR BOULEVARD

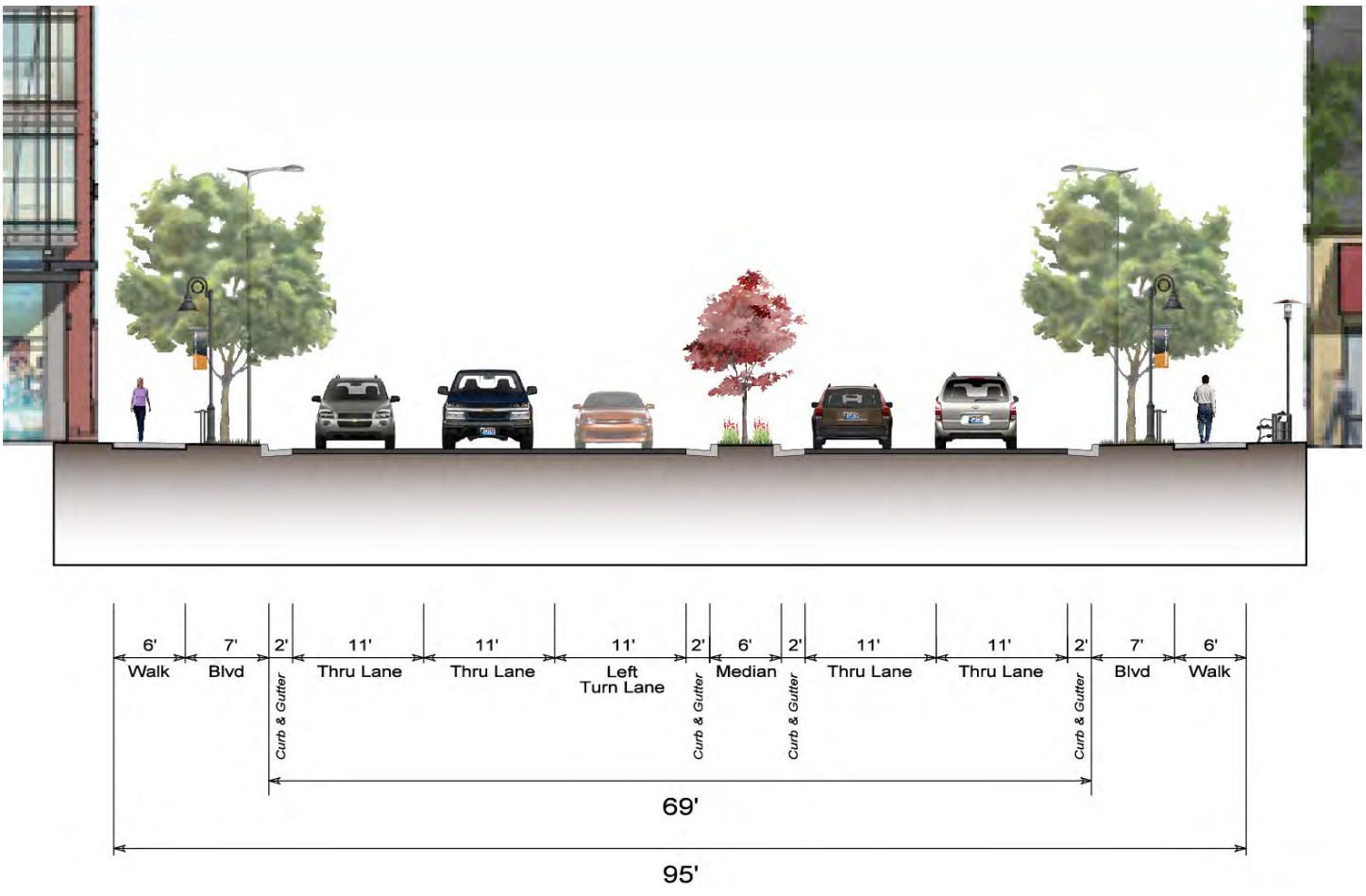
Dimensional Criteria:

- » 95 feet — Right-of-Way Width
- » 69 feet — Pavement Width (2-way)
- » 20'-30' o/c — Street Tree Spacing
- » 6'-0" — Sidewalk Width

Design Features:

- » Sidewalk (west side of street)
- » Trail (east side of street)
- » Bicycle Lanes (6'-0")
- » Street Trees/Plantings/Raingardens
- » Streetscape Furnishings (seating, planters, trash receptacles, bicycle racks)
- » Signage/Wayfinding
- » Transit Facilities (bus stops/layovers, shelters, seating, signage, lighting)
- » Street and Pedestrian Lighting
- » Public Art
- » Pedestrian-Friendly Crossings (markings, countdown traffic signals, ADA features

FIGURE 6-13. CONCEPTUAL STREET SECTION - EXCELSIOR BOULEVARD



Conceptual Street Sections (Continued)

The street cross section illustrated below is conceptual and represents a potential future streetscape condition, addressing facilities for a variety of transportation modes, streetscape amenities, and the relationship between buildings and the street edge. Further design and engineering work will be required to ensure the streetscape is in compliance with City and/or County design standards and needs.

ABBOTT AVENUE

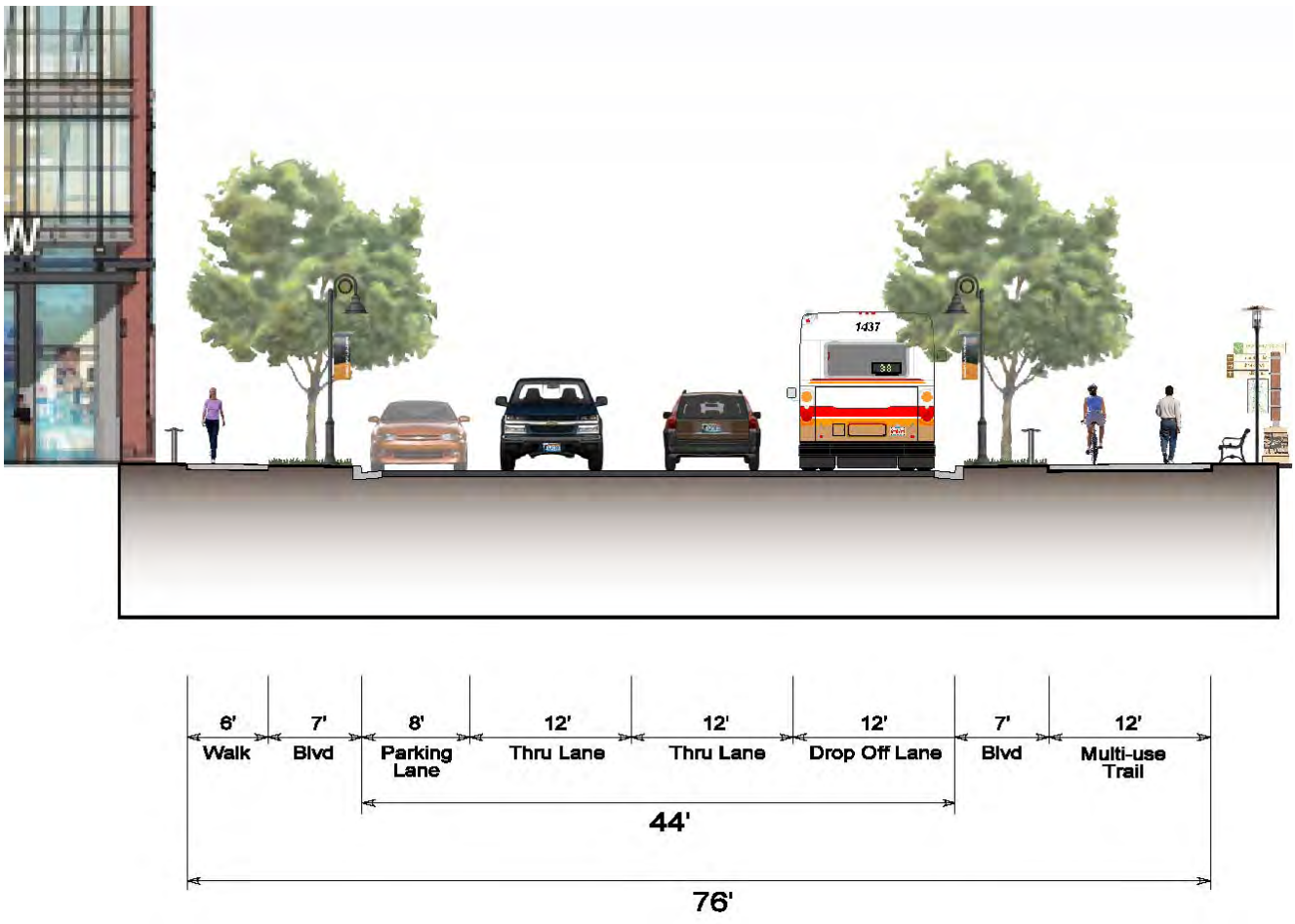
Dimensional Criteria:

- » 76 feet — Right-of-Way Width
- » 44 feet — Pavement Width (2-way)
- » 20'-30' o/c — Street Tree Spacing
- » 6'-0" — Sidewalk Width
- » 12'-0" — Multi-Use Trail Width

Design Features:

- » Sidewalk (one side of street)
- » Multi-Use Trail (one side of street)
- » On-Street Parking (one side of street)
- » Bus Dropoff Lane (one side of street)
- » Intersection Bumpouts
- » Street Trees/Plantings/Raingardens
- » Streetscape Furnishings (seating, trash receptacles, bicycle racks)
- » Signage/Wayfinding
- » Street and Pedestrian Lighting
- » Pedestrian-Friendly Crossings (markings, countdown traffic signal @ Excelsior Blvd, ADA features)

FIGURE 6-14. CONCEPTUAL STREET SECTION - ABBOTT AVENUE



Opening Day Improvements

The following tables and diagrams outline the proposed improvements to be implemented in advance of SW LRT's opening day in 2018. Table 6-1 and Figure 6-12 show opening day improvements that are part of the SW LRT anticipated base project scope; these improvements will be part of the overall project cost for construction of the LRT line. Table 6-2 and Figure 6-12 include opening day improvements that are recommended as part of the Southwest Corridor Investment Framework and are beyond the SW LRT anticipated base project scope. Table 6-3 (also shown in Figure 6-13) includes locally requested "betterments"- or improvements that cities have requested to be included in the base project scope pending funding availability.

TABLE 6-1. SOUTHWEST LRT ANTICIPATED BASE PROJECT SCOPE - OPENING DAY STATION AREA IMPROVEMENTS

PLAN KEY	IMPROVEMENT	PROJECT LOCATION	PROJECT NOTES
A	LRT Platform	Abbott Ave/Chowen Ave, behind Whole Foods store	Includes related LRT infrastructure
B	Kiss and Ride	Abbott Ave/Chowen Ave, behind Whole Foods store	Kiss and ride area on Abbot Ave/Chowne Ave (on-street)
C	Bus Facilities	West Lake Street (east of bridge)	Bus stops, east and west bound (accommodate 2 bus routes)
D	Bus Facilities	Abbott Ave/Chowen Ave, behind Whole Foods store	Bus stop/layover on Abbott/Chowen Ave (accommodate 3 bus routes on street)
E	Sidewalk/Trail	West Lake Street Bridge	Vertical circulation from Lake Street Bridge to station platform (includes elevator and stairs on both sides of bridge)
F	Sidewalk/Trail	West Lake Street Bridge	New access ramps from east side of Lake Street Bridge to station level on both sides of bridge
G	Sidewalk/Trail	Regional trail	Reconstruction of regional trail
H	Bike Facilities	Near station platform	Allowance for bike storage
I	Wayfinding	Near station platform	Allowance
J	Landscaping	Near station platform	Allowance
K	Water*	Near station platform	New water service and fire hydrant to station
L	Utilities*	Project limit area	Adjustment of existing utilities
M	Sanitary sewer*	Near station platform	New sanitary sewer to station
N	Stormwater management*	Near station platform	Allowance

Note: Anticipated Southwest LRT Base Project Scope as of December 2013 (subject to change)

** Improvement not symbolized on opening day figures (exact location to be determined as part of the base project scope)*

TABLE 6-2. SOUTHWEST CORRIDOR INVESTMENT FRAMEWORK (TSAAP) - OPENING DAY STATION AREA IMPROVEMENTS

PLAN KEY	IMPROVEMENT	PROJECT LOCATION	PROJECT NOTES	PRIORITY
1	Streetscape	Abbott Ave/Chowen Ave	Includes sidewalk, multi-use trail, streetscape plantings, furnishings, lighting and signage	Primary
2	Streetscape	West Lake Street, Lake Street Bridge to W. Lake Street and Excelsior Blvd intersection	Includes streetscape plantings, furnishings, lighting and signage	Primary
3	Streetscape	Excelsior Blvd, 32nd Street W. to West Lake Street and Excelsior Blvd intersection	Includes streetscape plantings, furnishings, lighting and signage	Secondary
4	Streetscape	Market Plaza	Includes streetscape plantings, furnishings, lighting and signage	Primary
5	Streetscape	32nd Street W., Chowen Ave to Excelsior Blvd	Includes streetscape plantings, furnishings, lighting and signage	Secondary
6	Sidewalk/Trail	Parallet to Lake Street (south side)	From station to Whole Foods parking lot where it can connect to sidewalk on Lake Street	Secondary
7	Intersection Enhancements	Along Excelsior Blvd and W. Lake Street	Enhanced crosswalks and traffic signal at Abbott Ave and Excelsior Blvd intersection	Primary
8	Bike Facilities	Near station platform	Bike parking, lockers, pump station and bike share facilities (beyond SPO improvements)	Primary
9	Wayfinding	Near station platform and connections to Lake Calhoun	Signage and wayfinding (beyond SPO improvements)	Primary
10	Public Art	Near station platform	Public art (beyond SPO improvements)	Secondary
11	Public Plaza	Near station platform	Plaza includes paving, seating, plantings, lighting, and signage (beyond SPO improvements)	Primary

TABLE 6-3. SOUTHWEST LRT LOCALLY REQUESTED BETTERMENTS - OPENING DAY STATION AREA IMPROVEMENTS

PLAN KEY	IMPROVEMENT	PROJECT LOCATION	PROJECT NOTES
B1	Roadways	Abbott Ave/Chowen Ave, behind Whole Foods store	Realign and reconstruct Abbott Ave/Chowen Ave
	Utilities*	Abbott Ave/Chowen Ave	Extend watermain and sanitary sewer in conjunction with Abbott Ave/Chowen Ave reconstruction

** Improvement not symbolized on opening day figures*

TABLE 6-4. SOUTHWEST LRT ANTICIPATED BASE PROJECT SCOPE - OPENING DAY STATION AREA IMPROVEMENTS

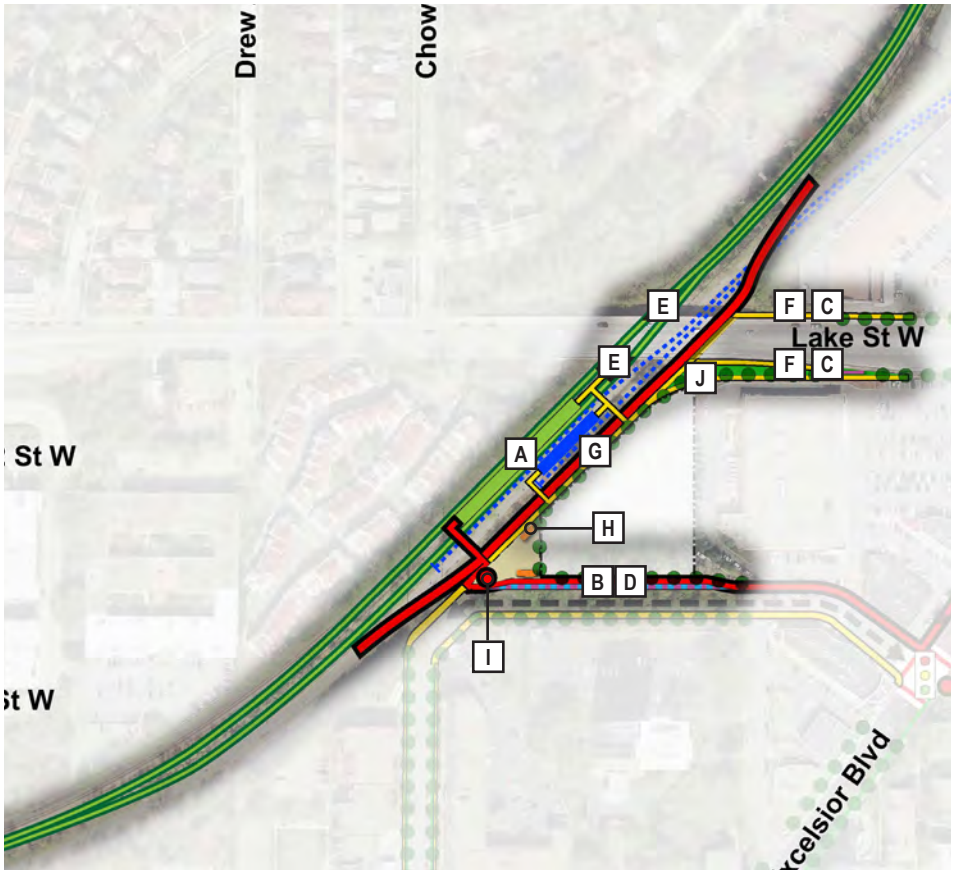
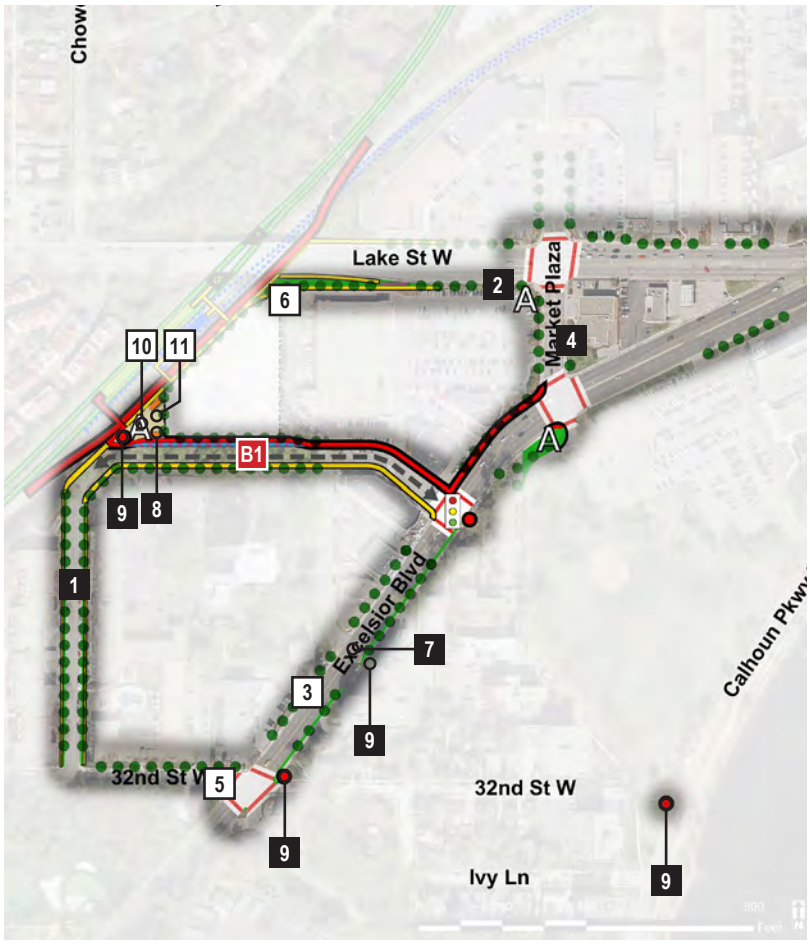


FIGURE 6-15. SOUTHWEST CORRIDOR INVESTMENT FRAMEWORK (TSAAP) - OPENING DAY IMPROVEMENTS + BETTERMENTS



PRIMARY PRIORITY # SECONDARY PRIORITY B LOCALLY REQUESTED BETTERMENT

Development Potential

OVERVIEW

The West Lake Station area has strong redevelopment potential due to its favorable demographics, sense of place, and nearby amenities like the Midtown Greenway, Kenilworth Trail, Lake Calhoun, and Lake of the Isles. It has a high population base within the walkshed and high household incomes, both factors that favor development interest.

The success of the West Lake station area poses redevelopment challenges. Rental rates in the area are high, and finding underutilized properties that are valued low enough to make redevelopment financially feasible suggests that development potential will occur in a mid- to long-term period. Where land can be found, development potential could occur in the short-term. The Hennepin County-owned site near the station presents such an opportunity.

Traffic congestion in the station area is a reality that should be taken into account when designing site plans for future redevelopment.

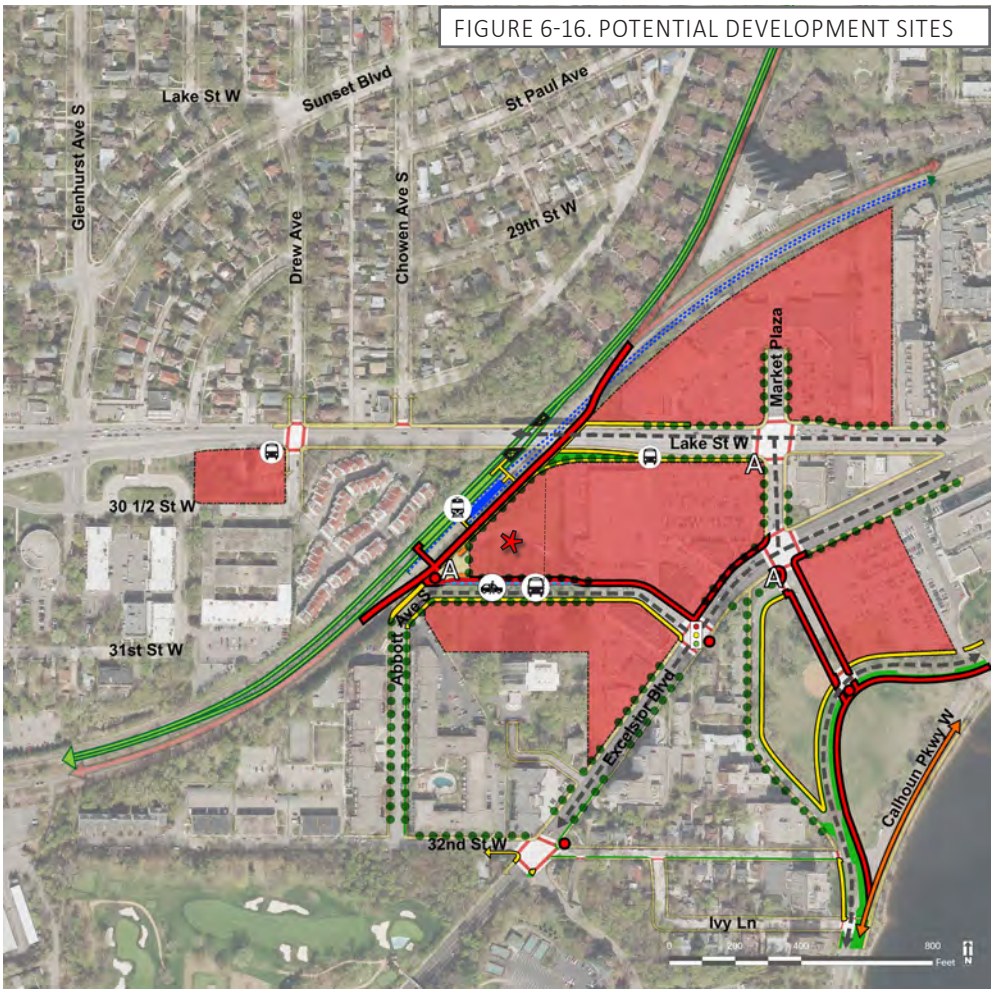
LAND USES

The Midtown Greenway Land Use and Development Plan calls for transit-oriented development in the West Lake station area. Future land uses in the station area should consist of transit-supportive land uses, including high-density residential, office, and retail uses. While the area should remain a major retail center, as it redevelops, it should be built with principles of traditional urban form with more intense and mixed land uses.

PLANNING STRATEGIES

Several strategies should be addressed to facilitate future development in the station area. Existing roadway networks, grade separation, and limited sidewalks create challenges to accessing the station. Redevelopment should seek opportunities to introduce a finer grain of streets and block sizes to enhance station mobility and set up a framework for more compact, transit-oriented development. Re-routing Abbott Avenue to Excelsior Blvd. and streetscape improvements along roadways connecting the station area with potential development sites, local destinations, neighborhoods and bus transit facilities will enhance development potential in the area. Resolving vertical circulation issues on the Lake Street Bridge may also have an influence on development interest in the area.

FIGURE 6-16. POTENTIAL DEVELOPMENT SITES



Key Considerations for Change and Development Over Time

Development should introduce a more walkable network of streets and blocks that can enhance access and visibility to the station platforms and provide a framework for new higher density uses that can increase activity around the station. Key considerations should include:

BUILT FORM AND LAND USE

» Redevelop retail shopping sites and vacant lands with a mix of high-density residential or commercial with retail uses at street level.

» Design new buildings to enhance pedestrian access by orienting them towards the street and locating them as close to the street line as possible.

» Incorporate active ground level uses on buildings adjacent to the station and facing onto Excelsior Boulevard, Abbott Avenue, Market Plaza, and West Lake Street.

» Provide additional building setbacks and incorporate weather protection such as awnings along buildings that front West Lake Street to provide a more generous connection between Lake Street bus stops and the station.

» Situate new development to preserve space for the realignment of Abbott Avenue so that it can provide a more direct connection from Excelsior Boulevard and accommodate development on both sides of the street.

PUBLIC REALM

» Introduce a public plaza to the east side of the station platform where it can enhance station visibility from West Lake Street and Abbott Avenue, act as a receiving point for passengers walking to the station or transferring to the LRT by bus or bike, and provide room for spill-out space for active uses facing the station.

» Initiate public realm improvements along Abbott Avenue including the introduction of sidewalks and pedestrian-oriented lighting to enhance access to the station for people walking from Excelsior Boulevard.

» Initiate intersection improvements along West Lake Street at Drew Avenue and Market Plaza to improve safety for pedestrians walking between the station and neighborhoods to the north.

MOBILITY

» Use redevelopment of adjacent plaza sites to introduce a new street and block pattern that can help to enhance pedestrian access and improve the relationship of new development to the station.

» Minimize the impact of parking and circulation on pedestrians by locating parking below grade or to the rear of new buildings in structures, and consolidating access and service drives.

» Accommodate retail and short-term parking on-street or in shared parking facilities to minimize the construction of single-use parking areas.

» Manage on-street parking with metering, parking permits, and signage.

» Support pedestrians through the introduction of sidewalks on all streets within the station area, new pedestrian crossings, and curb cuts for people in wheel chairs or other mobility devices. Sidewalks should be set back from the curb to allow room for snow storage.

» Furnish the pedestrian plaza with a higher level of cycling amenities including repair stands, bicycle pump, and wayfinding to support cyclists transferring to and from the adjacent trail network.

» Limit vehicular access points along Excelsior Boulevard and West Lake Street.

» Introduce elevators on the West Lake Street bridge to connect pedestrians down to the station platform.

High-density development overlooking the LRT line

Mixed-use development

Vertical circulation connects pedestrians to the station from bridge

Station Area Utility Plan

OVERVIEW + APPROACH

The station area utility plan and strategies recommended below were developed by considering impacts on existing utilities by the construction of the LRT line, and potential future transit-oriented development within the station area, as depicted by the Station Area Improvements Plan (Figure 6-10). Opening day improvements identified in this plan should be considered prior to 2018 due to their proximity to or impact from the proposed LRT line. More improvements may be necessary by 2018, but should be reviewed with any redevelopment in the area. The City of Minneapolis should continue to follow their standard review procedures as it relates to utilities within project areas.

For any publicly initiated projects in the ROW, the City should follow current utility review procedures. This may include identifying needs and opportunities that may be coordinated with proposed improvements to the roadway or other elements in City ROW.

For any privately initiated projects in the area, the City should follow current development/ redevelopment procedures which will likely require developers to show anticipated utility system demand. Developers will need to coordinate with the City to ensure utilities are sized and located properly prior to construction. The City of Minneapolis Community Planning and Economic Development website can be found here: http://www.ci.minneapolis.mn.us/cped/. This study recognizes that the ultimate station area development/redevelopment (in 2030) will be driven by market conditions.

GENERAL RECOMMENDATIONS - SANITARY SEWER & WATER MAIN

Utility recommendations for station area improvements include opportunities for Minneapolis to improve the existing sanitary sewer and water main networks without necessarily replacing existing sanitary sewer. As part of the City's standard practice, utilities will be reviewed in conjunction with proposed station area improvements within the ROW; Any necessary utility improvements will be determined at the time of said review. As redevelopment occurs, developers will be required to provide documentation to verify that existing utilities meet the needs of the proposed development. Developers will coordinate with the City prior to project approvals.

GENERAL RECOMMENDATIONS – STORM SEWER

Local storm sewer improvements are recommended to be completed in conjunction with other improvements in the station area. Improvements which may require storm sewer modifications include: roadway realignments, roadway extensions, and pedestrian sidewalk/street scape improvements. Storm sewer improvements may consist of: storm sewer construction, manhole reconstruction, drain tile extensions, storm sewer relocation, and complete replacement. These local storm sewer improvements are included as part of the overall cost of roadway and streetscape improvements recommended in this plan. Where roadway/streetscape improvements are part of the SW LRT anticipated base project scope, associated storm sewer improvements are assumed to be a project cost. Coordination with the local watershed district and other agencies may be needed to review the condition of and capacity of existing trunk storm sewer systems serving more regional surface water needs.

STORMWATER BEST MANAGEMENT PRACTICES

There are numerous stormwater best management practices (BMPs) that can be used to address stormwater quality and quantity. As part of this project, BMP guides were developed for four stations (Royalston, Blake, Shady Oak, and Mitchell) which exemplify the range of development intensity and character in the urbanized environment along the Southwest LRT Corridor. The recommendations and practices identified in each of the four BMP guides are applicable to various stations along the corridor.

Potential stormwater management strategies for this station area may be similar to those shown in the BMP guide for the Royalston station (see p. 2-26). Minneapolis should consider implementing applicable best management practices similar to those in the Royalston station BMP guide. Stormwater management recommendations should be constructed in conjunction with public and private improvements and future development/redevelopment in the station area.

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Station Area Utility Plan (Continued)

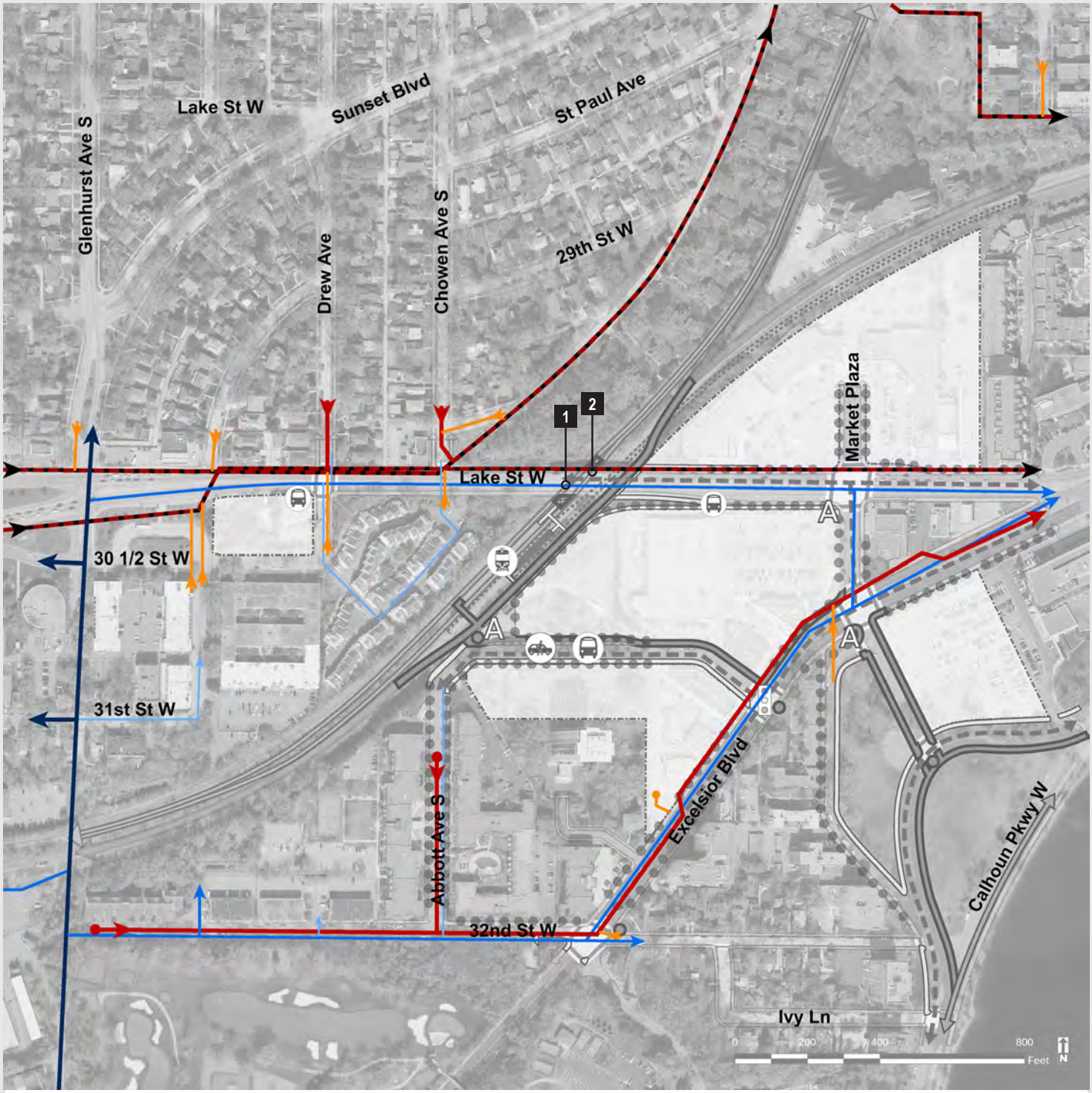
STATION AREA UTILITY RECOMMENDATIONS

Utility recommendations (illustrated in Figure 6-15) are based on a localized analysis of proposed development. It is recommended that the City of Minneapolis take this analysis a step further and review system constraints to the existing and future sanitary sewer and water main systems using existing sewer CAD or water CAD models, or other methods of modeling these systems.

Opening Day Recommendations:

1. Encase existing water main crossing LRT rail construction.
2. Encase existing MCES interceptor crossing LRT rail construction and coordinate to resolve any conflict with LRT rail construction and shallow tunnel.

FIGURE 6-17. STATION AREA UTILITY PLAN



OPENING DAY RECOMMENDATION

EXISTING UTILITIES

- SERVICE SANITARY
- LOCAL SANITARY
- TRUNK SANITARY
- MCES SANITARY INTERCEPTOR
- SANITARY SEWER FORCEMAIN
- LIFT STATION
- SERVICE WATER MAIN
- LOCAL WATER MAIN
- TRUNK WATER MAIN
- WATER TOWER

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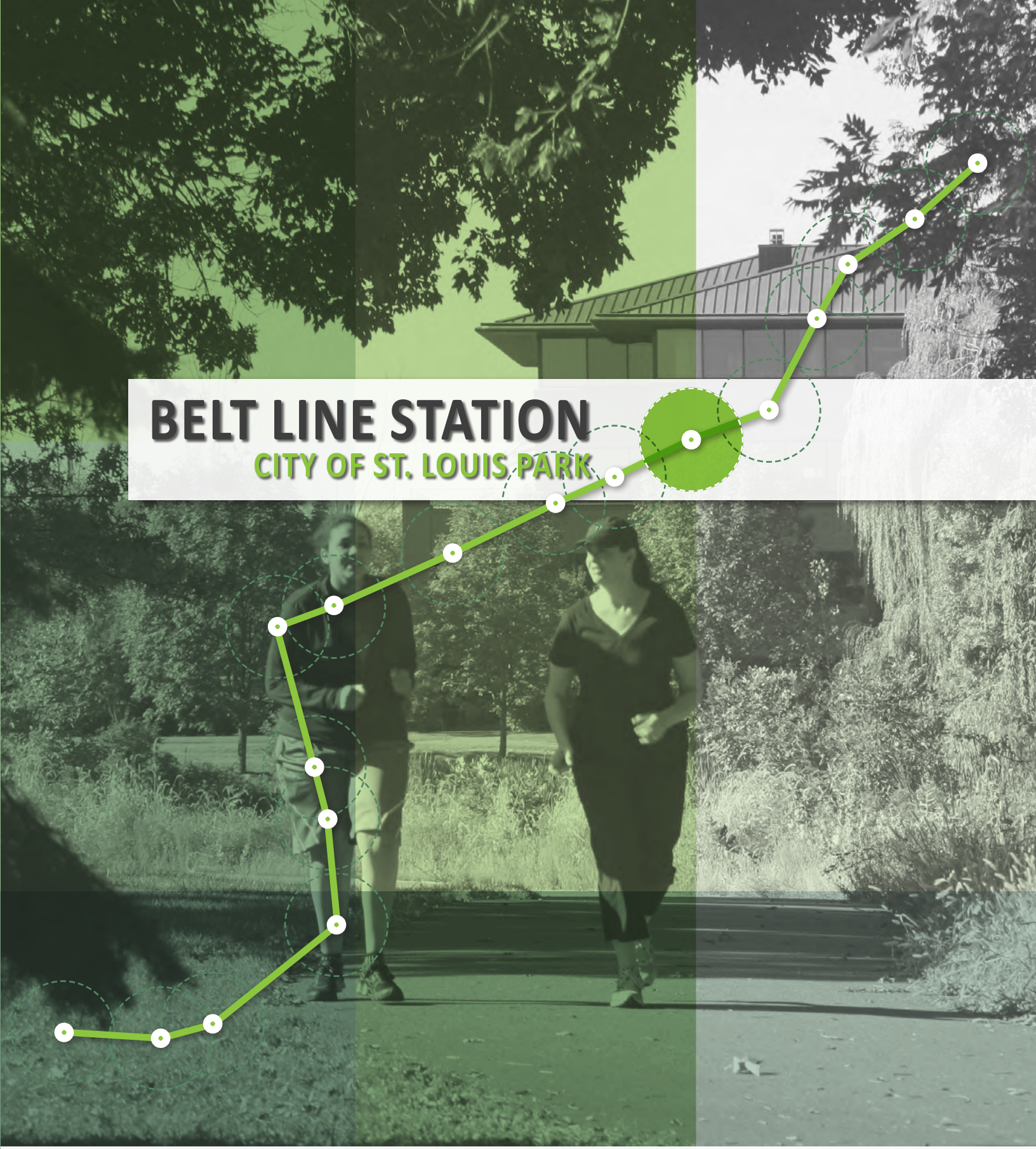


BELT LINE STATION

CITY OF ST. LOUIS PARK

SOUTHWEST CORRIDOR INVESTMENT FRAMEWORK

TRANSITIONAL STATION AREA ACTION PLAN

Hoisington Koegler Group Inc.

SOUTHWEST LRT community works

www.swlrtcommunityworks.org

Hennepin

ABOUT THIS CHAPTER:

The Transitional Station Area Action Plans are the product of a Hennepin County led effort to help communities along the Southwest LRT corridor prepare for SW LRT's opening day in 2018 and beyond.

An individualized plan has been created for each of the 17 stations in the Southwest corridor, each plan comprising a chapter in the larger Southwest Corridor Investment Framework. The station area action plans suggest ways to build on local assets, enhance mobility, identify infrastructure needs, and capitalize on promising opportunities for development and redevelopment near each station.

Plan Components:

INTRODUCTION 7-2
A brief overview of the station location and its surroundings

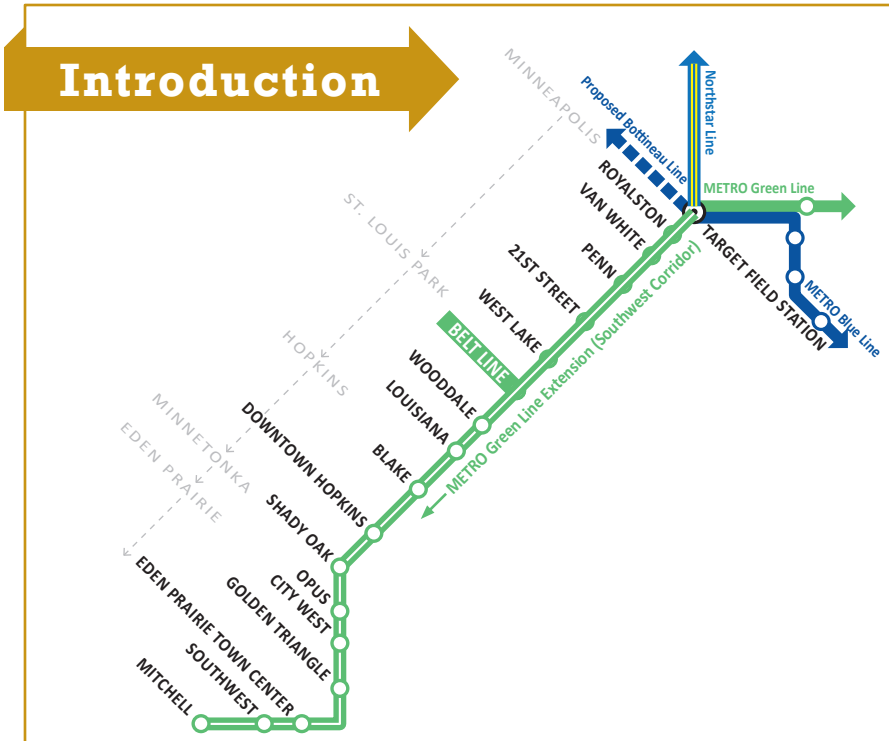
WHERE ARE WE TODAY? 7-4
A description of existing conditions in the station area, including:

- Land Use
- Transit Connections
- Access + Circulation Issues (Bike, Ped, and Auto)
- Infrastructure Needs

WHERE ARE WE GOING? 7-8
This section presents a number of recommendations for the station area in anticipation of opening day needs and the long-term TOD environment. This includes:

- Access + Circulation Plan
- Station Area Site Plan
- Infrastructure Plan
- Development Potential
- Summary of Key Initiatives

Introduction



BELT LINE STATION WITHIN THE CORRIDOR:

A mixed employment and residential district with great access to areas north and south of the corridor

NEIGHBORHOODS While the Belt Line station area today is comprised predominantly of employment uses, its relationship to great open space amenities and proximity to the established mid-rise neighborhood at Excelsior & Grand position it to develop into a mixed-use Urban Village (see Place Types discussion beginning on p. 1-19) over time. To the north of the station, the Triangle neighborhood is a diverse area comprised of low- and mid-rise apartments as well as single-family homes. South of the station, the Wolfe Park neighborhood includes mid-rise residential uses abutting Bass Lake Preserve and a new urban neighborhood at Excelsior & Grand.

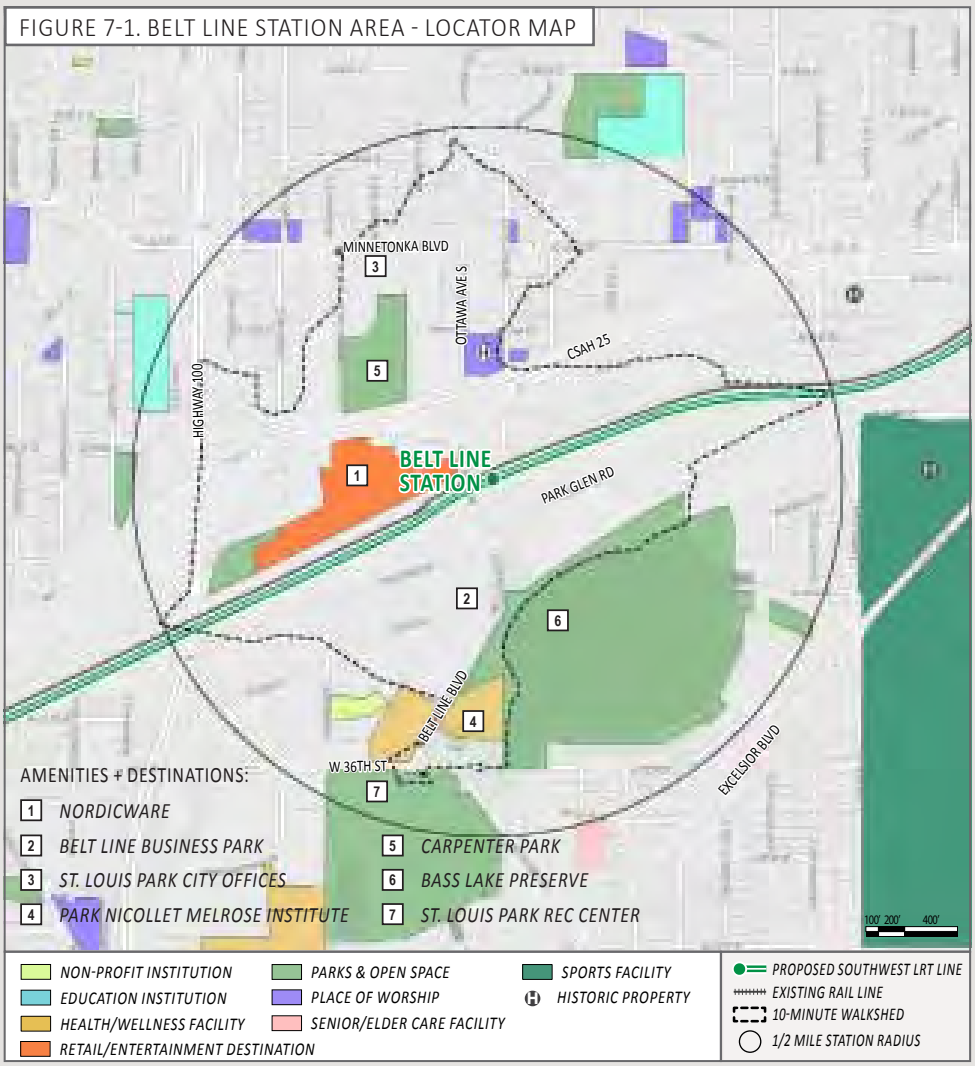
EMPLOYMENT The area contains a range of small industrial, warehouse, manufacturing, and office uses located primarily along the rail and highway corridors. While these businesses currently take advantage of the strong highway access, there is the potential that over time they will increasingly orient towards the LRT and redevelop with higher density employment and residential uses.

RECREATIONAL DESTINATION To the south of the station, less than a half-mile along Belt Line Boulevard is the St. Louis Park Rec Center. The center is a significant city-wide destination and contains two ice sheets, an outdoor water park, and a banquette room.

TRAIL CONNECTIONS The Cedar Lake LRT Regional Trail passes through the station area, along the LRT corridor. There are a number of locations at the edge of or just outside a comfortable walking distance from the station including the Rec Center and Excelsior & Grand development to make the station an important cycling destination.

HERITAGE, ARTS & CULTURE National Register listed/eligible historic properties in this station area include the Peavey-Haglin concrete grain elevator.

FIGURE 7-1. BELT LINE STATION AREA - LOCATOR MAP

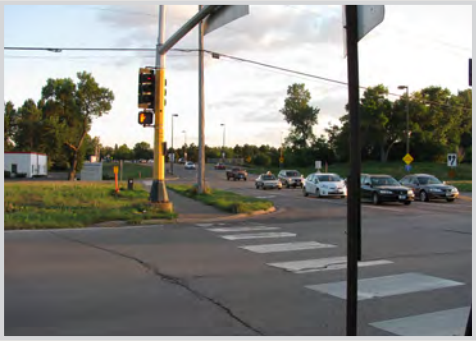


NOTE: 10-minute walkshed approximates the area accessible within a 10-minute walk from the station platform using only the existing sidewalk/trail network. See Glossary for walkshed assumptions and methodology.

Station Location

The Belt Line station is envisioned as one of the major hubs along the SW LRT line. It is located along Belt Line Boulevard, an important employment area and north-south connection in St. Louis Park. It is also located along the Cedar Lake LRT Regional Trail, an important multi-use regional trail, connecting commuters and recreational users to Minneapolis (east) and Hopkins (west). The area is comprised of a mix of land uses, including office, light industrial, residential, commercial/retail, multi-family housing, civic, recreational, parks and open space. Nearby destinations include the St. Louis Park Rec Center, City Hall, Excelsior & Grand, Nordic Ware campus, Park Nicollet Melrose Institute, Wolfe Park, and Bass Lake Preserve. Numerous businesses are located near the transit station and these are expected to generate transit ridership. This station is also expected to serve residents of local neighborhoods, including Wolfe Park, Triangle, and Minikahda Oaks.

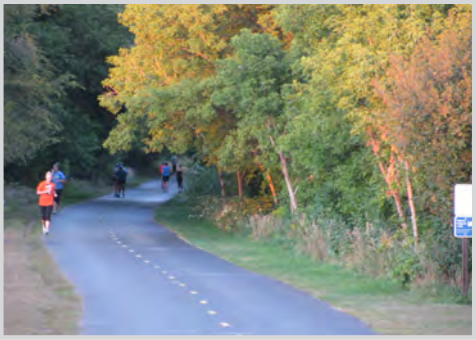
BELT LINE STATION AREA TODAY:



Highway 25 access via Belt Line Blvd

Existing office south of LRT alignment

Existing housing



Cedar Lake LRT Regional Trail

Cedar Lake LRT Regional Trail / Belt Line Boulevard crossing

Existing industrial building (Nordic Ware)

Where Are We Today?

The following section describes the station area's EXISTING CONDITIONS, including the local context, land uses, transit and transportation systems, pedestrian and bicycle facilities, assets, destinations, and barriers to accessing the station. This analysis of current conditions presents key issues and opportunities in the station area and informs the recommendations for future station area improvements.

NOTE: Existing conditions maps are based on data provided by Hennepin County and local municipalities. The data used to create each map is collected to varying degrees of accuracy and represents infrastructure and conditions at varying points in time. Actual conditions may vary slightly from what is shown.

Land Use

Land uses in the Belt Line station area include a significant amount of industrial, light industrial, and office uses along the south side of County State Aid Highway (CSAH) 25 and west of Belt Line Boulevard. Commercial and residential uses also exist in the station area. Residential densities and housing types vary from single-family detached to high-density multi-family. There is also a significant amount of park and open space land in the station area, including Wolfe Park, Carpenter Park, and Bass Lake Preserve. A vacant parcel of land owned by the Hennepin County Regional Rail Authority is adjacent to the proposed station platform to the south.

FIGURE 7-2. EXISTING LAND USE

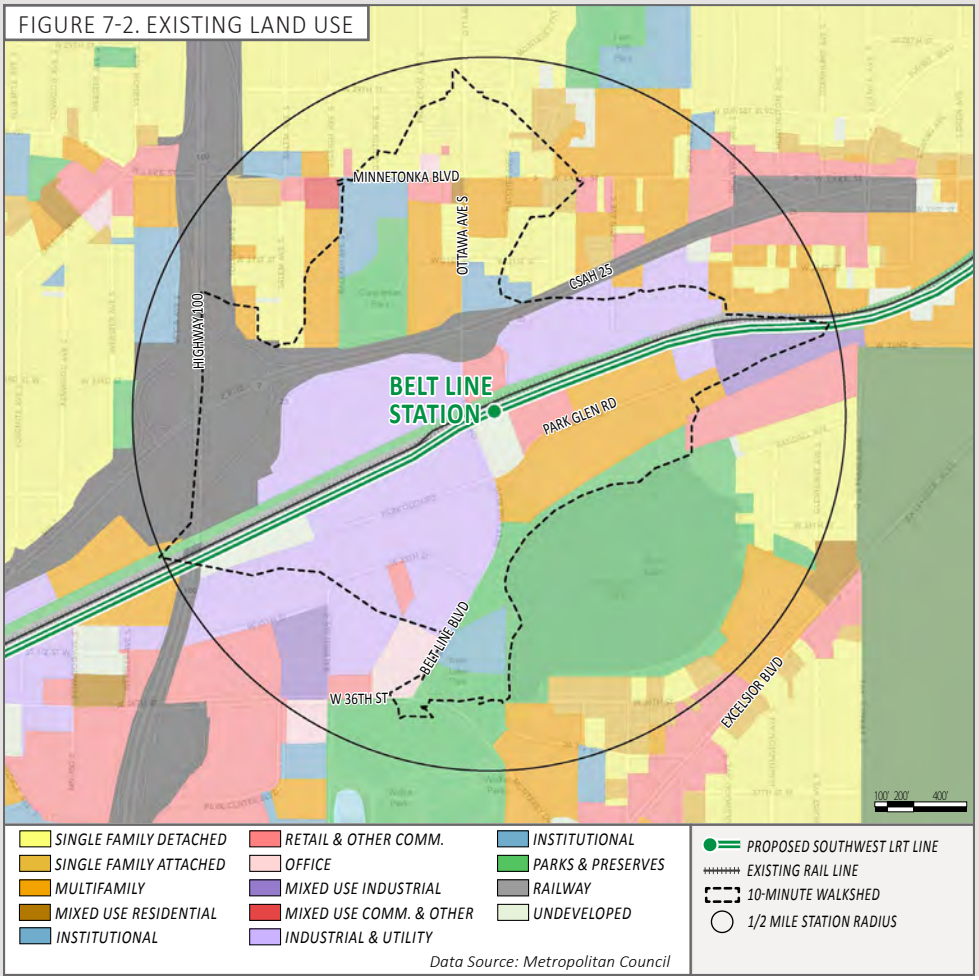
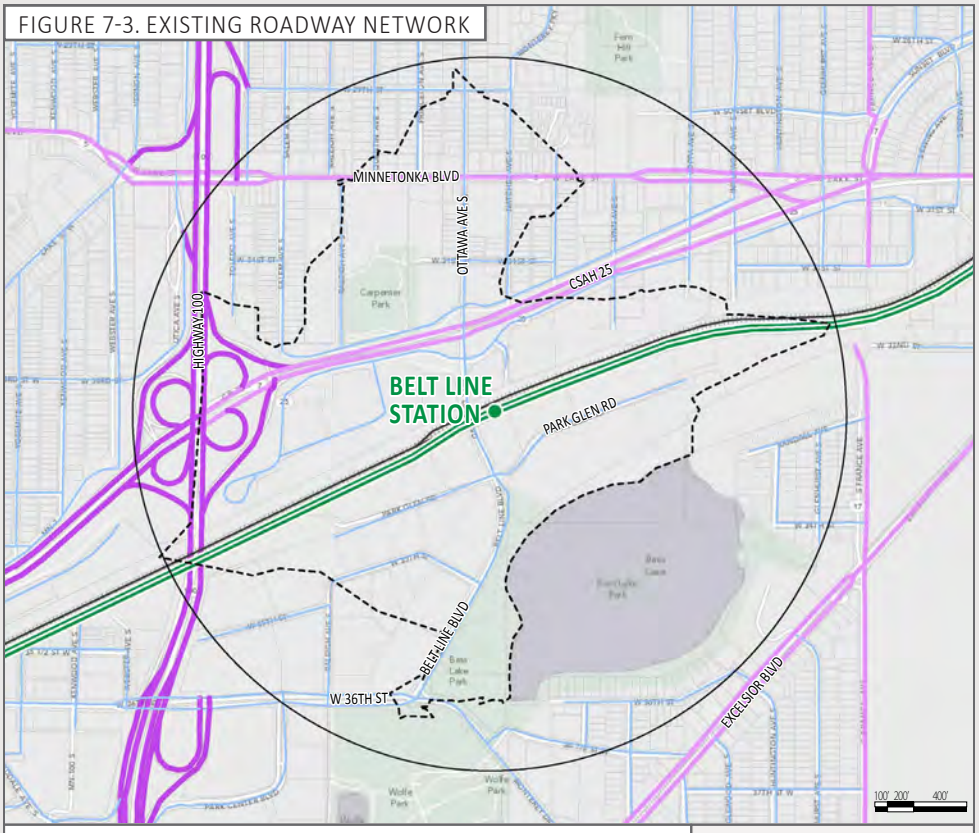


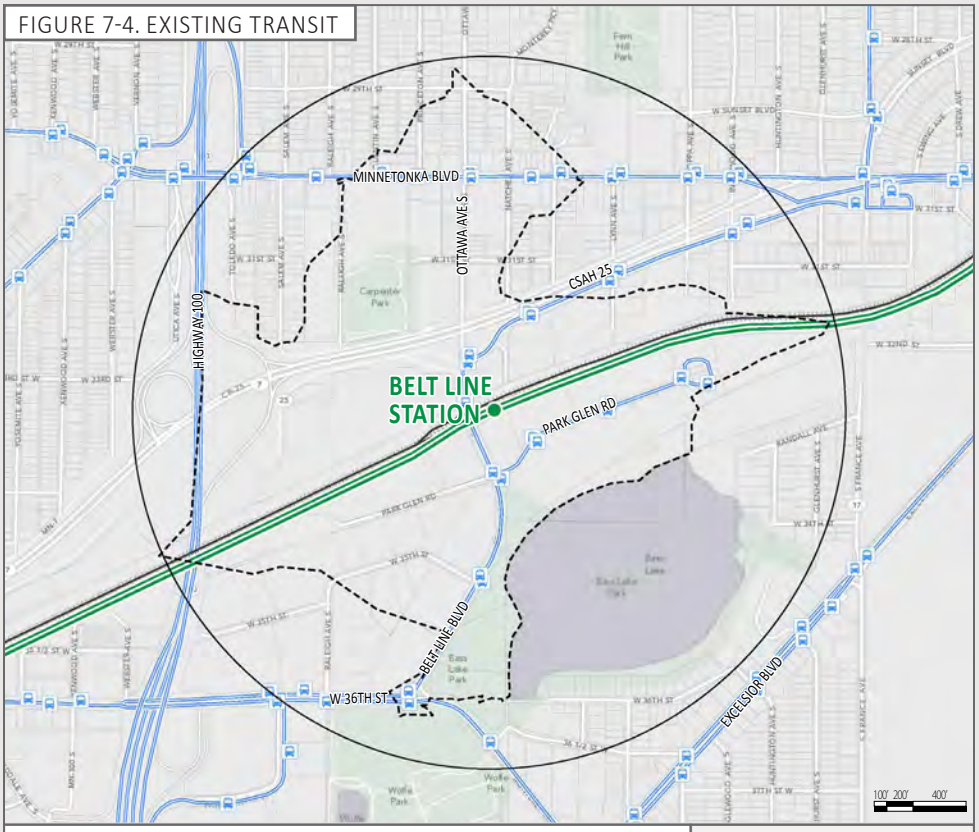
FIGURE 7-3. EXISTING ROADWAY NETWORK



Roadway Network

The roadway network in the Belt Line station area is limited (particularly south of CSAH 25) and very auto-oriented. Large super-blocks are created by the limited roadway network, making it challenging for pedestrians to move about in the station area. Belt Line Boulevard is an important north-south connector in St. Louis Park, where few of these connections exist. Belt Line Boulevard runs adjacent to the proposed station platform, so it will be the lifeline to the station. The station is also served by CSAH 25, an east-west arterial roadway, and State Highway 100, a principal arterial running north-south, within a half-mile of the station platform. Other important roadways within the station area include W. 36th Street, Minnetonka Boulevard, and Excelsior Boulevard. Each of these roadways are important commercial corridors in the area. Park Glen Road, a local street, runs east-west, near the Belt Line station and provides important access to existing homes and businesses.

FIGURE 7-4. EXISTING TRANSIT



Transit

Existing bus routes run along Belt Line Boulevard, CSAH 25, Minnetonka Boulevard, and Park Glen Road. The area is served by Routes #17 and #681.

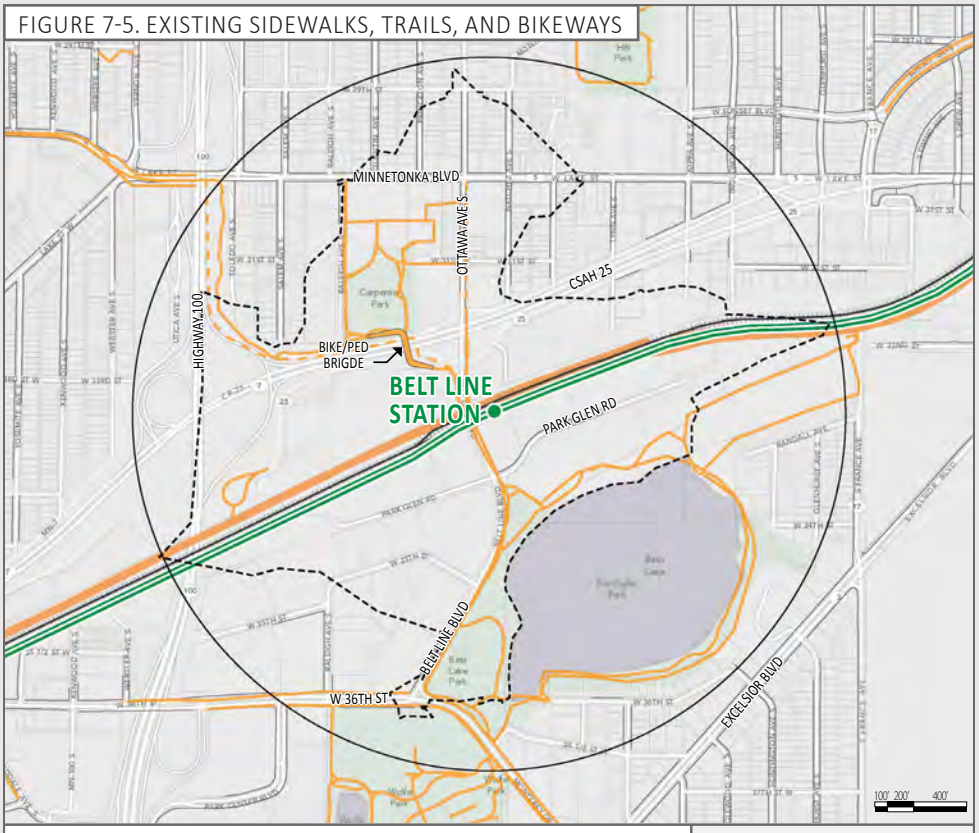
Existing bus stops are located along Belt Line Boulevard (at Park Glen Road and the CSAH 25 frontage road).

Sidewalk, Trails and Bikeways

There are very few sidewalks near the Belt Line station area, due to large block sizes and industrial land uses. North of CSAH 25 the sidewalk network is complete, however, this system is cut off by CSAH 25 and few sidewalks exist south of this roadway. The trail system in the area is fairly robust, with the Cedar Lake LRT Regional Trail being the centerpiece of the trail system. Cedar Lake LRT Regional Trail is a busy commuter and recreational user trail. Today, conflicts exist between Cedar Lake LRT Regional Trail users and Belt Line Boulevard motorists, causing delays for both users and potential safety issues.

A system of multi-use trails connects nearby parks, open space preserves, and neighborhood amenities. One of these runs along the east side of Belt Line Boulevard. This trail connects to trails at Bass Lake Preserve and Wolfe Park. The trail system passes over CSAH 25 on a pedestrian/bike bridge located just south of Carpenter Park.

FIGURE 7-5. EXISTING SIDEWALKS, TRAILS, AND BIKEWAYS



Sanitary Sewer

Sanitary sewer infrastructure consists of a collection of gravity flow sewer mains, lift stations, and pressurized forcemains that transport sewage to a wastewater treatment plant (WWTP). An efficient collection system has the capacity to accommodate all of the existing land uses within its particular sewershed. Besides capacity, the material and age of pipes within a system can also impact a system's effectiveness.

Sanitary sewer infrastructure within the project area is typically maintained by either the City of St. Louis Park or by the Metropolitan Council Environmental Services (MCES) Division. MCES maintains a series of interceptor trunk sewers which collect sewage at key locations and convey sewage across community boundaries to regional WWTPs. Wastewater from the station area is treated by the MCES Metro WWTP located in St. Paul.

FIGURE 7-6. EXISTING SANITARY SEWER

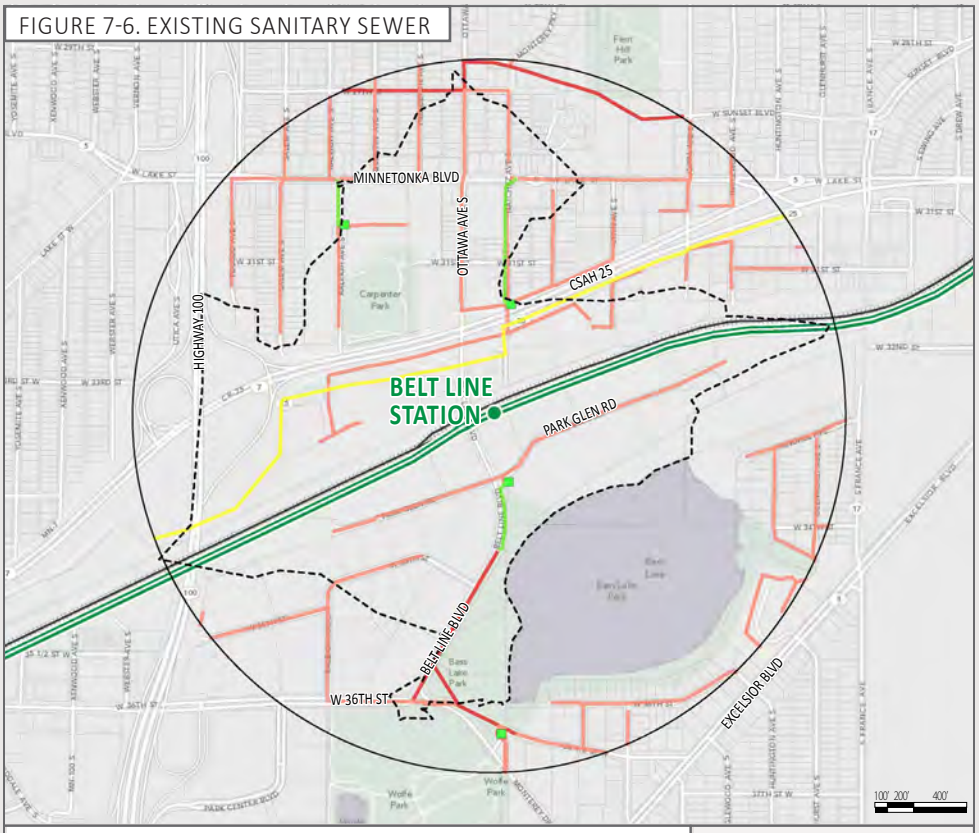
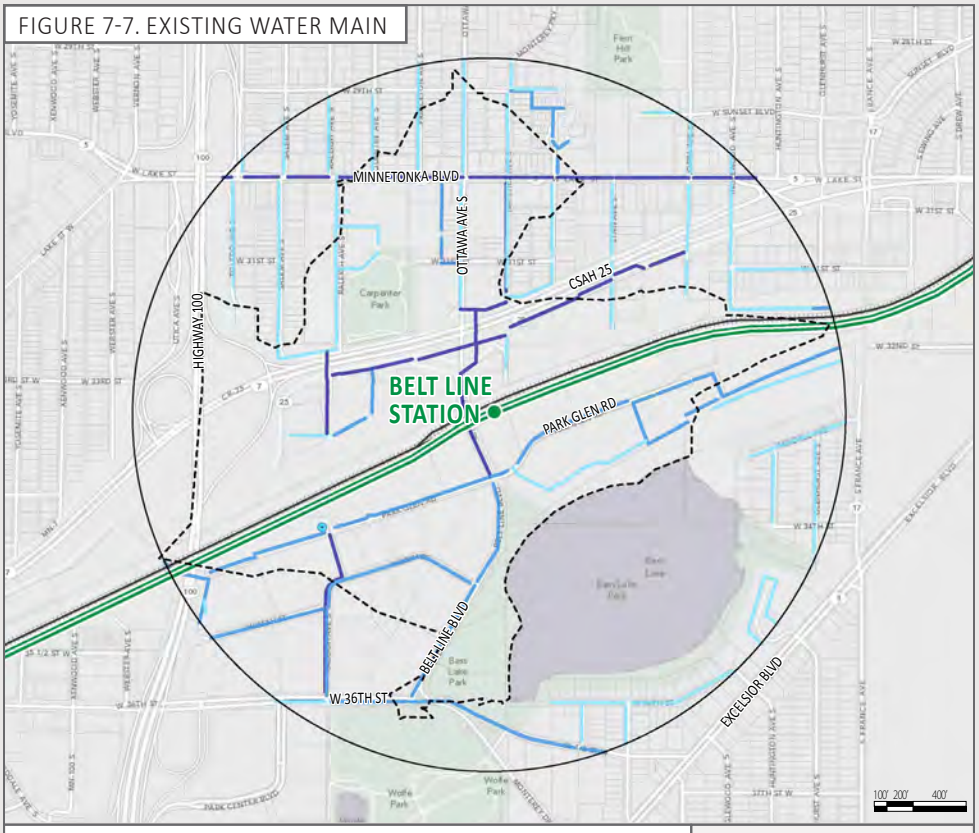


FIGURE 7-7. EXISTING WATER MAIN

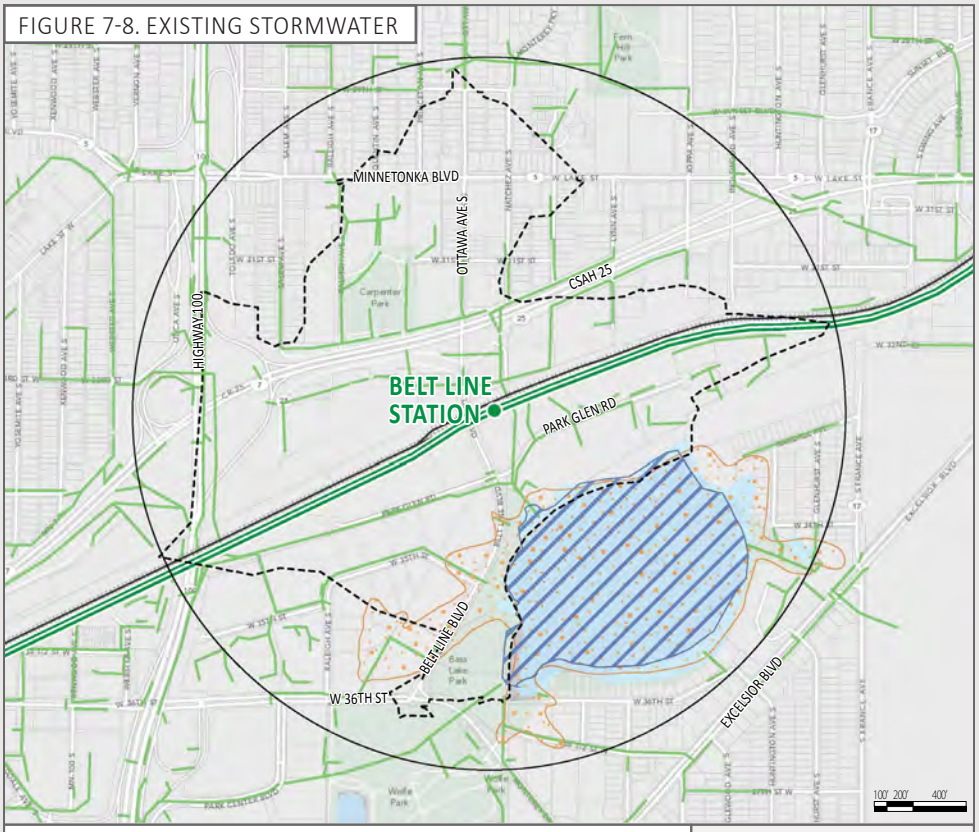


Water Main

Water main distribution systems serve to supply potable water to individual properties and to support fire suppression throughout the community. A well-designed system can maintain adequate pressure to support the demand of individual properties and provide high flow rates to fire hydrants/fire suppression systems in emergency situations. Because of the complexity of water distribution networks and the importance of pressure, flow, and water quality, City water system models are used to evaluate a system's adequacy. The material and age of the system's water mains can also be factors in system breaks, leaks, and pressure and flow degradations.

Water pressure and flow rates can be influenced by: the size of water main serving an area, proximity and elevation relative to a water tower, proximity to a trunk water main with high flow capacity, if the wate main creates a loop, the demand of adjacent land uses, and the condition of thewater main.

FIGURE 7-8. EXISTING STORMWATER



Stormwater

Belt Line station is located within the Minnehaha Creek Watershed District (MCWD). The majority of the drainage from the 10-minute walk zone is directed to Bass Lake Preserve which is impaired by nutrients. There is a 100-year floodplain that surrounds Bass Lake and extends out from the lake up to one-quarter mile.

Discharging within one mile of impaired water may trigger additional MN Pollution Control Agency NPDES (National Pollution Discharge Elimination System) requirements for additional stormwater management. For impaired waters where a TMDL (Total Maximum Daily Load) has been approved these requirements may increase. Zoning requirements as a result of being within the 100-year floodplain may limit development/redevelopment potential.

Any development/redevelopment that occurs as a result of constructing this station is anticipated to improve the existing drainage conditions as a result of enforcing the City and the Watershed requirements.

Where Are We Going?

The plans and diagrams on the following pages illustrate a range of recommendations for infrastructure improvements, station amenities, and potential redevelopment opportunities within the station area.

The ACCESS AND CIRCULATION PLAN shown in Figure 7-9 provides a high level view of how future transit, automobile, bike, and pedestrian systems will connect to the station area and its surroundings.

Figure 7-10 illustrates the STATION AREA IMPROVEMENTS that will facilitate access to and from the station and catalyze redevelopment in the station area. This includes opening day and long-term station area improvements

Figure 7-11 focuses on OPENING DAY STATION AREA IMPROVEMENTS only. These recommendations represent the improvements necessary to enhance the efficient function of the transit station, roadways, pedestrian and bicycle connections, and transit connections on opening day in 2018.

Station Area Improvements

The discussion below outlines a range of future station area improvements. While some of the identified improvements may be constructed as part of the LRT project itself, other improvements must be funded, designed and constructed by other entities and will require coordination between the City, County, and Metro Transit as well as local stakeholder and community groups.

ROADWAYS

Opening Day Improvements:

» Redesign and convert Belt Line Boulevard into a Complete Street with accommodations for all modes of travel.

» Grade separate Belt Line Boulevard from the freight and LRT lines, and the Cedar Lake LRT Regional Trail. Belt Line Boulevard should pass under the rail lines and trail as an underpass from Park Glen Road north to the CSAH 25 frontage road.

» Introduce new roadways south of CSAH 25 (Lynn Avenue and Monterey Avenue).

» Introduce a new signal at the intersection of CSAH 25 and Lynn Avenue.

» Initiate narrowing of CSAH 25 right of way and removal of the frontage road from Belt Line Boulevard to Lynn Avenue.

Long-Term Improvements:

» Redesign and convert CSAH 25 east of Belt Line Boulevard from a divided highway layout with frontage roads to a four-lane urban boulevard without frontage roads similar to Excelsior Blvd. A narrower roadway and right-of-way could increase redevelopment space south of CSAH 25.

» Expand the street network with the extension of future roadways (Natchez, Monterey, and Lynn) across and to the south of CSAH 25 to potential redevelopment sites.

» Expand street network connections west of Belt Line Boulevard and north of 36th Street as redevelopment occurs.

PEDESTRIAN CONNECTIONS

Opening Day Improvements:

» Focus sidewalk, trail, and streetscape enhancements along Belt Line Boulevard, Park Glen Road, CSAH 25, and West 35th Street.

» Provide safe and convenient pedestrian connections to the Cedar Lake LRT Regional Trail near the LRT station. Pursue a grade-separated crossing of the trail over Belt Line Blvd.

» Improve pedestrian connections on streets north of CSAH 25, completing gaps in the current sidewalk system.

» Improve pedestrian crossings at the Belt Line Blvd/Park Glen Road and Belt Line Blvd/CSAH 25 intersections.

» Install countdown traffic signals at the Belt Line Boulevard and Park Glen Road intersection.

BIKE CONNECTIONS

Opening Day Improvements:

» Add on-street bike lanes on Belt Line Blvd.

» Add multi-use trails along the south side of CSAH 25.

» Add new multi-use trails east of Belt Line Blvd, along the north side of the LRT/freight rail tracks, and along new roads north of the rail line.

» Provide bike parking, lockers, and bike sharing facilities in a highly visible area near the station platform.

» Provide safe and convenient bike connections to the Cedar Lake LRT Regional Trail near the LRT station.

» Provide a grade-separated crossing of the LRT line and Cedar Lake LRT Regional Trail over Belt Line Blvd.

Long-Term Improvements:

» Provide on-street bike facilities (lanes, routes, signage, etc.) on local streets to better connect the LRT station to nearby neighborhoods, businesses, amenities, and destinations.

TRANSIT CONNECTIONS

Opening Day Improvements:

» Provide new bus facilities near station platform for connecting bus routes.

PARK AND RIDE

Opening Day Improvements:

» Provide park and ride facilities north of the station platform at the southeast corner of Belt Line Boulevard and CSAH 25.

KISS AND RIDE

Opening Day Improvements:

» Provide kiss and ride pull out area on north side of the rail lines with a multi-use path connection to the LRT station platform.

STATION AMENITIES *(Beyond SW LRT Base Project Scope)*

Opening Day Improvements:

» Roadways- reconstruct the Belt Line Blvd intersection with Cedar Lake LRT Regional Trail and LRT line, with Belt Line Blvd traveling below the trail and LRT line.

» Transit Facilities- provide facilities for bus transfers, kiss and ride drop-offs, and park and ride near the LRT station platform.

» Wayfinding- define and install a cohesive and contextual wayfinding system near the LRT station platform, major gateways (CSAH 25/Hwy 100, CSAH 25/Minnetonka Blvd, 36th St, Monterey Blvd, Ottawa Ave), and major destinations (such as SLP Rec Center, Wolfe Park, Excelsior & Grand, Bass Lake Preserve, and the civic campus).

» Seating – provide comfortable and durable seating near the station platform.

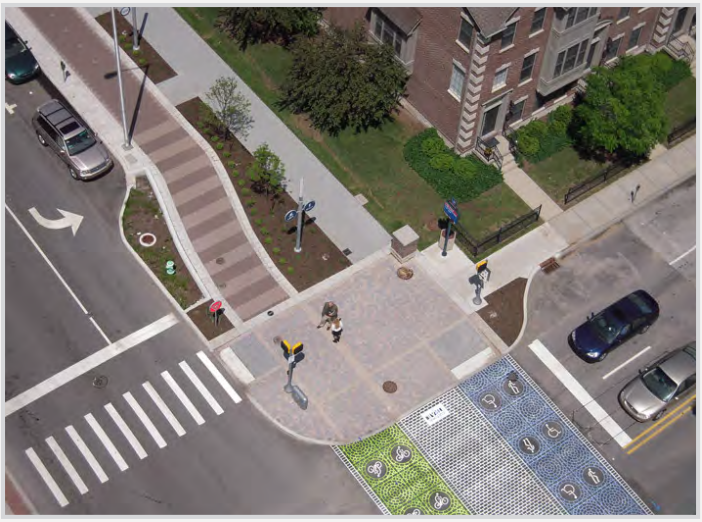
» Lighting – provide adequate lighting for the safety of pedestrians, bicyclists, and motorists near the station platform and along Belt Line Boulevard, CSAH 25, and Park Glen Road.

» Pedestrian Facilities- improve the pedestrian/bike crossings of Belt Line Boulevard, CSAH 25, frontage roads, rail lines, Cedar Lake LRT Regional Trail, and Park Glen Road.

» Bike Facilities- Provide bike parking, lockers, pumping station ,and bike sharing facilities near the station platform.

» Plaza – provide a public plaza area near the station platform to provide transit users with a paved queue area to wait for LRT trains and move about the station area.

» Public Art- incorporate public art in the station area to create an attractive and identifiable place.



Complete Streets design

POTENTIAL DEVELOPMENT

Opening Day Improvements:

» The Hennepin County property, located adjacent to and south of the proposed station platform, is a potential opening day development site. Development should front Belt Line Boulevard and the station platform, allowing for some public space/plaza on the station platform side of the building. Access to the Hennepin County parcel should be from Park Glen Road.

» Sites located north of the proposed station platform, along CSAH 25 and Belt Line Boulevard. also represent opening day development potential, possibly an FTA joint development with a park and ride ramp.

» Redevelopment potential along CSAH 25 can be enhanced with a new roadway design for CSAH 25 and new local roads connecting across CSAH 25.

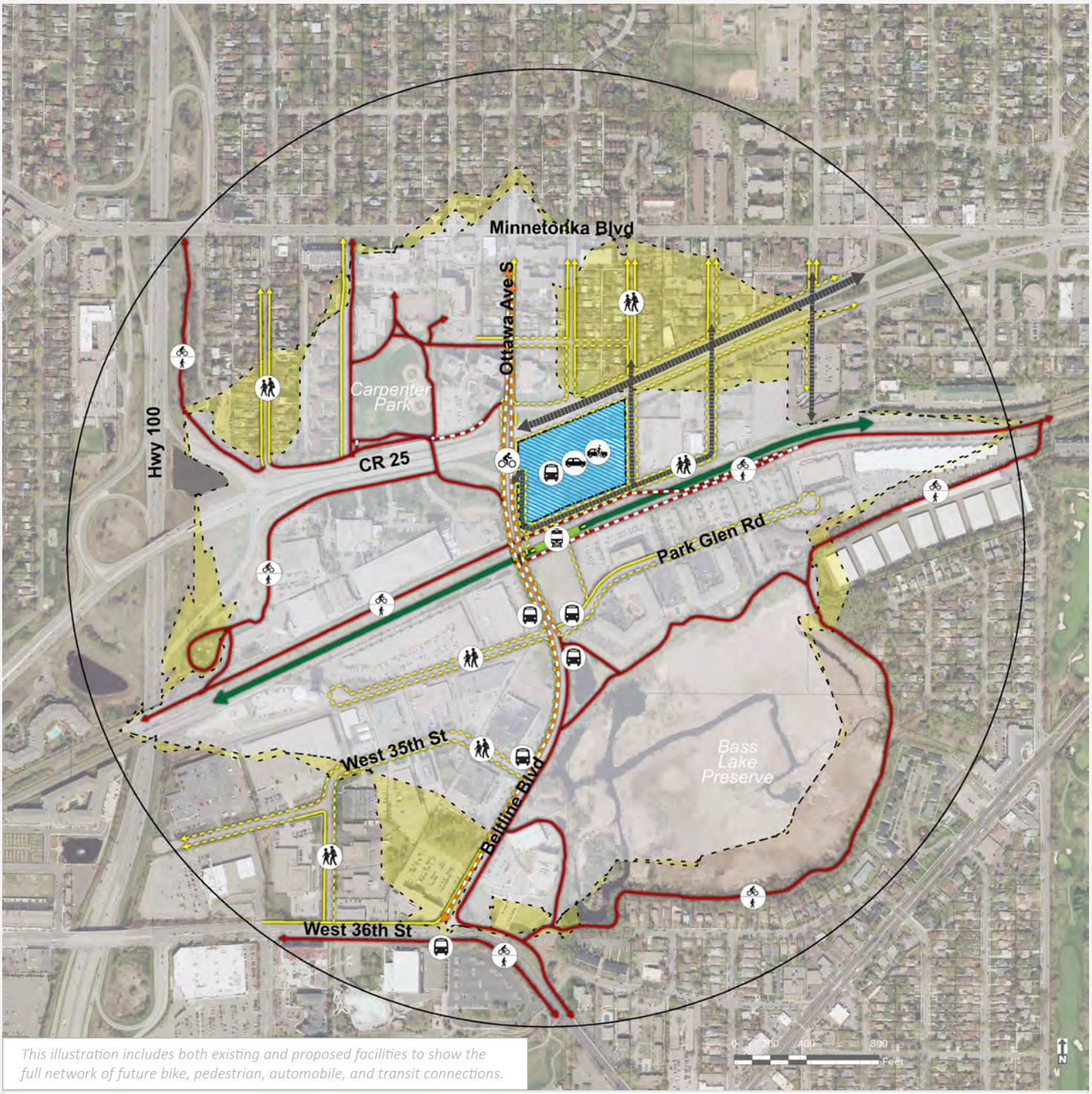
Long-Term Improvements:

» See the "Development Potential" discussion on page 7-16 for more on long-term development opportunities.

UTILITIES

» See the "Station Area Utility Plan" beginning on page 7-18 for all utility recommendations.

FIGURE 7-9. ACCESS + CIRCULATION PLAN

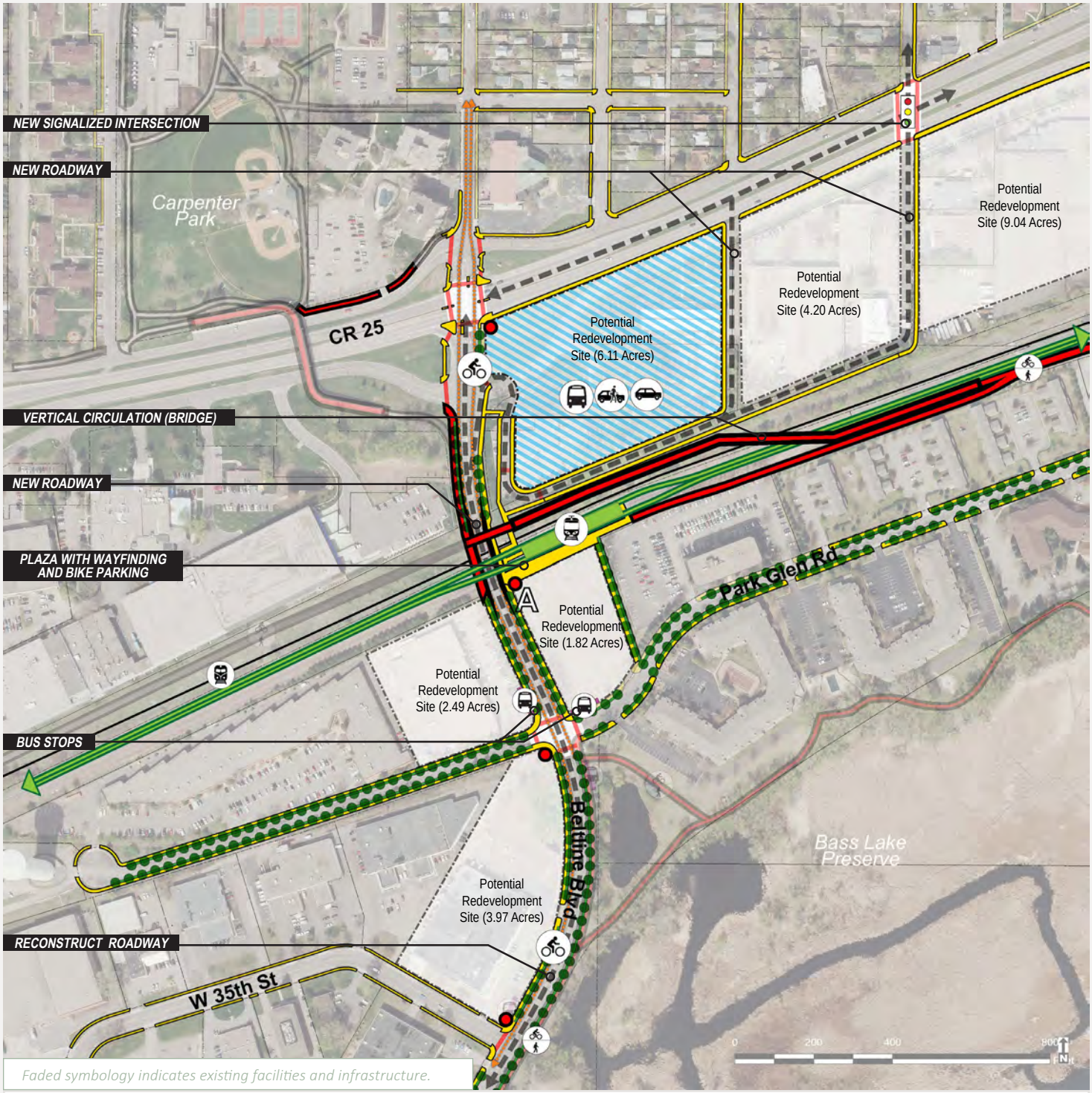


This illustration includes both existing and proposed facilities to show the full network of future bike, pedestrian, automobile, and transit connections.

LRT PLATFORM
LRT LINE
BUS STOP
PARK AND RIDE
FREIGHT LINE
NEW ROADWAY
KISS AND RIDE
EXISTING WALKSHED
EXISTING PEDESTRIAN CONNECTION
EXISTING BIKE CONNECTION
EXISTING MULTI USE CONNECTION
FUTURE WALKSHED (WITH TSAAP IMPROVEMENTS)
PROPOSED(DASHED) PEDESTRIAN CONNECTION
PROPOSED(DASHED) BIKE CONNECTION
PROPOSED(DASHED) MULTI USE CONNECTION

NOTE: Existing walkshed approximates the area accessible within a 10-minute walk from the station platform using only the existing sidewalk/trail network. Future walkshed incorporates all proposed improvements to the sidewalk/trail network. Walksheds are based on GIS modeling and available sidewalk/trail information- and may not reflect exact on-the-ground conditions. See Glossary for detailed explanation of walkshed assumptions and methodology.

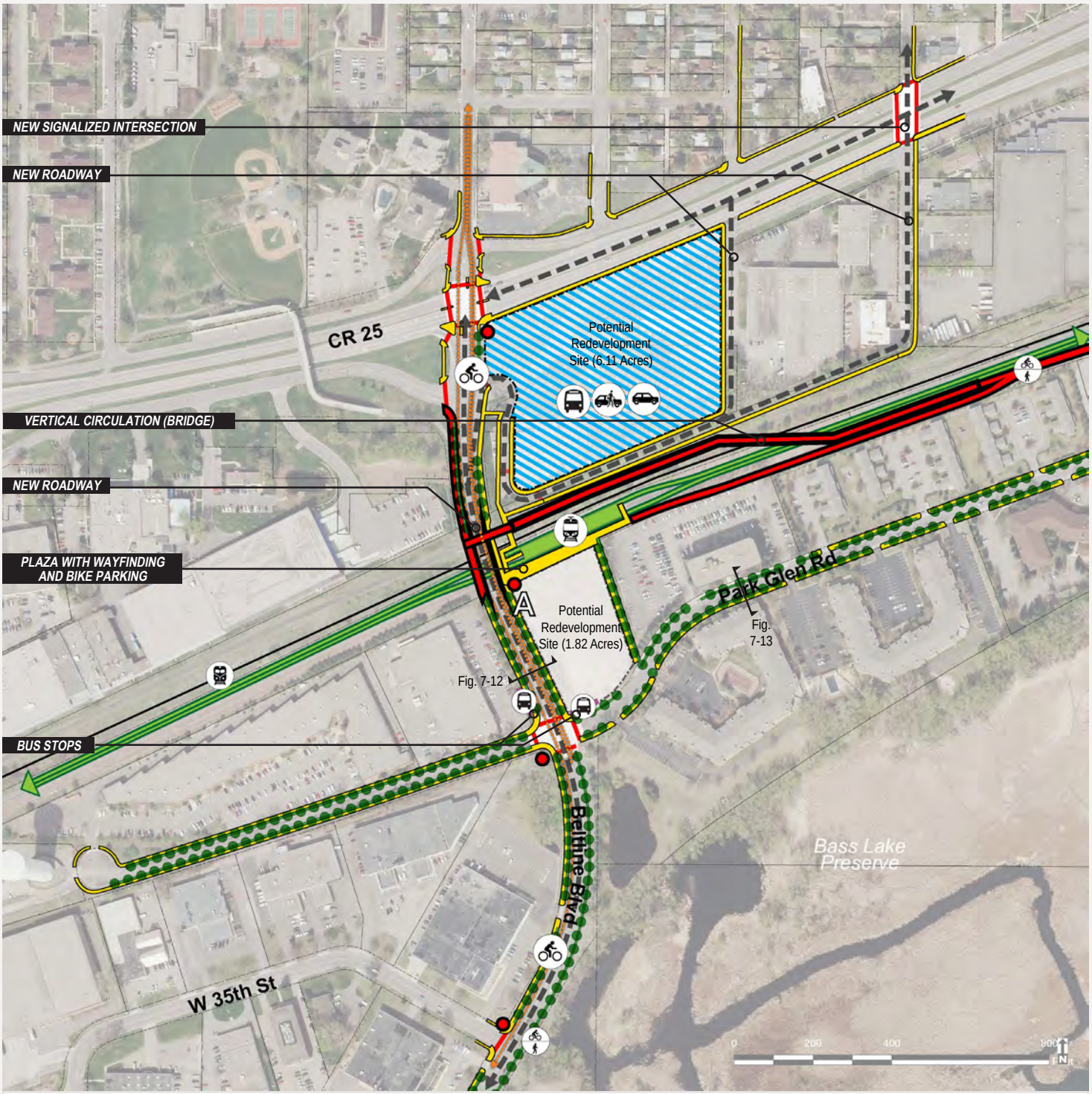
FIGURE 7-10. STATION AREA IMPROVEMENTS



Faded symbology indicates existing facilities and infrastructure.

- LRT PLATFORM
- FREIGHT LINE
- BUS STOP
- BUS SHELTER
- NEW SIDEWALK / SIDEWALK IMPROVEMENT
- ON STREET BIKE INFRASTRUCTURE
- MULTI-USE PATH
- NEW CROSSING / CROSSING IMPROVEMENT
- NEW ROADWAY
- STREETSCAPE
- PARK AND RIDE
- KISS AND RIDE
- NEW SIGNALIZED INTERSECTION
- BIKE PARKING
- WAYFINDING
- PUBLIC ART OPPORTUNITY
- POTENTIAL DEVELOPMENT SITE
- PLAZA SPACE / BUILDING SETBACK AREA

FIGURE 7-11. OPENING DAY STATION AREA IMPROVEMENTS



LRT PLATFORM
FREIGHT LINE
BUS STOP
BUS SHELTER
NEW SIDEWALK / SIDEWALK IMPROVEMENT
ON STREET BIKE INFRASTRUCTURE
MULTI-USE PATH
NEW CROSSING / CROSSING IMPROVEMENT
NEW ROADWAY
STREETSCAPE
PARK AND RIDE
KISS AND RIDE
NEW SIGNALIZED INTERSECTION
BIKE PARKING
WAYFINDING
PUBLIC ART OPPORTUNITY
POTENTIAL DEVELOPMENT SITE
PLAZA SPACE / BUILDING SETBACK AREA

Conceptual Street Sections

The street cross section illustrated below is conceptual and represents a potential future streetscape condition, addressing facilities for a variety of transportation modes, streetscape amenities, and the relationship between buildings and the street edge. Further design and engineering work will be required to ensure the streetscape is in compliance with City and/or County design standards and needs.

BELT LINE BOULEVARD

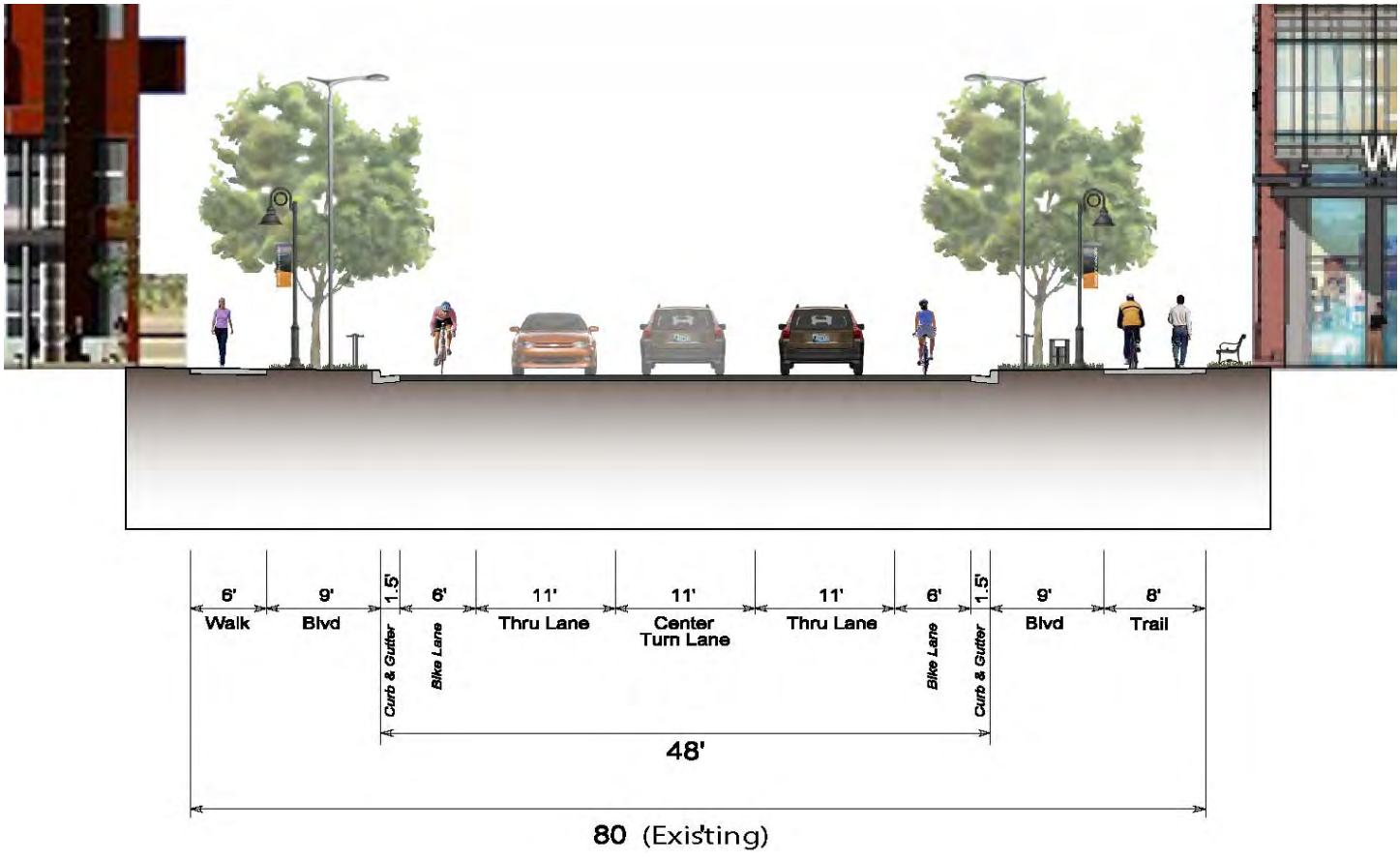
Dimensional Criteria:

- » 80 feet — Right-of-Way Width
- » 48 feet — Pavement Width (2-way)
- » 20'-30' o/c — Street Tree Spacing
- » 6'-0" — Sidewalk Width
- » 8'-0" — Trail Width

Design Features:

- » Sidewalk (west side of street)
- » Trail (east side of street)
- » Bicycle Lanes (6'-0")
- » Street Trees/Plantings/Raingardens
- » Streetscape Furnishings (seating, planters, trash receptacles, bicycle racks)
- » Signage/Wayfinding
- » Transit Facilities (bus stops/layovers, shelters, seating, signage, lighting)
- » Street and Pedestrian Lighting
- » Public Art
- » Pedestrian-Friendly Crossings (markings, countdown traffic signals, ADA features)

FIGURE 7-12. CONCEPTUAL STREET SECTION - BELT LINE BOULEVARD (LOOKING NORTH)



Conceptual Street Sections (Continued)

The street cross section illustrated below is conceptual and represents a potential future streetscape condition, addressing facilities for a variety of transportation modes, streetscape amenities, and the relationship between buildings and the street edge. Further design and engineering work will be required to ensure the streetscape is in compliance with City and/or County design standards and needs.

PARK GLEN ROAD

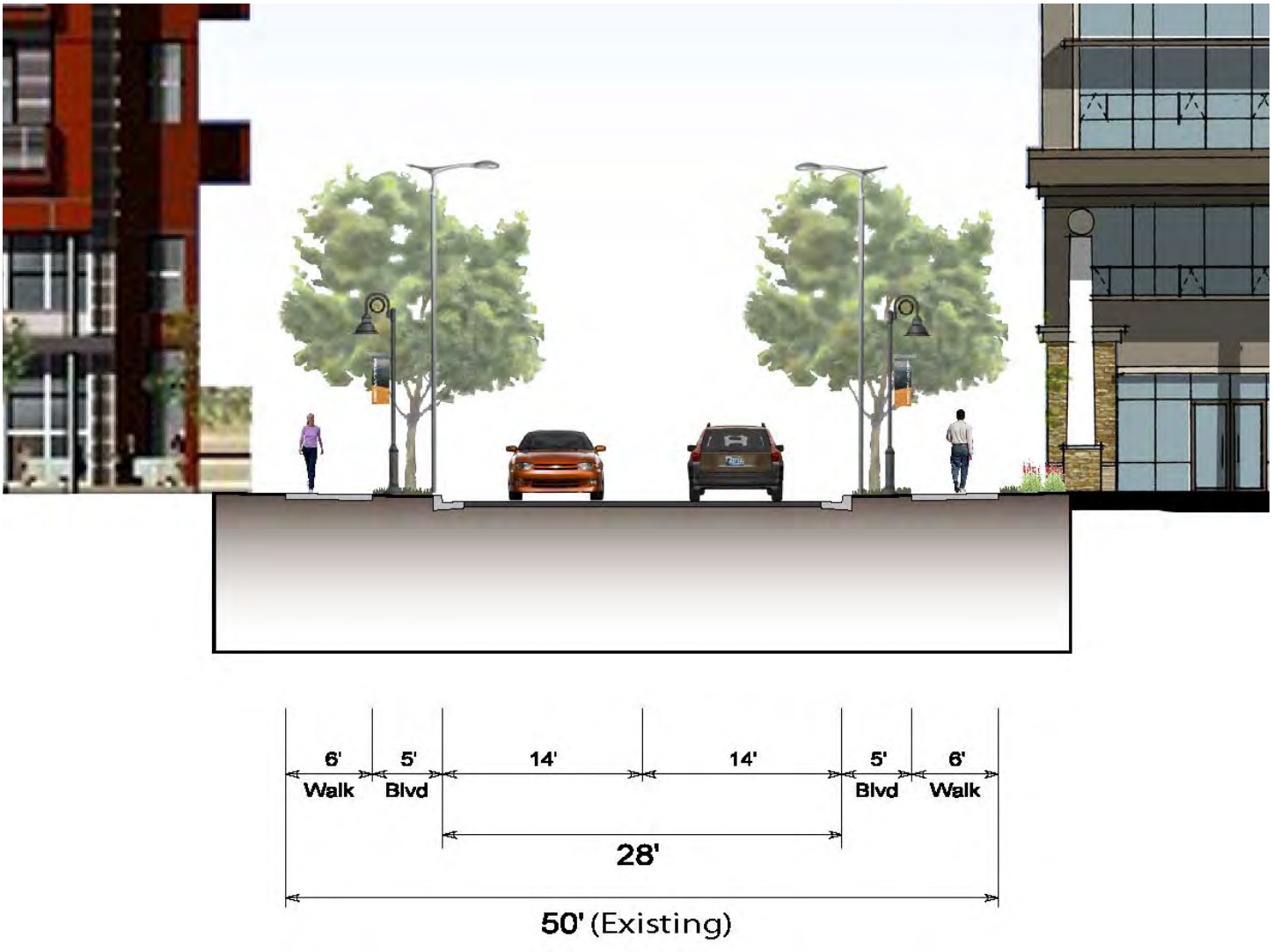
Dimensional Criteria:

- 50 feet — Right-of-Way Width
- 28 feet — Pavement Width (2-way)
- 20'-30' o/c — Street Tree Spacing
- 6'-0" — Sidewalk Width (both sides of street)

Design Features:

- Sidewalks
- Street Trees/Plantings/Raingardens
- Signage
- Street and Pedestrian Lighting
- Pedestrian-Friendly Crossings (markings, ADA features)

FIGURE 7-13. CONCEPTUAL STREET SECTION - PARK GLEN ROAD



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Opening Day Improvements

The following tables and diagrams outline the proposed improvements to be implemented in advance of SW LRT's opening day in 2018. Table 7-1 and Figure 7-14 show opening day improvements that are part of the SW LRT anticipated base project scope; these improvements will be part of the overall project cost for construction of the LRT line. Table 7-2 and Figure 7-15 include opening day improvements that are recommended as part of the Southwest Corridor Investment Framework and are beyond the SW LRT anticipated base project scope. Table 7-3 (also shown in Figure 7-15) includes locally requested "betterments"- or improvements that cities have requested to be included in the base project scope pending funding availability.

TABLE 7-1. SOUTHWEST LRT ANTICIPATED BASE PROJECT SCOPE - OPENING DAY STATION AREA IMPROVEMENTS

PLAN KEY	IMPROVEMENT	PROJECT LOCATION	PROJECT NOTES
A	LRT Platform	East of Belt Line Blvd, North of HCRRA site	Includes related LRT infrastructure
B	Park and Ride	North of station platform, south of CSAH 25	Approximately 540 stall surface lot, includes lighting
C	Kiss and Ride	North of station platform, south of CSAH 25	Dropoff area incorporated with park and ride lot
D	Bus Facilities	North of station platform, south of CSAH 25	Bus stop, layover and turnaround incorporated with park and ride lot to accommodate 2 bus routes
E	Roadways	Frontage road adjacent to CSAH 25	Reconfiguration of frontage road between Belt Line Blvd. and Lynn Ave.
F	Sidewalk/Trail	Belt Line Blvd. and regional trail crossing	Reconstruction of regional trail crossing (includes new queue cutter signal)
G	Sidewalk/Trail	East of Belt Line Blvd, North of HCRRA site	New trail bridge over freight rail and LRT just east of Belt Line Blvd.
H	Intersection Enhancement	CSAH 25 and Lynn Ave	New traffic signals and crosswalks
I	Bike Facilities	Near station platform	Allowance for bike storage
J	Wayfinding	Near station platform and park and ride lot	Allowance
K	Landscaping	Near station platform and park and ride lot	Allowance (includes landscaping for park and ride lot)
L	Water*	Near station platform	New water service and fire hydrant to station
M	Utilities*	Project limit area	Adjustment of existing utilities
N	Stormwater management*	Near station platform and park and ride lot	Allowance

Note: Anticipated Southwest LRT Base Project Scope as of December 2013 (subject to change)

** Improvement not symbolized on opening day figures (exact location to be determined as part of the base project scope)*

TABLE 7-2. SOUTHWEST LRT LOCALLY REQUESTED BETTERMENTS - OPENING DAY STATION AREA IMPROVEMENTS

PLAN KEY	IMPROVEMENT	PROJECT LOCATION	PROJECT NOTES
	Roadways	Belt Line Blvd, Park Glen Rd. to CSAH 25	Grade separated crossing with Freight/LRT and regional trail (Belt Line under)
	Trail Overpass	At Belt Line Blvd.	Trail over Belt line (Note: B2 is an alternative to B1 in the event that grade separation with Belt Line does not occur)

TABLE 7-3. SOUTHWEST CORRIDOR INVESTMENT FRAMEWORK (TSAAP) - OPENING DAY STATION AREA IMPROVEMENTS

PLAN KEY	IMPROVEMENT	PROJECT LOCATION	PROJECT NOTES	PRIORITY
1	Roadways	Backage roadway Monterey Ave to Lynn Ave	Construction of backage road along north side of LRT line from Monterey Ave to Lynn Ave and extension of Lynn Ave to backage road	Secondary
2	Roadways	Belt Line Blvd, West 36th Street to CSAH 25	Includes roadway, sidewalk, multi-use trail, streetscape plantings, furnishings, lighting , bike facilities and signage	Primary
3	Streetscape	Park Glen Rd.	Includes sidewalks, streetscape plantings, furnishings, lighting, bike facilities and signage	Secondary
4	Sidewalk/Trail	Along new roadways	Include sidewalks along new roadway segments	Primary
5	Sidewalk/Trail	CSAH 25, Belt Line Blvd to Lynn Ave	Sidewalks along the south side of CSAH 25	Secondary
6	Sidewalk/Trail	Roads north of CSAH 25 (Ottawa, Monterey and Lynn)	New sidewalks to complete gaps in the sidewalk system	Secondary
7	Intersection Enhancement	CSAH 25 and Belt Line Blvd	Enhanced crosswalks and traffic signals	Secondary
8	Intersection Enhancement	Belt Line Blvd and Park Glen Rd.	Enhanced crosswalks and new traffic signals	Primary
9	Bike Facilities	Near station platform	Bike parking, lockers, pump station and bike share facilities (beyond SPO improvements)	Primary
10	Wayfinding	Station Area	Signage and wayfinding (beyond SPO improvements)	Primary
11	Public Plaza	Along south side of LRT	Plaza includes plaza, parking, seating, plantings, lighting, signage, and public art (beyond SPO improvements)	Primary
12	Public Art	Station Area	Incorporate public art (beyond SPO improvements)	Secondary
13	Sanitary Sewer	Along CSAH 25	Relocate existing 9" and 10" sanitary sewer and MCES interceptor pipe	Primary
14	Water	Along CSAH 25	Relocate existing 12" water main	Primary
15	Water	Belt Line Blvd.	Consider upsizing water main	Primary
16	Bike Facilities	Ottawa St. north of CSAH 25 to Minnetonka Blvd.	Bike Lanes	Secondary

FIGURE 7-14. ANTICIPATED BASE PROJECT SCOPE + PROPOSED BETTERMENTS - OPENING DAY STATION AREA IMPROVEMENTS

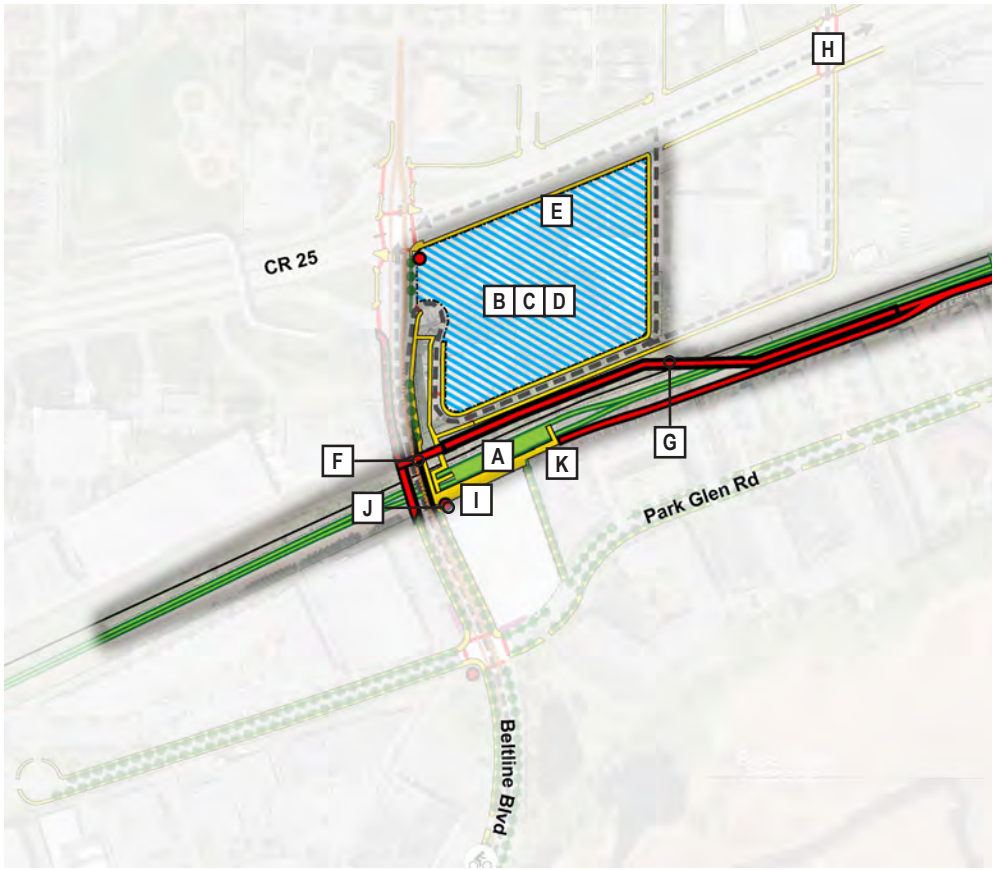
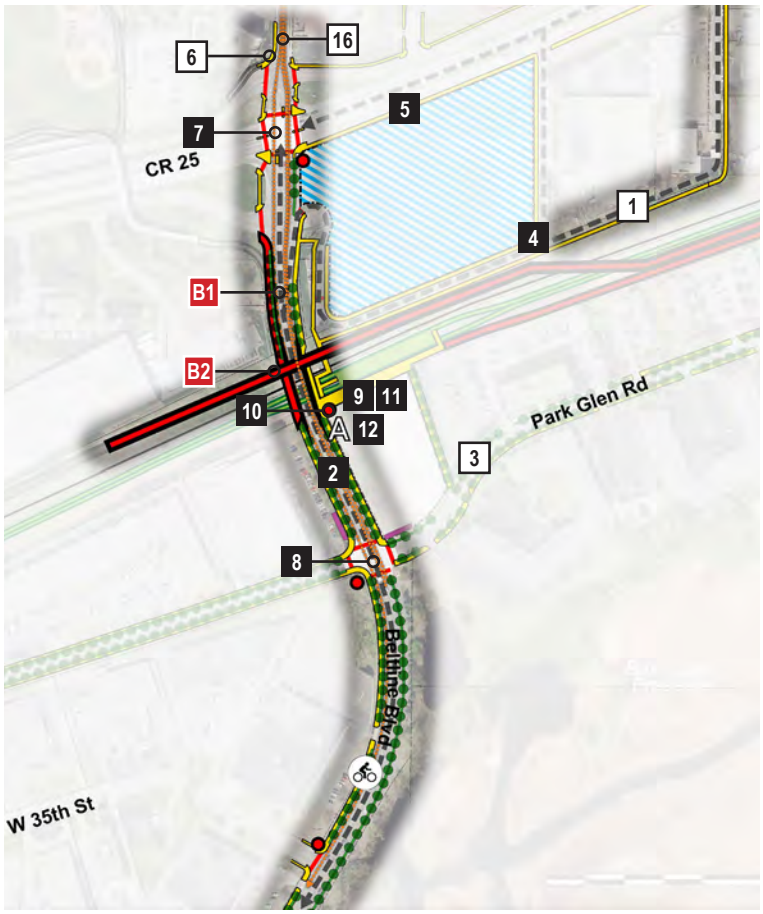


FIGURE 7-15. SOUTHWEST CORRIDOR INVESTMENT FRAMEWORK (TSAAP) - OPENING DAY STATION AREA IMPROVEMENTS



PRIMARY PRIORITY # SECONDARY PRIORITY B BETTERMENTS

Development Potential

OVERVIEW

Several factors surrounding the Belt Line station present opportunities for future redevelopment. In addition to a new LRT station, nearby destinations and amenities that might drive development interest include the Excelsior & Grand mixed-use development, St. Louis Park Recreation Center, Wolfe Park, and Bass Lake Preserve.

The land uses near the Belt Line station area include a mix of light industrial, commercial, residential, and park/open space uses. Adjacent to the proposed station platform is a two-acre Hennepin County-owned site that remains vacant. Underutilized sites such as this and other nearby commercial and light industrial sites along Belt Line Boulevard and CSAH 25 present opportunities for future redevelopment in the area.

Key challenges that should be addressed to facilitate development potential include land uses, additional roadways and existing roadway improvements, smaller block sizes, connectivity in the station area, and traffic concerns along Belt Line Boulevard.

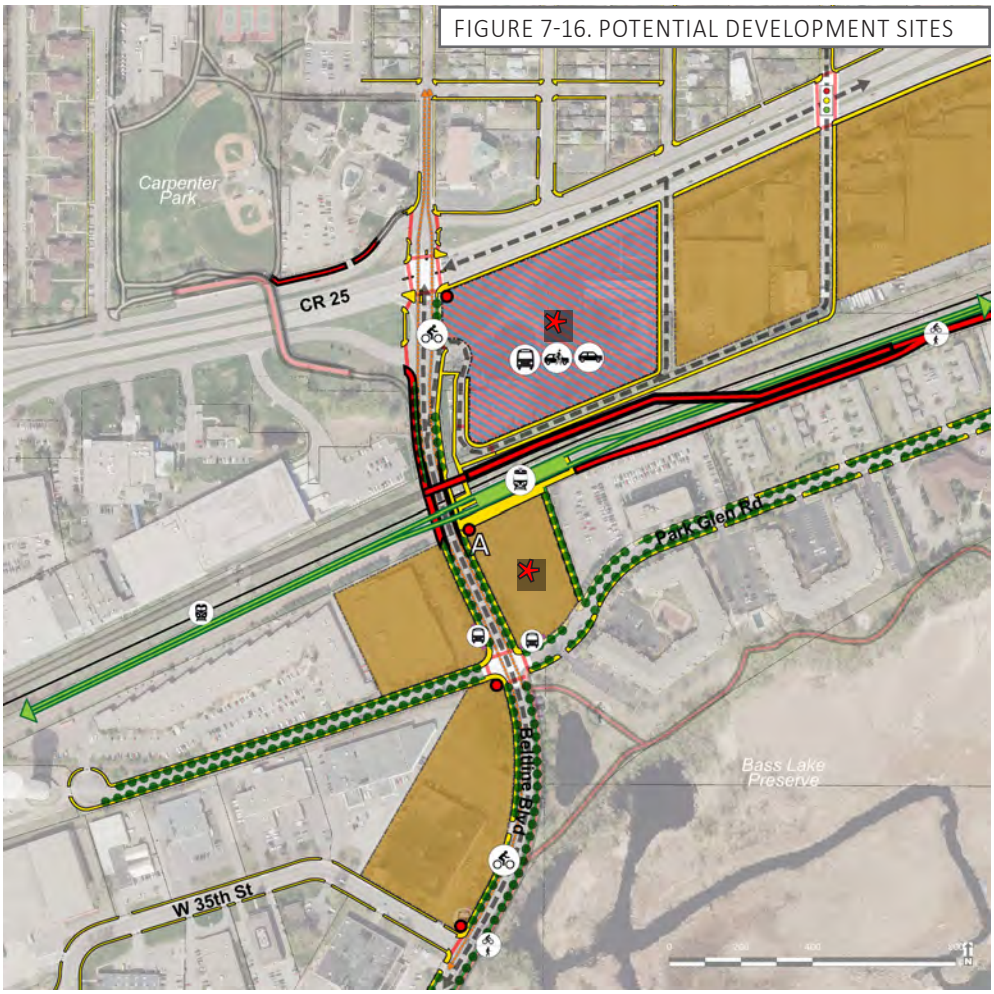
LAND USES

Long-term development potential for the Belt Line station area should include an eclectic mix of light industrial, office, high density residential, office, and commercial land uses.

PLANNING STRATEGIES

Several strategies should be addressed to facilitate future development in the station area. Land uses, large block sizes, and limited connectivity in the area create challenges to accessing the station. Redevelopment should seek opportunities to introduce a finer grain of streets and block sizes to enhance station mobility and set up a framework for more compact, higher density, mixed-use development. Streetscape improvements along roadways connecting the station area with potential development sites, local destinations, neighborhoods and bus transit facilities will enhance development potential in the area. In particular, streetscape improvements to CSAH 25 and Belt Line Boulevard are essential to enhancing access and development potential near the station.

FIGURE 7-16. POTENTIAL DEVELOPMENT SITES



Key Considerations for Change and Development Over Time

Development within the station area should introduce a mix new uses that can bring more people, bridge the gap between neighborhoods to the north and south and reinforce Belt Line Boulevard as an important walking and cycling spine. Key considerations should include:

BUILT FORM AND LAND USE

» Introduce a mix of high density residential and employment uses throughout the station area with a focus on areas adjacent to Belt Line Boulevard.

» Incorporate live/work opportunities.

» Design new buildings to enhance pedestrian access by orienting them towards the street and locating them as close to the street line as possible.

» Incorporate active ground level uses on buildings adjacent to the station and encourage active ground level uses on buildings facing onto Belt Line Boulevard.

» Provide additional building setbacks and incorporate weather protection such as awnings along Belt Line Boulevard between Park Glen Road and the rail corridor to provide additional space and amenity for riders transferring between bus and LRT services.

» In the event that the Park and Ride is convenient to a structure, ensure that the design of the Park and Ride facility incorporates new development that can wrap the parking facilities and actively address Belt Line Blvd and CSAH 25.

PUBLIC REALM

» Introduce a public plaza adjacent to the station and to Belt Line Boulevard to provide spill out space for active uses facing the station and act as a receiving point for passengers walking to the station or transferring to the LRT by bus or bike.

» Improve connections between the station and neighborhoods to the north and south through streetscape enhancements including the provision/completion of sidewalks on both sides of the street and the addition of pedestrian-oriented lighting.

MOBILITY

» Locate park and ride facilities so that they are within a convenient walk but not immediately adjacent to the station so that there is the potential for higher density uses next to the station that can support transit ridership and increase station area activity.

» Minimize the impact of parking and circulation on pedestrians by locating parking below grade or to the rear of new buildings in structures, and consolidating access and service drives.

» Accommodate retail and short-term parking on-street or in shared parking facilities to minimize the construction of single use parking areas.

» Support pedestrians through the introduction of sidewalks on all streets within the station area, new crossings, and curb cuts for people in wheel chairs or other mobility devices.

» Develop dedicated cycling facilities along Belt Line Boulevard to enhance access for cyclists traveling from Excelsior Boulevard to the south and the Fern Hill neighborhood to the north.

» Limit vehicular access points along Belt Line Boulevard and CSAH 25.

» Consider removing the frontage road, narrowing CSAH 25, and facing the street with new development so that it can become a more urban avenue.

Active street level uses

Public plaza example

Station Area Utility Plan

OVERVIEW

The station area utility plan and strategies recommended below were developed by considering future transit-oriented development within the station area, as depicted by the Station Area Improvements Plan (Figure 7-10). St. Louis Park will need to apply these localized recommendations to the city-wide system to ensure that the potential development/redevelopment will not be limited by larger system constraints. Existing models or other methods can be used to check for system constraints in the station areas.

St. Louis Park should also consider reviewing the condition of their existing utilities in the station development area. The station construction would provide St. Louis Park an opportunity to address any utilities needing repairs. Once the larger system has been reviewed for system constraints, St. Louis Park will be able to accurately plan for necessary utility improvements in their city Capital Improvement Program (CIP). All utilities located beneath the proposed LRT rail or station platform should be encased prior to the construction of these facilities. The costs associated with encasing these facilities is assumed to be a project cost and is not included in potential improvements identified for the St. Louis Park CIP.

APPROACH

Utility improvement strategies are outlined in this report for the ultimate station area development (2030), as well as improvements which should be considered prior to opening day anticipated in 2018. Although recommendations are categorized in one of these two timeframes, St. Louis Park should weigh the benefits of completing more or less of these improvements as land becomes available for future development. St. Louis Park should take the utility analysis a level further and model future utilities in their city utility system models.

The proposed development and redevelopment areas were evaluated based on Metropolitan Commission Sewer Availability Charge (SAC) usage rates and estimated flows. Estimated flows for one possible development scenario in this area indicate that internal to the station area, no more than 8-inch pipes are necessary to serve the mix of proposed and existing development. Each utility system should still be reviewed to identify capacity and demand constraints to the larger system associated with increase in flows from the proposed developments and existing developments in the area. St. Louis Park should anticipate the construction of new municipal utilities in conjunction with new or realigned roadways.

GENERAL RECOMMENDATIONS - SANITARY SEWER

Sanitary sewer recommendations for station area improvements include opportunities for St. Louis Park to improve the existing sanitary sewer network, without necessarily replacing existing sanitary sewers. When recommendations for "improving" existing sanitary sewer are noted, St. Louis Park should consider the level to which each specific sewer should be improved. Methods of improvement could include: lining the existing sewer, pipe joint repair, sewer manhole repair, relocation, and complete replacement.

The following items should be evaluated prior to opening day of the station, although action may not be required until necessary for development:

- Televising existing sewer mains in the station area and proposed development area to determine the condition of the sewer mains, susceptibility for backups or other issues and evaluate for Infiltration and Inflow (I&I).
- Locations of known I&I. If previous sewer televising records, city maintenance records, or an I&I study have shown problems, the city should consider taking measures to address the problem.
- The age and material of existing gravity and/or forcemain sanitary sewer in the identified station area. If the lines are older than the material's typical design life or materials which are susceptible to corrosion relative to soils in the area, the city should consider repairing, lining or replacing the mains.
- Locations of known capacity constraints or areas where city sewer models indicate capacity issues. If there are known limitations, the city should further evaluate the benefit of increasing pipe sizes.
- City sewer system models (existing and future). A review of these models with future development would assist St. Louis Park in determining if sewers in the project area should be increased to meet existing or future city system needs.
- Existing sewer pipes should be relocated or encased in areas where they cross or are immediately adjacent to the LRT Line/Station.

GENERAL RECOMMENDATIONS - WATER MAIN

Water main recommendations for station area improvements also include opportunities for St. Louis Park to improve the existing water system network. Creating loops in the network can help prevent stagnant water from accumulating along water main stubs, and creating loops of similar sized water main provides the city a level of redundancy in their water network. Redundancy helps reduce the impacts to the community during system repairs, and also helps stabilize the pressure in the network.

The following items should be evaluated prior to opening day of the station, although action may not be required until necessary for development:

- The age and material of the existing mains in the identified station area. If the mains are older than the materials typical design life or materials which are susceptible to corrosion relative to soils in the area, the city should consider replacing the main.
- Locations of previous water main breaks. If water main breaks repeatedly occur in specific areas, the city should consider replacing or repairing the main.
- Locations with known water pressure issues or areas where city model indicate low pressure. If there are known limitations (for either fire suppression or domestic uses), the city should further evaluate the benefit of increasing main sizes.
- Locations with known or potential water quality issues. If there are mains known to be affecting the water quality (color, taste, odor, etc.) of their system, St. Louis Park should consider taking measures to address the problem affecting water quality.
- City water system models (existing and future). A review of these models with future development would assist St. Louis Park in determining if mains in the project area should be improved to meet existing or future city system needs based on demand constraints.
- Existing water main pipes should be relocated or encased in areas where they cross or are immediately adjacent to the LRT Line/Station.

GENERAL RECOMMENDATIONS – STORM SEWER

Local storm sewer improvements are recommended to be completed in conjunction with other improvements in the station area. Improvements which will likely require storm sewer modifications include: roadway realignments, roadway extensions, and pedestrian sidewalk/street scape improvements. Storm sewer improvements may consist of: storm sewer construction, manhole reconstruction, drain tile extensions, storm sewer relocation, and complete replacement. These local storm sewer improvements are included as part of the overall cost of roadway and streetscape improvements recommended in this plan. Where roadway/streetscape improvements are part of the SW LRT base project scope, associated storm sewer improvements are assumed to be a project cost. St. Louis Park should also consider coordinating with the local watershed district and other agencies to review the condition of and capacity of existing trunk storm sewer systems serving more regional surface water needs.

STORMWATER BEST MANAGEMENT PRACTICES

There are numerous stormwater best management practices (BMPs) that can be used to address stormwater quality and quantity. As part of this project, BMP guides were developed for four stations (Royalston, Blake, Shady Oak, and Mitchell) which exemplify the range of development intensity and character in the urbanized environment along the Southwest LRT Corridor. The recommendations and practices identified in each of the four BMP guides are applicable to various stations along the corridor.

Potential stormwater management strategies for this station area may be similar to those shown in the BMP guide for the Blake station (see p. 10-28). Minneapolis should consider implementing applicable best management practices similar to those in the Blake station BMP guide. Stormwater management recommendations should be constructed in conjunction with public and private improvements and future development/ redevelopment in the station area.

Station Area Utility Plan (Continued)

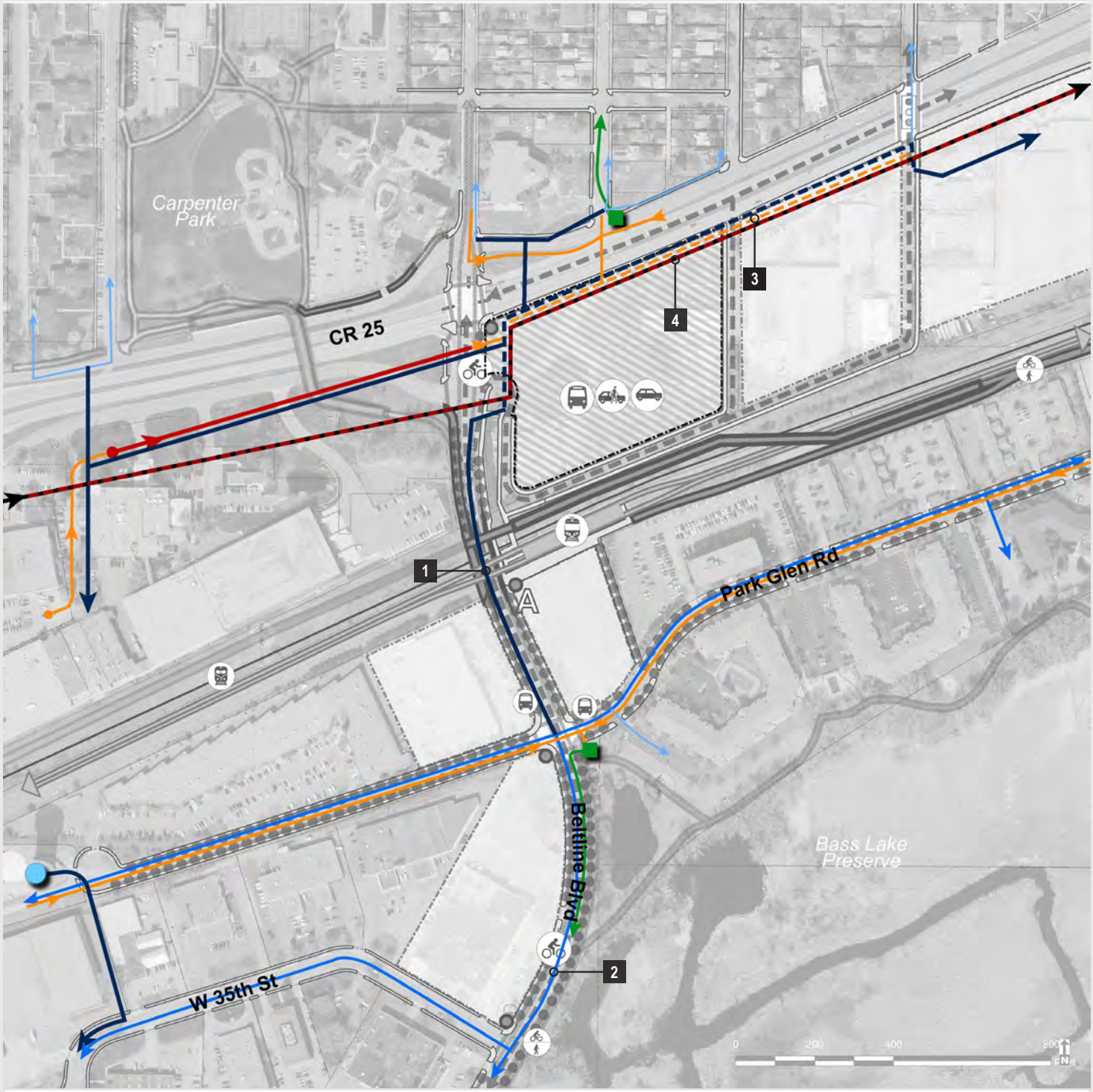
STATION AREA UTILITY RECOMMENDATIONS

Utility recommendations (illustrated in Figure 7-16) are based on a localized analysis of proposed development. It is recommended that the City of St. Louis Park take this analysis a step further and review system constraints to the existing and future sanitary sewer and water main systems using existing sewer CAD or water CAD models, or other methods of modeling these systems.

Opening Day Recommendations:

1. Encase existing water main crossing LRT rail construction.
2. Consider upsizing existing 8-inch water main to 12-inch to create 12-inch loop system (confirm with City models).
3. Relocate existing 9-inch sanitary sewer to promote TOD along CSAH 25 and consider upsizing to 10-inch minimum sanitary sewer in conjunction with service roadway realignment.
4. Relocate existing MCES interceptor to promote TOD along CSAH 25 in conjunction with service roadway realignment.

FIGURE 7-17. STATION AREA UTILITY PLAN



OPENING DAY RECOMMENDATION

LONG-TERM RECOMMENDATION

EXISTING UTILITIES

PROPOSED UTILITIES

SERVICE SANITARY

LOCAL SANITARY

TRUNK SANITARY

MCES SANITARY INTERCEPTOR

SANITARY SEWER FORCEMAIN

LIFT STATION

SERVICE WATER MAIN

LOCAL WATER MAIN

TRUNK WATER MAIN

WATER TOWER

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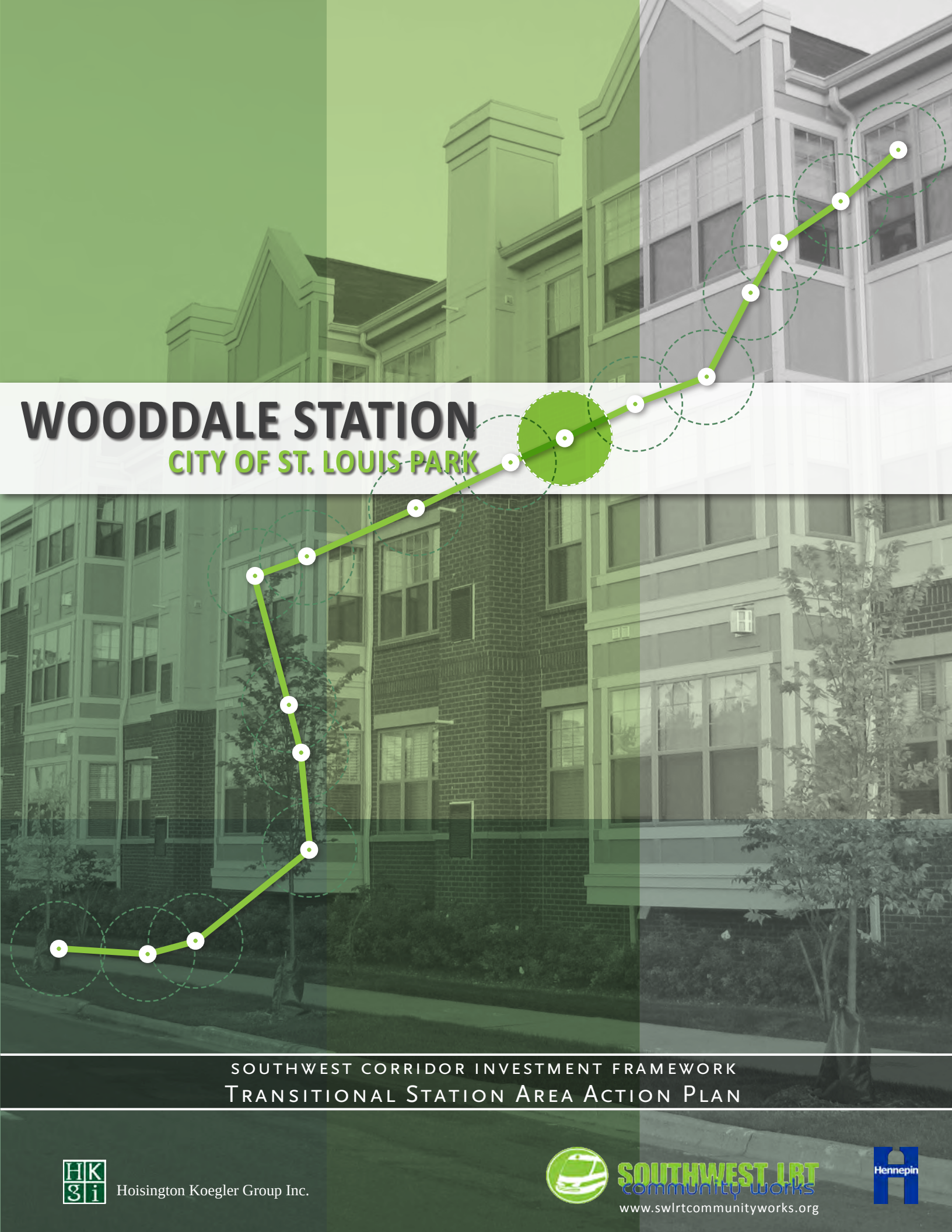


WOODDALE STATION

CITY OF ST. LOUIS PARK

SOUTHWEST CORRIDOR INVESTMENT FRAMEWORK

TRANSITIONAL STATION AREA ACTION PLAN

Hoisington Koegler Group Inc.

SOUTHWEST LRT community works

www.swlrtcommunityworks.org

Hennepin

ABOUT THIS CHAPTER:

The Transitional Station Area Action Plans are the product of a Hennepin County led effort to help communities along the Southwest LRT corridor prepare for SW LRT's opening day in 2018 and beyond.

An individualized plan has been created for each of the 17 stations in the Southwest Corridor, each plan comprising a chapter in the larger Southwest Corridor Investment Framework. The station area action plans suggest ways to build on local assets, enhance mobility, identify infrastructure needs, and capitalize on promising opportunities for development and redevelopment near each station.

Two location alternatives are under consideration for the Wooddale Station, noted in this chapter as "Wooddale West" and "Wooddale East". A complete set of recommendations has been developed for each alternative and is included in the "Where are We Going?" section of this report (see description below).

Plan Components:

INTRODUCTION 8-2
A brief overview of the station location and its surroundings

WHERE ARE WE TODAY? 8-4
A description of existing conditions in the station area, including:

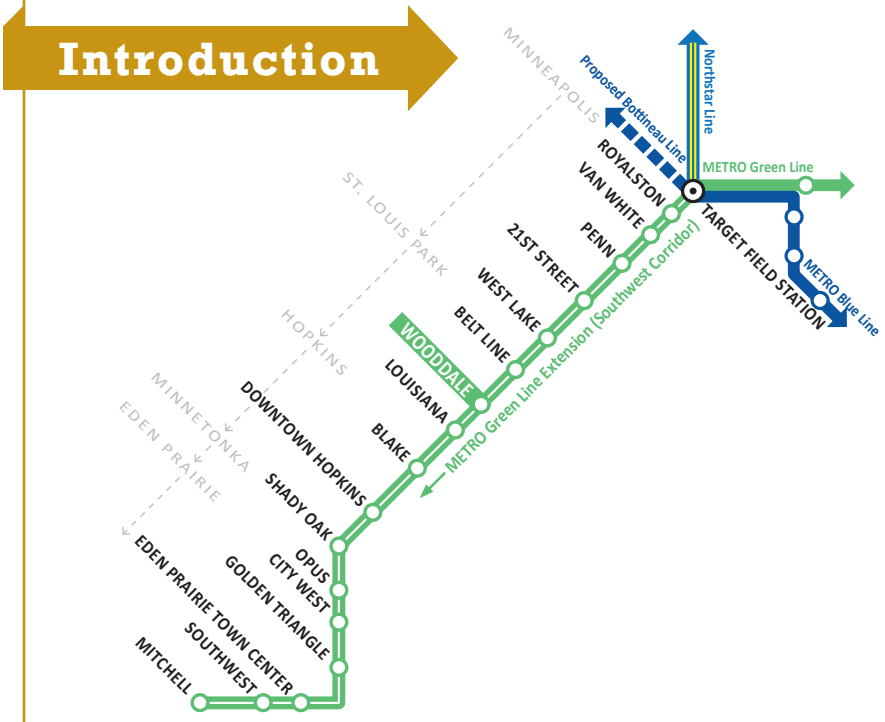
» Land Use
» Transit Connections
» Access + Circulation Issues (Bike, Ped, and Auto)
» Infrastructure Needs

WHERE ARE WE GOING?
• Wooddale West 8-8
• Wooddale East 8-22

This section presents a number of recommendations for the station area in anticipation of opening day needs and the long-term TOD environment. Recommendations are provided for both potential station locations. This includes:

» Access + Circulation Plan
» Station Area Site Plan
» Infrastructure Plan
» Development Potential
» Summary of Key Initiatives

Introduction



WOODDALE STATION WITHIN THE CORRIDOR:

A transit-oriented neighborhood providing access to a mix of housing types and local schools.

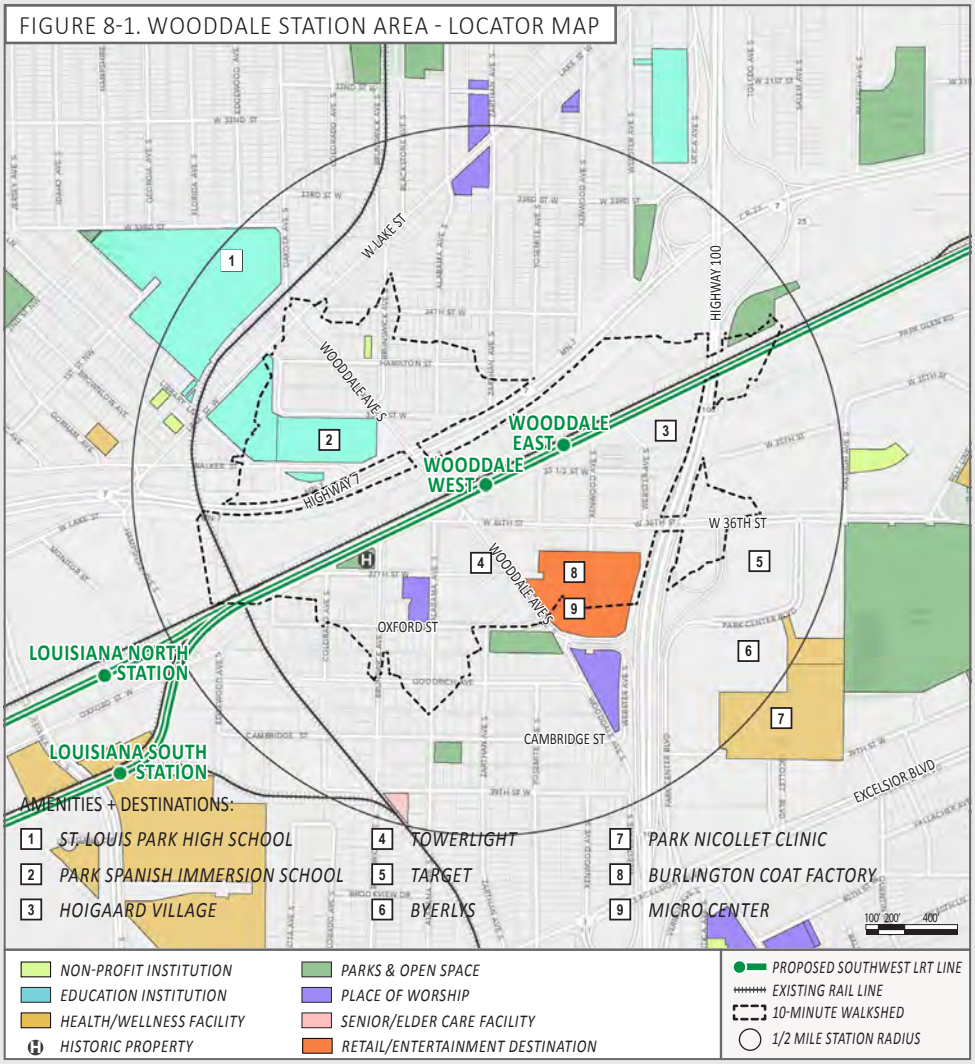
NEIGHBORHOODS The Wooddale station area is already developing into a more transit-supportive Urban Village (see Place Types discussion beginning on p. 1-19) with medium- to high-density residential development, a walkable street and block pattern, and active uses lining West 36th Street. This pattern of development, supported by the LRT is expected to continue over time to create a higher density residential neighborhood immediately adjacent to the station. To the south and north of the station area are the Elmwood and Sorenson neighborhoods respectively. While these are much lower density, they are structured around a strong street and block pattern that, with additional sidewalks, could be supportive of people walking to and from the station.

EDUCATIONAL DESTINATION The station will be the primary point of access for students traveling to St. Louis Park High School and the Park Spanish Immersion School/Community Center, which are located to the north of the station along Wooddale Avenue. Both schools draw students from outside of the station area that may take the LRT.

TRAIL CONNECTIONS The Cedar Lake LRT Regional Trail, a popular biking and walking trail that connects downtown Minneapolis to the western suburbs, passes through the station area, running alongside the LRT line.

HERITAGE, ARTS & CULTURE National Register listed/eligible historic properties in this station area include the Chicago, Milwaukee, and St. Paul Railroad Depot in Jorvic Park.

FIGURE 8-1. WOODDALE STATION AREA - LOCATOR MAP



NOTE: 10-minute walkshed approximates the area accessible within a 10-minute walk from the station platform using only the existing sidewalk/trail network. See Glossary for walkshed assumptions and methodology.

Station Location

Only one of the Wooddale station locations shown here (Wooddale West) is in the SW LRT anticipated base project scope. Wooddale East is an alternate concept location and is not in the anticipated base project scope. In both location alternatives, the station platform is located south of the existing freight rail corridor, between Wooddale and Xenwood Avenues. Both locations are in the Elmwood neighborhood between Highway 7 to the north and W. 36th Street to the south.

The station area features a mix of land uses, including residential, office, industrial, retail, and civic/institutional uses. Major destinations in the area include St. Louis Park High School, Park Spanish Immersion School, Target, Park Nicollet Clinic, Burlington Coat Factory, Micro Center, and Byerlys. The Cedar Lake LRT Regional Trail runs adjacent to the proposed LRT corridor within the station area.

The area has seen a great deal of redevelopment activity in recent years, with new mixed-use and medium- to high-density residential buildings being developed near the proposed station locations, including Hoigaard Village and TowerLight, a senior rental community. Over 1,000 housing units have been developed in the station area in recent years. The station is anticipated to serve primarily the residents of the Sorenson and Elmwood neighborhoods.

WOODDALE STATION AREA TODAY:

Existing condominiums/apartments

Existing rail and trail corridor

Adjacent highway access

Park Spanish Immersion School/ Community Center

St. Louis Park High School

Where Are We Today?

The following section describes the station area's EXISTING CONDITIONS, including the local context, land uses, transit and transportation systems, pedestrian and bicycle facilities, assets, destinations, and barriers to accessing the station. This analysis of current conditions presents key issues and opportunities in the station area and informs the recommendations for future station area improvements.

NOTE: Existing conditions maps are based on data provided by Hennepin County and local municipalities. The data used to create each map is collected to varying degrees of accuracy and represents infrastructure and conditions at varying points in time. Actual conditions may vary slightly from what is shown.

Land Use

Existing land uses near the Wooddale station include a mix of residential, retail, office, civic/institutional, and light industrial uses. In recent years the area has seen redevelopment activity near the proposed station. Much of this redevelopment is medium- to high-density residential, located near the proposed station platform. Further from the platform, single-family detached housing is a predominant land use. The Elmwood Land Use, Transit and Transportation Study identifies redevelopment potential and future land use recommendations in the Wooddale Station area. The plan calls for a continued mix of uses, including office, civic, retail, and medium- to high-density residential uses near the station area. W. 36th Street is identified as a mixed-use corridor with neighborhood retail and services. St. Louis Park High School is located approximately a half-mile to the northwest of the station platform, north of Highway 7. Just to the east of State Highway 100, land uses include a regional shopping center and light industrial uses.

FIGURE 8-2. EXISTING LAND USE

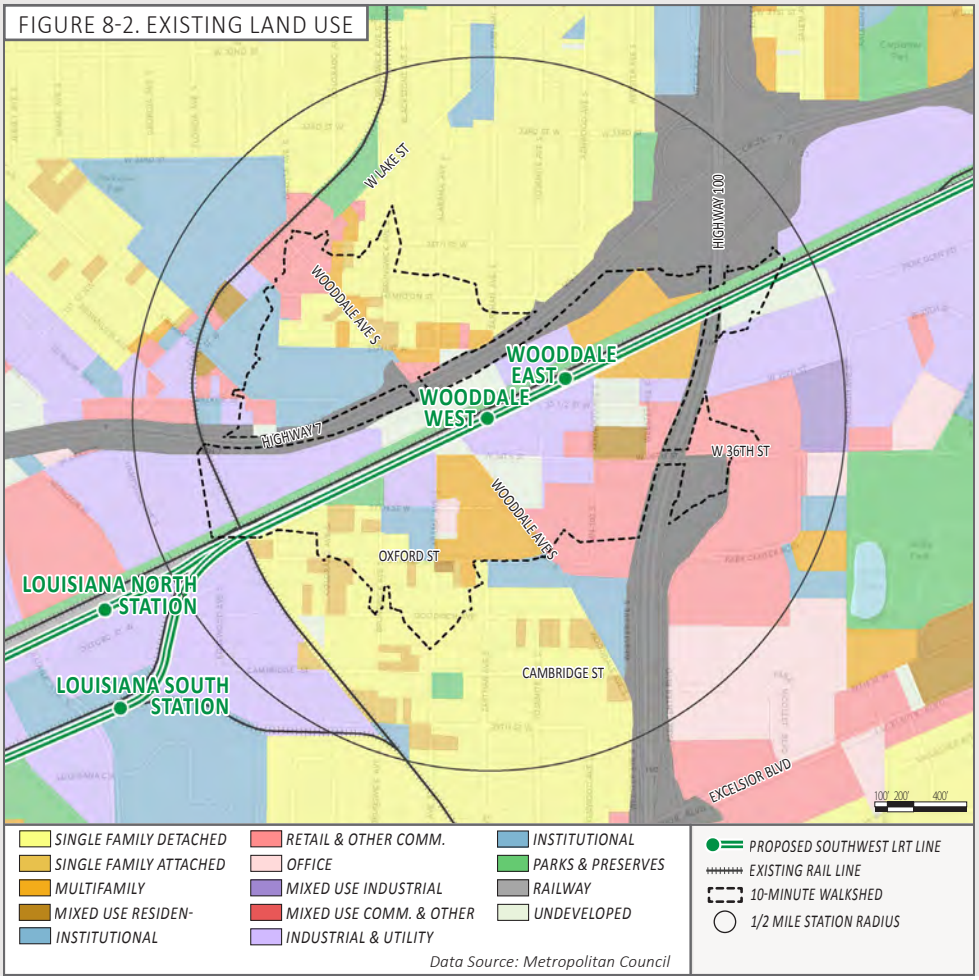
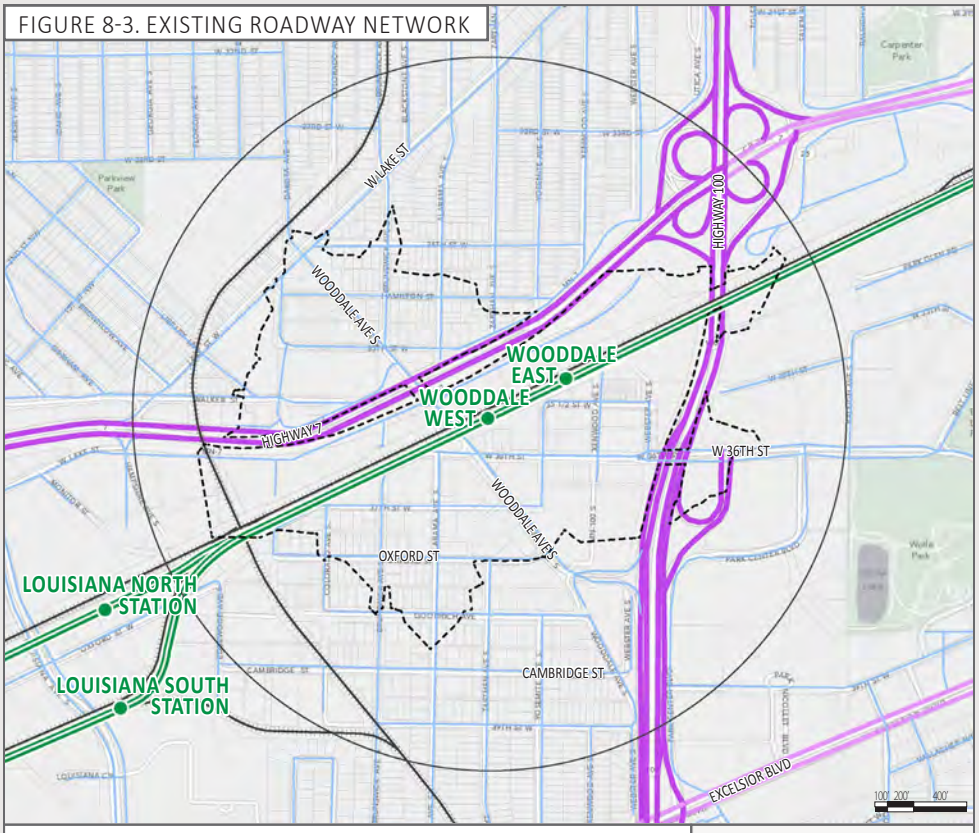
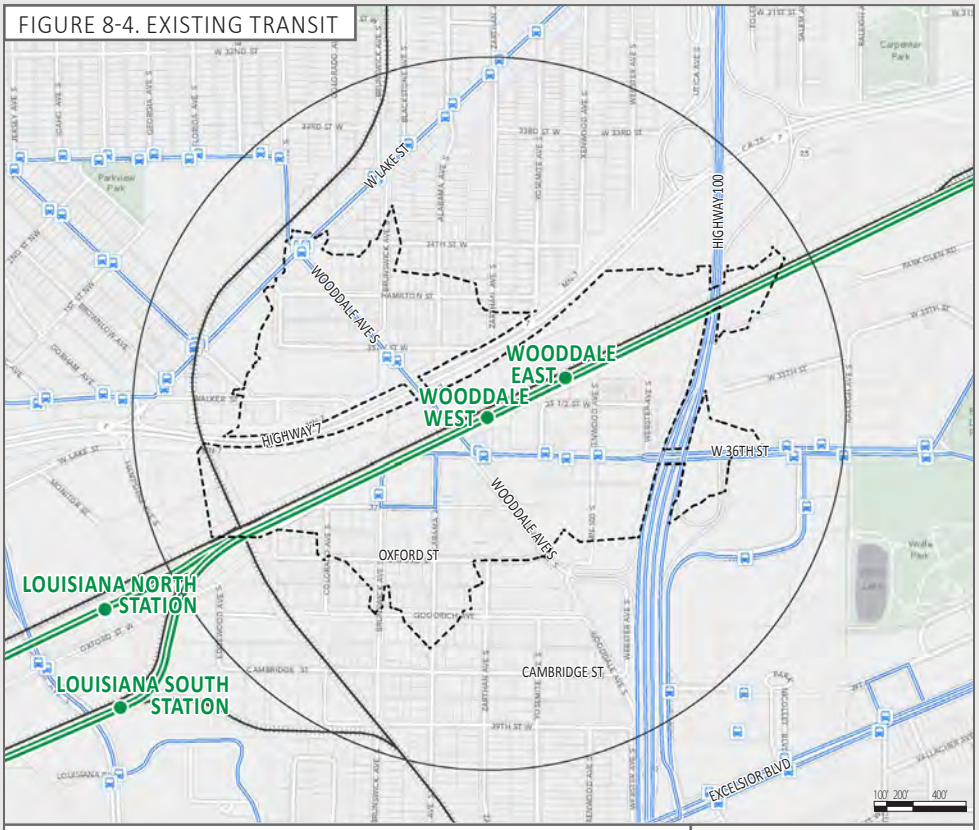


FIGURE 8-3. EXISTING ROADWAY NETWORK



Data Source: Hennepin County

FIGURE 8-4. EXISTING TRANSIT



Roadway Network

The roadway network located near the Wooddale Station is is a grid system is bifurcated along a diagonal by the existing railroad and state highway. The future LRT will perpetuate this divide. Wooddale Avenue is the only local access route between the neighborhoods north and south of the rail within the station area. As a result, there are traffic conflicts immediately adjacent to the proposed station area where Wooddale Avenue, W. 36th Street, and State Highway 7 come together. Intersection spacing in this area leaves little room for stacking automobiles. Added to this, the freight rail line further complicates traffic movement when trains are running through the area. Wooddale Avenue provides north-south connections to the neighborhoods and passes over State Highway 7 on the recently completed Wooddale Avenue Bridge. This is an important connector for residents living in the Sorenson and Elmwood neighborhoods. W. 36th Street passes over State Highway 100 east of the station area and provides a connection to neighborhoods east of the station. W. 36th Street is an important mixed-use street and the public art initiatives on this street contribute to community identity. State Highway 7 runs parallel to the LRT line, immediately to the north. State Highway 100 runs perpendicular to the LRT line just to the east.

Transit

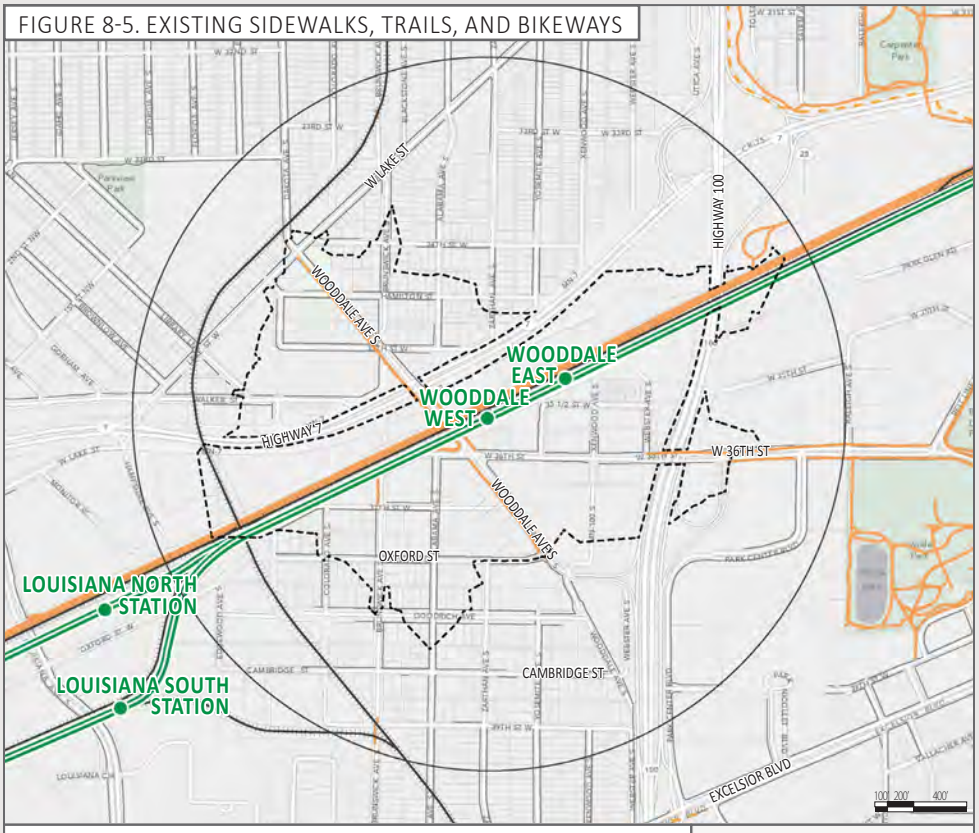
The Wooddale Station is well served by bus routes along W. 36th Street and Wooddale Avenue. Routes #17 and #615 serve the area. Bus stops for these routes are located on W. 36th Street near the proposed station platform.

Sidewalk, Trails and Bikeways

There is a good system of sidewalks along roadways in the Wooddale station area. Some gaps exist depending on land uses and block sizes, particularly to the souteast of the station near the Burlington Coat Factory site and to the east around the Hoigaard Village site. The pedestrian facilities on the Wooddale Avenue Bridge are incomplete where the free right turns occur to State Highway 7.

The Cedar Lake LRT Regional Trail runs parallel and next to the LRT line through the station area, providing access for transit users to the regional trail system. There are existing concerns and conflicts with the regional trail crossing, which involves a four-lane roadway (Wooddale) at-grade. The trail/bikeway system breaks down going north and south into the neighborhoods, just running a few blocks in either direction of the proposed station platform. A gap exists in the W. 36th Street trail/bikeway system from Wooddale Avenue to Webster Avenue.

FIGURE 8-5. EXISTING SIDEWALKS, TRAILS, AND BIKEWAYS



Existing Sanitary Sewer

Sanitary sewer infrastructure consists of a collection of gravity flow sewer mains, lift stations, and pressurized forcemains that transport sewage to a wastewater treatment plant (WWTP). An efficient collection system has the capacity to accommodate all of the existing land uses within its particular sewershed. Beyond capacity, the material and age of pipes within a system can also impact a system's effectiveness.

Sanitary sewer infrastructure within the project area is typically maintained by either the City of St. Louis Park or by the Metropolitan Council Environmental Services (MCES Division). MCES maintains a series of interceptor trunk sewers which collect sewage at key locations and convey sewage across community boundaries to regional WWTPs. Wastewater from the station area is treated by the MCES Metro WWTP located in St. Paul.

FIGURE 8-6. EXISTING SANITARY SEWER

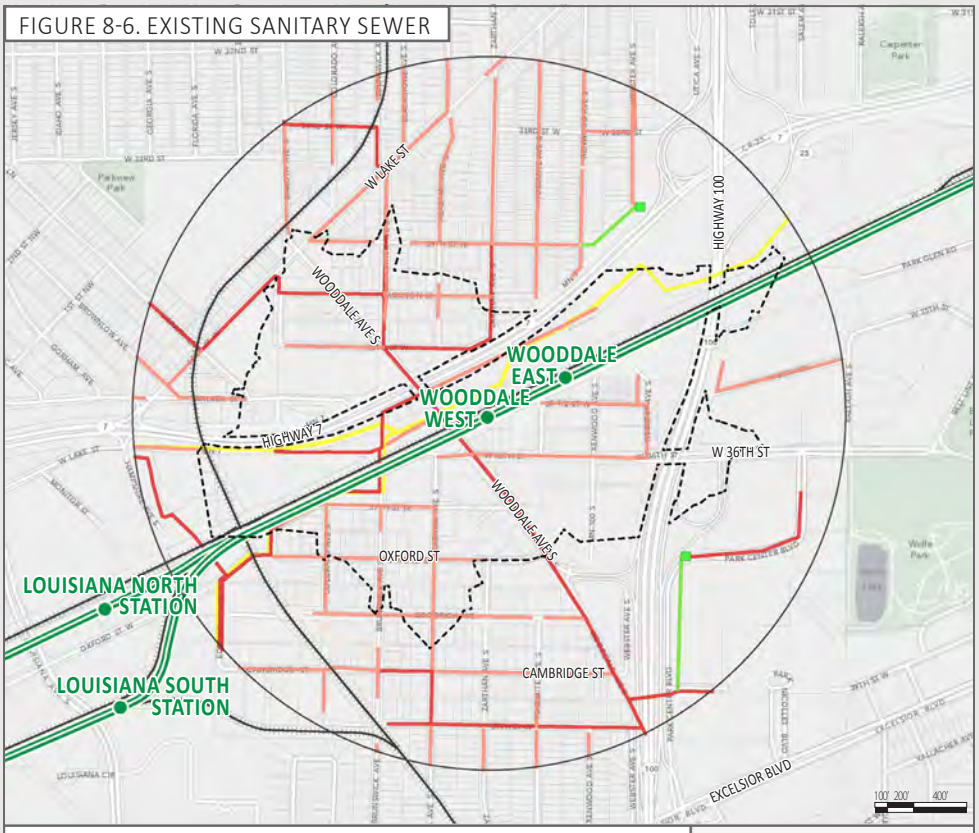
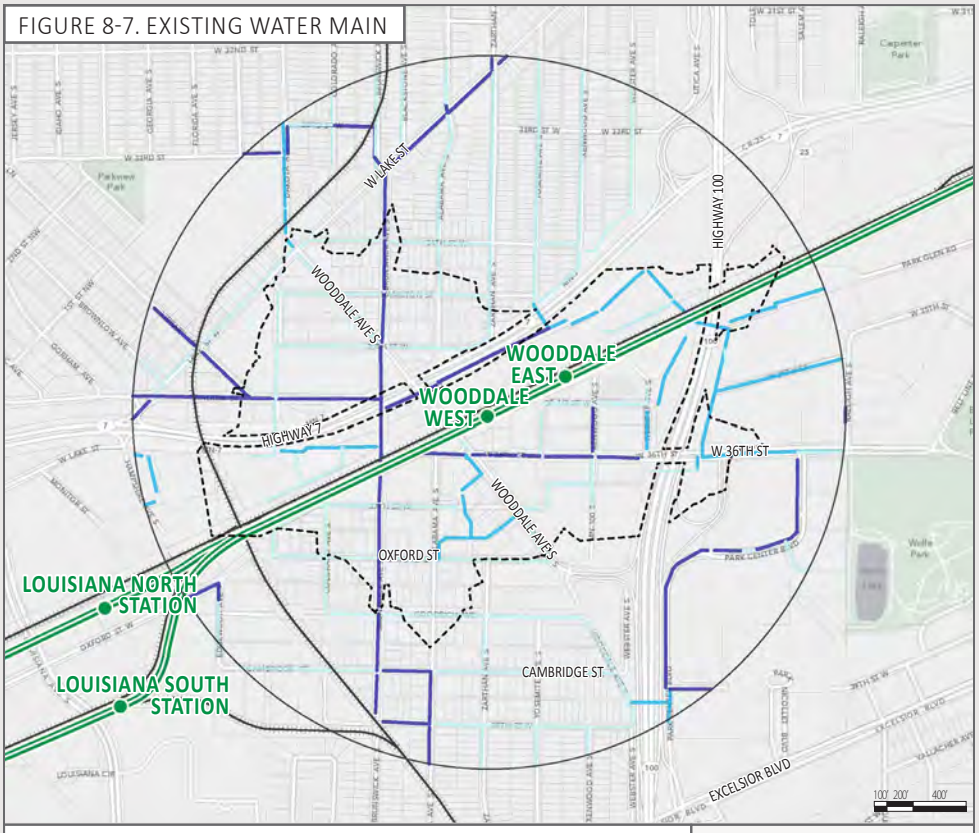


FIGURE 8-7. EXISTING WATER MAIN

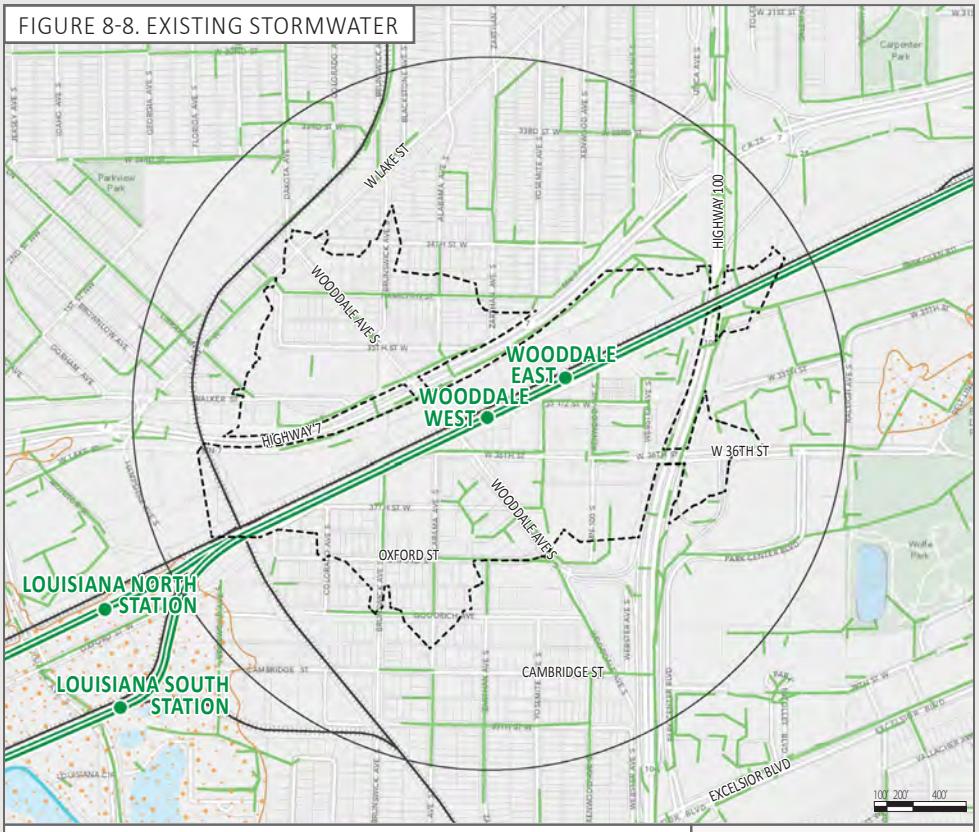


Existing Water Main

Water main distribution systems serve to supply potable water to individual properties and to support fire suppression throughout the community. A well-designed system can maintain adequate pressure to support demand of individual properties and provide high flow rates to fire hydrants/fire suppression systems in emergency situations. Because of the complexity of water distribution networks and the importance of pressure, flow, and water quality, City water system models are used to evaluate a system's adequacy. The material and age of the system's water mains can also be factors in system breaks, leaks, and pressure and flow degradations.

Water pressure and flow rates can be influenced by: the size of water main serving an area, proximity and elevation relative to a water tower, proximity to a trunk water main with high flow capacity, if the main creates a loop, the demand of adjacent land uses, and the condition of the main.

FIGURE 8-8. EXISTING STORMWATER



Stormwater

Wooddale station is in the Minnehaha Creek Watershed District (MCWD). A majority of the drainage is directed east to Bass Lake which is impaired by nutrients. A small portion of the drainage is directed south to Minnehaha Creek. Minnehaha Creek is impaired by dissolved oxygen depletion, chloride, fecal coliform, and fish biology. A small portion of the 100-year floodplain extending from Minnehaha Creek is within the southwestern portion of the walk zone.

Discharging within one mile of impaired water may trigger additional National Pollution Discharge Elimination System requirements which require additional stormwater management. For impaired waters where a Total Maximum Daily Load has been approved, these requirements may increase further. Zoning requirements for areas within the 100-year floodplain may limit development/redevelopment potential.

Any development/redevelopment is anticipated to improve existing drainage conditions as a result of enforcing City and watershed requirements.

Where Are We Going? (*WOODDALE WEST*)

The plans and diagrams on the following pages illustrate a range of recommendations for infrastructure improvements, station amenities, and potential redevelopment opportunities for the *WOODDALE WEST* station location alternative.

The ACCESS AND CIRCULATION PLAN shown in Figure 8-9 provides a high level view of how future transit, automobile, bike, and pedestrian systems will connect to the station area and its surroundings.

Figure 8-10 illustrates the STATION AREA IMPROVEMENTS that will facilitate access to and from the station and catalyze redevelopment in the station area. This includes opening day and long-term station area improvements

Figure 8-11 focuses on OPENING DAY STATION AREA IMPROVEMENTS only. These recommendations represent the improvements necessary to enhance the efficient function of the transit station, roadways, pedestrian and bicycle connections, and transit connections on opening day in 2018.

Station Area Improvements

The discussion below outlines a range of future station area improvements. While some of the identified improvements may be constructed as part of the LRT project itself, other improvements must be funded, designed and constructed by other entities and will require coordination between the City, County, and Metro Transit as well as local stakeholder and community groups.

ROADWAYS

Opening Day Improvements:

» Realign the Highway 7 Southeast Service Road east of Wooddale Avenue to hug the highway until it gets closer to the intersection with Wooddale Avenue, then intersect with Wooddale Avenue where the current intersection is today.

» Install a new traffic signal at Xenwood Ave and W. 36th St.

PEDESTRIAN CONNECTIONS

Opening Day Improvements:

» Focus sidewalk and streetscape enhancements along Wooddale Avenue, from Cambridge Street north to St. Louis Park High School, West 36th Street, West 35th Street, Yosemite Ave, Xenwood Ave, and Highway 7 Service Road.

» Improve pedestrian crossings along West 36th Street and Wooddale Avenue.

» Work with MNDOT to improve pedestrian crossings on the Wooddale Avenue Bridge. Pedestrian crossing markings don't exist today at free right turns onto Hwy 7.

» Install a new traffic signal at Xenwood, Highway 7 Service Road, and W. 36th Street.

Long-Term Improvements:

» Explore the longer term potential for a pedestrian bridge connection over Hwy 100 connecting to the Park Nicollet medical complex, east of Hwy 100.

TRANSIT CONNECTIONS

Opening Day Improvements:

» Provide bus stops and shelters along West 36th Street as near to the LRT station platform as possible

» Consider having buses stop in the drive lane along West 36th Street to slow traffic and prevent buses from getting caught in the layover.

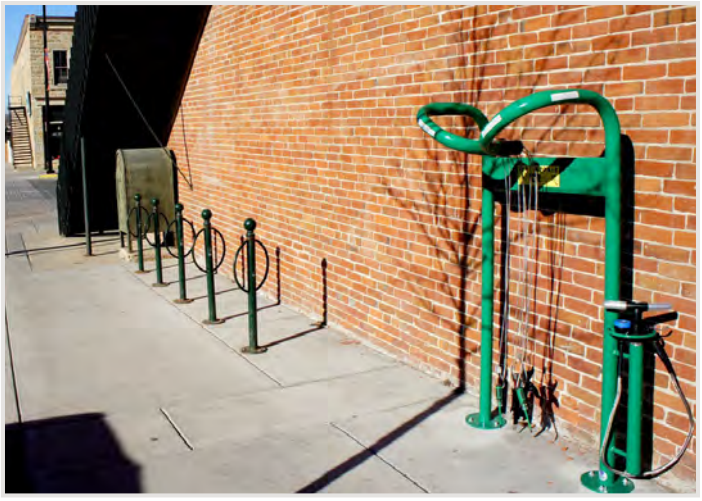
BIKE CONNECTIONS

Opening Day Improvements:

» Provide bike parking, lockers, bike sharing, and bike pumping facilities in a highly visible area near the station platform.

» Provide for a new grade-separated trail crossing with Wooddale Avenue (tunnel under Wooddale).

Enhanced pedestrian crossings



Bike parking and repair station

Public art integration in transit station design

Long-Term Improvements:

» Provide on-street bike facilities (lanes, routes, signage, etc.) on local streets to better connect the station to nearby neighborhoods, businesses, amenities, and destinations.

KISS AND RIDE

Opening Day Improvements:

» Provide space for a kiss and ride pullouts near the station platform on Yosemite Avenue and Highway 7 Service Road.

STATION AMENITIES (*Beyond SW-LRT Base Project Scope*)

Opening Day Improvements:

» Roadways- realign the Highway 7 Service Road east of Wooddale Avenue.

» Transit Facilities- provide facilities for bus transfers and kiss and ride drop-offs near the LRT station platform.

» Wayfinding- define and install a cohesive and contextual wayfinding system near the LRT station platform, major gateways (Wooddale/Hwy 7, Cedar Lake LRT Regional Trail), and major destinations such as the St. Louis Park High School.

» Seating – provide comfortable and durable seating near the station platform.

» Lighting – provide adequate lighting for the safety of pedestrians, bicyclists, and motorists near the station platform.

» Bicycle Facilities- provide bike parking, lockers, pumping station, and bike sharing facilities near the LRT station platform.

» Plaza – provide a public plaza area near the station platform to provide transit users with a paved queue area to wait for LRT trains and move about the station area.

» Public Art- incorporate public art in the station area to create an attractive and identifiable place.

DEVELOPMENT POTENTIAL

Opening Day Improvements:

» The properties located between Highway 7 Service Road and the LRT line represent opening day development potential.

» Realigning the existing frontage road to the north will enhance redevelopment opportunities.

» The adjacent sites at Wooddale Avenue and West 36th Street owned by the City of St. Louis Park and Hennepin County are viewed as having opening day redevelopment potential.

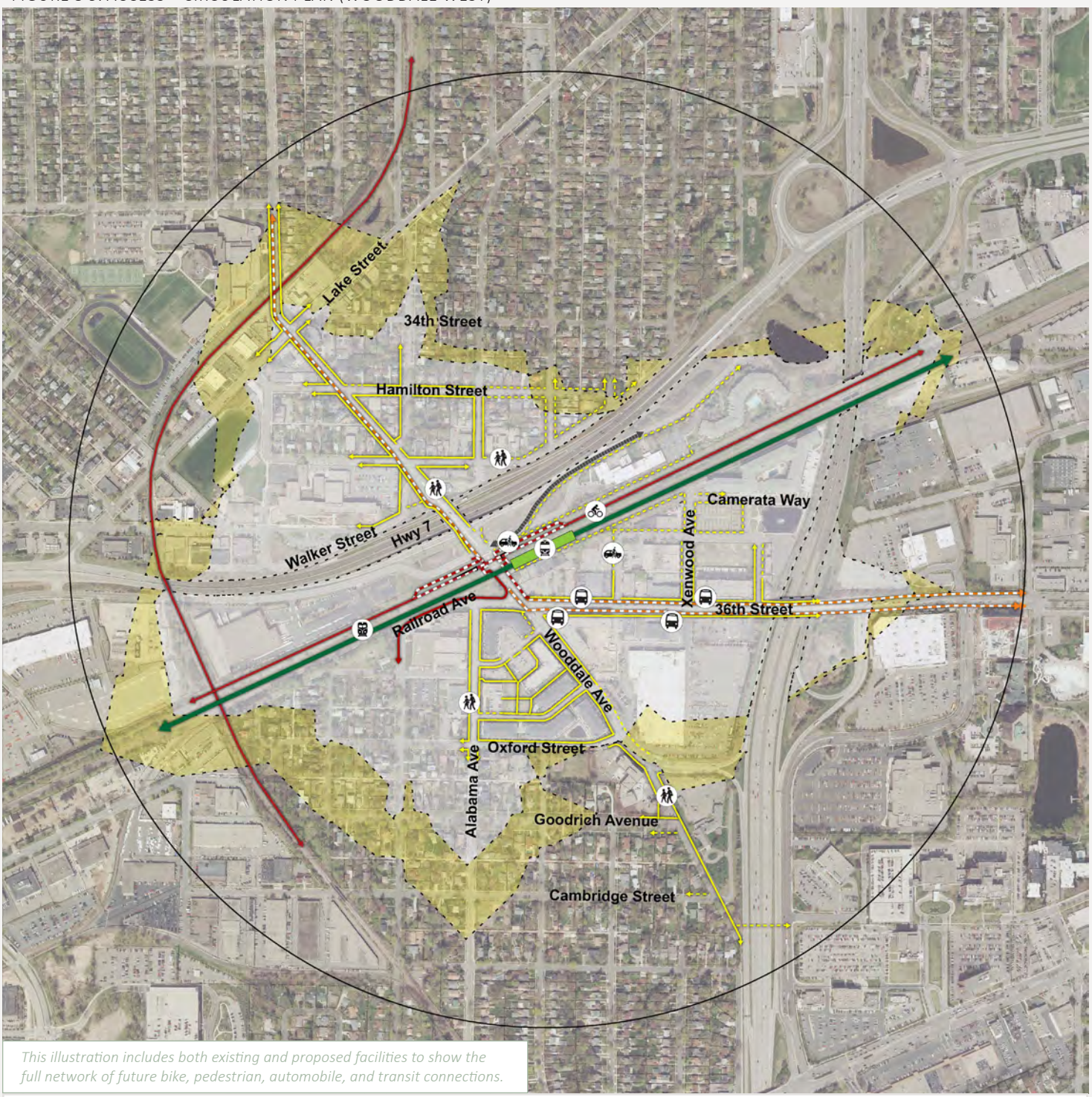
Long-Term Improvements:

» See the "Development Potential" discussion on page 8-16 for more on long-term redevelopment opportunities.

UTILITIES

» See the "Station Area Utility Plan" beginning on page 8-18 for all utility recommendations.

FIGURE 8-9. ACCESS + CIRCULATION PLAN (WOODDALE WEST)



This illustration includes both existing and proposed facilities to show the full network of future bike, pedestrian, automobile, and transit connections.

- LRT PLATFORM
- LRT LINE
- BUS STOP
- PARK AND RIDE
- FREIGHT LINE
- NEW ROADWAY
- KISS AND RIDE
- EXISTING WALKSHED
- EXISTING PEDESTRIAN CONNECTION
- EXISTING BIKE CONNECTION
- EXISTING MULTI USE CONNECTION
- FUTURE WALKSHED (WITH TSAAP IMPROVEMENTS)
- PROPOSED(DASHED) PEDESTRIAN CONNECTION
- PROPOSED(DASHED) BIKE CONNECTION
- PROPOSED(DASHED) MULTI USE CONNECTION

NOTE: Existing walkshed approximates the area accessible within a 10-minute walk from the station platform using only the existing sidewalk/trail network. Future walkshed incorporates all proposed improvements to the sidewalk/trail network. Walksheds are based on GIS modeling and available sidewalk/trail information- and may not reflect exact on-the-ground conditions. See Glossary for detailed explanation of walkshed assumptions and methodology.

FIGURE 8-10. STATION AREA IMPROVEMENTS (WOODDALE WEST)

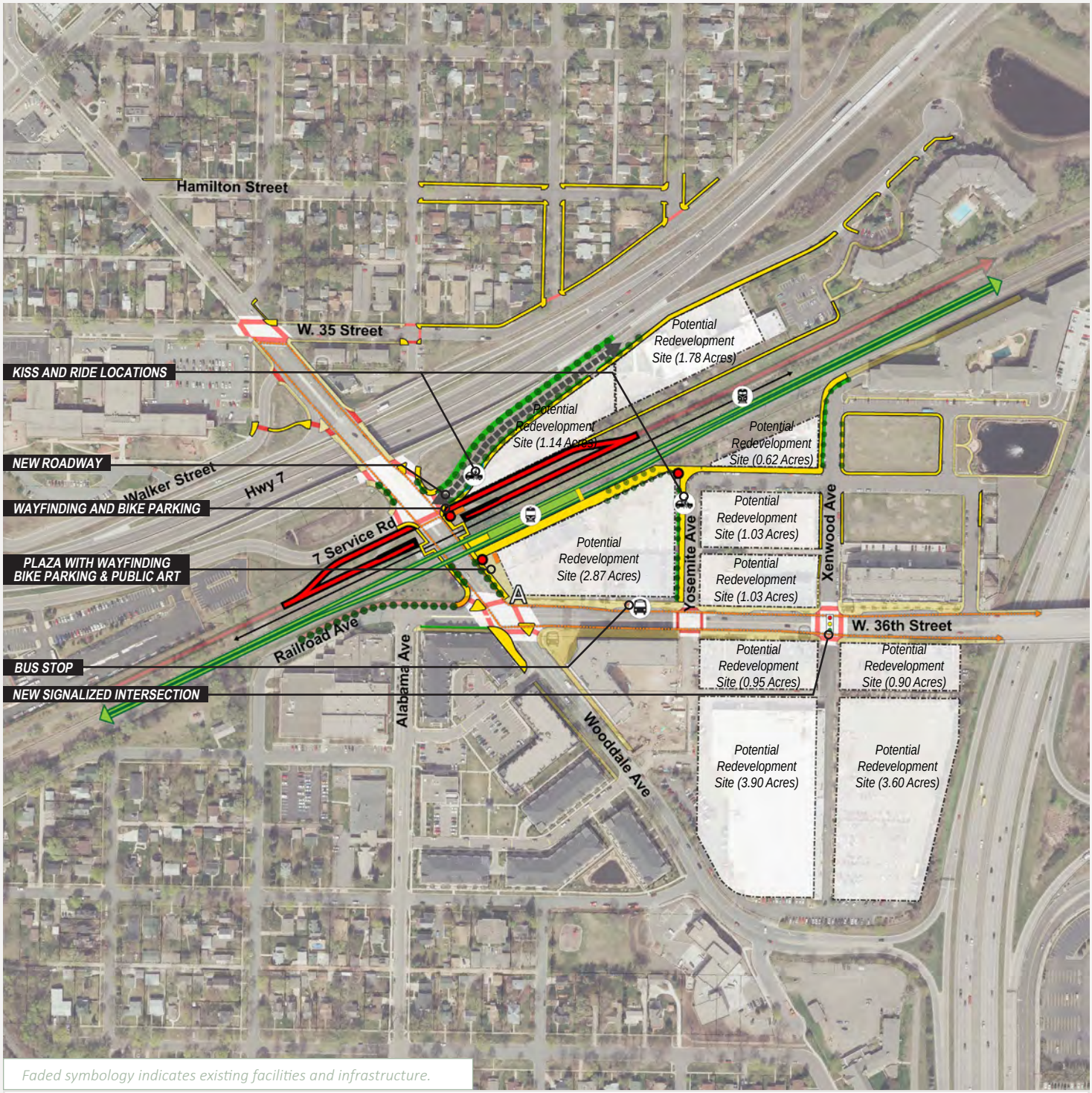
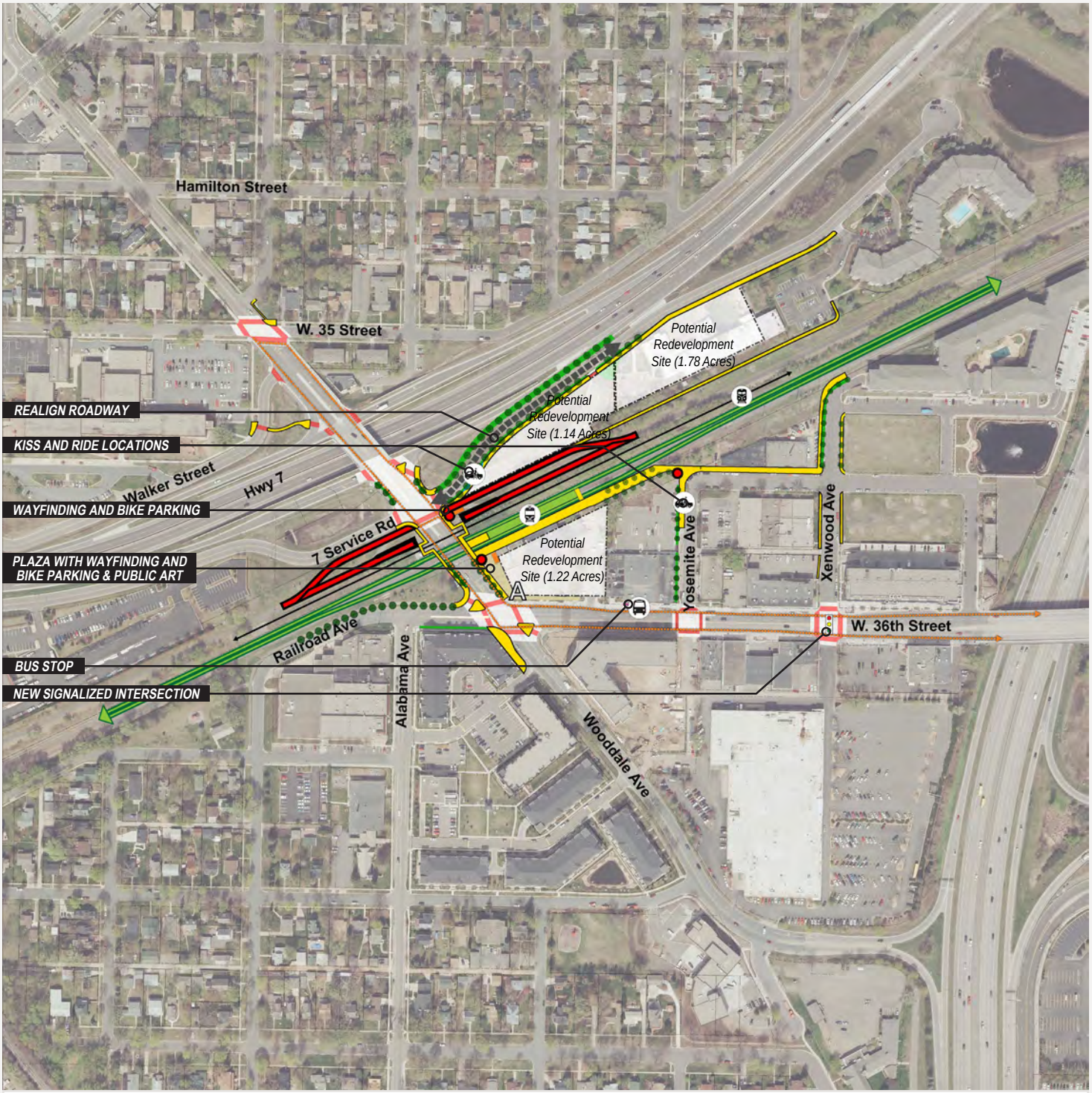


FIGURE 8-11. OPENING DAY STATION AREA IMPROVEMENTS (WOODDALE WEST)



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Opening Day Improvements

The following tables and diagrams outline the proposed improvements to be implemented in advance of SW LRT's opening day in 2018. Table 8-1 and Figure 8-12 show opening day improvements that are part of the SW LRT anticipated base project scope; these improvements will be part of the overall project cost for construction of the LRT line. Table 8-2 and Figure 8-12 include opening day improvements that are recommended as part of the Southwest Corridor Investment Framework and are beyond the SW LRT antipated base project scope. Table 8-3 (also shown in Figure 8-13) includes locally requested "betterments"- or improvements that cities have requested to be included in the base project scope pending funding availability.

TABLE 8-1. SW LRT ANTICIPATED BASE PROJECT SCOPE - OPENING DAY STATION AREA IMPROVEMENTS (WOODDALE WEST)

PLAN KEY	IMPROVEMENT	PROJECT LOCATION	PROJECT NOTES
A	LRT Platform	Adjacent to and east of Wooddale Ave	Includes related LRT infrastructure
B	Kiss and Ride	Minnesota 7 Service Road and Yosemite Ave	On-street dropoff areas
C	Sidewalk/Trail	Minnesota 7 Service Rd to station platform	New sidewalk from kiss and ride on Minnesota 7 Service Rd to station platform
D	Sidewalk/Trail	Yosemite Ave to station platform	New sidewalk from kiss and ride on Yosemite Ave to station platform
E	Sidewalk/Trail	Wooddale Ave and regional trail crossing	Reconstruction of regional trail crossing at Wooddale Ave (at-grade)
F	Bike Facilities	Near station platform	Allowance for bike storage
G	Wayfinding	Near station platform	Allowance
H	Landscaping	Near station platform	Allowance
I	Water*	Near station platform	New water service and fire hydrant to station
J	Utilities*	Project limit area	Adjustment of existing utilities
K	Stormwater management*	Near station platform	Allowance

Note: Anticipated Southwest LRT Base Project Scope as of December 2013 (subject to change)
** Improvement not symbolized on opening day figures (exact location to be determined as part of the base project scope)*

TABLE 8-2. SW LRT LOCALLY REQUESTED BETTERMENTS - OPENING DAY STATION AREA IMPROVEMENTS (WOODDALE WEST)

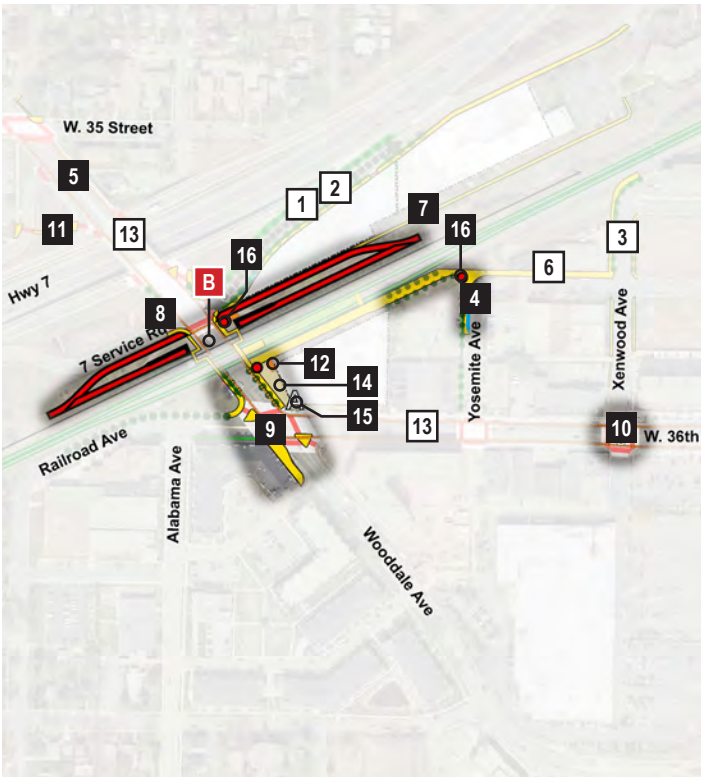
PLAN KEY	IMPROVEMENT	PROJECT LOCATION	PROJECT NOTES
B	Sidewalk/Trail	Wooddale Ave and regional trail crossing	Construction of grade separated regional trail crossing at Wooddale Ave

TABLE 8-3. SW CORRIDOR INVESTMENT FRAMEWORK (TSAAP) - OPENING DAY STATION AREA IMPROVEMENTS (WOODDALE WEST)

PLAN KEY	IMPROVEMENT	PROJECT LOCATION	PROJECT NOTES	PRIORITY
1	Roadways	Minnesota 7 Service Road	Realignment of Minnesota 7 Service Road	Secondary
2	Streetscape	Minnesota 7 Service Road	Includes sidewalk, streetscape plantings, lighting and signage	Secondary
3	Streetscape	Xenwood Ave, north of W. 35th Street	Includes sidewalks, streetscape plantings, lighting and signage	Secondary
4	Streetscape	Yosemite Ave, W. 36th Street to W. 35th Street	Includes sidewalk, streetscape plantings, lighting and signage	Secondary
5	Sidewalk/Trail	Wooddale Ave, W. 36th Street to W. 35th Street (north of Hwy 7)	Complete gaps in sidewalk system	Secondary
6	Sidewalk/Trail	W. 35th Street, Yosemite Ave to Xenwood Ave	Complete gaps in sidewalk system	Secondary
7	Sidewalk/Trail	Sidewalk along the north side of multi-use trail paralleling the tracks	Improve pedestrian connections between station area and residential housing to the east	Secondary
8	Sidewalk/Trail	South frontage road sidewalk	Improve pedestrian connections east of realigned roadway segment	Secondary
9	Intersection Enhancements	Wooddale Ave, W. 36th Street to W. 35th Street (north of Hwy 7)	Enhanced crosswalks	Secondary
10	Intersection Enhancements	W. 36th Street, Wooddale Ave to Xenwood	Enhanced crosswalks and new traffic signal (at Xenwood)	Secondary
11	Intersection Enhancements	Walker Street: midblock crossing to school	Crosswalk striping and one ped ramp	Primary
12	Bike Facilities	Near station platform	Bike parking, lockers, pump station and bike share facilities (beyond SPO improvements)	Primary
13	Bike Facilities	W. 36th Street and Wooddale Ave	On-street bike lanes	Secondary
14	Public Plaza	Along east side of Wooddale Ave, south of LRT line	Includes paving, seating, plantings, public art and lighting (beyond SPO improvements)	Primary
15	Public Art	Station Area	Incorporate public art (beyond SPO improvements)	Secondary
16	Sanitary Sewer	Station area	Coordinate with MCES to relocate existing interceptor	Primary

FIGURE 8-12. SOUTHWEST LRT ANTICIPATED BASE PROJECT SCOPE - OPENING DAY IMPROVEMENTS (WOODDALE WEST)

FIGURE 8-13. SW CORRIDOR INVESTMENT FRAMEWORK (TSAAP) - OPENING DAY IMPROVEMENTS + BETTERMENTS (WOODDALE WEST)



PRIMARY PRIORITY # *SECONDARY PRIORITY* B *LOCALLY REQUESTED BETTERMENT*

Development Potential

OVERVIEW

The Wooddale station area has strong redevelopment potential. Recent development activity in the area has transformed the Wooddale station area into a compact and walkable neighborhood with a mix of higher density residential with street level retail uses. Convenient access to Highways 7 and 100, and available sites for redevelopment have driven some of the recent growth. Additional sites near the station should be available for future redevelopment in the short term.

Adjacent to the proposed station platform are sites owned by Hennepin County and the City that present a short-term redevelopment opportunity for transit supportive uses. Other underutilized sites near the station area are expected to spur development interest.

Key challenges that should be addressed to facilitate development potential include station connectivity and traffic congestion near the station platform, along Wooddale Ave.

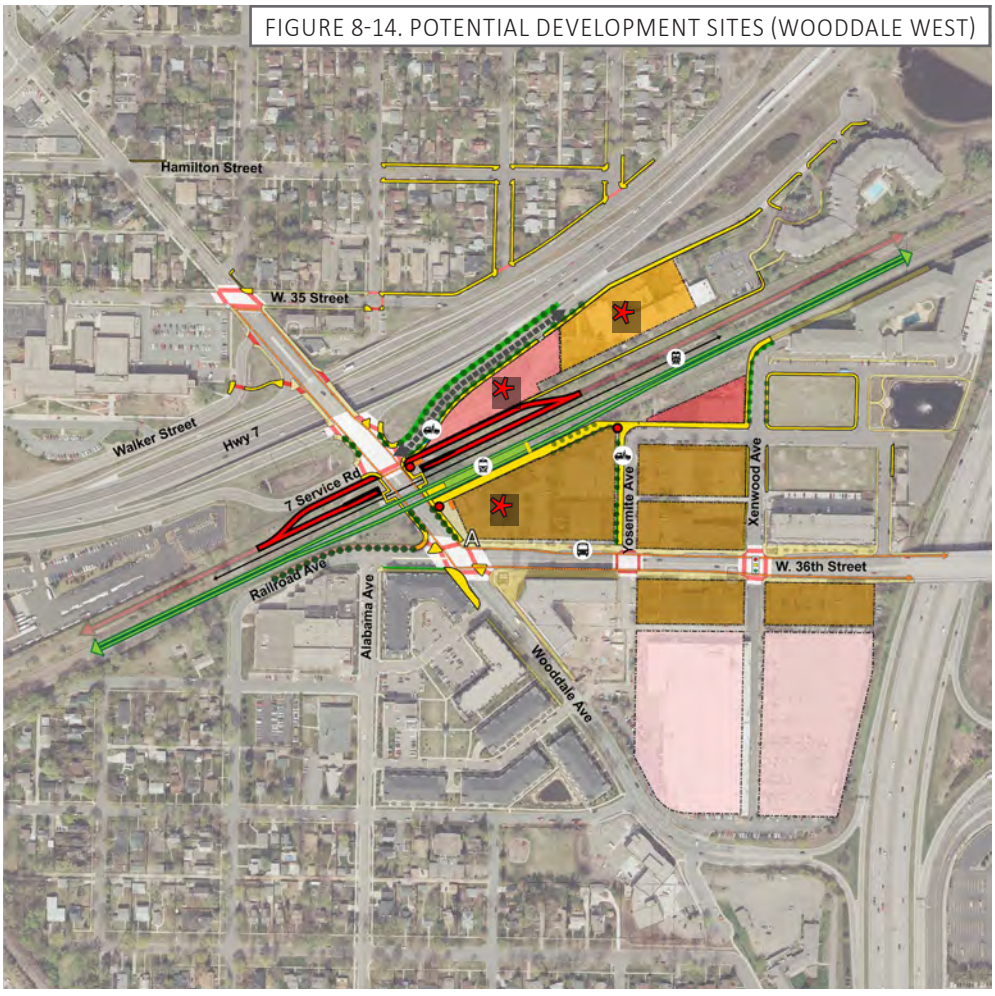
LAND USES

High-density, mixed-use, transit-oriented development is likely to occur near the Wooddale Station, consistent with recent redevelopment activity in the area. Future land uses in the Wooddale station area should consist of high-density residential, office, and retail uses.

PLANNING STRATEGIES

Strategies that should be considered to facilitate future development in the station area include streetscape improvements and pedestrian crossings along roadways connecting the station with potential development sites, local destinations, and neighborhoods, particularly on Wooddale Ave, W. 36th Street, Yosemite Ave, and Xenwood Ave.

FIGURE 8-14. POTENTIAL DEVELOPMENT SITES (WOODDALE WEST)



Key Considerations for Change and Development Over Time

The station area should continue to develop into a predominantly residential transit-oriented neighborhood with new buildings that reinforce the existing grid of streets and street level uses to activate the station area. Key considerations should include:

BUILT FORM AND LAND USE

» Continue to build a mix of medium to high density residential uses along West 36th Street with retail or commercial uses next to the highway.

» Design new buildings to enhance pedestrian access by orienting them towards streets, the LRT platform, and open spaces and locating them as close to the street line as possible.

» Incorporate active ground level uses on buildings adjacent to the station and facing onto West 36th Street and Wooddale Avenue.

» Provide additional setbacks on buildings at the intersection of Wooddale Avenue and West 36th Street to provide additional room for passengers transferring between the bus and LRT

» Explore opportunities for a mid-block connection between West 36th Street and the eastern end of the station platform to improve connections between bus and LRT service.

PUBLIC REALM

» Introduce a public plaza adjacent to the station along Wooddale Avenue to provide spill out space for active uses facing the station and to act as a receiving point for passengers walking to the station or transferring to the LRT by bike.

» Improve connections between the station and schools to the north along Wooddale Avenue through improved crossings on the Wooddale Avenue Bridge and introduction of pedestrian-oriented lighting.

MOBILITY

» Minimize the impact of parking and circulation on pedestrians by locating parking below grade or to the rear of new buildings in structures, and consolidating access and service drives.

» Accommodate retail and short-term parking on-street or in shared parking facilities to minimize the construction of single use parking areas.

» Support pedestrians through the introduction of sidewalks on all streets within the station area, new crossings, and curb cuts for people in wheel chairs or other mobility devices.

» Limit vehicular access points along Wooddale Avenue and W. 36th Street.

» Provide a new path along the southern edge of the rail corridor to connect the station platform with existing residential uses to the east.

» Integrate Kiss and Ride facilities discretely into the existing street and block pattern north of West 36th Street.

Office development that fronts the street

Potential mid-block connection to the station platform

High density residential

Station Area Utility Plan

OVERVIEW

The station area utility plan and strategies recommended below were developed by considering future transit-oriented development within the station area, as depicted by the Station Area Improvements Plan (Figure 8-10). St. Louis Park will need to apply these localized recommendations to the city-wide system to ensure that the potential development/redevelopment will not be limited by larger system constraints. Existing models or other methods can be used to check for system constraints in the station areas.

St. Louis Park should also consider reviewing the condition of the existing utilities in the station development area. The station construction would provide St. Louis Park an opportunity to address any utilities needing repairs. Once the larger system has been reviewed for system constraints, St. Louis Park will be able to accurately plan for necessary utility improvements in their city Capital Improvement Program (CIP). All utilities located beneath the proposed LRT rail or station platform should be encased prior to the construction of these facilities. The costs associated with encasing these facilities is assumed to be a project cost and is not included in potential improvements identified for the St. Louis Park CIP.

APPROACH

Utility improvement strategies are outlined in this report for the ultimate station area development (2030), as well as improvements which should be considered prior to opening day anticipated in 2018. Although recommendations are categorized in one of these two timeframes, St. Louis Park should weigh the benefits of completing these improvements as land becomes available for future development. St. Louis Park should take the utility analysis a level further and model future utilities in their city utility system models.

The proposed development and redevelopment areas were evaluated based on Metropolitan Commission Sewer Availability Charge (SAC) usage rates and estimated flows. Estimated flows for one possible development scenario in this area indicate that internal to the station area, no more than eight inch pipe are necessary to serve the mix of proposed and existing development. Each utility system should still be reviewed to identify capacity and demand constraints to the larger system associated with increase in flows from the proposed developments and existing developments in the area. St. Louis Park should anticipate the construction of new municipal utilities in conjunction with new or realigned roadways.

GENERAL RECOMMENDATIONS - SANITARY SEWER

Sanitary sewer recommendations for station area improvements include opportunities for St. Louis Park to improve the existing sanitary sewer network, without necessarily replacing existing sanitary sewers. When recommendations for “improving” existing sanitary sewer are noted, St. Louis Park shall consider the level to which each specific sewer should be improved. Methods of improvement could include: lining the existing sewer, pipe joint repair, sewer manhole repair, relocation, and complete replacement.

The following items should be evaluated prior to opening day of the station, although action may not be required until necessary for development:

- Televising existing sewer mains in the station area and proposed development area to determine the condition of the sewer mains, susceptibility for backups or other issues and evaluate for Infiltration and Inflow (I&I).
- Locations of known I&I. If previous sewer televising records, city maintenance records, or an I&I study have shown problems, the city should consider taking measures to address the problem.
- The age and material of existing gravity and/or forcemain sanitary sewer in the identified station area. If the lines are older than the material’s typical design life or materials which are susceptible to corrosion relative to soils in the area, the city should consider repairing, lining or replacing the mains.
- Locations of known capacity constraints or areas where city sewer models indicate capacity issues. If there are known limitations, the city should further evaluate the benefit of increasing pipe sizes.
- City sewer system models (existing and future). A review of these models with future development would assist St. Louis Park in determining if sewers in the project area should be increased to meet existing or future city system needs.
- Existing sewer pipes should be relocated or encased in areas where they cross or are immediately adjacent to the LRT Line/Station.

GENERAL RECOMMENDATIONS - WATER MAIN

Water main recommendations for station area improvements also include opportunities for St. Louis Park to improve the existing water system network. Creating loops in the network can help prevent stagnant water from accumulating along water main stubs, and creating loops of similar sized water main provides the city a level of redundancy in their water network. Redundancy helps reduce the impacts to the community during system repairs, and also helps stabilize the pressure in the network.

The following items should be evaluated prior to opening day of the station, although action may not be required until necessary for development:

- The age and material of the existing mains in the identified station area. If the mains are older than the materials typical design life or materials which are susceptible to corrosion relative to soils in the area, the city should consider replacing the main.
- Locations of previous water main breaks. If water main breaks repeatedly occur in specific areas, the city should consider replacing or repairing the main.
- Locations with known water pressure issues or areas where city model indicate low pressure. If there are known limitations (for either fire suppression or domestic uses), the city should further evaluate the benefit of increasing main sizes.
- Locations with known or potential water quality issues. If there are mains known to be affecting the water quality (color, taste, odor, etc.) of their system, St. Louis Park should consider taking measures to address the problem affecting water quality.
- City water system models (existing and future). A review of these models with future development would assist cities in determining if mains in the project area should be improved to meet existing or future city system needs based on demand constraints.
- Existing water main pipes should be relocated or encased in areas where they cross or are immediately adjacent to the LRT Line/Station.

GENERAL RECOMMENDATIONS – STORM SEWER

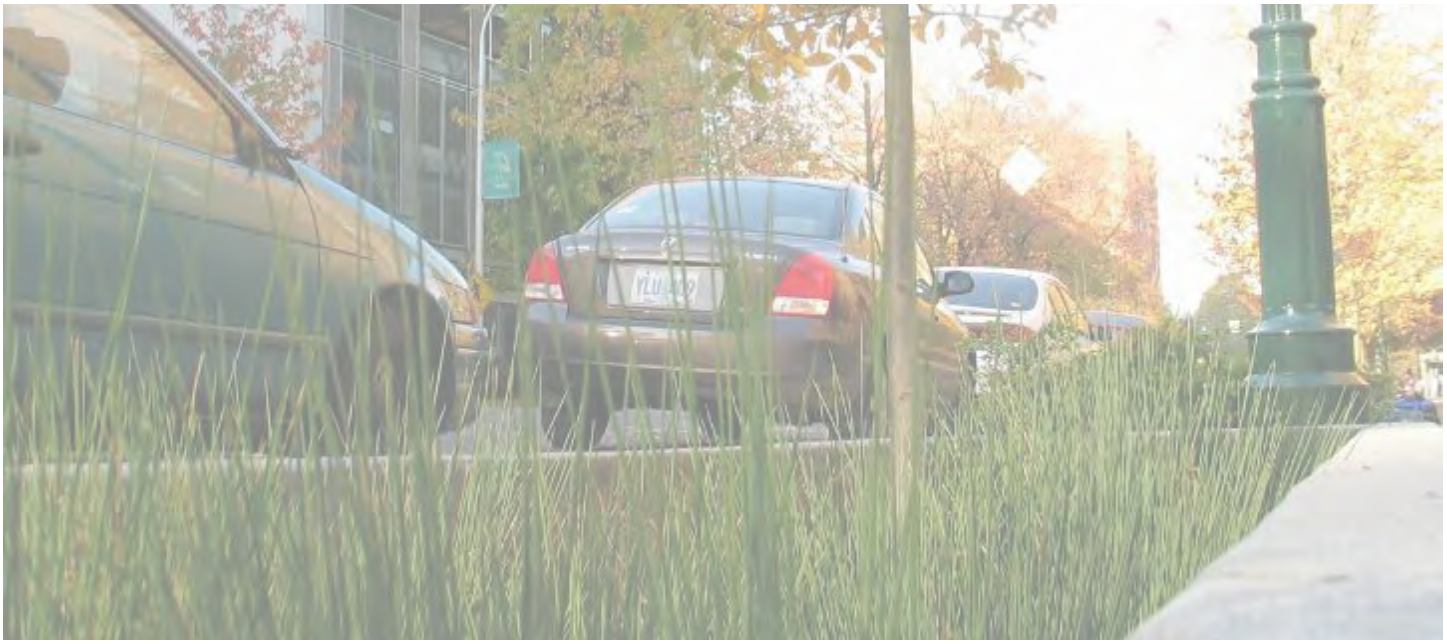
Local storm sewer improvements are recommended to be completed in conjunction with other improvements in the station area. Improvements which will likely require storm sewer modifications include: roadway realignments, roadway extensions, and pedestrian sidewalk/street scape improvements. Storm sewer improvements may consist of: storm sewer construction, manhole reconstruction, drain tile extensions, storm sewer relocation, and complete replacement. These local storm sewer improvements are included as part of the overall cost of roadway and streetscape improvements recommended in this plan. Where roadway/streetscape improvements are part of the SW LRT anticipated base project scope, associated storm sewer improvements are assumed to be a project cost. St. Louis Park should also consider coordinating with the local watershed district and other agencies to review the condition of and capacity of existing trunk storm sewer systems serving more regional surface water needs.

STORMWATER BEST MANAGEMENT PRACTICES

There are numerous stormwater best management practices (BMPs) that can be used to address stormwater quality and quantity. As part of this project, BMP guides were developed for four stations (Royalston, Blake, Shady Oak, and Mitchell) which exemplify the range of development intensity and character in the urbanized environment along the Southwest LRT Corridor. The recommendations and practices identified in each of the four BMP guides are applicable to various stations along the corridor.

Potential stormwater management strategies for this station area may be similar to those shown in the BMP guide for the Blake station (see p. 10-28). St. Louis Park should consider implementing applicable best management practices similar to those in the Blake station BMP guide. Stormwater management recommendations should be constructed in conjunction with public and private improvements and future development/ redevelopment in the station area.

The existing subregional stormwater pond at Hoigaard Village was built to reduce the land area and development costs for development in the station area. Developments are allowed to buy-in to the initial investment the city of St. Louis Park made in the regional pond, rather than provide storage and treatment on site. Best management practices are still encouraged on development sites.



Station Area Utility Plan (Continued)

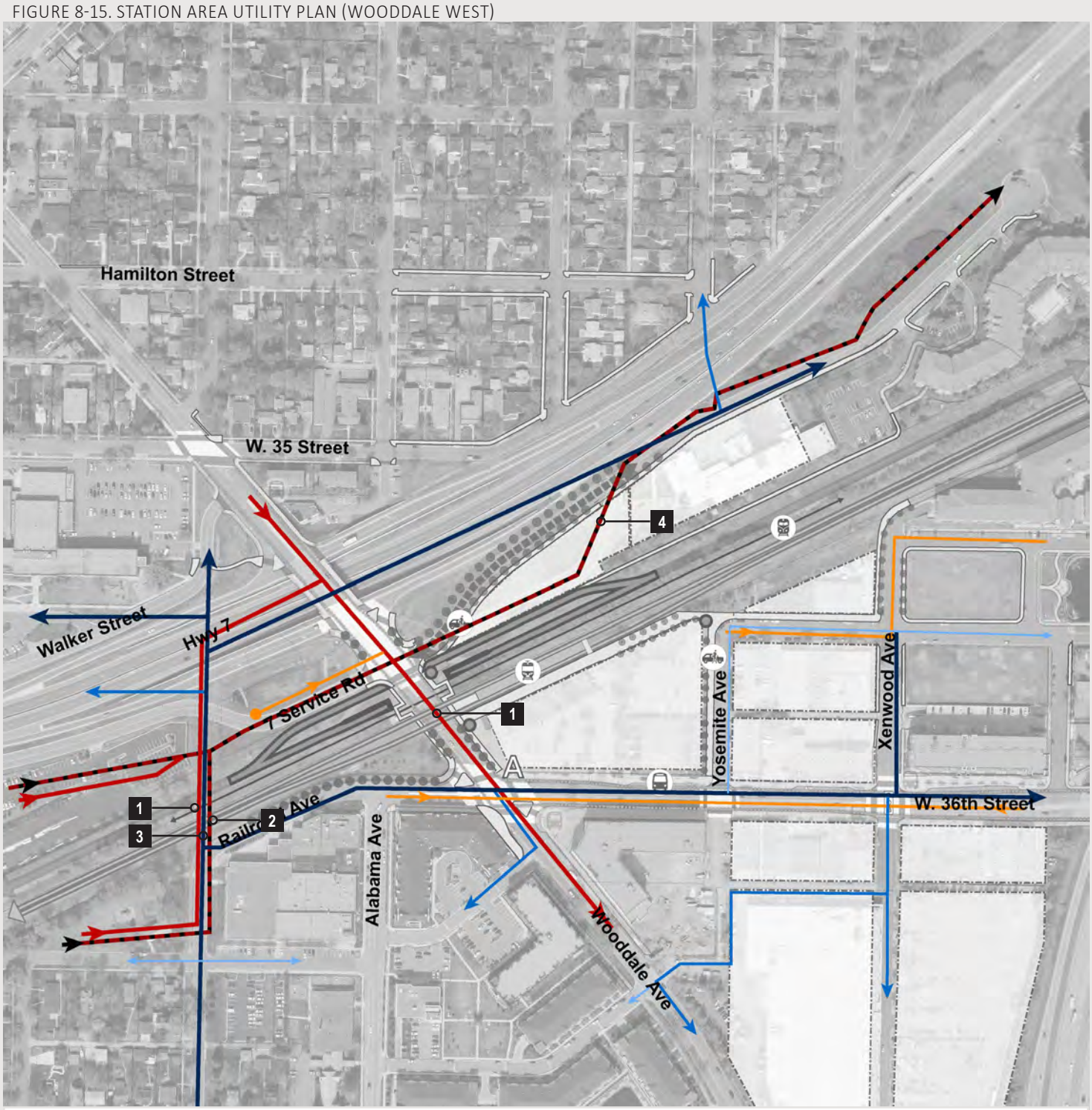
STATION AREA UTILITY RECOMMENDATIONS

Utility recommendations (illustrated in Figure 8-15) are based on a localized analysis of proposed development. It is recommended that the City of St. Louis Park take this analysis a step further and review system constraints to the existing and future sanitary sewer and water main systems using existing sewer CAD or water CAD models, or other methods of modeling these systems.

Opening Day Recommendations:

1. Encase existing sanitary sewer crossing LRT rail construction.
2. Encase existing MCES interceptor crossing LRT rail construction.
3. Encase existing water main crossing LRT rail construction.
4. Relocate existing MCES interceptor to promote TOD along Highway 7 in conjunction with service roadway realignment.

FIGURE 8-15. STATION AREA UTILITY PLAN (WOODDALE WEST)



OPENING DAY RECOMMENDATION

LONG-TERM RECOMMENDATION

EXISTING UTILITIES

PROPOSED UTILITIES

SERVICE SANITARY

LOCAL SANITARY

TRUNK SANITARY

MCES SANITARY INTERCEPTOR

SANITARY SEWER FORCEMAIN

LIFT STATION

SERVICE WATER MAIN

LOCAL WATER MAIN

TRUNK WATER MAIN

WATER TOWER

Where Are We Going? (*WOODDALE EAST*)

The plans and diagrams on the following pages illustrate a range of recommendations for infrastructure improvements, station amenities, and potential redevelopment opportunities for the *WOODDALE EAST* station location alternative (recommendations for this station location are not in the SW LRT base project scope).

The ACCESS AND CIRCULATION PLAN shown in Figure 8-16 provides a high level view of how future transit, automobile, bike, and pedestrian systems will connect to the station area and its surroundings.

Figure 8-17 illustrates the STATION AREA IMPROVEMENTS that will facilitate access to and from the station and catalyze redevelopment in the station area. This includes opening day and long-term station area improvements

Figure 8-18 focuses on OPENING DAY STATION AREA IMPROVEMENTS only. These recommendations represent the improvements necessary to enhance the efficient function of the transit station, roadways, pedestrian and bicycle connections, and transit connections on opening day in 2018.

Station Area Improvements

The discussion below outlines a range of future station area improvements. While some of the identified improvements may be constructed as part of the LRT project itself, other improvements must be funded, designed and constructed by other entities and will require coordination between the City, County, and Metro Transit as well as local stakeholder and community groups.

ROADWAYS

Opening Day Improvements:

» Realign Highway 7 Service Road east of Wooddale Avenue to hug the highway until it gets closer to the intersection with Wooddale Avenue, then intersect with Wooddale Avenue where the current intersection is today.

» Extend Xenwood Avenue northwest, from W. 35th Street to Highway 7 Service Road, tunnelling under the freight rail line.

» Install a new traffic signal at Xenwood Avenue and W. 36th Street.

PEDESTRIAN CONNECTIONS

Opening Day Improvements:

» Focus sidewalk and streetscape enhancements along Wooddale Avenue, from Cambridge Street north to St. Louis Park High School, West 36th Street, West 35th Street, Yosemite Ave, Xenwood Ave, and Highway 7 Service Road.

» Improve pedestrian crossings along West 36th Street, Wooddale Avenue, and Xenwood Avenue.

» Improve pedestrian crossings on the Wooddale Avenue Bridge. Complete crossing markings where they don't exist today at free right turns onto Highway 7.

» Install a new traffic signal at Xenwood Avenue and W. 36th Street.

Long-Term Improvements:

» Explore the longer term potential for a pedestrian bridge connection over Hwy 100 connecting to the Park Nicollet medical complex, east of Hwy 100.

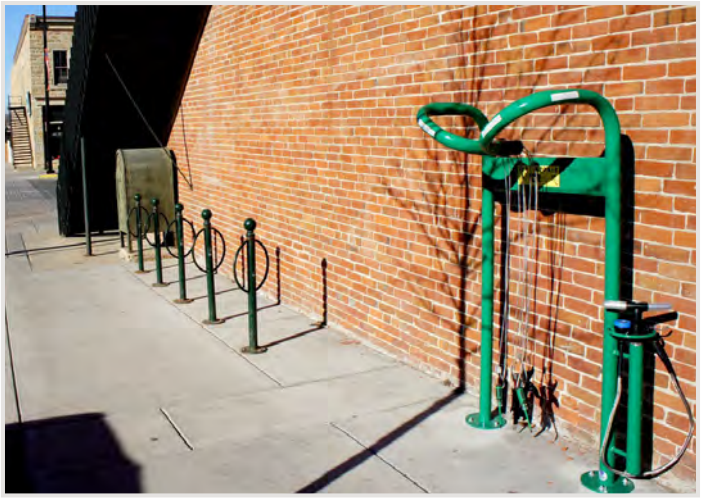
TRANSIT CONNECTIONS

Opening Day Improvements:

» Provide bus stops and shelters along West 36th Street as near to the LRT station platform as possible.

» Consider having buses stop in the drive lane along West 36th Street to slow traffic and prevent buses from getting caught in the layover.

Enhanced pedestrian crossings



Bike parking and repair station

Public art integration in transit station design

BIKE CONNECTIONS

Opening Day Improvements:

» Provide bike parking, lockers, bike sharing, and bike pumping facilities in a highly visible area near the station platform.

» Provide a new grade-separated trail crossing with Wooddale Avenue (tunnel under Wooddale).

Long-Term Improvements:

» Provide on-street bike facilities (lanes, routes, signage, etc.) on local streets to better connect the station to nearby neighborhoods, businesses, amenities, and destinations.

KISS AND RIDE

Opening Day Improvements:

» Provide space for a kiss and ride pullout near the station platform on W. 35 Street.

STATION AMENITIES (*Beyond SW LRT Base Project Scope*)

Opening Day Improvements:

» Roadways- realign the Highway 7 Service Road east of Wooddale Avenue and extend Xenwood Avenue from W. 35th Street to the Highway 7 Service Road.

» Transit Facilities- provide facilities for bus transfers and kiss and ride drop-offs near the LRT station platform.

» Wayfinding- define and install a cohesive and contextual wayfinding system near the LRT station platform, major gateways (Wooddale/Hwy 7, Cedar Lake LRT Regional Trail), and major destinations such as the St. Louis Park High School.

» Seating – provide comfortable and durable seating near the station platform.

» Lighting – provide adequate lighting for the safety of pedestrians, bicyclists, and motorists near the station platform.

» Bicycle Facilities- provide bike parking, lockers, pumping station, and bike sharing facilities near the LRT station platform.

» Plaza – provide a public plaza area near the station platform to provide transit users with a paved queue area to wait for LRT trains and move about the station area.

» Public Art- incorporate public art in the station area to create an attractive and identifiable place.

DEVELOPMENT POTENTIAL

Opening Day Improvements:

» The properties located between Highway 7 and the LRT line represent opening day development potential.

» Realigning the existing service road to the north will enhance redevelopment opportunities.

» The adjacent sites at Wooddale Avenue and West 36th Street owned by the City of St. Louis Park and Hennepin County are viewed as having opening day redevelopment potential.

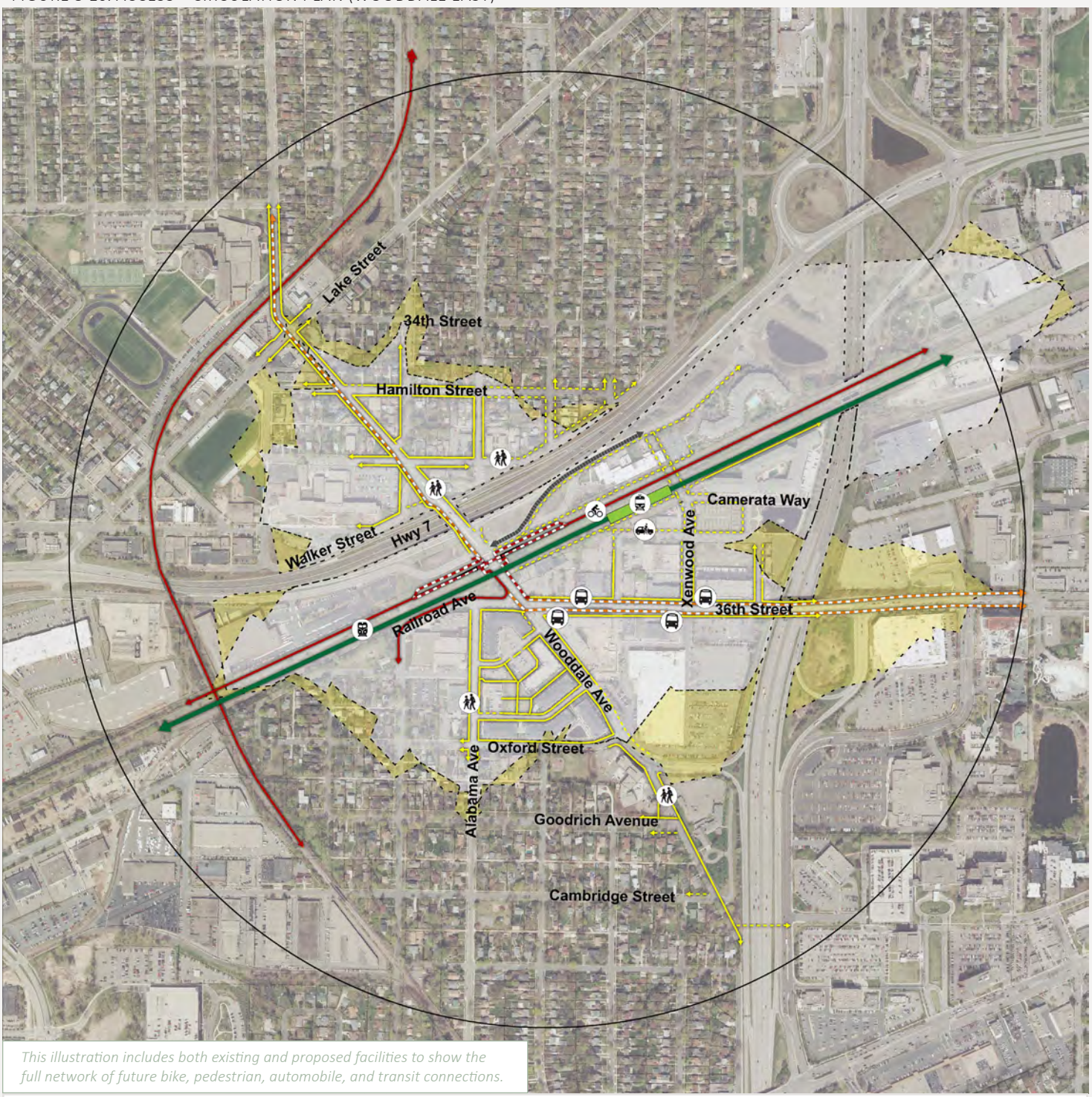
Long-Term Improvements:

» See the “Development Potential” discussion on page 8-30 for more on long-term redevelopment opportunities.

UTILITIES

» See the “Station Area Utility Plan” beginning on page 8-18 for general utility recommendations. See page 8-32 for station-specific recommendations.

FIGURE 8-16. ACCESS + CIRCULATION PLAN (WOODDALE EAST)

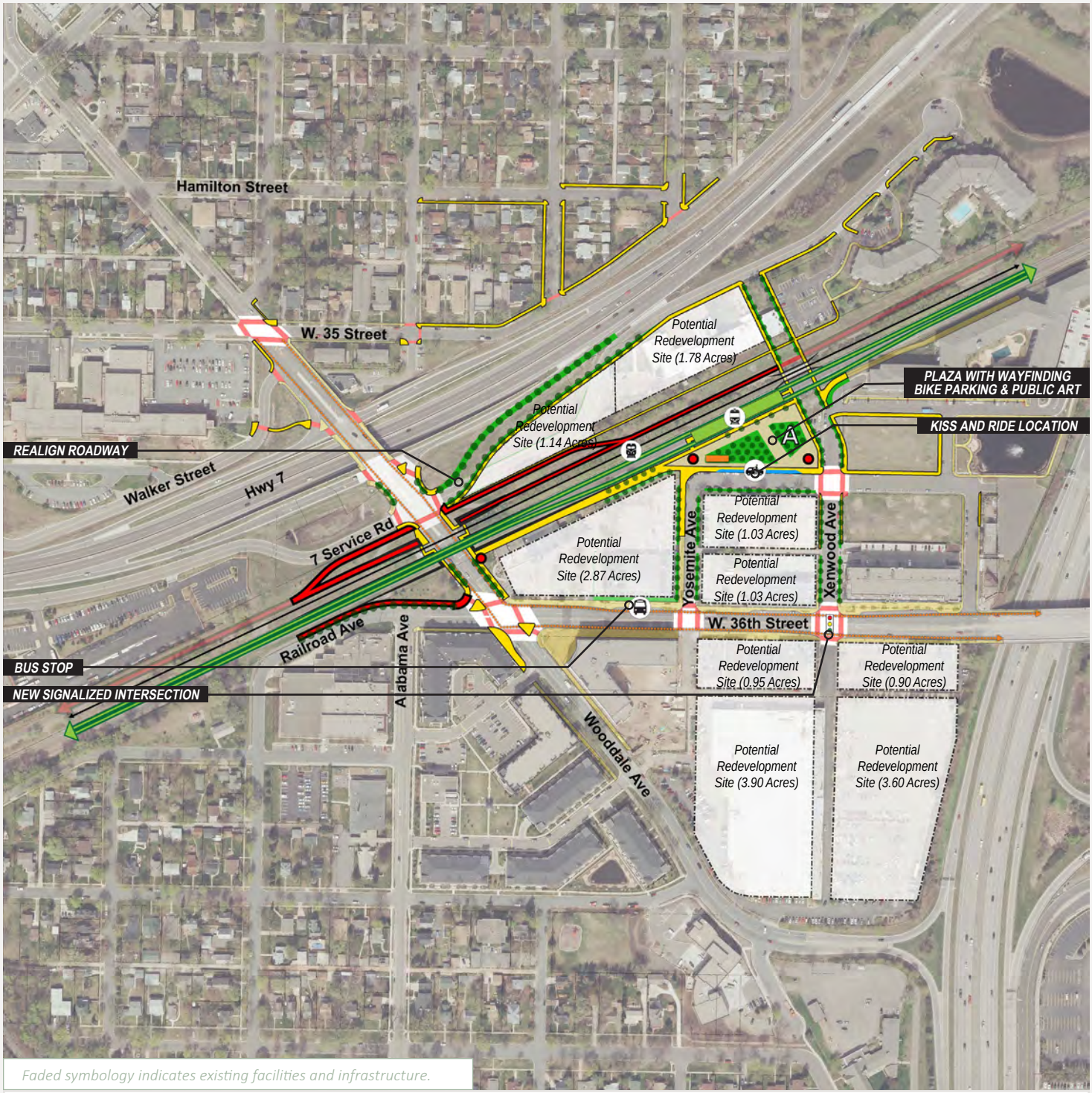


This illustration includes both existing and proposed facilities to show the full network of future bike, pedestrian, automobile, and transit connections.

- LRT PLATFORM
- LRT LINE
- BUS STOP
- PARK AND RIDE
- FREIGHT LINE
- NEW ROADWAY
- KISS AND RIDE
- EXISTING PEDESTRIAN CONNECTION
- EXISTING BIKE CONNECTION
- EXISTING MULTI USE CONNECTION
- PROPOSED(DASHED) PEDESTRIAN CONNECTION
- PROPOSED(DASHED) BIKE CONNECTION
- PROPOSED(DASHED) MULTI USE CONNECTION

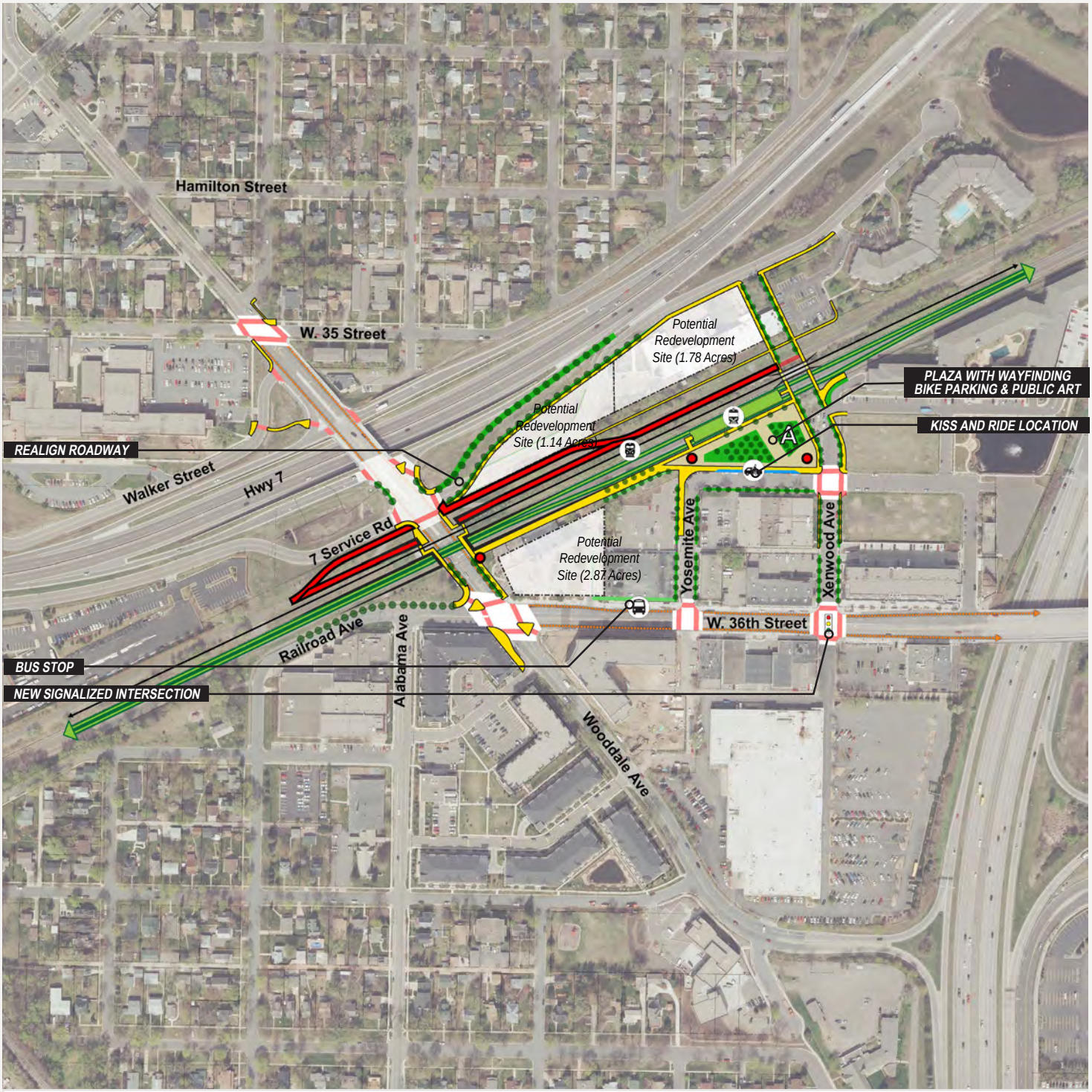
NOTE: Existing walkshed approximates the area accessible within a 10-minute walk from the station platform using only the existing sidewalk/trail network. Future walkshed incorporates all proposed improvements to the sidewalk/trail network. Walksheds are based on GIS modeling and available sidewalk/trail information- and may not reflect exact on-the-ground conditions. See Glossary for detailed explanation of walkshed assumptions and methodology.

FIGURE 8-17. STATION AREA IMPROVEMENTS (WOODDALE EAST)



- LRT PLATFORM
- FREIGHT LINE
- BUS STOP
- BUS SHELTER
- NEW SIDEWALK / SIDEWALK IMPROVEMENT
- ON STREET BIKE INFRASTRUCTURE
- MULTI-USE PATH
- NEW CROSSING / CROSSING IMPROVEMENT
- NEW ROADWAY
- STREETSCAPE
- PARK AND RIDE
- KISS AND RIDE
- NEW SIGNALIZED INTERSECTION
- BIKE PARKING
- WAYFINDING
- PUBLIC ART OPPORTUNITY
- POTENTIAL DEVELOPMENT SITE
- PLAZA SPACE / BUILDING SETBACK AREA

FIGURE 8-18. OPENING DAY STATION AREA IMPROVEMENTS (WOODDALE EAST)



LRT PLATFORM
FREIGHT LINE
BUS STOP
BUS SHELTER
NEW SIDEWALK / SIDEWALK IMPROVEMENT
ON STREET BIKE INFRASTRUCTURE
MULTI-USE PATH
NEW CROSSING / CROSSING IMPROVEMENT
NEW ROADWAY
STREETSCAPE
PARK AND RIDE
KISS AND RIDE
NEW SIGNALIZED INTERSECTION
BIKE PARKING
WAYFINDING
PUBLIC ART OPPORTUNITY
POTENTIAL DEVELOPMENT SITE
PLAZA SPACE / BUILDING SETBACK AREA

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Opening Day Improvements

The following tables and diagrams outline the proposed improvements to be implemented in advance of SW LRT's opening day in 2018. As of December 2013, the Wooddale East is an alternate station concept and is not in the SW LRT anticipated base project scope. Table 8-4 and Figure 8-19 show opening day improvements included in the alternate concept scope. Table 8-5 and Figure 8-20 include opening day improvements that are recommended as part of the Southwest Corridor Investment Framework and are beyond the alternate concept scope.

TABLE 8-4. ALTERNATE CONCEPT SCOPE (NOT IN SW LRT BASE PROJECT SCOPE) - OPENING DAY IMPROVEMENTS (WOODDALE EAST)

PLAN KEY	IMPROVEMENT	PROJECT LOCATION	PROJECT NOTES
A	LRT Platform	Between Yosemite Ave and Xenwood Ave	Includes related LRT infrastructure
B	Kiss and Ride	W. 35th Street	On-street dropoff area
C	Sidewalk/Trail	W. 35th Street to station platform	New sidewalks from kiss and ride on W. 35th Street to station platform
D	Sidewalk/Trail	Wooddale Ave and regional trail crossing	Reconstruction of regional trail crossing at Wooddale Ave
E	Bike Facilities	Near station platform	Allowance for bike storage
F	Wayfinding	Near station platform	Allowance
G	Landscaping	Near station platform	Allowance
H	Water*	Near station platform	New water service and fire hydrant to station
I	Utilities*	Project limit area	Adjustment of existing utilities
J	Stormwater management*	Near station platform	Allowance

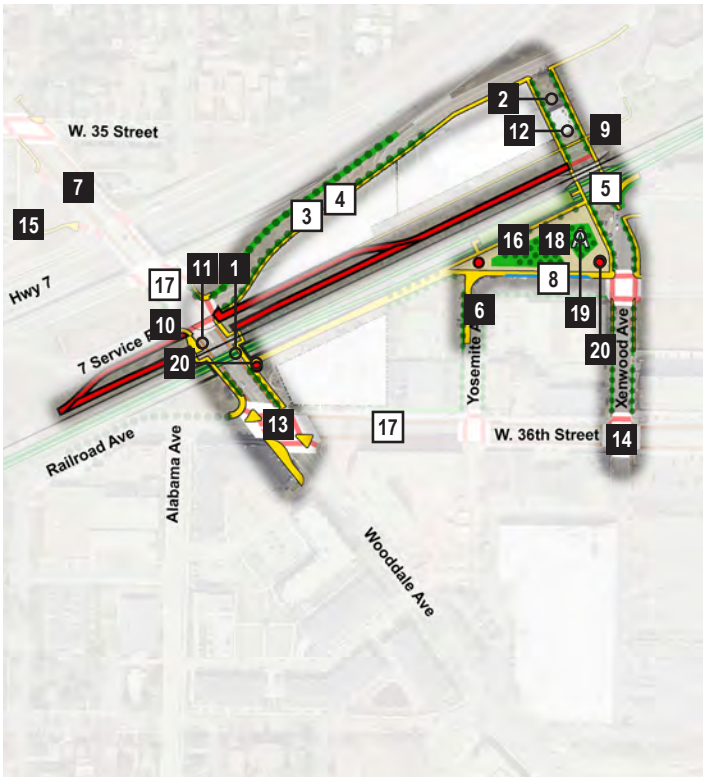
Note: As of December 2013, Wooddale East is an alternate station concept and is not part of the SW LRT base project scope
** Improvement not symbolized on opening day figures*

TABLE 8-5. SW CORRIDOR INVESTMENT FRAMEWORK (TSAAP) - OPENING DAY STATION AREA IMPROVEMENTS (WOODDALE EAST)

PLAN KEY	IMPROVEMENT	PROJECT LOCATION	PROJECT NOTES	PRIORITY
1	LRT Line	At crossing with Wooddale Ave	Construction of grade separated LRT line crossing at Wooddale Ave	Primary
2	Roadways	Xenwood Ave, W. 35th Street to Minnesota 7 Service Rd.	Extend Xenwood Ave from W. 35th Street to Minnesota 7 Service Rd., under the freight line	Primary
3	Roadways	Minnesota 7 Service Road	Realignment of Minnesota 7 Service Road	Secondary
4	Streetscape	Minnesota 7 Service Road	Includes sidewalk, streetscape plantings, lighting and signage	Secondary
5	Streetscape	Xenwood Ave, north of W. 35th Street	Includes sidewalks, streetscape plantings, lighting and signage	Secondary
6	Streetscape	Yosemite Ave, W. 36th Street to W. 35th Street	Includes sidewalk, streetscape plantings, lighting and signage	Primary
7	Sidewalk/Trail	Wooddale Ave, W. 36th Street to W. 35th Street (north of Hwy 7)	Complete gaps in sidewalk system	Primary
8	Sidewalk/Trail	W. 35th Street, Yosemite Ave to Xenwood Ave	Complete gaps in sidewalk system	Secondary
9	Sidewalk/Trail	Sidewalk along the north side of multi-use trail paralleling the tracks	Improve pedestrian connections between station area and residential housing to the east	Primary
10	Sidewalk/Trail	South frontage road sidewalk	Improve pedestrian connections east of realigned roadway segment	Primary
11	Sidewalk/Trail	Wooddale Ave and regional trail crossing	Construction of grade separated regional trail crossing at Wooddale Ave	Primary
12	Sidewalk/Trail	Xenwood Ave, W. 35th Street to Minnesota 7 Service Rd.	Construction of new sidewalks in conjunction with extension of Xenwood Ave.	Secondary
13	Intersection Enhancements	Wooddale Ave, W. 36th Street to W. 35th Street (north of Hwy 7)	Enhanced crosswalks	Primary
14	Intersection Enhancements	W. 36th Street, Wooddale Ave to Xenwood	Enhanced crosswalks and new traffic signal (at Xenwood)	Primary
15	Intersection Enhancements	Walker Street: midblock crossing to school	Crosswalk striping and one ped ramp	Primary
16	Bike Facilities	Near station platform	Bike parking, lockers, pump station and bike share facilities (beyond SPO improvements)	Primary
17	Bike Facilities	W. 36th Street and Wooddale Ave	On-street bike lanes	Secondary
18	Public Plaza	Between station platform and W. 35th Street	Acquisition and construction of plaza; includes ped access, plantings, public art, seating, lighting, etc. (beyond SPO improvements)	Secondary
19	Public Art	Station area	Incorporate public art (beyond SPO improvements)	Secondary
20	Wayfinding	Station platform area, Yosemite Ave and public plazas	Signage and wayfinding (beyond SPO improvements)	Primary
21	Sanitary Sewer	Station area	Coordinate with MCES to relocate existing interceptor	Primary

TABLE 8-6. ALTERNATE CONCEPT SCOPE (NOT IN SW LRT BASE PROJECT SCOPE) - OPENING DAY IMPROVEMENTS (WOODDALE EAST)

FIGURE 8-19. SW CORRIDOR INVESTMENT FRAMEWORK (TSAAP) - OPENING DAY STATION AREA IMPROVEMENTS (WOODDALE EAST)



■ *PRIMARY PRIORITY* □ *SECONDARY PRIORITY*

Development Potential

OVERVIEW

The Wooddale station area has strong redevelopment potential. Recent development activity in the area has transformed the Wooddale station area into a compact and walkable neighborhood with a mix of higher density residential with street level retail uses. Convenient access to Highways 7 and 100, and available sites for redevelopment have driven some of the recent growth. Additional sites near the station should be available for future redevelopment in the short term.

Adjacent to the proposed station platform are sites owned by Hennepin County and the City that present a short-term redevelopment opportunity for transit-supportive uses. Other underutilized sites near the station area are expected to spur development interest.

Key challenges that should be addressed to facilitate development potential include station connectivity and traffic congestion near the station platform, along Wooddale Ave.

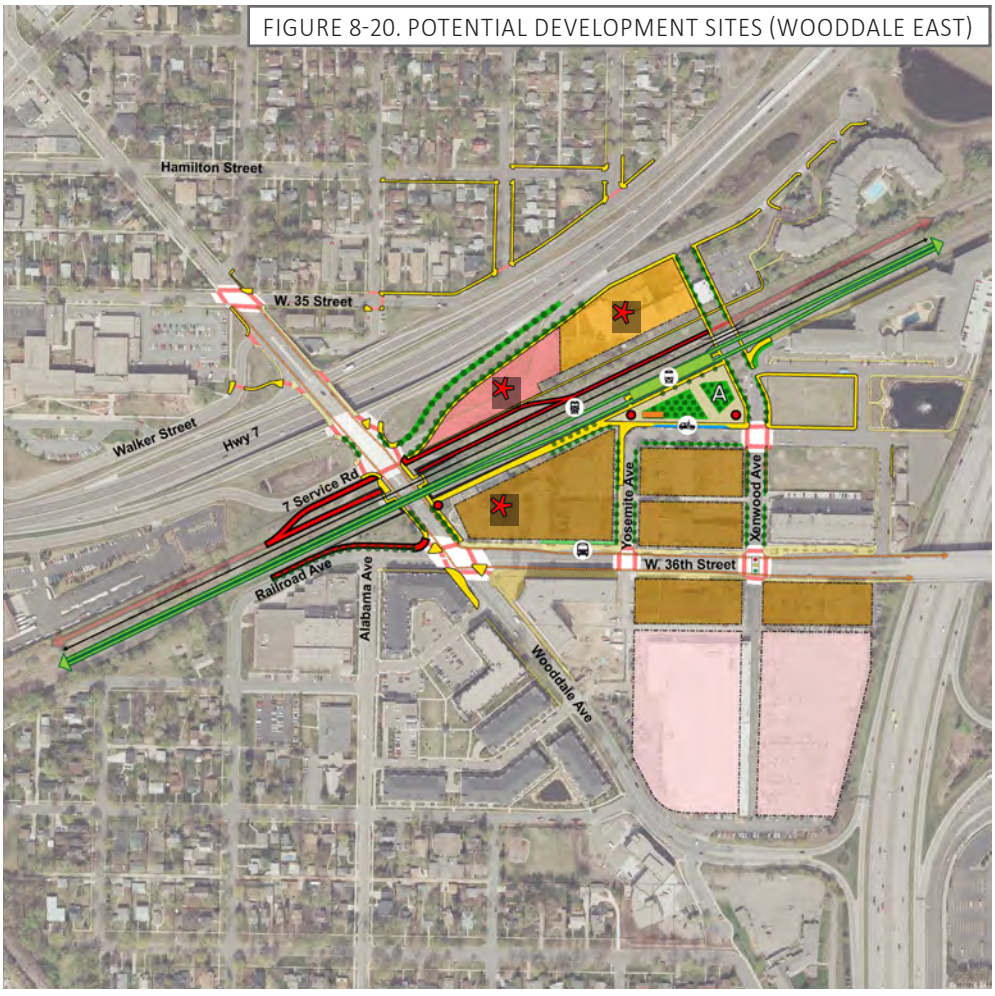
LAND USES

High density, mixed-use, transit-oriented development is likely to occur near the Wooddale station, consistent with recent redevelopment activity in the area. Future land uses in the Wooddale station area should consist of high-density residential, office, and retail uses.

PLANNING STRATEGIES

Strategies that should be considered to facilitate future development in the station area include streetscape improvements and pedestrian crossings along roadways connecting the station with potential development sites, local destinations, and neighborhoods, particularly on Wooddale Ave, W. 36th Street, Yosemite Ave, and Xenwood Ave.

FIGURE 8-20. POTENTIAL DEVELOPMENT SITES (WOODDALE EAST)



Key Considerations for Change and Development Over Time

Key considerations for change and development over time for the Wooddale East location alternative are the same as those proposed for the Wooddale West alternative. Refer to the "Key Considerations" discussion on p. 8-17.

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Station Area Utility Plan (Continued)

GENERAL RECOMMENDATIONS

General utility recommendations for the Wooddale East location alternative are the same as those proposed for the West alternative. Refer to p. 8-18 for general water main, sanitary sewer, and stormwater recommendations. Detailed utility recommendations for the Wooddale East location are outlined below.

STATION AREA UTILITY RECOMMENDATIONS

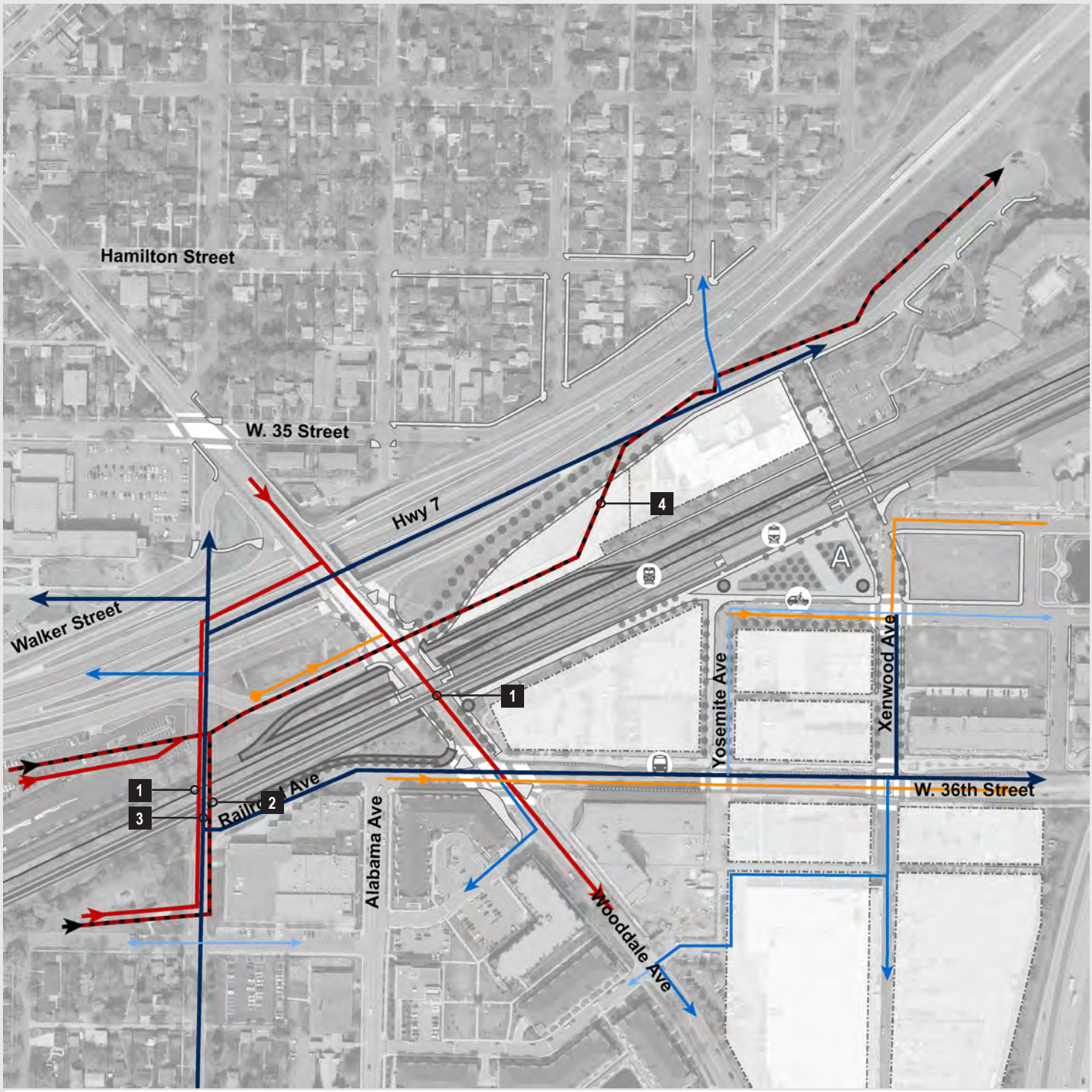
Utility recommendations (illustrated in Figure 8-22) are based on a localized analysis of proposed development. It is recommended that the City of St. Louis Park take this analysis a step further and review system constraints to the existing and future sanitary sewer and water main systems using existing sewer CAD or water CAD models, or other methods of modeling these systems.

Opening Day Recommendations:

1. Encase existing sanitary sewer crossing LRT rail construction.
2. Encase existing MCES interceptor crossing LRT rail construction.
3. Encase existing water main crossing LRT rail construction.
4. Relocate existing MCES interceptor to promote TOD along Highway 7 in conjunction with service roadway realignment.

NOTE: Utility recommendations on this page are identical to the Wooddale West scenario shown on p. 8-20

FIGURE 8-21. STATION AREA UTILITY PLAN



OPENING DAY RECOMMENDATION

LONG-TERM RECOMMENDATION

EXISTING UTILITIES

PROPOSED UTILITIES

SERVICE SANITARY

LOCAL SANITARY

TRUNK SANITARY

MCES SANITARY INTERCEPTOR

SANITARY SEWER FORCEMAIN

LIFT STATION

SERVICE WATER MAIN

LOCAL WATER MAIN

TRUNK WATER MAIN

WATER TOWER

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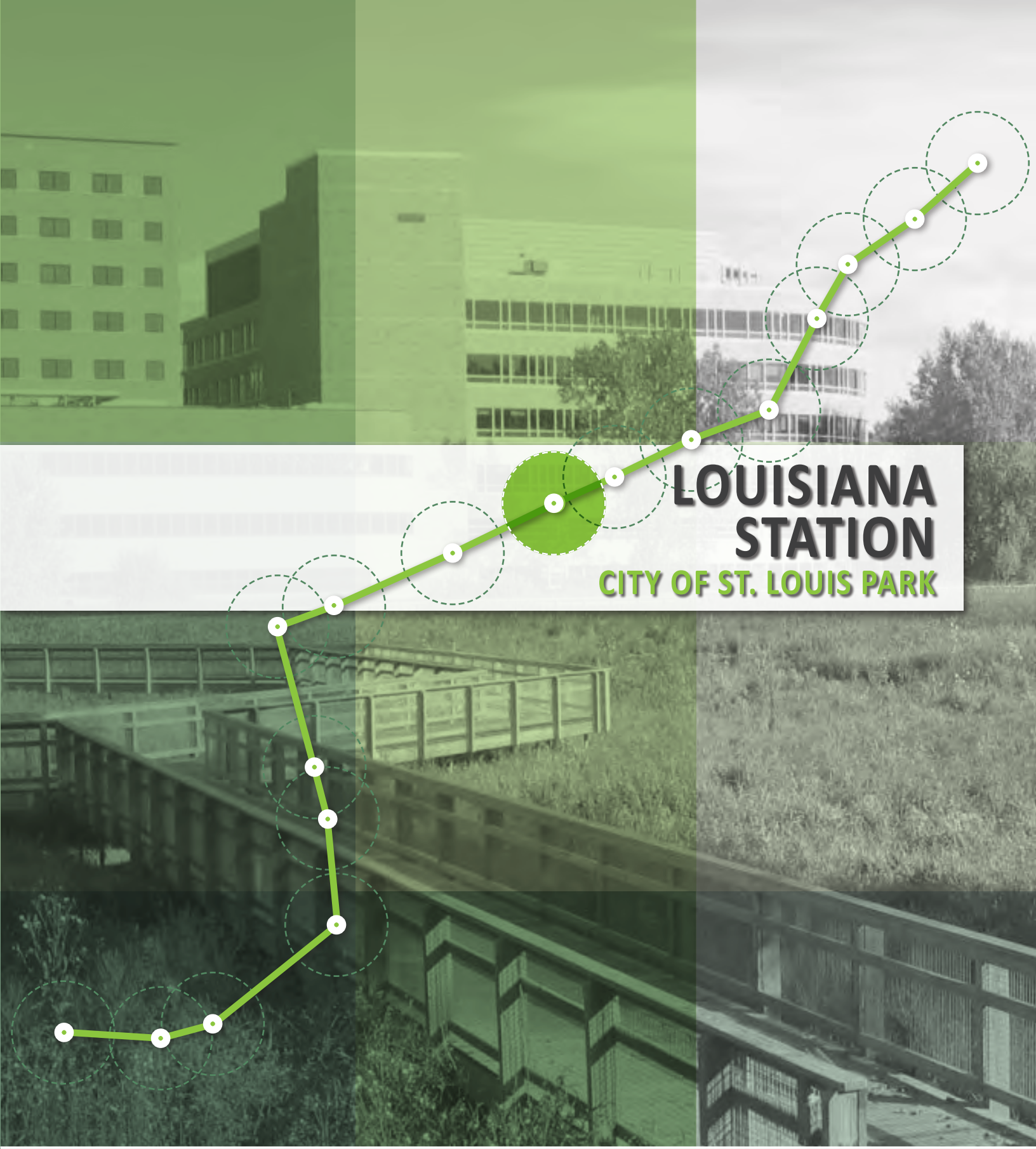


LOUISIANA STATION

CITY OF ST. LOUIS PARK

SOUTHWEST CORRIDOR INVESTMENT FRAMEWORK

TRANSITIONAL STATION AREA ACTION PLAN

Hoisington Koegler Group Inc.

SOUTHWEST LRT community works
www.swlrtcommunityworks.org

Hennepin

ABOUT THIS CHAPTER:

The Transitional Station Area Action Plans are the product of a Hennepin County led effort to help communities along the Southwest LRT corridor prepare for SW LRT's opening day in 2018 and beyond.

An individualized plan has been created for each of the 17 stations in the Southwest corridor, each plan comprising a chapter in the larger Southwest Corridor Investment Framework. The station area action plans suggest ways to build on local assets, enhance mobility, identify infrastructure needs, and capitalize on promising opportunities for development and redevelopment near each station.

Two location alternatives are under consideration for the Louisiana Station, noted in this chapter as "Louisiana North" and "Lousiana South". The Louisiana South location is considered as a "betterment". A complete set of recommendations has been developed for each alternative and is included in the "Where are We Going?" section of this report (see description below).

Plan Components:

INTRODUCTION 9-2
A brief overview of the station location and its surroundings

WHERE ARE WE TODAY? 9-4
A description of existing conditions in the station area, including:

- Land Use
- Transit Connections
- Access + Circulation Issues (Bike, Ped, and Auto)
- Infrastructure Needs

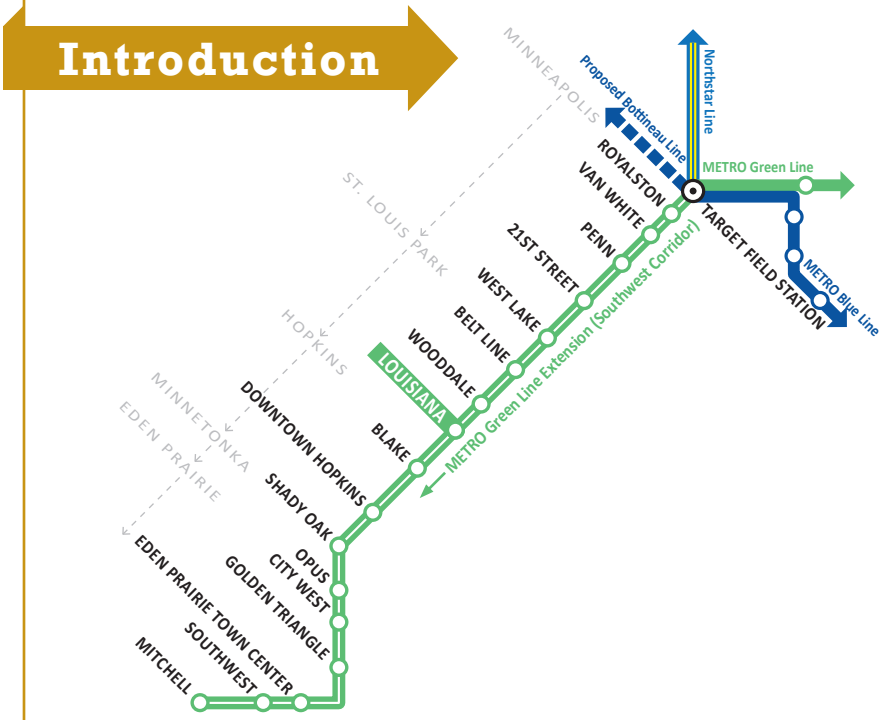
WHERE ARE WE GOING?

- Louisiana North 9-8
- Louisiana South 9-24

This section presents a number of recommendations for the station area in anticipation of opening day needs and the long-term TOD environment. Recommendations are provided for both potential station locations. This includes:

- Access + Circulation Plan
- Station Area Site Plan
- Infrastructure Plan
- Development Potential
- Summary of Key Initiatives

Introduction



LOUISIANA STATION WITHIN THE CORRIDOR:

An important health and wellness destination with the potential to develop into a significant cluster of medical-related businesses and provide access to neighborhoods throughout St. Louis Park along the Louisiana Avenue Corridor.

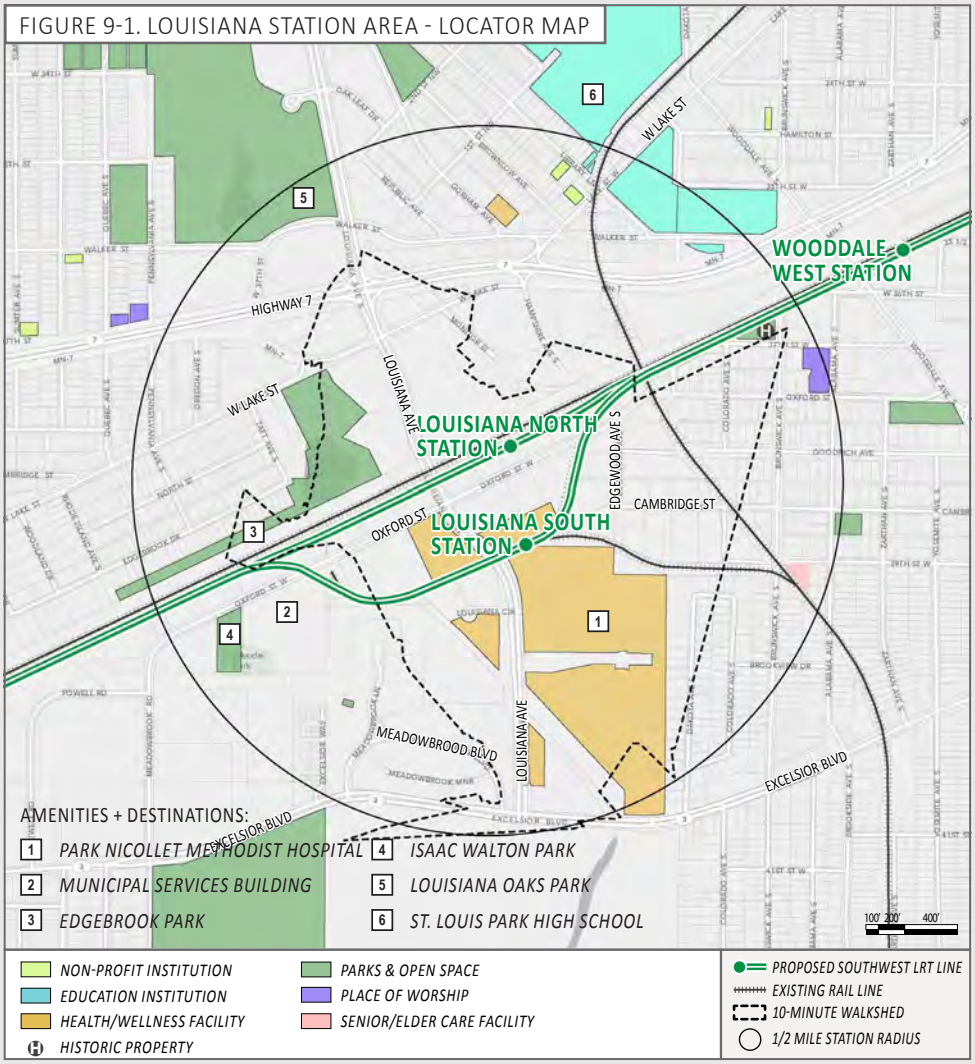
HEALTH AND WELLNESS The Louisiana station is the primary Health and Wellness destination (see Place Types discussion beginning on p. 1-19) along the Southwest LRT Corridor. Located just north of Park Nicollet Methodist Hospital, it is the only station along the line with the potential to provide direct service to a major hospital facility. The hospital has been expanding in recent years and has substantial land holdings within the station area, creating a longer term opportunity to develop a cluster of health/medical-related office and light industrial uses, as well as services and amenities for employees and residents in the area.

EMPLOYMENT The station area is home to a number of small- to medium-sized businesses located along Oxford Street, Edgewood Avenue, and Cambridge Street. While many of these businesses are currently operating at low employment densities, it is expected that over time some will shift towards higher density commercial/office development, attracting greater numbers of employees to the station area.

NEIGHBORHOODS The closest residential areas are the Meadowbrook, Brooklawns, South Oak Hill, and Elmwood neighborhoods. Although currently pedestrian access to the station is limited, an opportunity exists to improve neighborhood connections through streetscape improvements and the addition of new pedestrian pathways. Louisiana Avenue is the only north-south city street through St Louis Park. As such, the station will be an important point of transfer for bus service to neighborhoods and key destinations throughout the city.

TRAIL CONNECTIONS The Cedar Lake LRT Regional Trail, a popular biking and walking trail that connects downtown Minneapolis to the western suburbs, runs north of the proposed alignment, along the freight rail corridor.

FIGURE 9-1. LOUISIANA STATION AREA - LOCATOR MAP



NOTE: 10-minute walkshed approximates the area accessible within a 10-minute walk from the station platform using only the existing sidewalk/trail network. See Glossary for walkshed assumptions and methodology.

Station Location

Only one of the Louisiana station locations shown here (Lousiana North) is included in the SW LRT anticipated base project scope. The alternate concept location (Louisiana South) is considered a betterment to the base project scope. Louisiana North Station is located on the north side of Oxford Street, to the east of Louisiana Avenue. The Louisiana South station concept draws the LRT tracks farther south, closer to Methodist Hospital, with the station platform just off of Louisiana Avenue.

Many of the existing land uses in the area are industrial and light industrial with low-rise buildings on large parcels and blocks. Methodist Hospital is located within the station area walkshed. With approximately 3,900 employees, the hospital is expected to be a major generator of transit ridership at this station. The station will also serve employees of other businesses in the area, as well as residents in the Meadowbrook, Brooklawns, Elmwood, Creekside, Oak Hill, and South Oak Hill neighborhoods. Minnehaha Creek runs east-west through the station area, southwest of the proposed station platform.

LOUISIANA STATION AREA TODAY:

Methodist Hospital

Existing freight rail

Minnehaha Creek

Existing big box retail

Existing Cedar Lake LRT Regional Trail

Louisiana Avenue

Where Are We Today?

The following section describes the station area's EXISTING CONDITIONS, including the local context, land uses, transit and transportation systems, pedestrian and bicycle facilities, assets, destinations, and barriers to accessing the station. This analysis of current conditions presents key issues and opportunities in the station area and informs the recommendations for future station area improvements.

NOTE: Existing conditions maps are based on data provided by Hennepin County and local municipalities. The data used to create each map is collected to varying degrees of accuracy and represents infrastructure and conditions at varying points in time. Actual conditions may vary slightly from what is shown.

Land Use

Many of the land uses in the area are industrial and light industrial. Other land uses include institutional (Methodist Hospital), retail/commercial (Sam's Club), residential (single-family detached and medium-density multi-family). The Minnehaha Creek and associated wetlands meander through the station area.
The most significant existing land use anticipated to generate transit ridership is Methodist Hospital, which currently employs approximately 3,900 people. The existing freight rail lines in the station area bisect the potential development areas and cut off access between the proposed station and the hospital.

FIGURE 9-2. EXISTING LAND USE

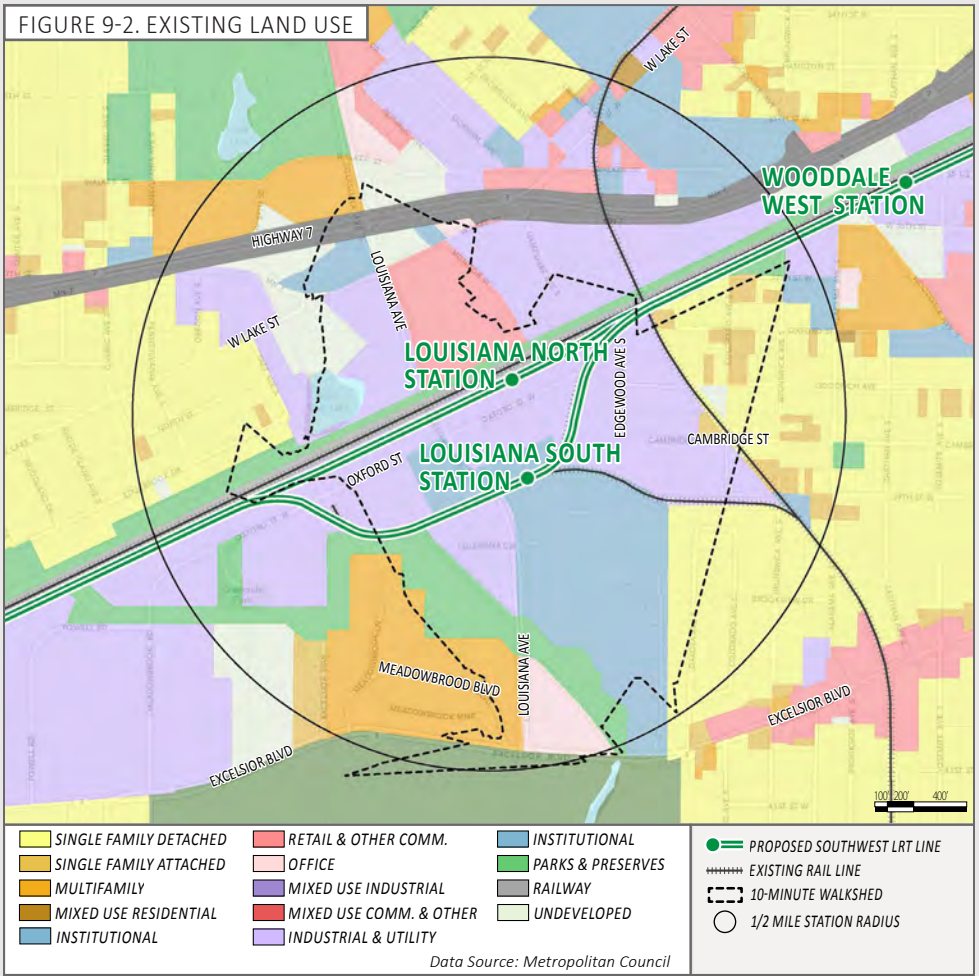
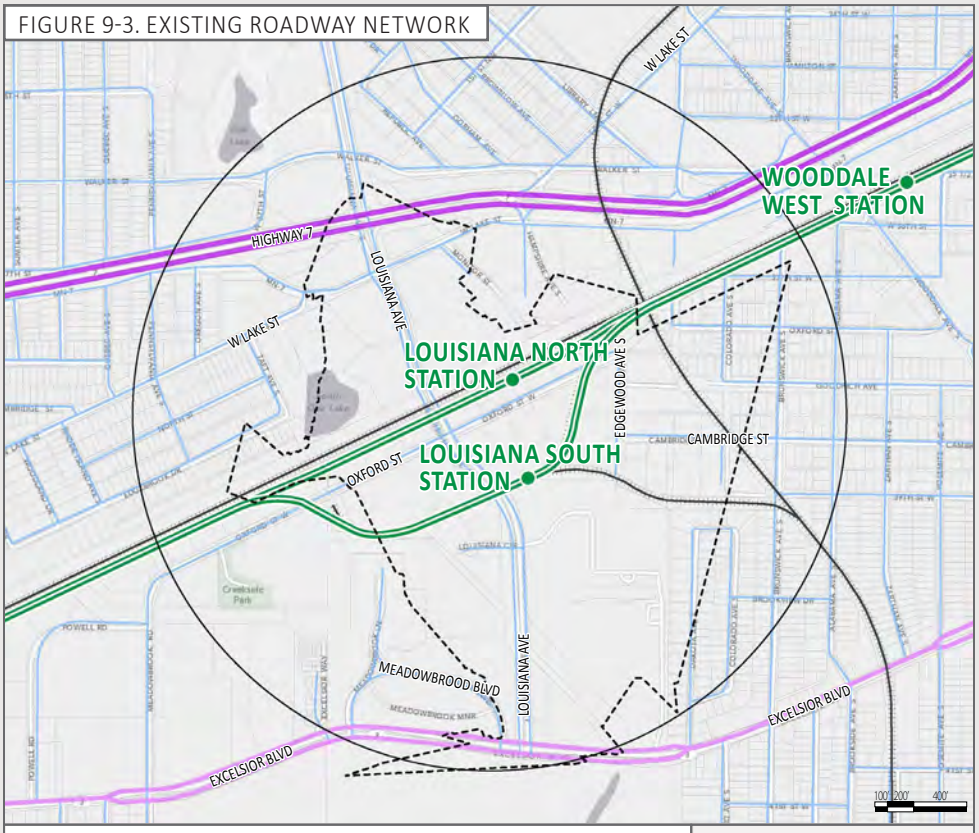


FIGURE 9-3. EXISTING ROADWAY NETWORK



INTERSTATE
U.S. HIGHWAY
STATE HIGHWAY
RAMP
CSAH/ COUNTY ROAD
LOCAL/CITY STREET

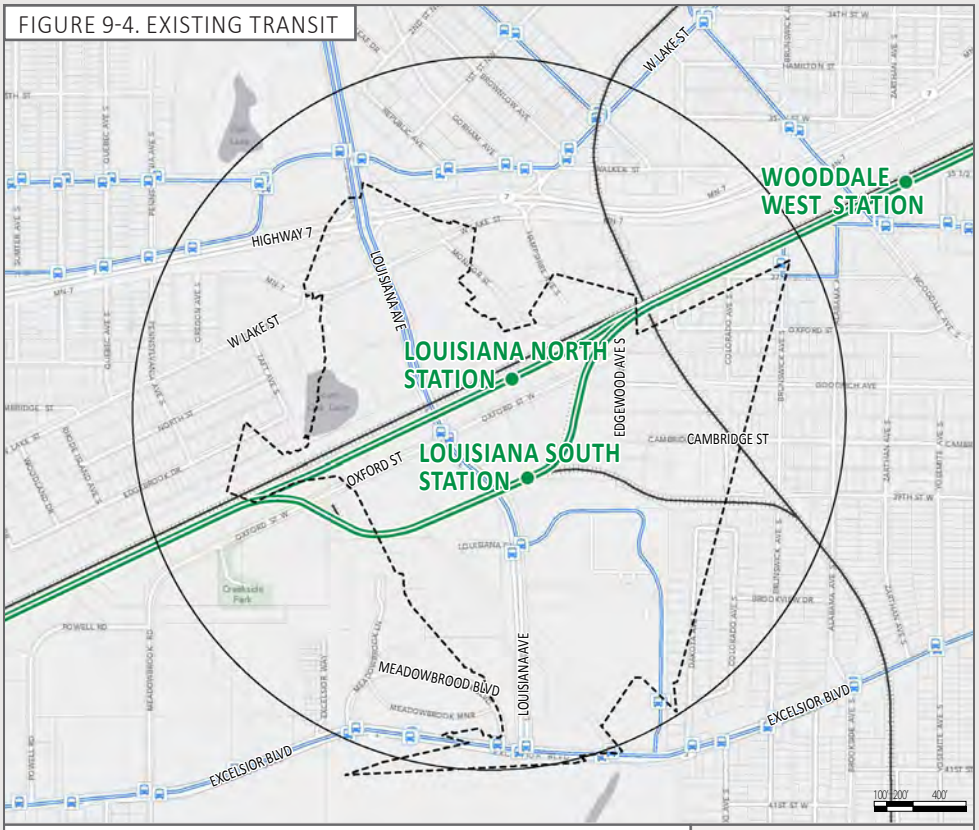
Data Source: Hennepin County

PROPOSED SOUTHWEST LRT LINE
EXISTING RAIL LINE
10-MINUTE WALKSHED
1/2 MILE STATION RADIUS

Roadway Network

The roadway network in the Louisiana station area is limited. Block sizes are large, primarily due to the associated industrial land uses, and roadways are cut off due to the freight rail lines located in the area. Louisiana Avenue is the primary north-south connector roadway near the station platform, delivering movement north into the South Oak Hill and Lenox neighborhoods and south into the Meadowbrook and Brooklawns neighborhoods. State Highway 7 runs east-west about a quarter of a mile north of the station. Excelsior Boulevard runs east-west about a half-mile south of the station. Farther from the station area, away from the industrial and hospital uses, the roadway network returns to a finer grained, residential network.

FIGURE 9-4. EXISTING TRANSIT



EXISTING BUS LINE
EXISTING BUS STOP

PROPOSED SOUTHWEST LRT LINE
EXISTING RAIL LINE
10-MINUTE WALKSHED
1/2 MILE STATION RADIUS

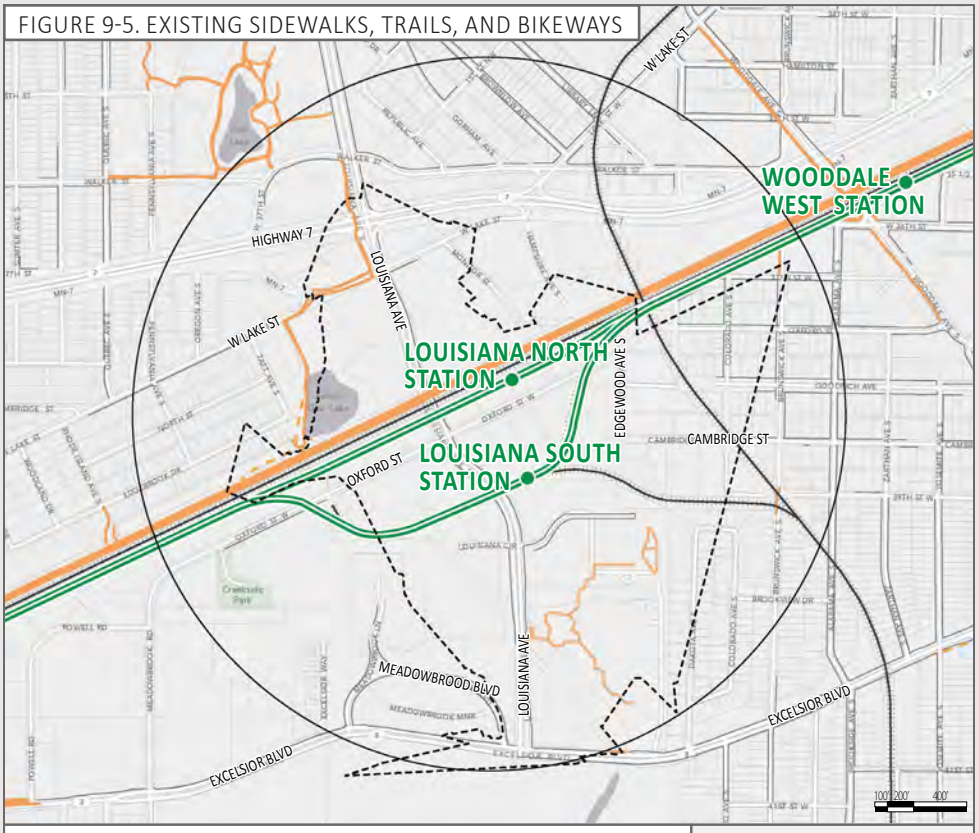
Transit

The Louisiana station area is currently served by the #604 bus route, which runs along Louisiana Avenue to Louisiana Circle, then turns east toward the hospital and then south to Excelsior Boulevard where it runs east along Excelsior Boulevard. Existing bus stops for the #604 route are located along Louisiana Avenue at Oxford Street and Louisiana Circle.

Sidewalk, Trails and Bikeways

The sidewalk, trails, and bikeway system in the Louisiana station area is extremely limited. Much of this is due to the land uses, large block sizes, and limited roadway network in the area. There is a need for additional and enhanced sidewalks and trails in the area if transit ridership is to be encouraged from nearby businesses and residential areas. The Cedar Lake LRT Regional Trail runs through the station area, providing a link to regional destinations via the multi-use trail.

FIGURE 9-5. EXISTING SIDEWALKS, TRAILS, AND BIKEWAYS



Sanitary Sewer

Sanitary sewer infrastructure consists of a collection of gravity flow sewer mains, lift stations, and pressurized forcemains that transport sewage to a wastewater treatment plant (WWTP). An efficient collection system has the capacity to accommodate all of the existing land uses within its particular sewershed. Beyond capacity, the material and age of pipes within a system can also impact a system's effectiveness.

Sanitary sewer infrastructure within the project area is maintained by either the City of St. Louis Park or by the Metropolitan Council Environmental Services (MCES) Division. MCES maintains a series of interceptor trunk sewers which collect sewage at key locations and convey sewage across community boundaries to regional WWTPs. Wastewater from the station area is treated by the MCES Metro WWTP located in St. Paul.

FIGURE 9-6. EXISTING SANITARY SEWER

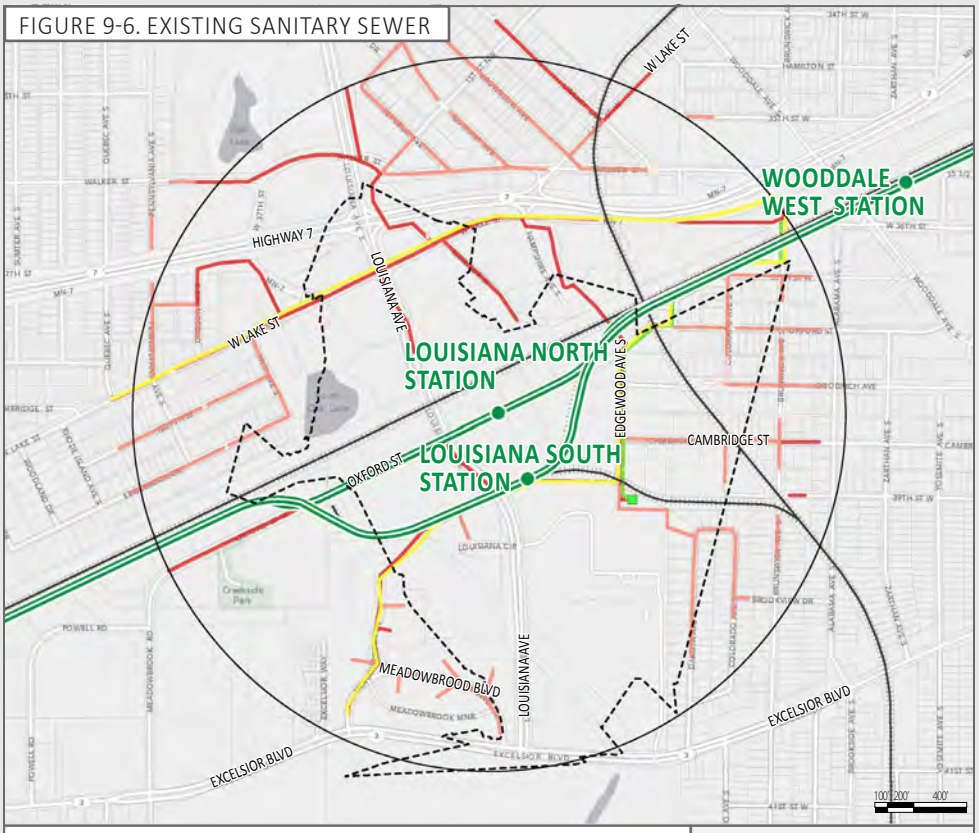


FIGURE 9-7. EXISTING WATER MAIN

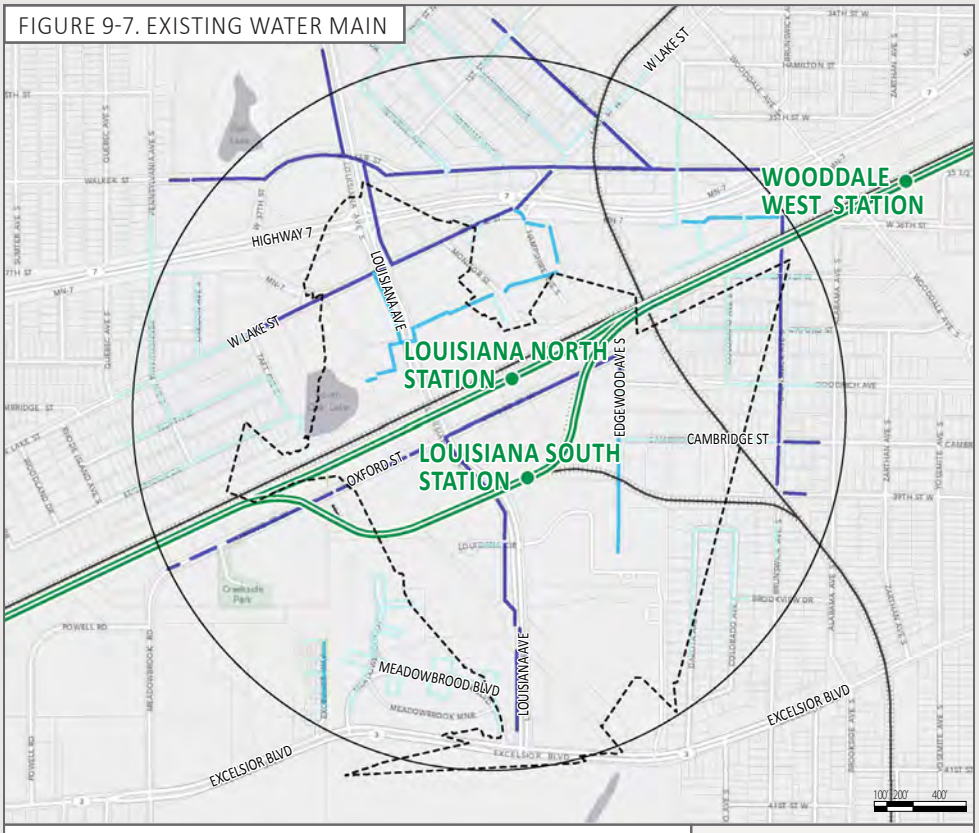
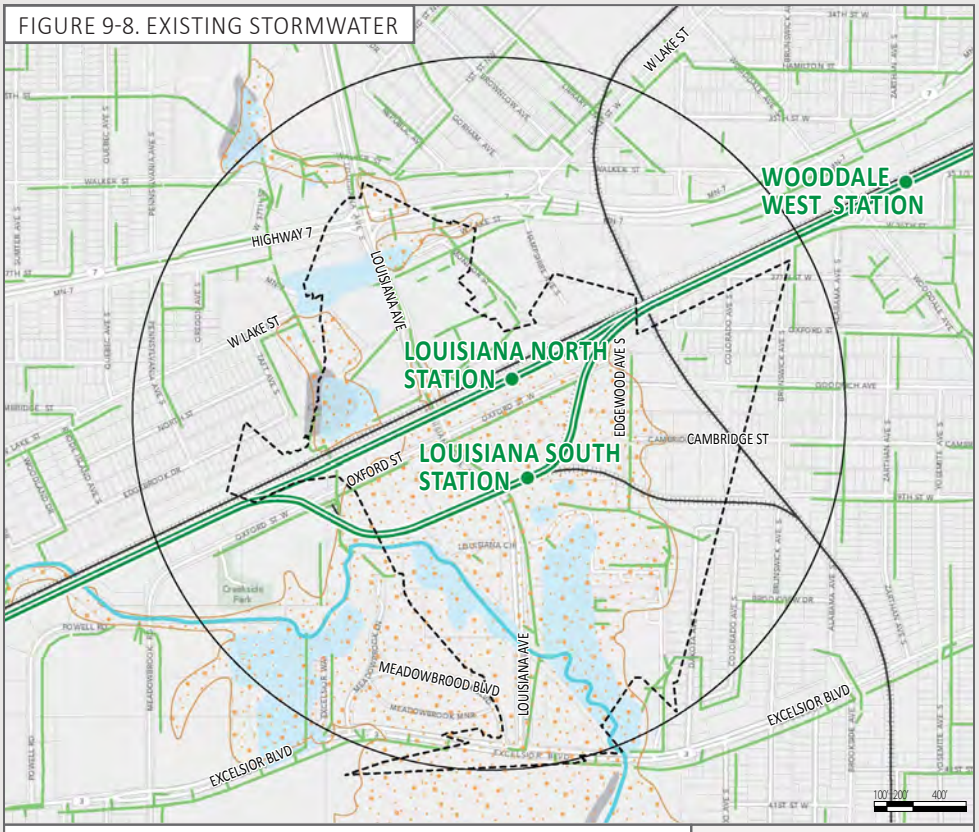


FIGURE 9-8. EXISTING STORMWATER



Water Main

Water main distribution systems serve to supply potable water to individual properties and to support fire suppression throughout the community. A well-designed system can maintain adequate pressure to support demand of individual properties and provide high flow rates to fire hydrants/fire suppression systems in emergency situations. Because of the complexity of water distribution networks and the importance of pressure, flow, and water quality, City water system models are used to evaluate a system's adequacy. The material and age of the system's water mains can also be factors in system breaks, leaks, and pressure and flow degradations.

Water pressure and flow rates can be influenced by: size of water main serving an area, proximity and elevation relative to a water tower, proximity to a trunk water main with high flow capacity, if the main creates a loop, demand of adjacent land uses, and the condition of the main.

Stormwater

This station is in the Minnehaha Creek Watershed District (MCWD). A majority of the drainage is directed to Minnehaha Creek. The creek is impaired by dissolved oxygen depletion, chloride, fecal coliform, and fish biology. Some drainage is directed to Bass Lake which is impaired by nutrients. A significant portion of the area, including the station, is within the 100-year floodplain.

Discharging near impaired waters may trigger additional National Pollution Discharge Elimination System measures which require more capacity for stormwater management. For impaired waters where a Total Maximum Daily Load has been approved, these requirements may become stricter. Zoning requirements within the 100-year floodplain may limit development/ redevelopment potential.

The watershed has recently completed creek remeander and improvement projects near the station. The district is investigating improvements to divert drainage from the proposed station area for regional treatment.

This station area has been subject to flooding in the past. Any development/ redevelopment is anticipated to improve drainage as a result of enforcing City and Watershed requirements.

Where Are We Going? (*LOUSIANA NORTH*)

The plans and diagrams on the following pages illustrate a range of recommendations for infrastructure improvements, station amenities, and potential redevelopment opportunities for the *LOUISIANA NORTH* station location alternative.

The ACCESS AND CIRCULATION PLAN shown in Figure 9-9 provides a high level view of how future transit, automobile, bike, and pedestrian systems will connect to the station area and its surroundings.

Figure 9-10 illustrates the STATION AREA IMPROVEMENTS that will facilitate access to and from the station and catalyze redevelopment in the station area. This includes opening day and long-term station area improvements

Figure 9-11 focuses on OPENING DAY STATION AREA IMPROVEMENTS only. These recommendations represent the improvements necessary to enhance the efficient function of the transit station, roadways, pedestrian and bicycle connections, and transit connections on opening day in 2018.

Station Area Improvements

The discussion below outlines a range of future station area improvements. While some of the identified improvements may be constructed as part of the LRT project itself, other improvements must be funded, designed and constructed by other entities and will require coordination between the City, County, and Metro Transit as well as local stakeholder and community groups.

ROADWAYS

Long-Term Improvements:

» Realign Edgewood Avenue between Oxford Street and Cambridge Street to provide a more direct access route to Methodist Hospital.

» Add a new roadway connection, extending Cambridge Street west across Louisiana Avenue and connecting back to Oxford Street. This connection will enhance the street network to improve circulation and establish pedestrian-scale block sizes.

PEDESTRIAN CONNECTIONS

Opening Day Improvements:

» Add a new multi-use trail connection from Oxford Street to Louisiana Circle. This connection will provide a more direct access route to Methodist Hospital from the LRT station. Accomodations for pedestrian safety will be needed at the rail crossing. This connection should feature climate protection such as canopy, windscreen, heated sidewalks, etc.

» Focus sidewalk and streetscape enhancements along Louisiana Avenue, Oxford Street, Cambridge Street, and Louisiana Circle near the station.

» Improve pedestrian crossings along Louisiana Avenue.

» Construct the planned multi-use Minnehaha Creek Trail, including a connection between the Meadowbrook neighborhood and Oxford Ave.

» Provide safe and convenient pedestrian connections to the Cedar Lake LRT Regional Trail, including construction of an underpass between the station platform and trail.

Long-Term Improvements:

» Construct a trail connection and creek crossing between the Meadowbrook neighborhood and Louisiana Ave.

» Construct a multi-use trail connection along the existing freight rail switching wye from Cambridge Street southeast to the surrounding neighborhoods.

» Remove the freight rail switching wye to reduce barriers to development and improve access and circulation in the station area.

BIKE CONNECTIONS

Opening Day Improvements:

» Provide multi-use paths along both sides of Louisiana Ave.

» Provide on-street bike facilities (lanes, routes, signage, etc.) on local streets to better connect the station to nearby neighborhoods, businesses, amenities, and destinations.

Clear pedestrian path from the station to Methodist Hospital

Multi-use paths and regional trail connections

Example of public plaza

- » Provide bike parking, lockers, and bike sharing facilities in a highly visible area near the station platform.
- » Provide bike connections to the Cedar Lake LRT Regional Trail through an underpass between the station platform and trail.

Long-Term Improvements:

- » Construct the planned multi-use Minnehaha Creek Trail.
- » Connect to the future north-south CP Regional Trail (included in the Metro Council, Hennepin County, St. Louis Park, and Three Rivers Park District regional park, recreation, and trail comprehensive plans) that will run from Bloomington to Crystal.

TRANSIT CONNECTIONS

Opening Day Improvements:

- » Provide bus transit facilities along Louisiana Avenue.
- » Improve the pedestrian environment between the station platform and the bus stops.
- » Provide a hospital shuttle connection near the LRT station platform.

PARK AND RIDE

Opening Day Improvements:

- » Provide a park and ride surface parking lot along Oxford Street adjacent to the station platform.

KISS AND RIDE

Opening Day Improvements:

- » Construct kiss and ride facilities within the park and ride lot immediately adjacent to the station platform.

STATION AMENITIES (*Beyond SW LRT Base Project Scope*)

Opening Day Improvements:

- » Transit Facilities- provide facilities for bus transfers and kiss and ride drop-offs near the LRT station platform.
- » Wayfinding- define and install a cohesive and contextual wayfinding system near the LRT station platform, major gateways (Louisiana/Hwy 7, Louisiana/Excelsior Blvd, Cambridge Street, Cedar Lake LRT Regional Trail), and major destinations (such as Methodist Hospital campus, Meadowbrook neighborhood, Oxford Street businesses).
- » Seating – provide comfortable and durable seating near the station platform.
- » Lighting – provide adequate lighting for the safety of pedestrians, bicyclists, and motorists near the station platform and along Oxford Street and Louisiana Avenue.
- » Bicycle Facilities- provide bike parking, lockers, pumping station, and bike sharing facilities near the LRT station platform.
- » Plaza- create a public plaza south of the station platform, next to the park and ride lot, to provide transit users with a paved queue area to wait for LRT trains and move about the station area. Design the plaza to be used for special events and temporary services by providing flexible spaces, multiple power outlets, lighting, etc.
- » Public Art- incorporate public art in the station area to create an attractive and identifiable place.

DEVELOPMENT POTENTIAL

Opening Day Improvements:

- » The site located across Oxford Street from the park and ride lot represents opening day redevelopment potential.
- » The site located north of Louisiana Circle and east of Louisiana Avenue represents opening day redevelopment potential.

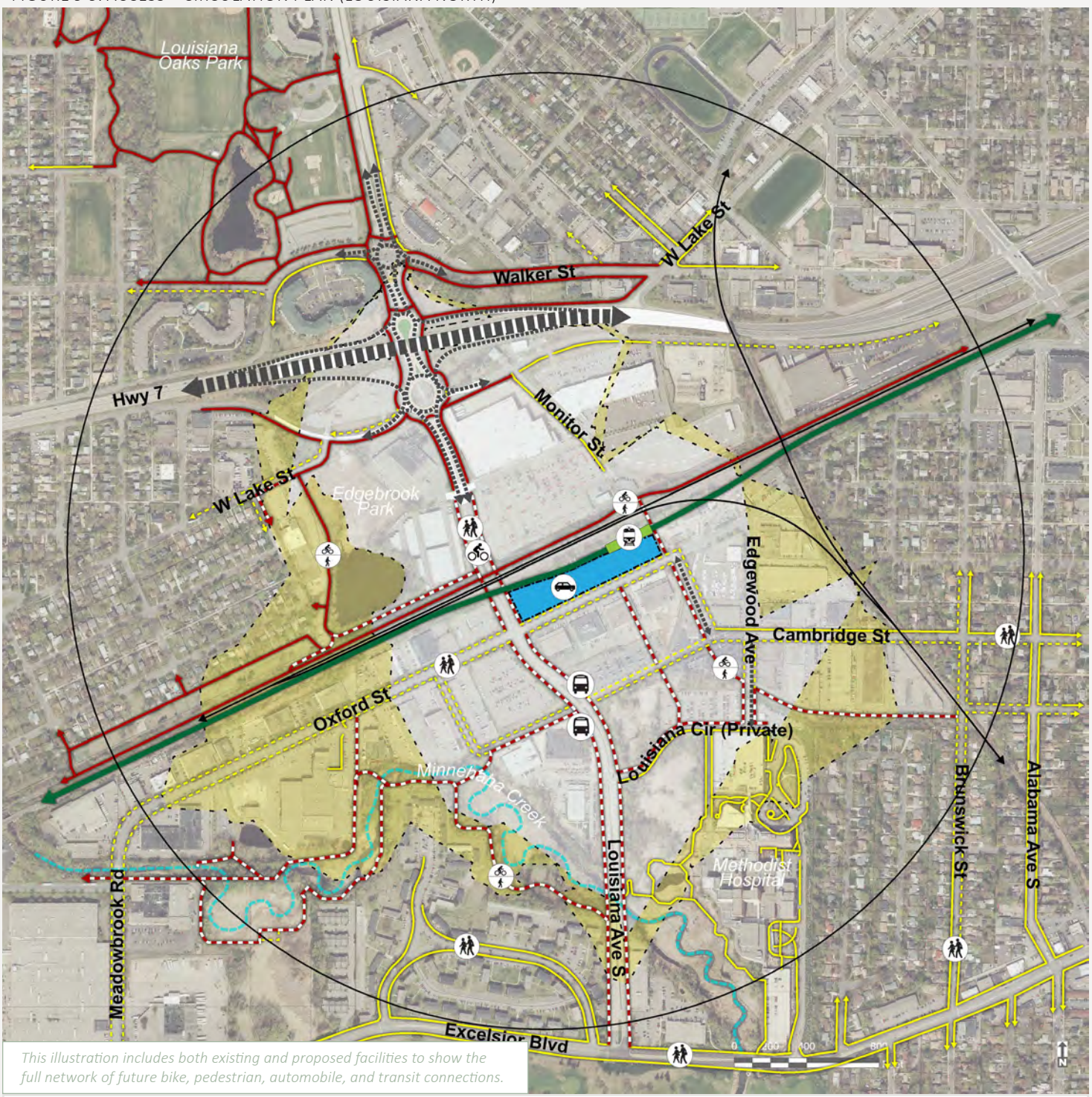
Long-Term Improvements:

- » See the "Development Potential" discussion on page 9-18 for more on long-term development opportunities.

UTILITIES

- » See the "Station Area Utility Plan" beginning on page 9-20 for all utility recommendations.

FIGURE 9-9. ACCESS + CIRCULATION PLAN (LOUISIANA NORTH)

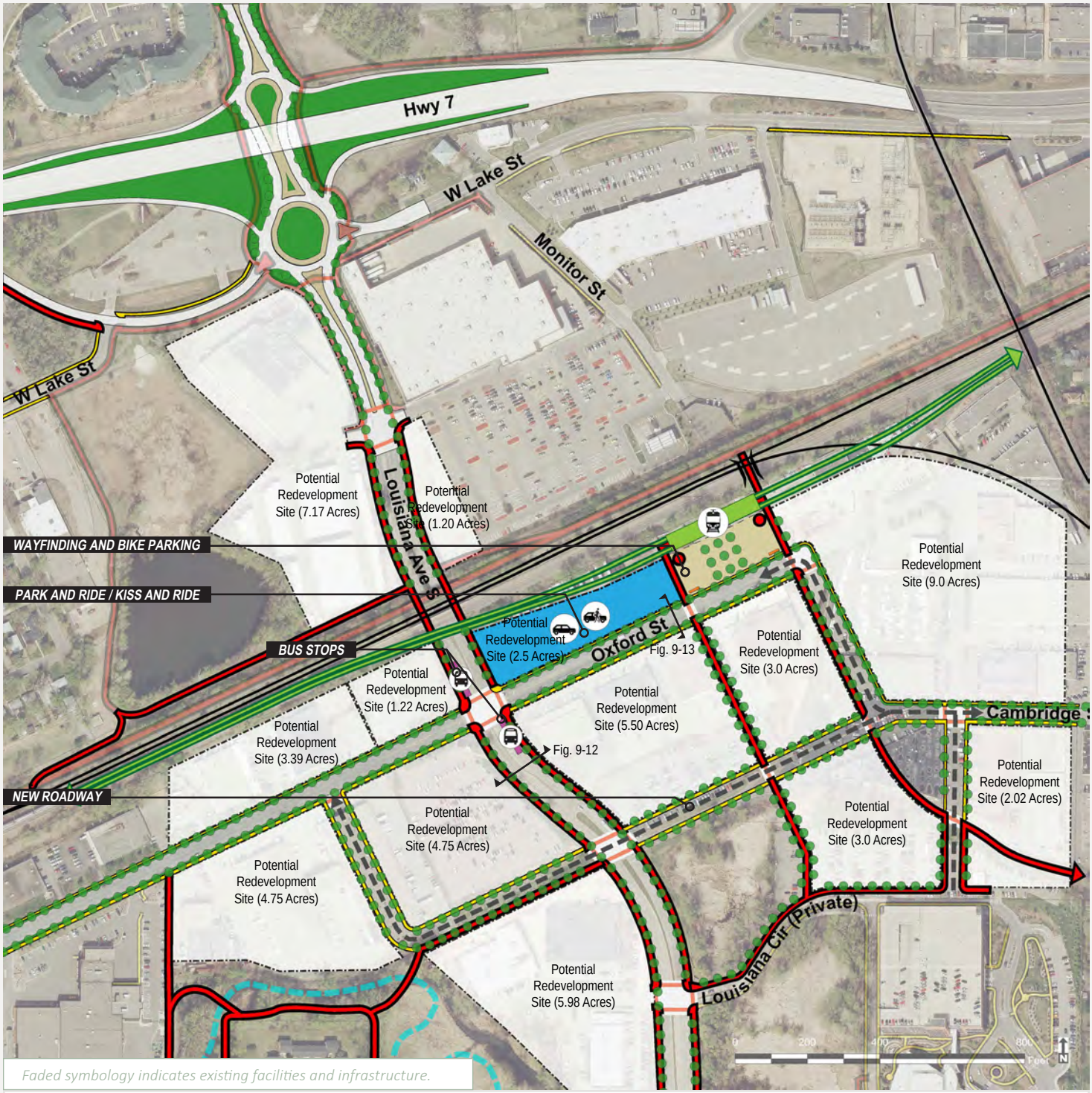


This illustration includes both existing and proposed facilities to show the full network of future bike, pedestrian, automobile, and transit connections.

LRT PLATFORM
LRT LINE
BUS STOP
PARK AND RIDE
FREIGHT LINE
NEW ROADWAY
KISS AND RIDE
EXISTING WALKSHED
EXISTING PEDESTRIAN CONNECTION
EXISTING BIKE CONNECTION
EXISTING MULTI USE CONNECTION
FUTURE WALKSHED (WITH TSAAP IMPROVEMENTS)
PROPOSED(DASHED) PEDESTRIAN CONNECTION
PROPOSED(DASHED) BIKE CONNECTION
PROPOSED(DASHED) MULTI USE CONNECTION

NOTE: Existing walkshed approximates the area accessible within a 10-minute walk from the station platform using only the existing sidewalk/trail network. Future walkshed incorporates all proposed improvements to the sidewalk/trail network. Walksheds are based on GIS modeling and available sidewalk/trail information- and may not reflect exact on-the-ground conditions. See Glossary for detailed explanation of walkshed assumptions and methodology.

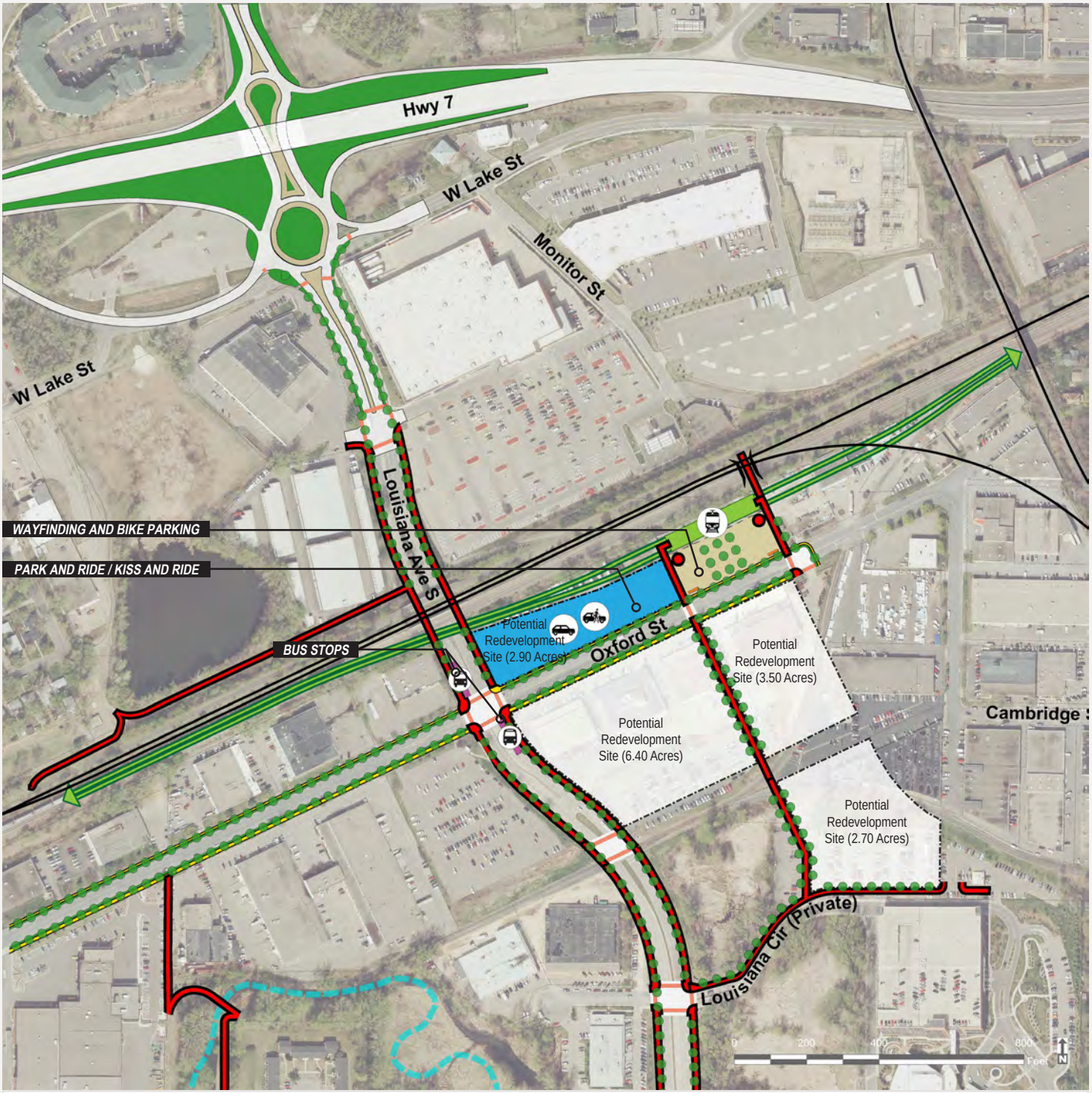
FIGURE 9-10. STATION AREA IMPROVEMENTS (LOUISIANA NORTH)



Faded symbology indicates existing facilities and infrastructure.

- LRT PLATFORM
- FREIGHT LINE
- BUS STOP
- BUS SHELTER
- NEW SIDEWALK / SIDEWALK IMPROVEMENT
- ON STREET BIKE INFRASTRUCTURE
- MULTI-USE PATH
- NEW CROSSING / CROSSING IMPROVEMENT
- NEW ROADWAY
- STREETSCAPE
- PARK AND RIDE
- KISS AND RIDE
- NEW SIGNALIZED INTERSECTION
- BIKE PARKING
- WAYFINDING
- PUBLIC ART OPPORTUNITY
- POTENTIAL DEVELOPMENT SITE
- PLAZA SPACE / BUILDING SETBACK AREA

FIGURE 9-11. OPENING DAY STATION AREA IMPROVEMENTS (LOUISIANA NORTH)



LRT PLATFORM
FREIGHT LINE
BUS STOP
BUS SHELTER
NEW SIDEWALK / SIDEWALK IMPROVEMENT
ON STREET BIKE INFRASTRUCTURE
MULTI-USE PATH
NEW CROSSING / CROSSING IMPROVEMENT
NEW ROADWAY
STREETSCAPE
PARK AND RIDE
KISS AND RIDE
NEW SIGNALIZED INTERSECTION
BIKE PARKING
WAYFINDING
PUBLIC ART OPPORTUNITY
POTENTIAL DEVELOPMENT SITE
PLAZA SPACE / BUILDING SETBACK AREA

Conceptual Street Sections

The street cross section illustrated below is conceptual and represents a potential future streetscape condition, addressing facilities for a variety of transportation modes, streetscape amenities, and the relationship between buildings and the street edge. Further design and engineering work will be required to ensure the streetscape is in compliance with City and/or County design standards and needs.

LOUISIANA AVENUE

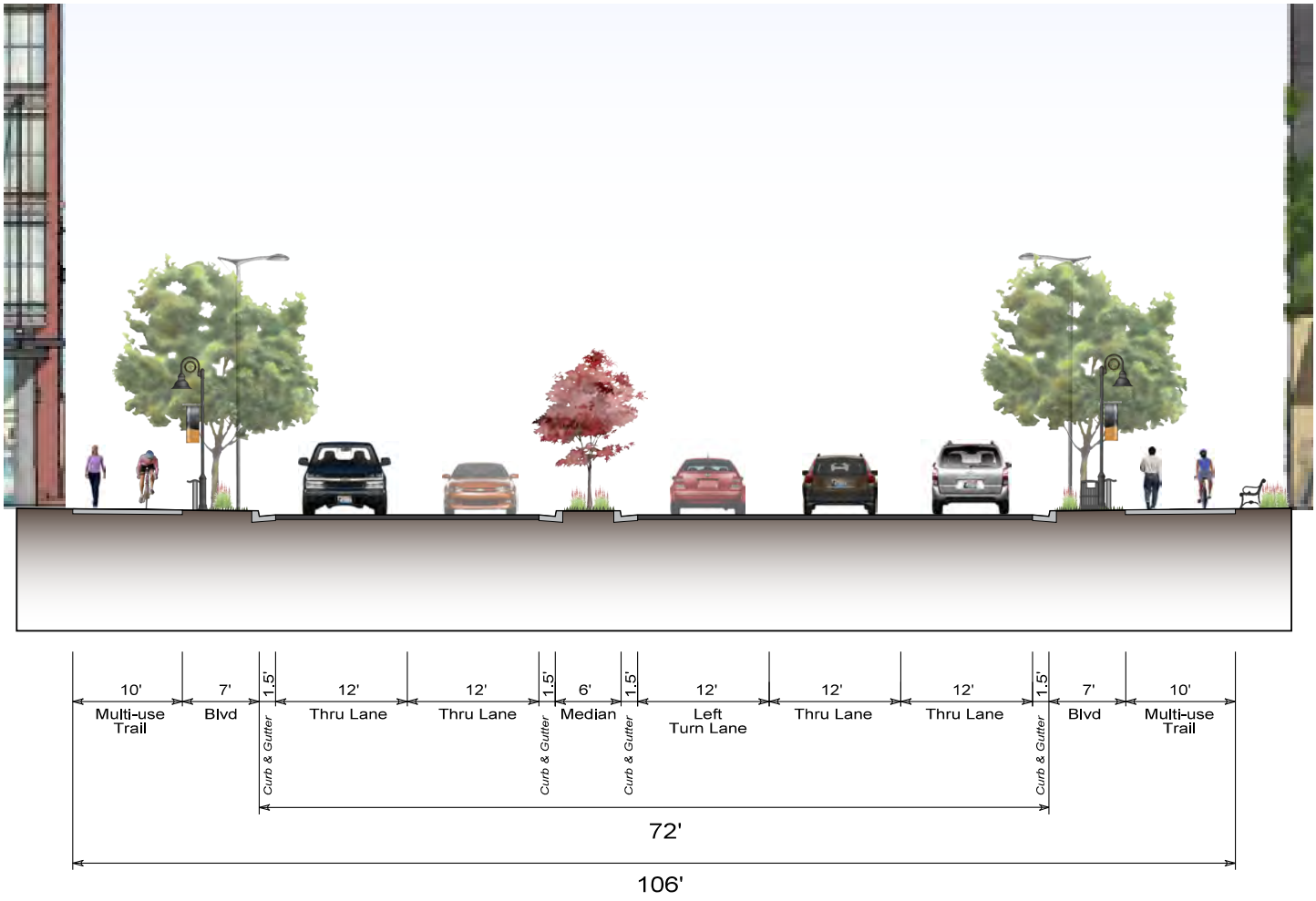
Dimensional Criteria:

- 106 feet — Right-of-Way Width
- 72 feet — Pavement Width (2-way)
- 6'-0" — Median
- 20'-30' o/c — Street Tree Spacing
- 10'-0" — Trail Width (both sides of street)

Design Features:

- Multi-Use Trails
- Street Trees/Plantings/Raingardens
- Streetscape Furnishings (seating, trash receptacles, bicycle racks)
- Signage/Wayfinding
- Transit Facilities (bus stops/layovers, shelters, seating, signage, lighting)
- Street and Pedestrian Lighting
- Pedestrian-Friendly Crossings (markings, countdown traffic signals, ADA features)

FIGURE 9-12. CONCEPTUAL STREET SECTION - LOUISIANA AVENUE



Conceptual Street Sections (Continued)

The street cross section illustrated below is conceptual and represents a potential future streetscape condition, addressing facilities for a variety of transportation modes, streetscape amenities, and the relationship between buildings and the street edge. Further design and engineering work will be required to ensure the streetscape is in compliance with City and/or County design standards and needs.

OXFORD STREET

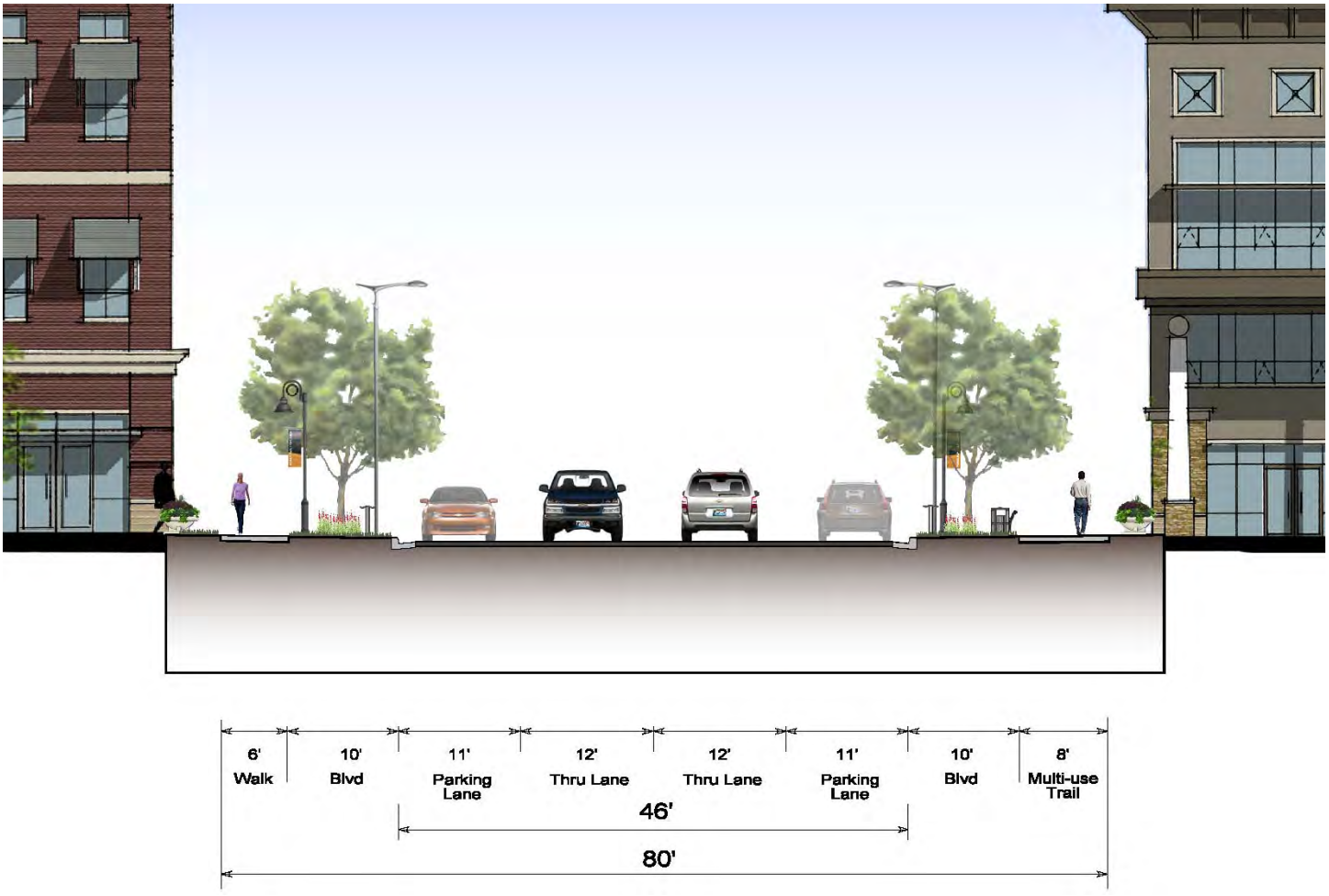
Dimensional Criteria:

- » 80 feet — Right-of-Way Width
- » 46 feet — Pavement Width (2-way)
- » 20'-30' o/c — Street Tree Spacing
- » 6'-0" — Sidewalk Width
- » 8'-0" — Trail Width

Design Features:

- » Sidewalk (north side of street)
- » Trail (south side of street)
- » On-Street Parking
- » Street Trees/Plantings/Raingardens
- » Streetscape Furnishings (seating, trash receptacles, bicycle racks)
- » Signage/Wayfinding
- » Street and Pedestrian Lighting
- » Pedestrian-Friendly Crossings (markings, countdown traffic signals, ADA features)

FIGURE 9-13. CONCEPTUAL STREET SECTION - OXFORD STREET



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Opening Day Improvements

The following tables and diagrams outline the proposed improvements to be implemented in advance of SW LRT's opening day in 2018. Table 9-1 and Figure 9-14 show opening day improvements that are part of the SW LRT anticipated base project scope; these improvements will be part of the overall project cost for construction of the LRT line. Table 9-2 and Figure 9-15 include opening day improvements that are recommended as part of the Southwest Corridor Investment Framework and are beyond SW LRT's base project scope.

TABLE 9-1. SW LRT ANTICIPATED BASE PROJECT SCOPE - OPENING DAY STATION AREA IMPROVEMENTS (LOUISIANA NORTH)

PLAN KEY	IMPROVEMENT	PROJECT LOCATION	PROJECT NOTES
A	LRT Platform	East of Louisiana Ave along Oxford Street	Includes related LRT infrastructure
B	Park and Ride	Along Oxford Street	225 stall surface park and ride lot (includes private shuttle dropoff, lighting, and ped access to station)
C	Kiss and Ride	On Oxford Street	On-street dropoff area
D	Sidewalk/Trail	Regional trail	Reconstruction of regional trail
E	Sidewalk/Trail	Near station platform	New trail access to station via an underpass
F	Bike Facilities	Near station platform	Allowance for bike storage
G	Wayfinding	Near station platform and park and ride lot	Allowance
H	Landscaping	Near station platform and park and ride lot	Allowance (includes landscaping for park and ride lot)
I	Water*	Near station platform	New water service and fire hydrant to station
J	Utilities*	Project limit area	Adjustment of existing utilities
K	Stormwater Management*	Near station platform and park and ride lot	Allowance

Note: Anticipated Southwest LRT Base Project Scope as of December 2013 (subject to change)
** Improvement not symbolized on opening day figures (exact location to be determined as part of the base project scope)*

TABLE 9-2. SW CORRIDOR INVESTMENT FRAMEWORK (TSAAP) (LOUSIANA NORTH) - OPENING DAY STATION AREA IMPROVEMENTS

PLAN KEY	IMPROVEMENT	PROJECT LOCATION	PROJECT NOTES	PRIORITY
1	Streetscape	Louisiana Ave from W. Lake Street south to Excelsior Blvd	Includes multi-use trails, streetscape plantings, furnishings, lighting and signage	Primary
2	Streetscape	Oxford Street	Includes streetscape plantings, furnishings, lighting , bike facilities and signage	Primary
3	Sidewalk/Trail	Along Oxford Street	Sidewalks	Primary
4	Sidewalk/Trail	From east end of Park and Ride lot south to Louisiana Circle	Multi-use trail connection	Primary
5	Sidewalk/Trail	Meadowbrook neighborhood north to Oxford Street	Multi-use trail connection	Primary
6	Sidewalk/Trail	Along north side of Louisiana Circle east of Louisiana Avenue	Multi-use trail connection	Secondary
7	Sidewalk/Trail	North of regional trail and west of Louisiana Ave	Multi-use trail connections	Secondary
8	Intersection Enhancements	Along Louisiana Ave and Oxford Street (several intersections)	Enhanced crosswalks	Primary
9	Bike Facilities	Near station platform	Bike parking, lockers, pump station and bike share facilities (beyond SPO improvements)	Primary
10	Wayfinding	Station platform and Louisiana Ave	Signage and wayfinding (beyond SPO improvements)	Primary
11	Switching Wye*	East of Louisiana, South of Oxford	Remove rail switching wye	Primary
12	Public plaza	East of Park and Ride	Plaza includes paving, planting, seating, lighting, and signage (beyond SPO improvements)	Primary

** Improvement not symbolized on opening day figures.*

FIGURE 9-14. SW LRT ANTICIPATED BASE PROJECT SCOPE - OPENING DAY STATION AREA IMPROVEMENTS (LOUISIANA NORTH)

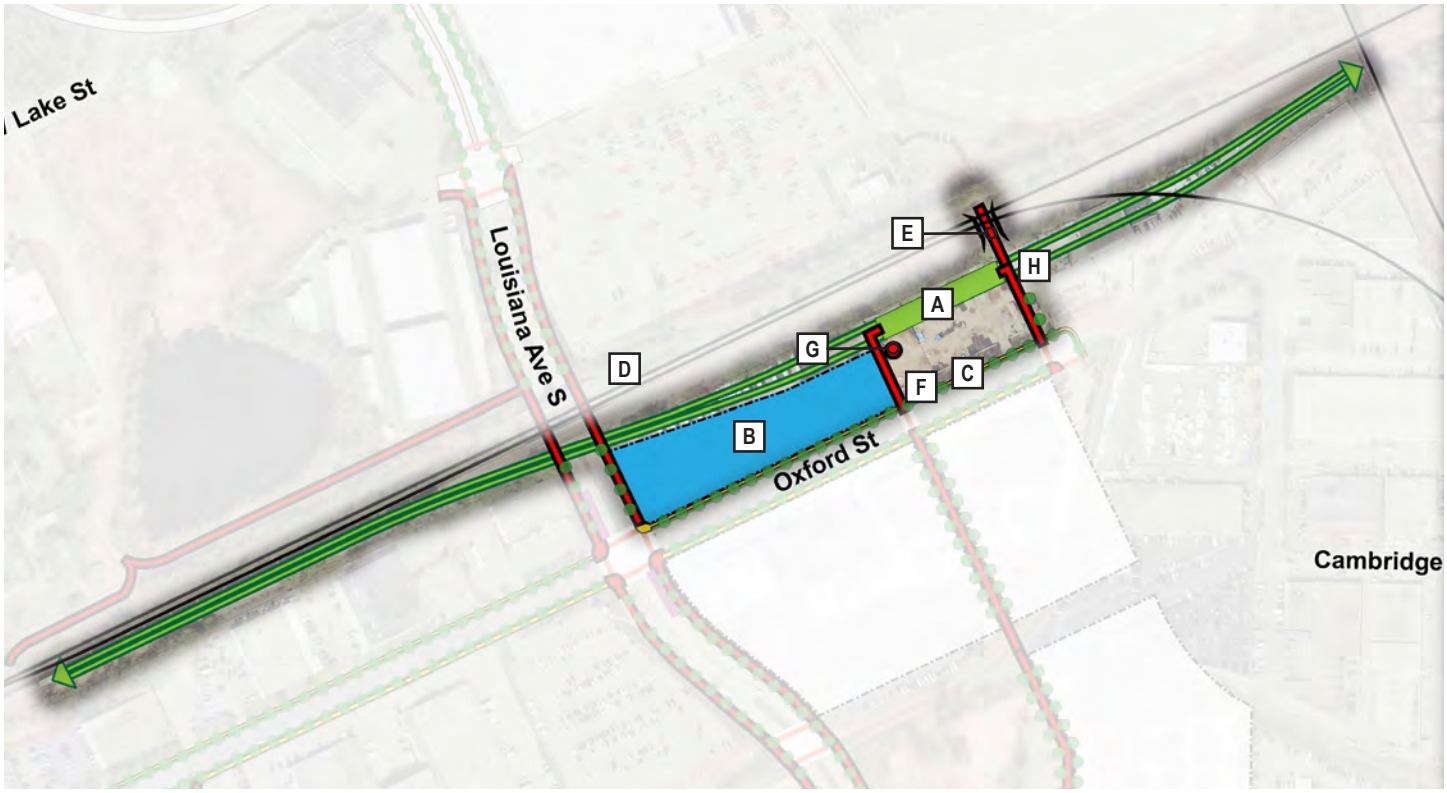
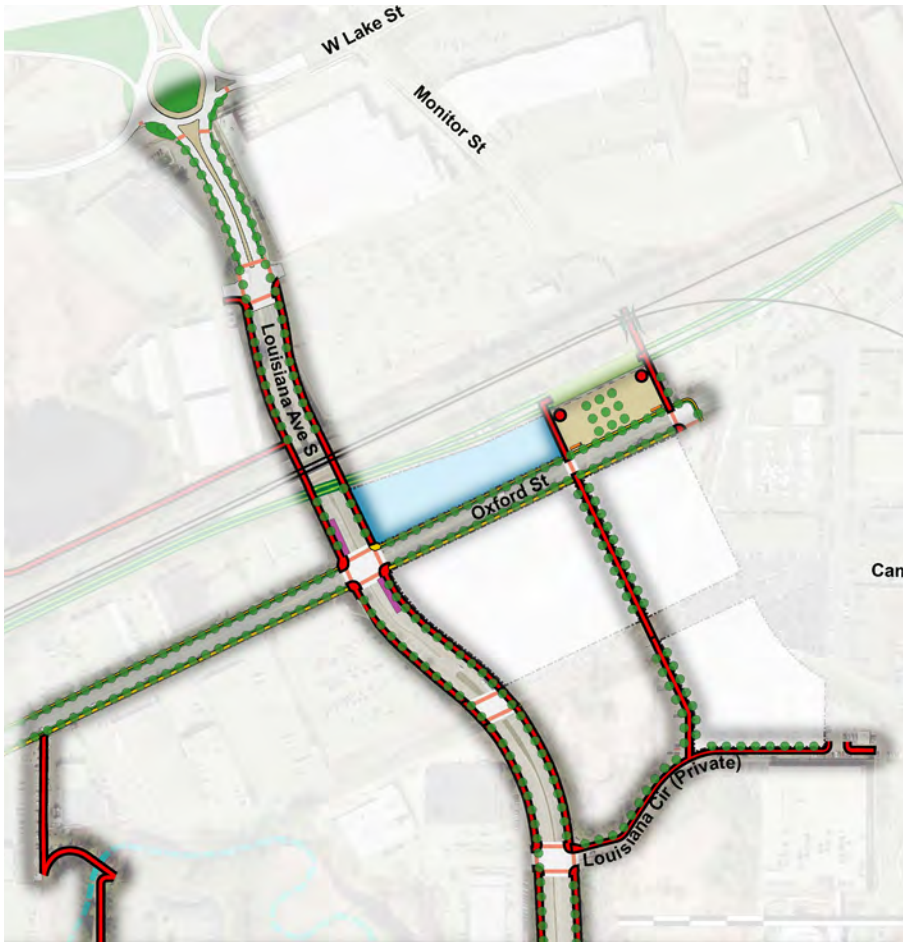


FIGURE 9-15. SW CORRIDOR INVESTMENT FRAMEWORK (TSAAP) (LOUSIANA NORTH) - OPENING DAY STATION AREA IMPROVEMENTS



PRIMARY PRIORITY

SECONDARY PRIORITY

Development Potential

OVERVIEW

The presence of the Park Nicollet Methodist Hospital to the south, and Methodist Hospital land holdings in the area, present unique opportunities for future development. The land uses in the Louisiana station area include a mix of light industrial, institutional, commercial/retail, residential, and park/open space uses. Several underutilized industrial sites present opportunities for future redevelopment in the area. Additional medical, office, retail, hotel, light industrial, and residential uses are possible in the Louisiana station area in the mid-term.

Key challenges that should be addressed to facilitate development potential include land uses, additional roadways and existing roadway improvements, smaller block sizes, connectivity in the station area, and the removal of freight rail barriers separating Methodist Hospital from the station.

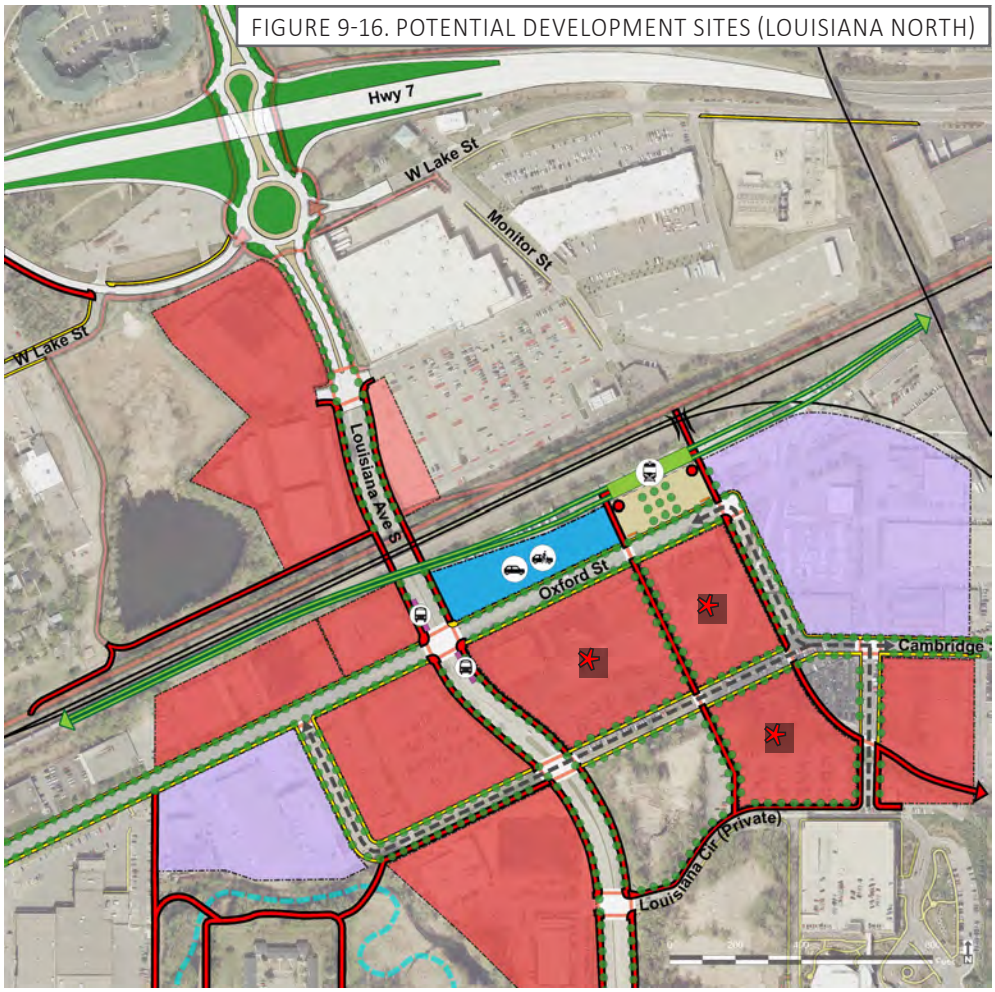
LAND USES

Development potential for the Louisiana station area is expected to include a mix of medical, office, retail, and light industrial uses.

PLANNING STRATEGIES

Several strategies should be addressed to facilitate future development in the station area. Industrial land uses, large block sizes, limited connectivity, and freight rail line barriers create challenges to accessing the station. Redevelopment should seek opportunities to introduce a finer grain of streets and block sizes to enhance station mobility and set up a framework for higher density development near the station. Streetscape and trail improvements connecting the station area with potential development sites, local destinations, neighborhoods, and bus transit facilities will enhance development potential in the area. Removal of the south rail switching wye will create opportunities to better connect the station with Methodist Hospital and enhance development potential.

FIGURE 9-16. POTENTIAL DEVELOPMENT SITES (LOUISIANA NORTH)



Key Considerations for Change and Development Over Time

Redevelopment of the station area should focus on increasing density and mix of uses around the station platform and developing direct accessible connections between the station and the hospital. Key considerations should include:

BUILT FORM AND LAND USE

» Introduce a mix of higher density employment and institutional uses throughout the station area.

» Design new buildings to enhance pedestrian access by orienting them towards the street and locating them as close to the street line as possible.

» Minimize the impact of parking and circulation on pedestrians by locating parking to the rear or side of new buildings, preferably in structures or below grade.

» Incorporate active ground level uses on buildings adjacent to the station to increase natural surveillance and make it easier for area employees and visitors to the hospital to access food and other services without having to drive.

PUBLIC REALM

» Improve connections between the station and area destinations through enhanced streetscaping along Louisiana Avenue. This should include sidewalk improvements to increase path widths, consistent curb cuts, new tree planting to fill in the gaps between more mature trees, and new pedestrian-oriented lighting to increase safety for night shift workers walking to the station.

» Screen outdoor storage areas within the station area so that it does not detract from the image of the area or discourage new higher density employment uses.

MOBILITY

» Locate park and ride facilities so that they are within a convenient walk but not immediately adjacent to the station so that there is the potential for a higher density mix of uses next to the station.

» Consolidate access and servicing between adjacent developments and minimize vehicular access points.

» Align new roads where they can help to support the creation of a walkable street and block pattern that connects with adjacent neighborhoods over time.

» Develop new streets in the station area to break down the scale of existing superblocks and improve access and circulation.

» Support pedestrians through the introduction of sidewalks on all streets within the station area, new crossings, and curb cuts for people in wheel chairs or other mobility devices.

» Develop a clear and direct path from the station platform to the hospital; ensure that it is well-lit, level, and designed to support people with visual and physical impairments

» Develop a program of wayfinding for the station area to direct pedestrians to the hospital, trail system, and other local destinations.

» Limit vehicular access points along Louisiana Avenue.

» Establish connections across Minnehaha Creek to improve station access for residents of the Meadowbrook neighborhood.

» Incorporate signed on-street bike facilities along Louisiana Avenue to improve access for cyclists.

Hospital and medical office expansion

New and innovative industrial uses

Office uses

Station Area Utility Plan

OVERVIEW

The station area utility plan and strategies recommended below were developed by considering future transit-oriented development within the station area, as depicted by the Station Area Improvements Plan (Figures 9-10 and 9-19). St. Louis Park will need to apply these localized recommendations to the city wide system to ensure that potential development/redevelopment will not be limited by larger system constraints. Existing models or other methods can be used to check for system constraints in the station areas.

St. Louis Park should also consider reviewing the condition of the existing utilities in the station development area. The station construction would provide St. Louis Park an opportunity to address any utilities needing repairs. Once the larger system has been reviewed for system constraints, St. Louis Park will be able to accurately plan for necessary utility improvements in the city Capital Improvement Program (CIP). All utilities located beneath the proposed LRT rail or station platform should be encased prior to the construction of these facilities. The cost associated with encasing these facilities is assumed to be a project cost and is not included in potential improvements identified for the City CIP.

APPROACH

Utility improvement strategies are outlined in this report for the ultimate station area development (2030), as well as improvements which should be considered prior to opening day anticipated in 2018. Although recommendations are categorized in one of these two timeframes, St. Louis Park should weigh the benefits of completing more or less of these improvements as land becomes available for future development. St. Louis Park should take the utility analysis a level further and model future utilities in the city utility system models.

The proposed development and redevelopment areas were evaluated based on Metropolitan Commission Sewer Availability Charge (SAC) usage rates and estimated flows. Estimated flows for one possible development scenario in this area indicate that internal to the station area, no more than 8-inch pipe are necessary to serve the mix of proposed and existing development. Each utility system should still be reviewed to identify capacity and demand constraints to the larger system associated with increase in flows from the proposed developments and existing developments in the area. St. Louis Park should anticipate the construction of new municipal utilities in conjunction with new or realigned roadways.

GENERAL RECOMMENDATIONS - SANITARY SEWER

Sanitary sewer recommendations for station area improvements include opportunities for St. Louis Park to improve the existing sanitary sewer network, without necessarily replacing existing sanitary sewers. When recommendations for “improving” existing sanitary sewer are noted, St. Louis Park should consider the level to which each specific sewer should be improved. Methods of improvement could include: lining the existing sewer, pipe joint repair, sewer manhole repair, relocation, and complete replacement.

The following items should be evaluated prior to opening day of the station, although action may not be required until necessary for development:

- Televising existing sewer mains in the station area and proposed development area to determine the condition of the sewer mains, susceptibility for backups or other issues and evaluate for Infiltration and Inflow (I&I).
- Locations of known I&I. If previous sewer televising records, city maintenance records, or an I&I study have shown problems, the city should consider taking measures to address the problem.
- The age and material of existing gravity and/or forcemain sanitary sewer in the identified station area. If the lines are older than the material’s typical design life or materials which are susceptible to corrosion relative to soils in the area, the city should consider repairing, lining or replacing the mains.
- Locations of known capacity constraints or areas where city sewer models indicate capacity issues. If there are known limitations, the city should further evaluate the benefit of increasing pipe sizes.
- City sewer system models (existing and future). A review of these models with future development would assist St. Louis Park in determining if sewers in the project area should be increased to meet existing or future city system needs.
- Existing sewer pipes should be relocated or encased in areas where they cross or are immediately adjacent to the LRT Line/Station.

GENERAL RECOMMENDATIONS - WATER MAIN

Water main recommendations for station area improvements also include opportunities for St. Louis Park to improve the existing water system network. Creating loops in the network can help prevent stagnant water from accumulating along water main stubs, and creating loops of similar sized water main provides the city a level of redundancy in their water network. Redundancy helps reduce the impacts to the community during system repairs, and also helps stabilize the pressure in the network.

The following items should be evaluated prior to opening day of the station, although action may not be required until necessary for development:

- The age and material of the existing mains in the identified station area. If the mains are older than the materials typical design life or materials which are susceptible to corrosion relative to soils in the area, the city should consider replacing the main.
- Locations of previous water main breaks. If water main breaks repeatedly occur in specific areas, the city should consider replacing or repairing the main.
- Locations with known water pressure issues or areas where city models indicate low pressure. If there are known limitations (for either fire suppression or domestic uses), the city should further evaluate the benefit of increasing main sizes.
- Locations with known or potential water quality issues. If there are mains known to be affecting the water quality (color, taste, odor, etc.) of their system, St. Louis Park should consider taking measures to address the problem affecting water quality.
- City water system models (existing and future). A review of these models with future development would assist St. Louis Park in determining if mains in the project area should be improved to meet existing or future city system needs based on demand constraints.
- Existing water main pipes should be relocated or encased in areas where they cross or are immediately adjacent to the LRT Line/Station.

GENERAL RECOMMENDATIONS – STORM SEWER

Local storm sewer improvements are recommended to be completed in conjunction with other improvements in the station area. Improvements which will likely require storm sewer modifications include: roadway realignments, roadway extensions, and pedestrian sidewalk/street scape improvements. Storm sewer improvements may consist of: storm sewer construction, manhole reconstruction, drain tile extensions, storm sewer relocation, and complete replacement. These local storm sewer improvements are included as part of the overall costs of roadway and streetscape improvements recommended in this plan. Where roadway/streetscape improvements are part of the SW LRT anticipated base project scope, associated storm sewer improvements are assumed to be a project cost. St. Louis Park should also consider coordinating with the local watershed district and other agencies to review the condition of and capacity of existing trunk storm sewer systems serving more regional surface water needs.

STORMWATER BEST MANAGEMENT PRACTICES

There are numerous stormwater best management practices (BMPs) that can be used to address stormwater quality and quantity. As part of this project, BMP guides were developed for four stations (Royalston, Blake, Shady Oak, and Mitchell) which exemplify the range of development intensity and character in the urbanized environment along the Southwest LRT Corridor. The recommendations and practices identified in each of the four BMP guides are applicable to various stations along the corridor.

Potential stormwater management strategies for this station area may be similar to those shown in the BMP guide for the Blake station (see p. 10-28). St. Louis Park should consider implementing applicable best management practices similar to those in the Blake station BMP guide. Stormwater management recommendations should be constructed in conjunction with public and private improvements and future development/ redevelopment in the station area.

Station Area Utility Plan (Continued)

STATION AREA UTILITY RECOMMENDATIONS

Utility recommendations (illustrated in Figure 9-17) are based on a localized analysis of proposed development. It is recommended that the City of St. Louis Park take this analysis a step further and review system constraints to the existing and future sanitary sewer and water main systems using existing sewer CAD or water CAD models, or other methods of modeling these systems.

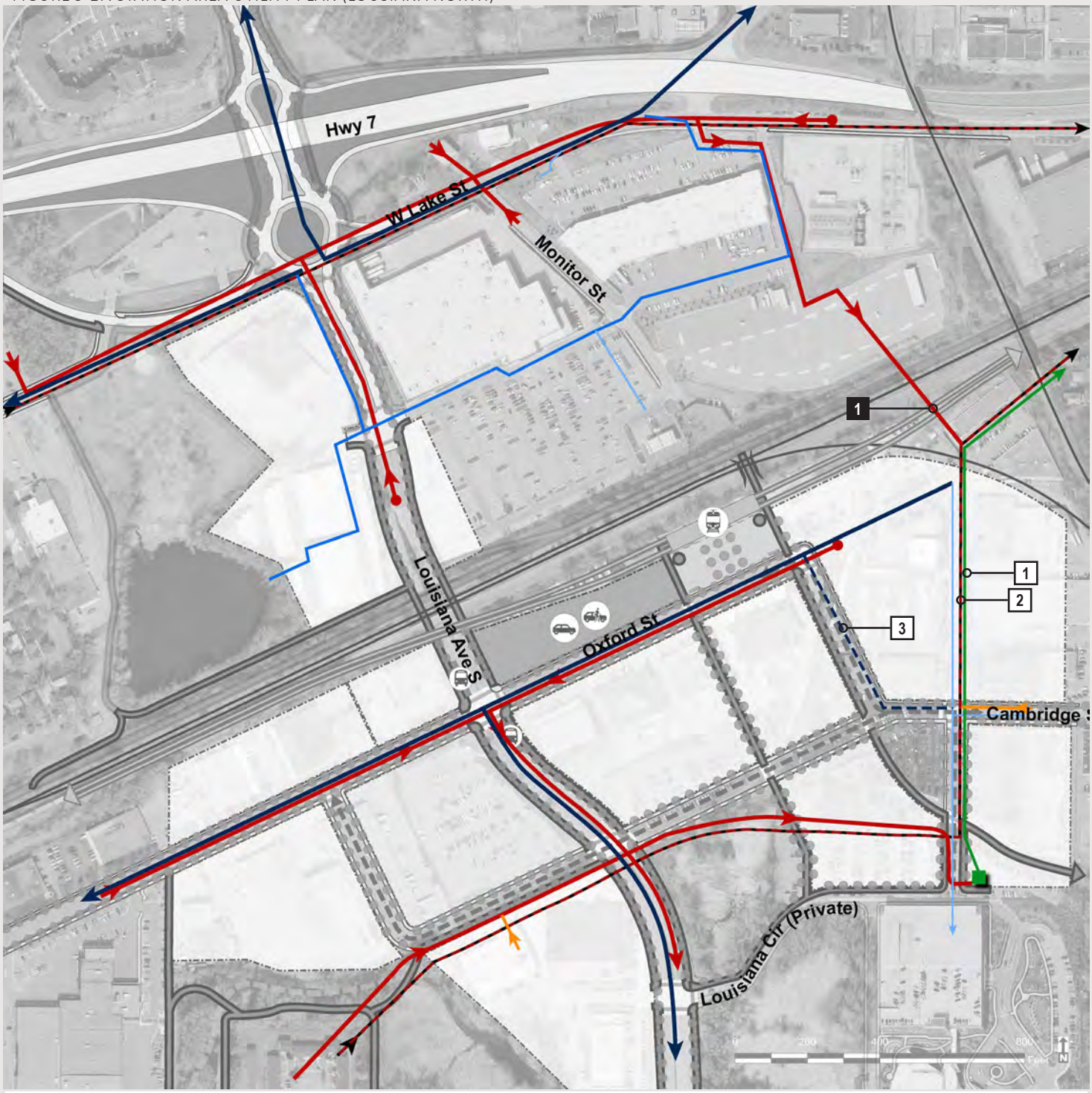
Opening Day Recommendations:

1. Encase existing sanitary sewer crossing LRT rail construction (east of station area).

Long Term Recommendations:

1. Reconfigure/protect forcemain beneath existing Edgewood Avenue.
2. Reconfigure/protect MCES interceptor beneath existing Edgewood Avenue.
3. Construct 12-inch minimum water main in conjunction with roadway construction. Tie to existing main on Cambridge Street.

FIGURE 9-17. STATION AREA UTILITY PLAN (LOUISIANA NORTH)



OPENING DAY RECOMMENDATION

LONG-TERM RECOMMENDATION

EXISTING UTILITIES

PROPOSED UTILITIES

SERVICE SANITARY

LOCAL SANITARY

TRUNK SANITARY

MCES SANITARY INTERCEPTOR

SANITARY SEWER FORCEMAIN

LIFT STATION

SERVICE WATER MAIN

LOCAL WATER MAIN

TRUNK WATER MAIN

WATER TOWER

Where Are We Going? (*LOUSIANA SOUTH*)

The plans and diagrams on the following pages illustrate a range of recommendations for infrastructure improvements, station amenities, and potential redevelopment opportunities for the *LOUISIANA SOUTH* station location alternative. The South station location is a project "betterment".

The ACCESS AND CIRCULATION PLAN shown in Figure 9-18 provides a high level view of how future transit, automobile, bike, and pedestrian systems will connect to the station area and its surroundings.

Figure 9-19 illustrates the STATION AREA IMPROVEMENTS that will facilitate access to and from the station and catalyze redevelopment in the station area. This includes opening day and long-term station area improvements

Figure 9-20 focuses on OPENING DAY STATION AREA IMPROVEMENTS only. These recommendations represent the improvements necessary to enhance the efficient function of the transit station, roadways, pedestrian and bicycle connections, and transit connections on opening day in 2018.

Station Area Improvements

The discussion below outlines a range of future station area improvements. While some of the identified improvements may be constructed as part of the LRT project itself, other improvements must be funded, designed and constructed by other entities and will require coordination between the City, County, and Metro Transit as well as local stakeholder and community groups.

ROADWAYS

Opening Day Improvements:

» Add a roadway connection from Oxford Street to Louisiana Avenue. This connection could serve as an access route to the station platform for bus and kiss and ride drop off.

» Realign the eastern end of Oxford Street where it meets Edgewood Avenue to provide a more direct access route to Methodist Hospital and improve redevelopment potential for parcels north of Oxford Street.

PEDESTRIAN CONNECTIONS

Opening Day Improvements:

» Focus sidewalk and streetscape enhancements along Louisiana Avenue, Oxford Street, and Louisiana Circle near the station.

» Improve pedestrian crossings along Louisiana Ave.

» Provide safe and convenient pedestrian connections to the Cedar Lake LRT Regional Trail.

» Add a new multi-use connection from the east end of the station platform to Louisiana Circle. This connection will provide a more direct access route to Methodist Hospital from the station. Connection should feature climate protection such as canopy, windscreen, heated pavers, etc.

» Construct the planned multi-use Minnehaha Creek Trail including connection between the Meadowbrook neighborhood, Oxford Street, and Louisiana Avenue.

Long-Term Improvements:

» Construct a multi-use connection along the existing freight rail switching wye from Cambridge Street southeast to the surrounding neighborhoods. This connection is predicated on the future removal of the freight rail switching wye.

BIKE CONNECTIONS

Opening Day Improvements:

» Provide multi-use paths along both sides of Louisiana Ave.

» Provide on-street bike facilities (lanes, routes, signage, etc.) on local streets to better connect the station to nearby neighborhoods, businesses, amenities, and destinations.

» Provide bike parking, lockers, and bike sharing facilities in a highly visible area near the station platform.

Clear pedestrian path from the station to Methodist Hospital

Multi-use paths and regional trail connections

Example of public plaza

» Provide bike connections to the Cedar Lake LRT Regional Trail near the LRT station platform.

Long-Term Improvements:

» Construct the planned multi-use Minnehaha Creek Trail.

TRANSIT CONNECTIONS

Opening Day Improvements:

» Provide bus transit facilities along Louisiana Avenue.

» Improve the pedestrian environment between the station platform and the bus stops.

» Provide a hospital shuttle connection near the LRT station platform.

PARK AND RIDE

Opening Day Improvements:

» Provide a park and ride surface parking lot along Oxford Street a block north of the station platform.

» Improve pedestrian connections between the park and ride lot and the station platform, along Louisiana Avenue and the new loop street.

KISS AND RIDE

Opening Day Improvements:

» Construct kiss and ride facilities near the station platform along the new loop street.

STATION AMENITIES (*Beyond SW LRT Base Project Scope*)

Opening Day Improvements:

» Transit Facilities- provide facilities for bus transfers and kiss and ride drop-offs near the LRT station platform.

» Wayfinding- define and install a cohesive and contextual wayfinding system near the LRT station platform, major gateways (Louisiana/Hwy 7, Louisiana/Excelsior Blvd, Cedar Lake LRT Regional Trail), and major destinations (such as Methodist Hospital campus, Meadowbrook neighborhood, Oxford Street businesses).

» Seating – provide comfortable and durable seating near the station platform.

» Lighting – provide adequate lighting for the safety of pedestrians, bicyclists, and motorists near the station platform and along the new loop street, Oxford Street, and Louisiana Avenue.

» Bicycle Facilities- provide bike parking, lockers, pumping station, and bike sharing facilities near the LRT station platform.

» Plaza- create a public plaza near the station platform to provide transit users with a paved queue area to wait for LRT trains and move about the station area.

» Public Art- incorporate public art in the station area to create an attractive and identifiable place.

DEVELOPMENT POTENTIAL

Opening Day Improvements:

» The park and ride site along Oxford Street is a potential opening day development site, possibly as a joint development with a park and ride ramp.

» The site south of Oxford Street and east of the kiss and ride area also represents opening day development potential.

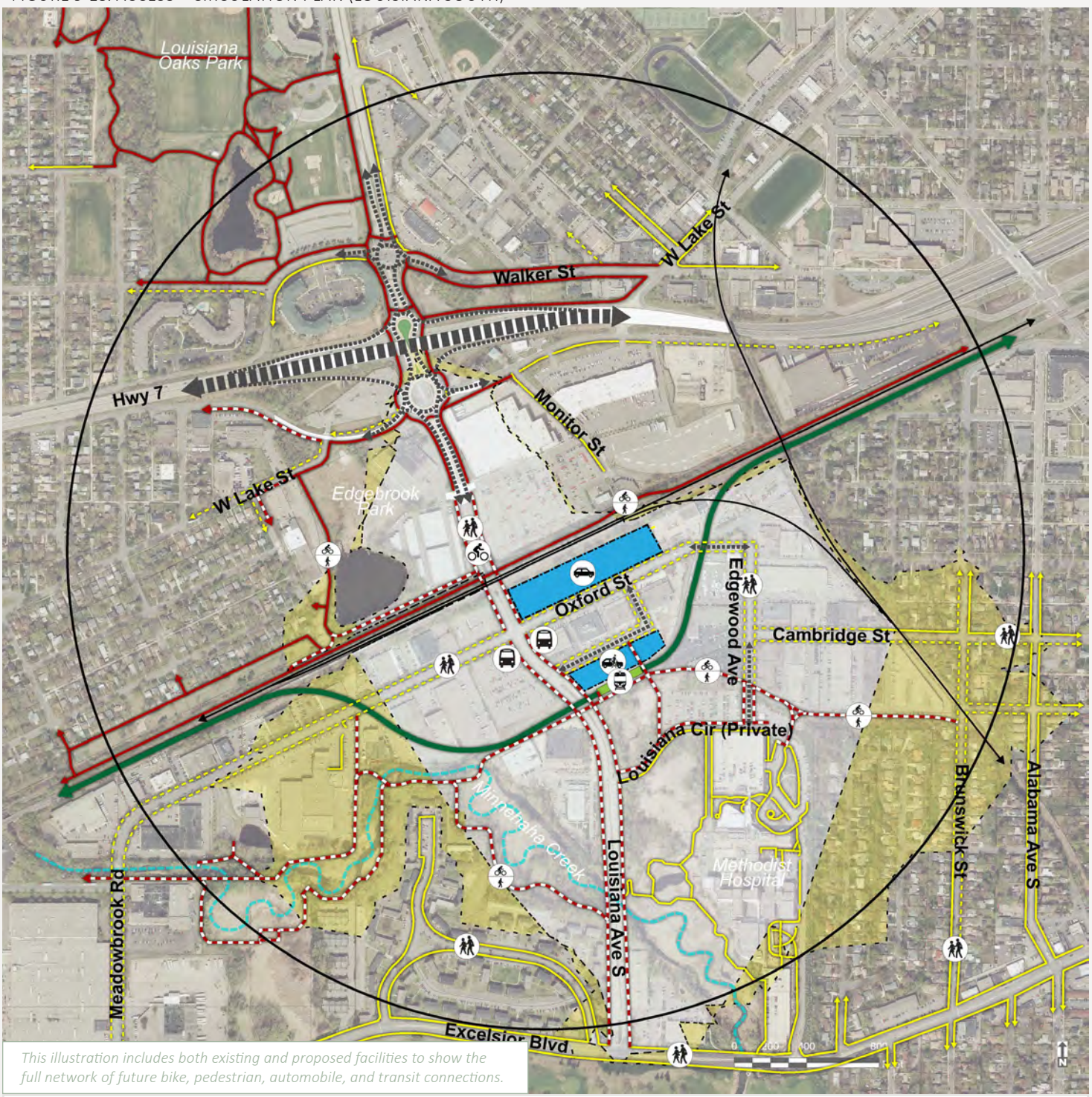
Long-Term Improvements:

» See the "Development Potential" discussion on page 9-32 for more on long-term development opportunities.

UTILITIES

» See the "Station Area Utility Plan" beginning on page 9-20 for general utility recommendations. See page 9-34 for station-specific utility recommendations.

FIGURE 9-18. ACCESS + CIRCULATION PLAN (LOUISIANA SOUTH)

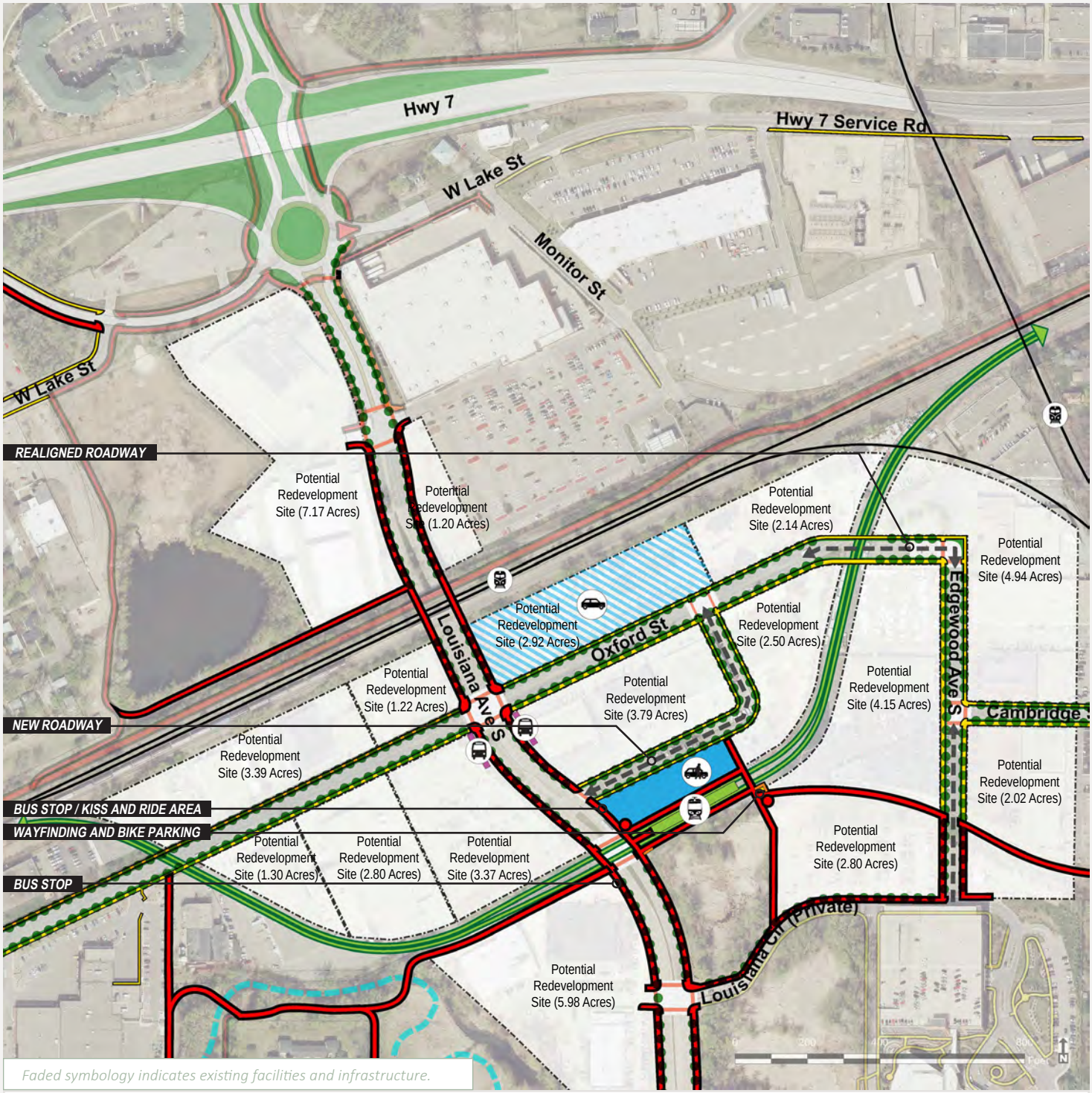


This illustration includes both existing and proposed facilities to show the full network of future bike, pedestrian, automobile, and transit connections.

LRT PLATFORM
LRT LINE
BUS STOP
PARK AND RIDE
FREIGHT LINE
NEW ROADWAY
KISS AND RIDE
EXISTING PEDESTRIAN CONNECTION
EXISTING BIKE CONNECTION
EXISTING MULTI USE CONNECTION
PROPOSED(DASHED) PEDESTRIAN CONNECTION
PROPOSED(DASHED) BIKE CONNECTION
PROPOSED(DASHED) MULTI USE CONNECTION

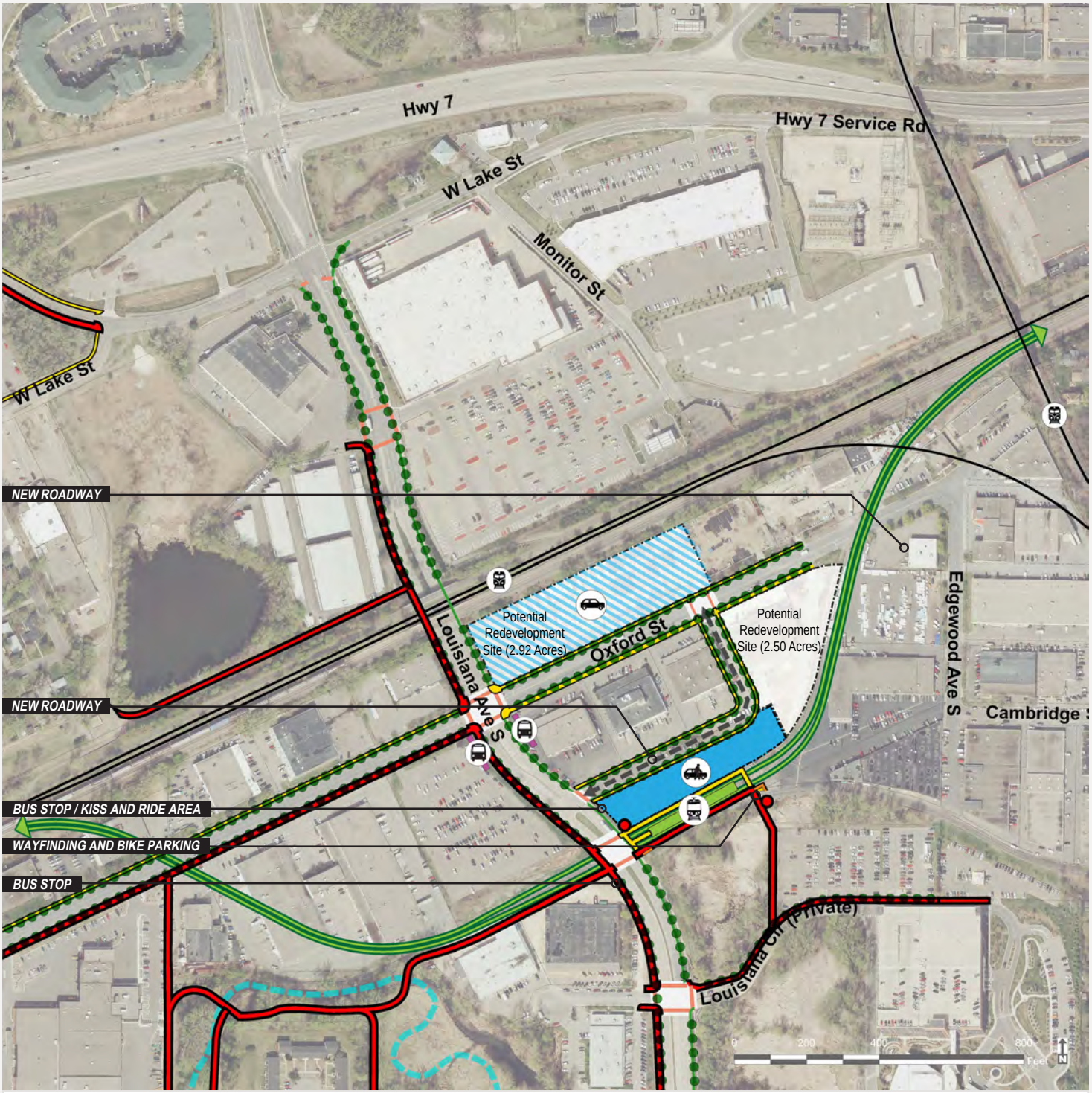
NOTE: Existing walkshed approximates the area accessible within a 10-minute walk from the station platform using only the existing sidewalk/trail network. Future walkshed incorporates all proposed improvements to the sidewalk/trail network. Walksheds are based on GIS modeling and available sidewalk/trail information- and may not reflect exact on-the-ground conditions. See Glossary for detailed explanation of walkshed assumptions and methodology.

FIGURE 9-19. STATION AREA IMPROVEMENTS (LOUISIANA SOUTH)



LRT PLATFORM
FREIGHT LINE
BUS STOP
BUS SHELTER
NEW SIDEWALK / SIDEWALK IMPROVEMENT
ON STREET BIKE INFRASTRUCTURE
MULTI-USE PATH
NEW CROSSING / CROSSING IMPROVEMENT
NEW ROADWAY
STREETSCAPE
PARK AND RIDE
KISS AND RIDE
NEW SIGNALIZED INTERSECTION
BIKE PARKING
WAYFINDING
PUBLIC ART OPPORTUNITY
POTENTIAL DEVELOPMENT SITE
PLAZA SPACE / BUILDING SETBACK AREA

FIGURE 9-20. OPENING DAY STATION AREA IMPROVEMENTS (LOUISIANA SOUTH)



LRT PLATFORM
FREIGHT LINE
BUS STOP
BUS SHELTER
NEW SIDEWALK / SIDEWALK IMPROVEMENT
ON STREET BIKE INFRASTRUCTURE
MULTI-USE PATH
NEW CROSSING / CROSSING IMPROVEMENT
NEW ROADWAY
STREETSCAPE
PARK AND RIDE
KISS AND RIDE
NEW SIGNALIZED INTERSECTION
BIKE PARKING
WAYFINDING
PUBLIC ART OPPORTUNITY
POTENTIAL DEVELOPMENT SITE
PLAZA SPACE / BUILDING SETBACK AREA

Street Sections

The proposed street sections for Louisiana South location alternative are the same as those proposed for the North alternative. Refer to street section discussion beginning on p. 9-13.

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Opening Day Improvements

The following tables and diagrams outline the proposed improvements to be implemented in advance of SW LRT's opening day in 2018. As of December 2013, the Louisiana South alternate station concept is considered a locally requested betterment to the SW LRT anticipated base project scope. Table 9-4 and Figure 9-21 show opening day improvements included in the betterment. Table 9-5 and Figure 9-22 include opening day improvements that are recommended as part of the Southwest Corridor Investment Framework and are beyond the scope of the requested betterment.

TABLE 9-3. SW LRT BETTERMENT CONCEPT SCOPE - OPENING DAY STATION AREA IMPROVEMENTS (LOUISIANA SOUTH)

PLAN KEY	IMPROVEMENT	PROJECT LOCATION	PROJECT NOTES
A	LRT Platform	East of Louisiana Ave, adjacent to existing South Wye rail alignment	Includes related LRT infrastructure
B	Park and Ride	Along Oxford Street	Approx. 225 stall surface park and ride lot (includes lighting)
C	Kiss and Ride	On Oxford Street	Dropoff area north of station platform
D	Sidewalk/Trail	Regional trail	Reconstruction of regional trail
E	Bike Facilities	Near station platform	Allowance for bike storage
F	Wayfinding	Near station platform and park and ride lot	Allowance
G	Landscaping	Near station platform and park and ride lot	Allowance (includes landscaping for park and ride lot)
H	Water*	Near station platform	New water service and fire hydrant to station
I	Utilities*	Project limit area	Adjustment of existing utilities
J	Stormwater management*	Near station platform and park and ride lot	Allowance

Note: As of December 2013, this alternate station concept is a betterment and is not part of the SW LRT base project scope
** Improvement not symbolized on opening day figures*

TABLE 9-4. SW CORRIDOR INVESTMENT FRAMEWORK (TSAAP) - OPENING DAY STATION AREA IMPROVEMENTS (LOUSIANA SOUTH)

PLAN KEY	IMPROVEMENT	PROJECT LOCATION	PROJECT NOTES	PRIORITY
1	Roadway	North of station platform	New loop road north of station platform, connecting Louisiana Ave to Oxford Street	Primary
2	Streetscape	Louisiana Ave from W. Lake Street south to Excelsior Blvd	Includes multi-use trails, streetscape plantings, furnishings, lighting and signage	Primary
3	Streetscape	Oxford Street	Includes sidewalks, streetscape plantings, furnishings, lighting , bike facilities and signage	Primary
4	Streetscape	Louisiana Circle	Includes streetscape plantings, furnishings, lighting , bike facilities and signage	Primary
5	Sidewalk/Trail	Along new roadways	Include sidewalks along new roadway segments	Primary
6	Sidewalk/Trail	Along north side of Louisiana Circle east of Louisiana	Multi-use trail connection	Primary
7	Sidewalk/Trail	Meadowbrook neighborhood north to Oxford Street and east to station platform	Multi-use trail connections	Primary
8	Sidewalk/Trail	Oxford Street, west of Louisiana Ave	Multi-use trail connection along south side of street	Primary
9	Sidewalk/Trail	Station platform south to Louisiana Circle	Multi-use trail connection	Primary
10	Sidewalk/Trail	North of regional trail and west of Louisiana Ave	Multi-use trail connections	Secondary
11	Sidewalk/Trail	Along new loop road	Sidewalks along new loop road, connecting the Park and Ride to the station platform	Primary
12	Sidewalk/Trail	Along Oxford Street and Lousiana Ave	Sidewalk improvements along Oxford Street and Louisiana to connect the Park and Ride with the station platform	Primary
13	Intersection Enhancements	Along Louisiana Ave and Oxford Street (several intersections)	Enhanced crosswalks	Primary
14	Bike Facilities	Near station platform	Bike parking, lockers, pump station and bike share facilities (beyond SPO improvements)	Primary
15	Wayfinding	Station platform, park and ride lot and Louisiana Ave	Signage and wayfinding (beyond SPO improvements)	Primary
16	Sanitary Sewer	Station area	Relocate existing 12" and 15" sanitary sewer and MSCE interceptor	Primary
17	Public Plaza	Adjacent to station platform	New plaza with paving, seating, plantings, shelter, lighting and signage (beyond SPO improvements)	Secondary

FIGURE 9-21. SW LRT BETTERMENT CONCEPT SCOPE - OPENING DAY STATION AREA IMPROVEMENTS (LOUISIANA SOUTH)

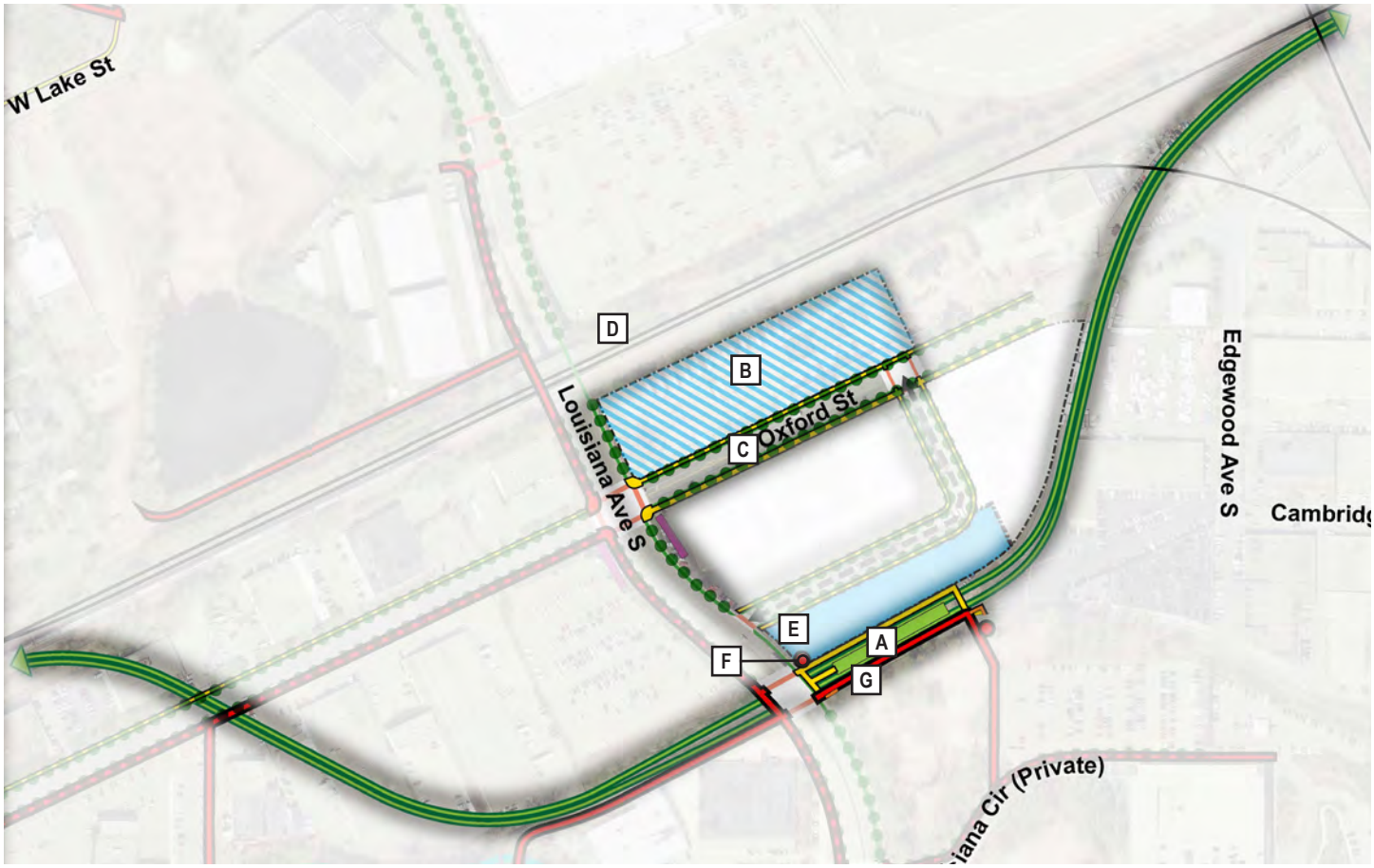
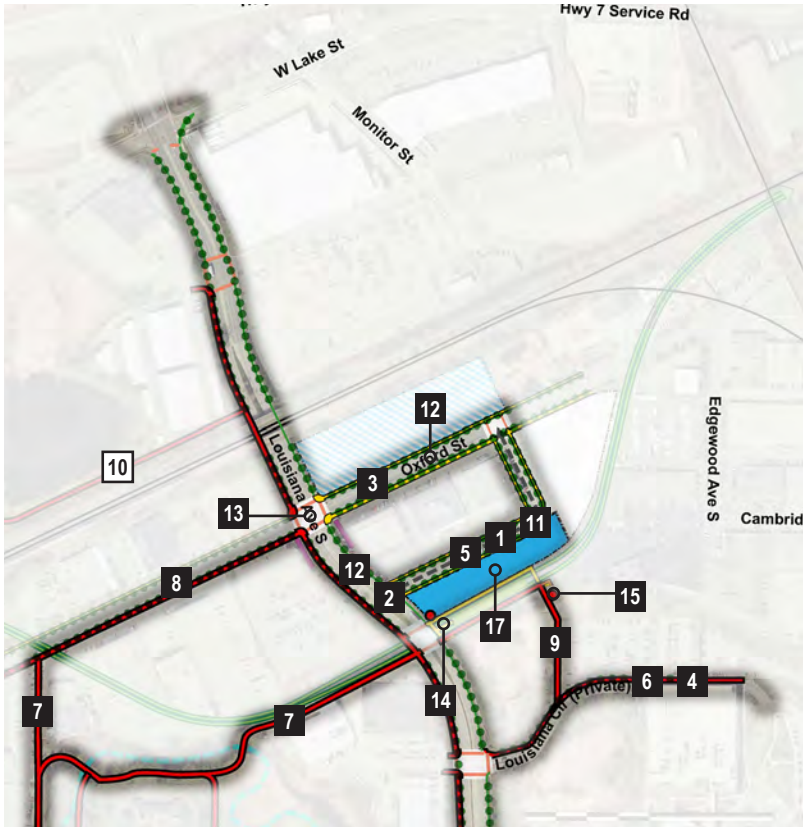
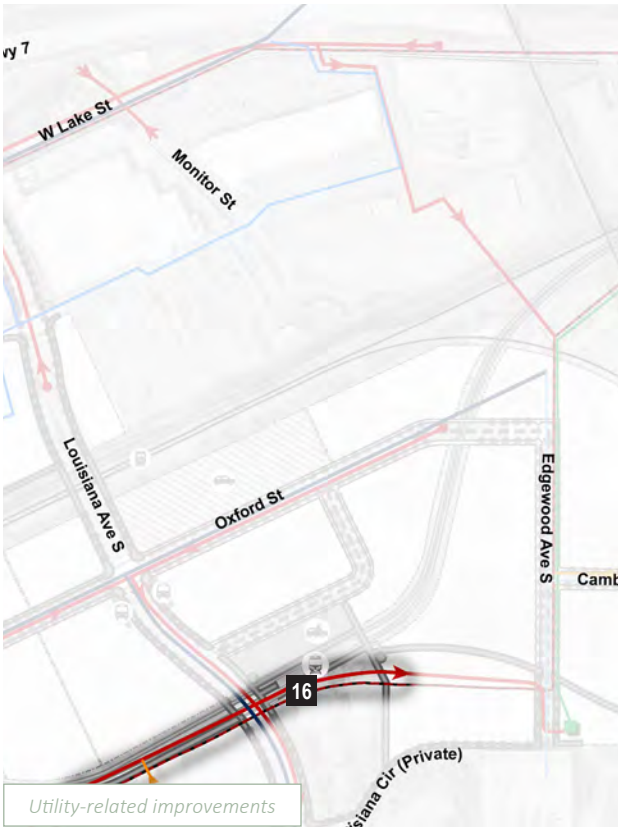


FIGURE 9-22. SW CORRIDOR INVESTMENT FRAMEWORK (TSAAP) - OPENING DAY STATION AREA IMPROVEMENTS (LOUSIANA SOUTH)





PRIMARY PRIORITY

SECONDARY PRIORITY

Development Potential

OVERVIEW

The presence of the Park Nicollet Methodist Hospital to the south and Methodist Hospital land holdings in the area present unique opportunities for future development. The land uses in the Louisiana station area include a mix of light industrial, institutional, commercial/retail, residential, and park/open space uses. Several underutilized industrial sites present opportunities for future redevelopment in the area. Additional medical, office, retail, hotel, light industrial, and residential uses are possible in the Louisiana station area in the mid-term.

Key challenges that should be addressed to facilitate development potential include land uses, additional roadways and existing roadway improvements, smaller block sizes, connectivity in the station area, and the removal of freight rail barriers separating Methodist Hospital from the station.

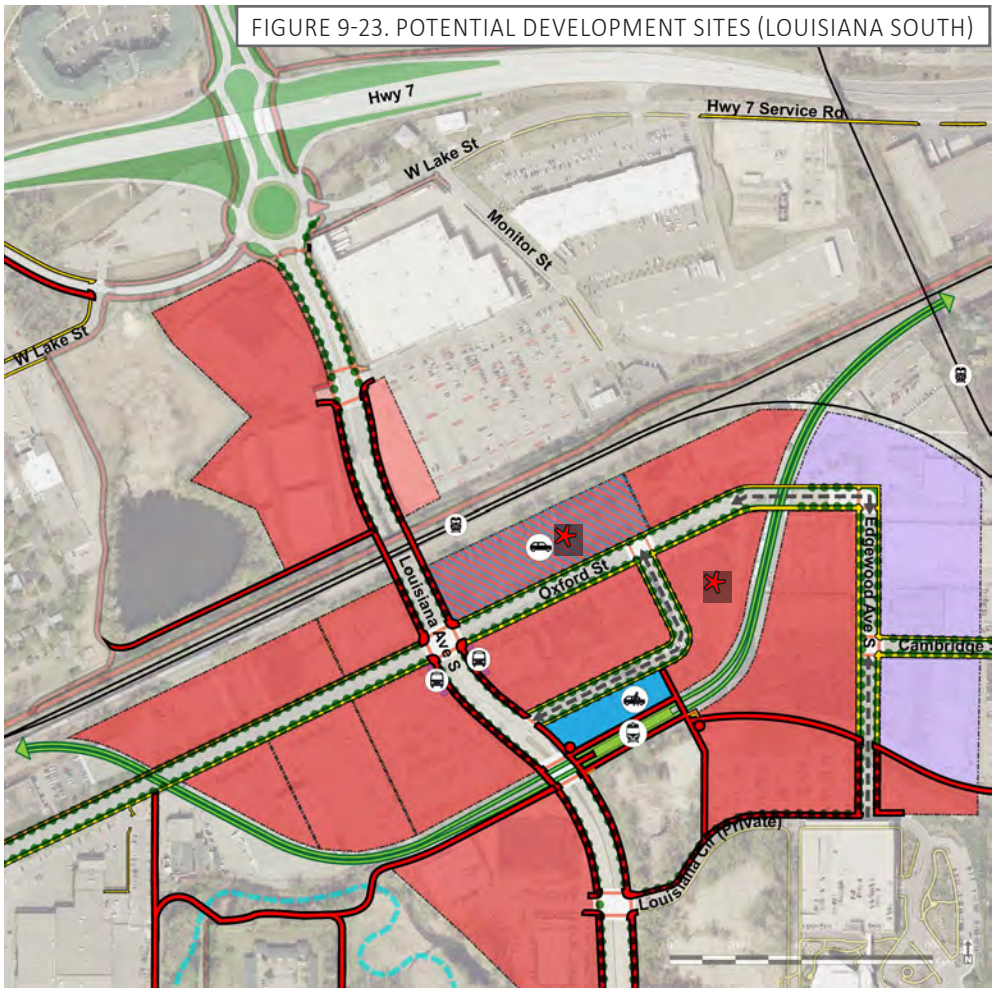
LAND USES

Development potential for the Louisiana station area is expected to include a mix of medical, office, retail, and light industrial uses.

PLANNING STRATEGIES

Several strategies should be addressed to facilitate future development in the station area. Industrial land uses, large block sizes, limited connectivity, and freight rail line barriers create challenges to accessing the station. Redevelopment should seek opportunities to introduce a finer grain of streets and block sizes to enhance station mobility and set up a framework for higher density development near the station. Streetscape and trail improvements connecting the station area with potential development sites, local destinations, neighborhoods, and bus transit facilities will enhance development potential in the area. Removal of the south freight rail switching wye will create opportunities to better connect the station with Methodist Hospital and enhance development potential.

FIGURE 9-23. POTENTIAL DEVELOPMENT SITES (LOUISIANA SOUTH)



Key Considerations for Change and Development Over Time

Key considerations for change and development over time for the Louisiana South location alternative are the same as those proposed for the North alternative. Refer to the "Key Considerations" discussion on p. 9-19.

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Station Area Utility Plan

GENERAL RECOMMENDATIONS

General utility recommendations for the Louisiana South location alternative are the same as those proposed for the North alternative. Refer to p. 9-20 for general water main, sanitary sewer, and stormwater recommendations. Detailed utility recommendations for the Louisiana South location are outlined below.

STATION AREA UTILITY RECOMMENDATIONS

Utility recommendations (illustrated in Figure 9-24) are based on a localized analysis of proposed development. It is recommended that the City of St. Louis Park take this analysis a step further and review system constraints to the existing and future sanitary sewer and water main systems using existing sewer CAD or water CAD models, or other methods of modeling these systems.

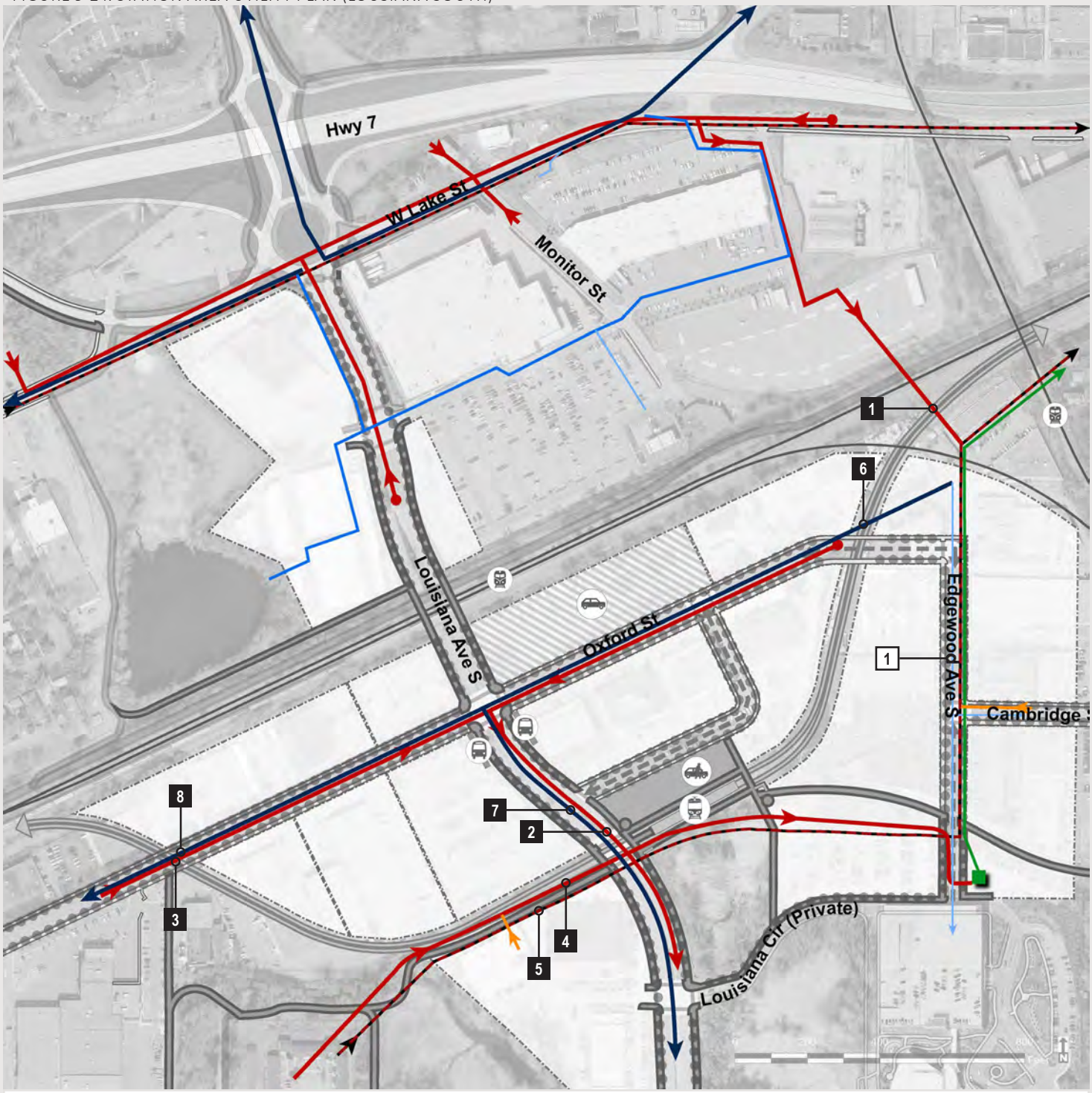
Opening Day Recommendations:

1. Encase existing sanitary sewer crossing LRT rail construction (east of station area)
2. Encase existing sanitary sewer crossing LRT rail construction
3. Encase existing sanitary sewer crossing LRT rail construction (west of station area)
4. Relocate existing sanitary sewer in conjunction with construction of LRT rail corridor
5. Relocate existing MCES interceptor in conjunction with construction of LRT rail corridor
6. Encase existing water main crossing LRT rail construction (east of station area)
7. Encase existing water main crossing LRT rail construction
8. Encase existing water main crossing LRT rail construction (west of station area)

Long Term Recommendations:

1. Consider upsizing existing 6-inch water main to 8-inch minimum to create 8-inch loop system (confirm with City model).

FIGURE 9-24. STATION AREA UTILITY PLAN (LOUISIANA SOUTH)



OPENING DAY RECOMMENDATION

LONG-TERM RECOMMENDATION

EXISTING UTILITIES

PROPOSED UTILITIES

SERVICE SANITARY

LOCAL SANITARY

TRUNK SANITARY

MCES SANITARY INTERCEPTOR

SANITARY SEWER FORCEMAIN

LIFT STATION

SERVICE WATER MAIN

LOCAL WATER MAIN

TRUNK WATER MAIN

WATER TOWER

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BLAKE STATION

CITY OF HOPKINS

SOUTHWEST CORRIDOR INVESTMENT FRAMEWORK

TRANSITIONAL STATION AREA ACTION PLAN

Hoisington Koegler Group Inc.

SOUTHWEST LRT community works
www.swlrtcommunityworks.org

Hennepin

ABOUT THIS CHAPTER:

The Transitional Station Area Action Plans are the product of a Hennepin County led effort to help communities along the Southwest LRT corridor prepare for SW LRT's opening day in 2018 and beyond.

An individualized plan has been created for each of the 17 stations in the Southwest corridor, each plan comprising a chapter in the larger Southwest Corridor Investment Framework. The station area action plans suggest ways to build on local assets, enhance mobility, identify infrastructure needs, and capitalize on promising opportunities for development and redevelopment near each station.

Plan Components:

INTRODUCTION 10-2
A brief overview of the station location and its surroundings

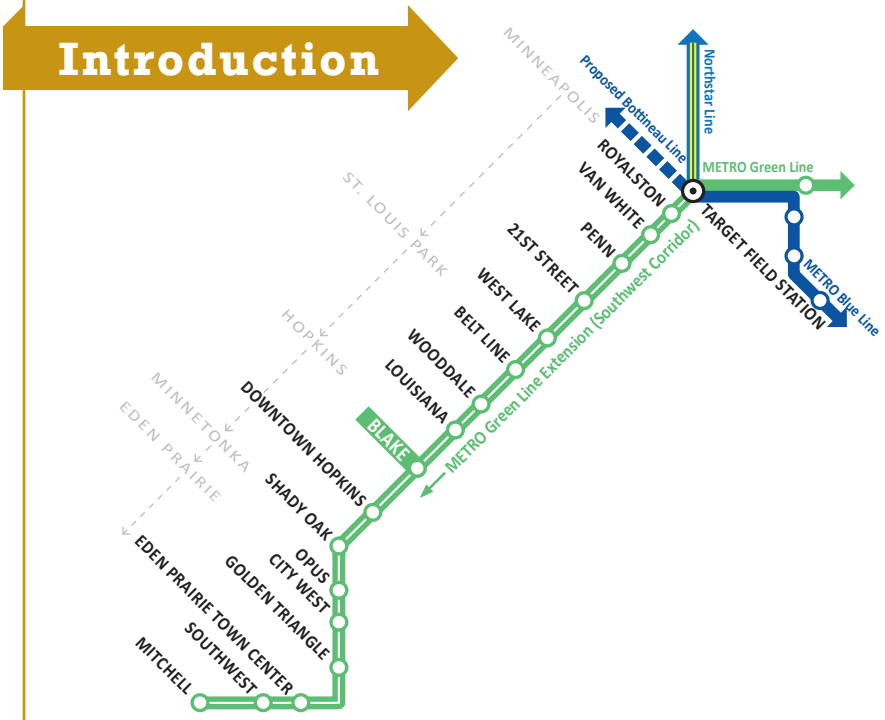
WHERE ARE WE TODAY? 10-4
A description of existing conditions in the station area, including:

- Land Use
- Transit Connections
- Access + Circulation Issues (Bike, Ped, and Auto)
- Infrastructure Needs

WHERE ARE WE GOING? 10-8
This section presents a number of recommendations for the station area in anticipation of opening day needs and the long-term TOD environment. This includes:

- Access + Circulation Plan
- Station Area Site Plan
- Infrastructure Plan
- Development Potential
- Summary of Key Initiatives

Introduction



BLAKE STATION WITHIN THE CORRIDOR:

An important employment center with a growing mix of uses providing access to key destinations and residential neighborhoods along the Blake Road corridor.

EMPLOYMENT The Blake station a significant *Employment* station (see Place Types discussion beginning on p. 1-19). Businesses in the area are located primarily along the rail corridor and oriented towards a network of local streets. The largest employment cluster within the station area is the Cargill corporate offices located to the west of the station along 2nd Street. The offices are home to several thousand employees and have the potential to be a significant generator of transit ridership.

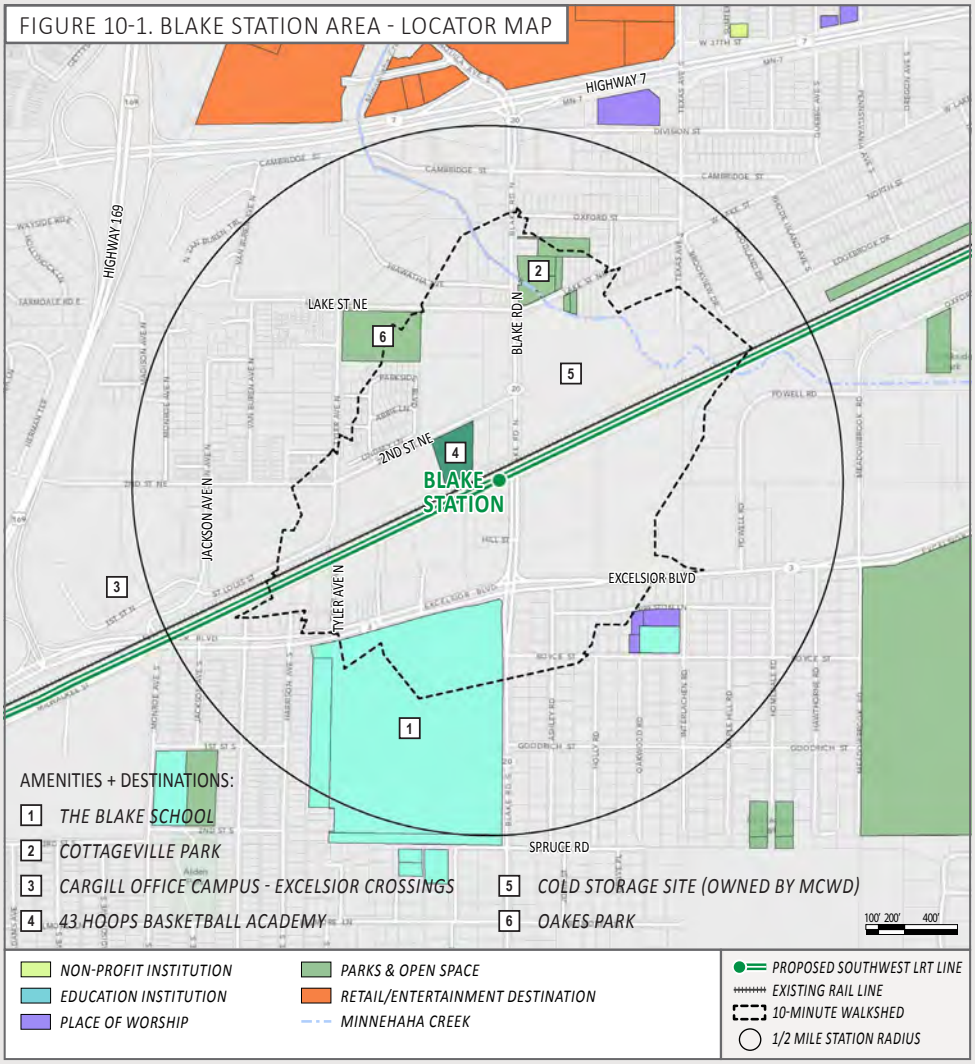
NEIGHBORHOODS In addition to employment, the area contains a sizable residential component. While these residential neighborhoods are proximate to the station, they are not walkable, transit-supportive places. In some cases, neighborhoods lack pedestrian facilities and safe crossings, orient away from the station, or are set back from the street, creating an inhospitable environment for pedestrians. The property owned by the Minnehaha Creek Watershed District to the northeast of the station is a significant redevelopment site that will provide added residential units as well as some commercial space.

EDUCATIONThe station will be the primary point of access for students traveling to and from The Blake School's Hopkins campus. Located south of the station along Blake Avenue, the campus is home to Blake's lower and middle schools students, as well as athletic facilities for all three of the school's campuses, making it a regional destination for all Blake students.

TRAIL CONNECTIONS The Cedar Lake LRT Regional Trail and Minnehaha Creek Greenway, popular biking and walking trails that connect downtown Minneapolis to the western suburbs, pass through the station area.

OTHER DESTINATIONS Minnehaha Creek and Cottageville Park are local park and open space destinations. A half-mile north of the station is Knollwood Mall, a regional shopping center that may attract visitors transferring from the station to local buses.

FIGURE 10-1. BLAKE STATION AREA - LOCATOR MAP



NOTE: 10-minute walkshed approximates the area accessible within a 10-minute walk from the station platform using only the existing sidewalk/trail network. See Glossary for walkshed assumptions and methodology.

Station Location

The Blake station is located along Blake Road, just north of Excelsior Boulevard. The mix of land uses nearby includes retail/commercial, light industrial, office, residential, institutional, parks and open spaces. Local destinations in the station area include The Blake School, Excelsior Crossings office campus (Cargill), retail businesses along Excelsior Boulevard, Minnehaha Creek, and Cottageville Park. The Blake station is anticipated to serve these destinations as well as the residents in the Parkside, Presidents North and South, Minnehaha Oaks, Cottageville, and Interlachen neighborhoods, including many nearby apartment buildings.

The City has identified several potential development sites in the area, including a Hennepin County-owned property northwest of the station which houses 43 Hoops, a basketball training facility; and the existing Cold Storage site northeast of the station, recently purchased by the Minnehaha Creek Watershed District. The City has also long-identified the potential for redevelopment along Excelsior Boulevard, near Blake Road.

BLAKE STATION AREA TODAY:

Existing high intensity office

43 Hoops/County-owned development site

Existing low-intensity retail

Cedar Lake LRT Regional Trail

Rail and trail corridor

Blake Road

Where Are We Today?

The following section describes the station area's EXISTING CONDITIONS, including the local context, land uses, transit and transportation systems, pedestrian and bicycle facilities, assets, destinations, and barriers to accessing the station. This analysis of current conditions presents key issues and opportunities in the station area and informs the recommendations for future station area improvements.

NOTE: Existing conditions maps are based on data provided by Hennepin County and local municipalities. The data used to create each map is collected to varying degrees of accuracy and represents infrastructure and conditions at varying points in time. Actual conditions may vary slightly from what is shown.

Land Use

The mix of land uses in the Blake station area includes industrial, light industrial, office, retail/commercial, institutional, and a variety of housing types and densities (single-family detached, single-family attached, and multi-family), including affordable housing options. Primary land uses anticipated to generate transit ridership at the Blake station are the employment uses and the proximity of high-density residential neighborhoods. The Blake station has the highest numbers of households located near a station within the Southwest LRT Corridor.

FIGURE 10-2. EXISTING LAND USE

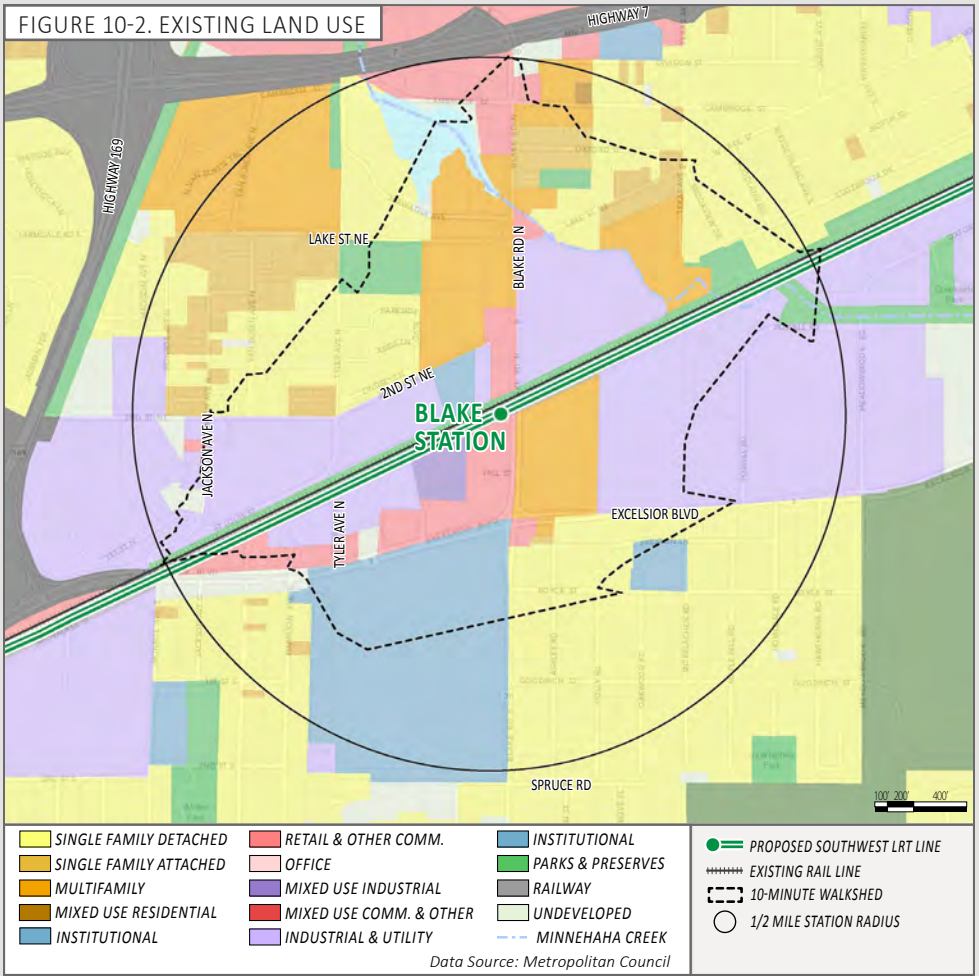
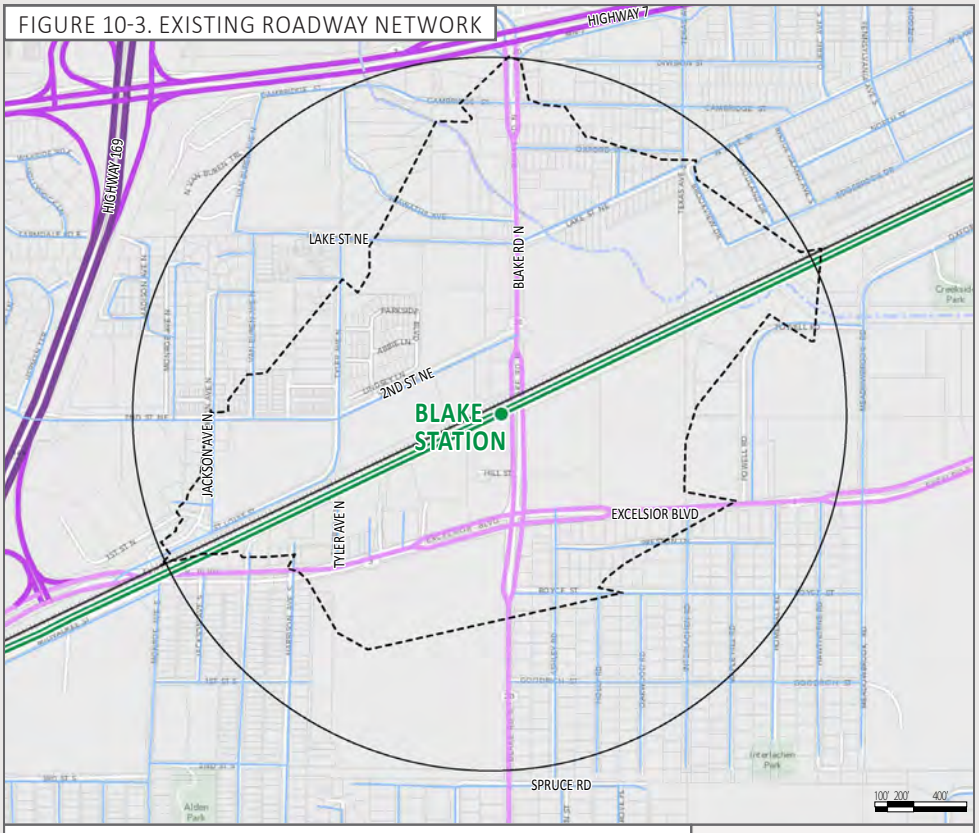


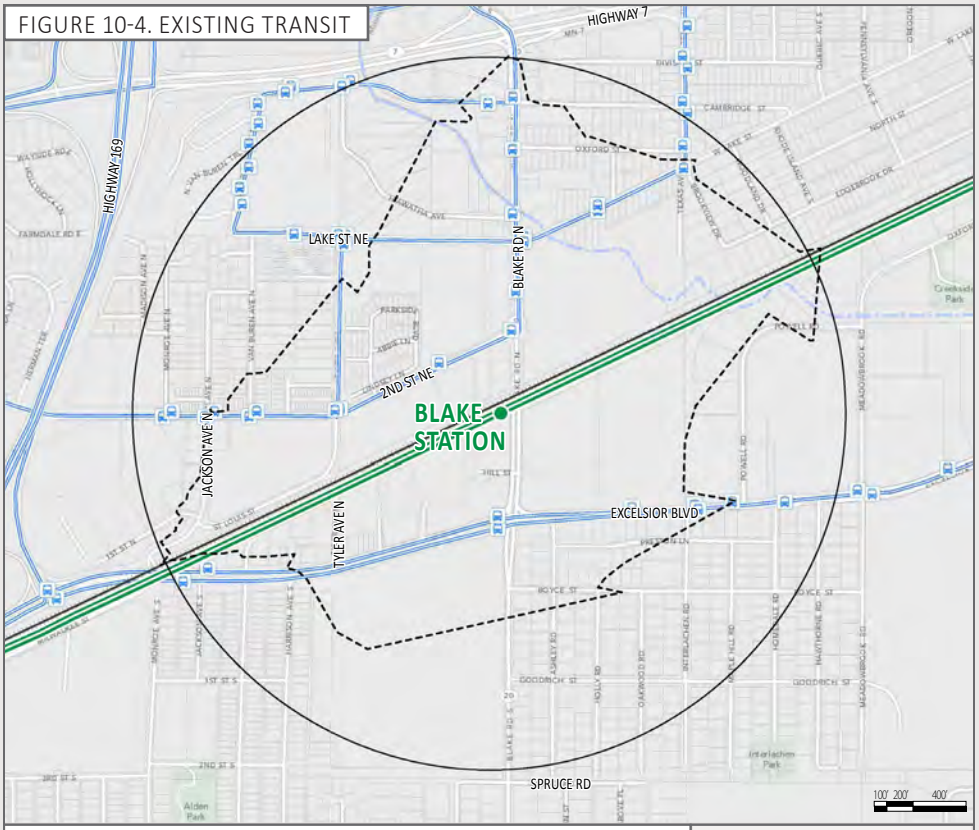
FIGURE 10-3. EXISTING ROADWAY NETWORK



Roadway Network

The roadway network in the Blake station area is inconsistent. In the area immediately adjacent to the station, (commercial and employment areas), the roadway network is limited and the area is characterized by large block sizes. Further from the station, in the residential areas, the roadway network is more fine-grained and gridded. Blake Road is an important north-south route through the area and runs adjacent to the proposed station platform. The pedestrian and bicycle environment on Blake Road is poor today. The City of Hopkins has completed a small area plan for the area which recommends Blake Road streetscape improvements that would enhance pedestrian and bicycle facilities along the street. Excelsior Boulevard is an important east-west commercial corridor in the City of Hopkins and located one block south of the proposed station. Highways 7 and 169 are located just outside the station area but will influence traffic in the station area, particularly at peak travel times.

FIGURE 10-4. EXISTING TRANSIT



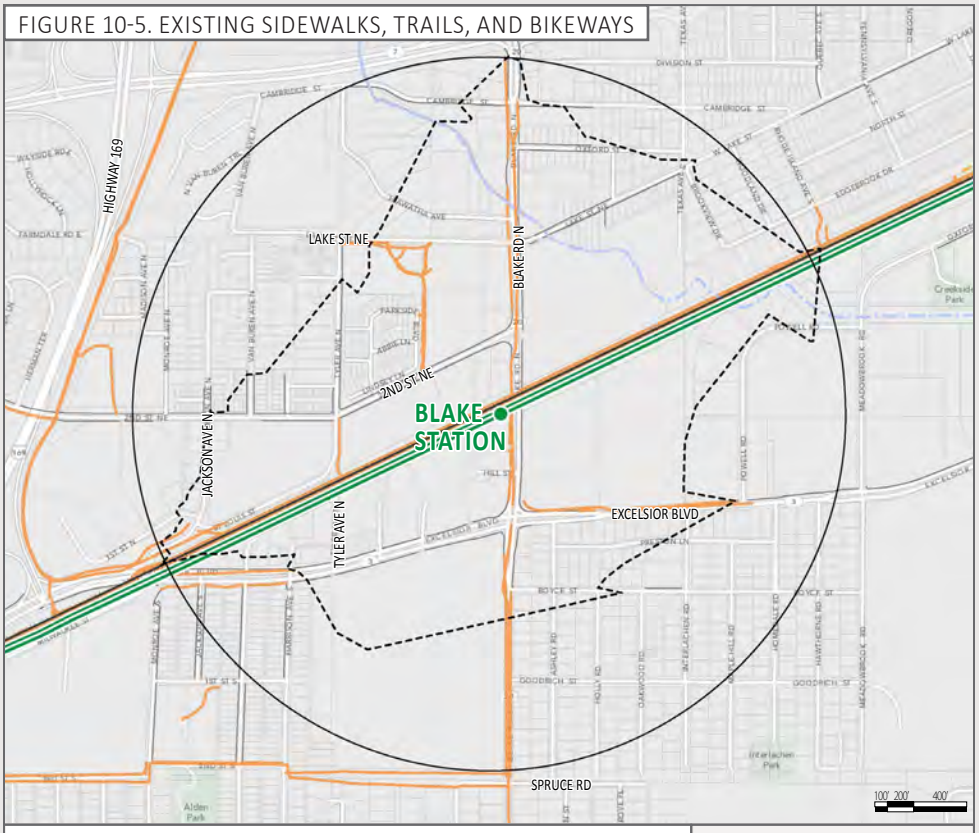
Transit

The Blake station area is currently served by several local and express bus routes, with stops located on Excelsior Boulevard at Blake Road, on 2nd Street, and on Blake Road, north of the proposed station platform. Route #615, a local route, runs along 2nd Street, turning north at Tyler Avenue. Route #668, an express route, runs along 2nd Avenue, turning north at Blake Road. Routes #12 and #664 run along Excelsior Boulevard, eventually delivering transit riders to downtown Minneapolis. Route #664 is an express route, turning north at Highway 100.

Sidewalk, Trails and Bikeways

The existing sidewalk system in the Blake station area is limited and inconsistent, with many gaps existing in key areas where riders are expected to originate from – the residential neighborhoods and employments centers. The Cedar Lake LRT Regional Trail runs alongside the LRT and freight lines. The Cedar Lake LRT Regional Trail will connect and interface with Minnehaha Creek Greenway. This trail will connect with and interface with transit riders at the Blake station. Blake Road has been identified for streetscape improvements with the goal of making Blake Road a Complete Street, with accommodations for pedestrians and bicyclists.

FIGURE 10-5. EXISTING SIDEWALKS, TRAILS, AND BIKEWAYS



Sanitary Sewer

Sanitary sewer infrastructure consists of a collection of gravity flow sewer mains, lift stations, and pressurized forcemains that transport sewage to a wastewater treatment plant (WWTP). An efficient collection system has the capacity to accommodate all of the existing land uses within its particular sewershed. Beyond capacity, the material and age of pipes within a system can also impact a system's effectiveness.

Sanitary sewer infrastructure within the project area is typically maintained by either by the City of Hopkins or by the Metropolitan Council Environmental Services (MCES) Division. MCES maintains a series of interceptor trunk sewers which collect sewage at key locations and convey sewage across community boundaries to regional WWTPs. Wastewater from the station area is treated by the MCES Metro WWTP located in St. Paul.

FIGURE 10-6. EXISTING SANITARY SEWER

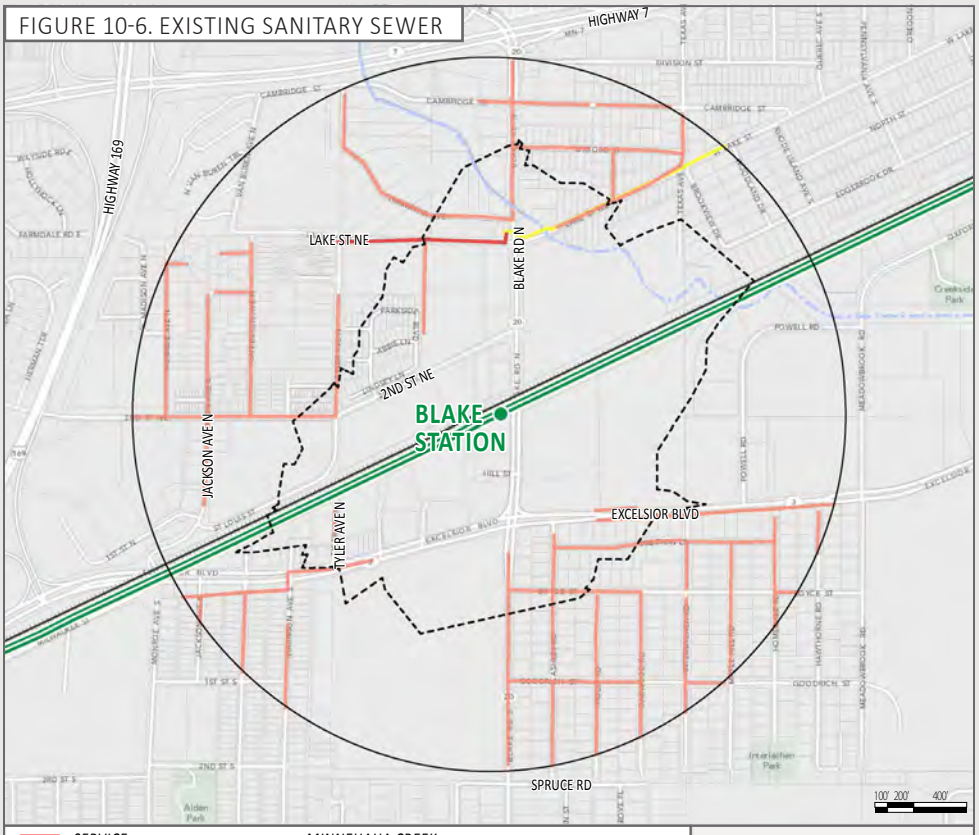
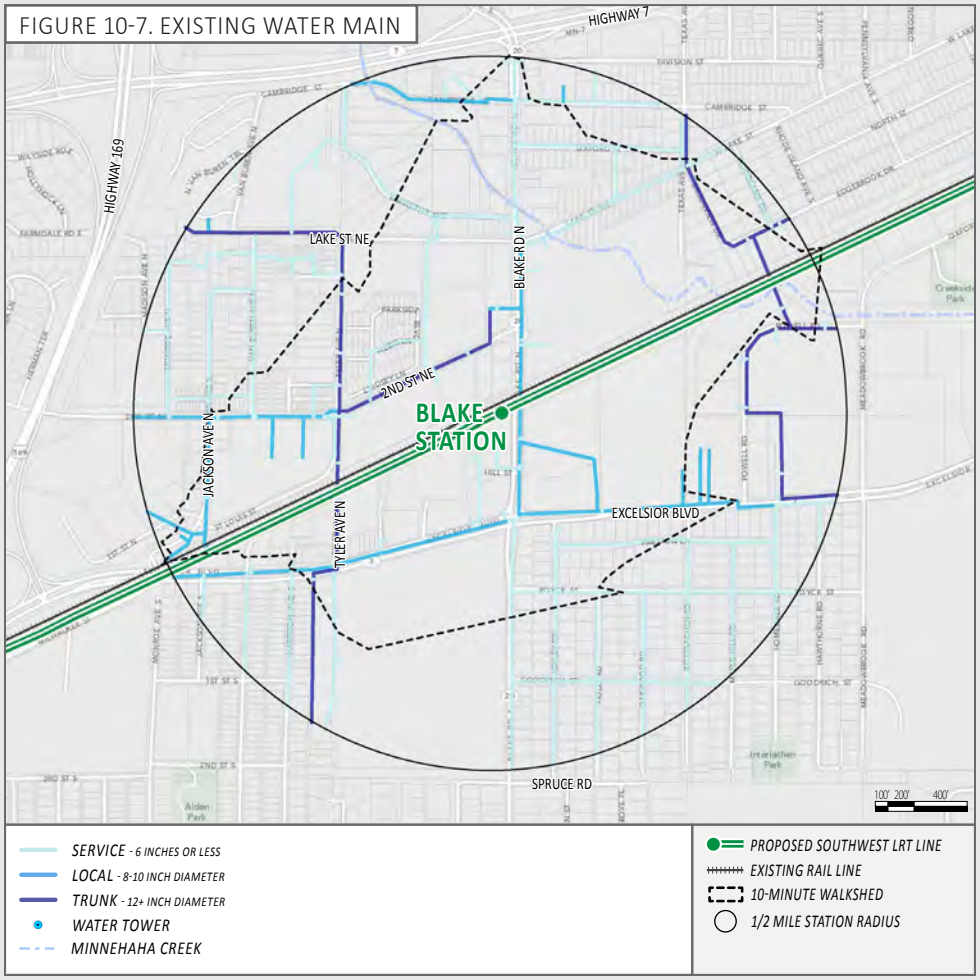


FIGURE 10-7. EXISTING WATER MAIN



Water Main

Water main distribution systems serve to supply potable water to individual properties and to support fire suppression throughout the community. A well-designed system can maintain adequate pressure to support demand of individual properties and provide high flow rates to fire hydrants/fire suppression systems in emergency situations. Because of the complexity of water distribution networks and the importance of pressure, flow, and water quality, City water system models are used to evaluate a system's adequacy. The material and age of the system's water mains can also be factors in system breaks, leaks, and pressure and flow degradations.

Water pressure and flow rates can be influenced by: the size of water main serving an area, proximity and elevation relative to a water tower, proximity to a trunk water main with high flow capacity, if the main creates a loop, the demand of adjacent land uses, and the condition of the main.

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Where Are We Going?

The plans and diagrams on the following pages illustrate a range of recommendations for infrastructure improvements, station amenities, and potential redevelopment opportunities within the station area.

The ACCESS AND CIRCULATION PLAN shown in Figure 10-8 provides a high level view of how future transit, automobile, bike, and pedestrian systems will connect to the station area and its surroundings.

Figure 10-9 illustrates the STATION AREA IMPROVEMENTS that will facilitate access to and from the station and catalyze redevelopment in the station area. This includes opening day and long-term station area improvements

Figure 10-10 focuses on OPENING DAY STATION AREA IMPROVEMENTS only. These recommendations represent the improvements necessary to enhance the efficient function of the transit station, roadways, pedestrian and bicycle connections, and transit connections on opening day in 2018.

Station Area Improvements

The discussion below outlines a range of future station area improvements. While some of the identified improvements may be constructed as part of the LRT project itself, other improvements must be funded, designed and constructed by other entities and will require coordination between the City, County, and Metro Transit as well as local stakeholder and community groups.

ROADWAYS

Opening Day Improvements:

» Build phase one of a new east-west road that would run along the south edge of the LRT line and connect Blake Road to Pierce Avenue. This road will provide access to the parking ramp and frontage onto the LRT station for future development sites.

» Provide new signalized intersections at Excelsior Boulevard and Pierce Avenue to improve pedestrian connections across Excelsior Boulevard and resolve traffic movements into and out of the proposed park and ride facility.

Long-Term Improvements:

» Promote the extension of Tyler Avenue to the north and connect with the new road running along the LRT line.

» Provide a new signalized intersection at Tyler Avenue.

PEDESTRIAN CONNECTIONS

Opening Day Improvements:

» Focus sidewalk and streetscape enhancements along Blake Road, Excelsior Boulevard, 2nd Street, and a new road that would run along the south side of the LRT line.

» Blake Road streetscape improvement should include Complete Street design concepts with pedestrian-friendly design elements such as sidewalks, planted boulevards, bike lanes, pedestrian lighting, and streetscape furnishings.

» Provide safe and convenient pedestrian connections to the Cedar Lake LRT Regional Trail, and safe pedestrian crossings of Blake Road.

» Reconstruct Cedar Lake LRT Regional Trail under Blake Road **(Betterment)**

» Improve pedestrian crossings along Blake Road at Excelsior Boulevard and 2nd Street. Add new pedestrian crossings and a traffic signal at Excelsior Boulevard and Pierce Avenue.

» Enhance pedestrian connections by completing sidewalk and trail systems to adjacent neighborhoods to the north of 2nd Street and south of Excelsior Boulevard, across the 43 Hoops site.

» Provide lighting along the regional trail from the station platform to the Cargill corporate campus.

Long-Term Improvements:

» Add new pedestrian crossing and a traffic signal at Tyler Avenue.

» Enhance the streetscape on extended Tyler Avenue.

TRANSIT CONNECTIONS

Opening Day Improvements:

» Provide new bus facilities near station platform for connecting bus routes.

» Enhance connections to other bus stops in the area – Excelsior Boulevard, Blake Road, and 2nd Avenue.

BIKE CONNECTIONS

Opening Day Improvements:

» Provide on-street bike lanes on Blake Road to better connect the station to nearby neighborhoods, businesses, amenities, and destinations to the north and south of the station.

Bike parking

Example public plaza

- Provide bike connections to the Cedar Lake LRT Regional Trail and Minnehaha Creek Greenway.
- Provide a multi-use trail connection to the north (across the 43 Hoops site) to connect to the existing trail that connects neighborhoods to the north of the station.

PARK AND RIDE

Opening Day Improvements:

- Provide a park and ride ramp south of the station platform with right in/right out access off Blake Road and full access off Excelsior Boulevard via Pierce Avenue.

KISS AND RIDE

Opening Day Improvements:

- Provide a designated kiss and ride area on Blake Road.

STATION AMENITIES (*Beyond SW LRT Base Project Scope*)

Opening Day Improvements:

- Wayfinding – include signage and wayfinding near the station area platform, the park and ride facility, the kiss and ride dropoff, and along sidewalks and trails near the station.
- Seating – provide comfortable and durable seating near the station platform.
- Lighting – provide adequate lighting for the safety of transit users near the station platform, in the park and ride facility, and near the kiss and ride dropoff.
- Plaza – provide a small public plaza area near the station platform to provide transit users with a paved area to gather, queue for trains, and move about the station area.
- Bike Facilities – provide bicycle parking, lockers, and bike sharing facilities in a highly visible area near the station platform.
- Public Art – Incorporate public art in the station area.

DEVELOPMENT POTENTIAL

Opening Day Improvements:

- The property just south of the proposed station platform should be developed for opening day as a park and ride ramp with a wrap of street-fronted, mixed-use development on Blake Road and facing the station platform. This is a joint development opportunity.
- The Cold Storage site represents a major opening day redevelopment potential site that can capitalize on greenway improvements and the LRT investments.
- The Hennepin County property (43 Hoops) represents another potential opening day development site.
- The property located east of Blake Road between Excelsior Boulevard and the Cedar Lake LRT Regional Trail is also viewed as a potential opening day development site.

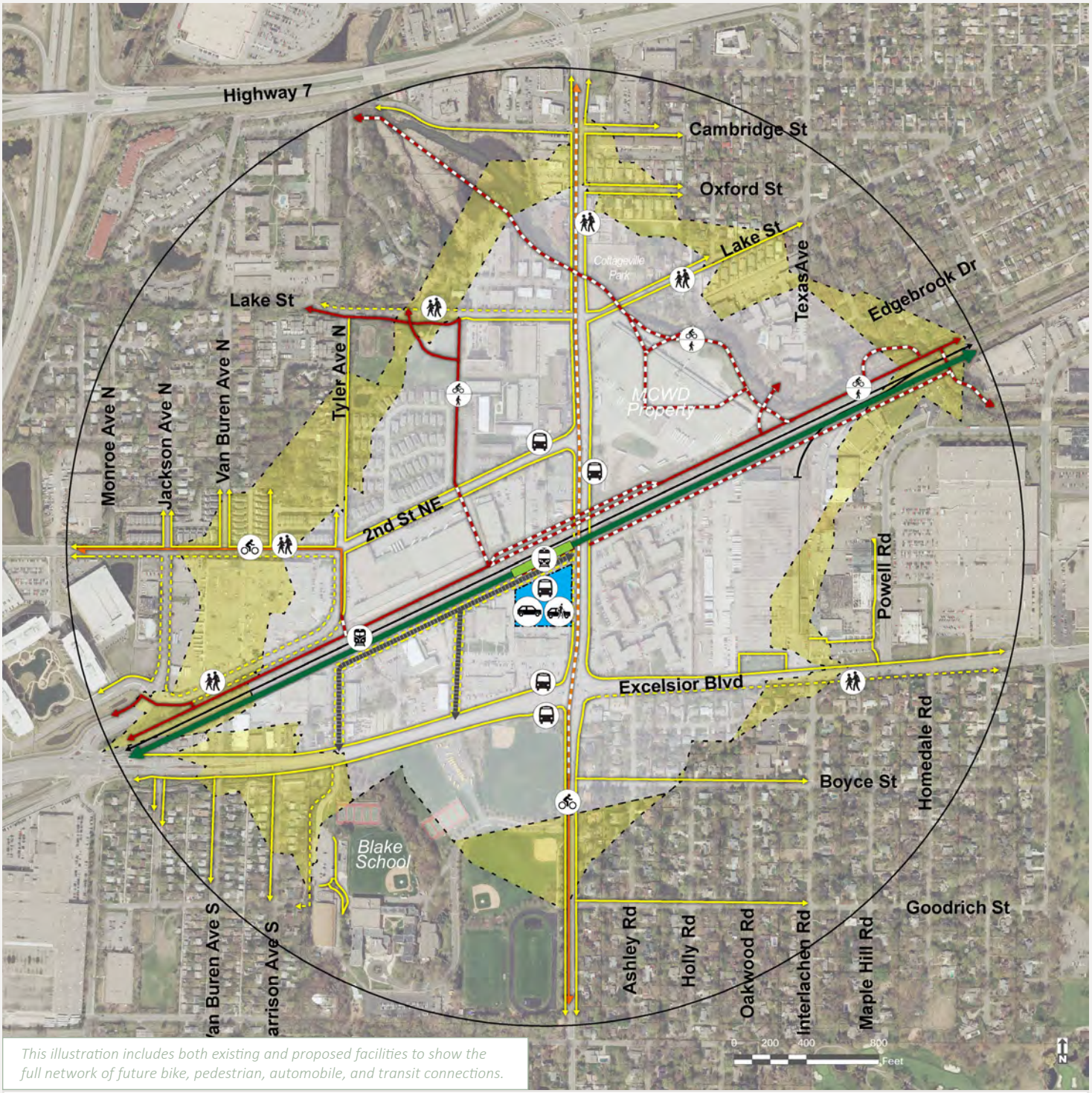
Long-Term Improvements:

- See the "Development Potential" discussion on page 10-18 for more on long-term development opportunities.

UTILITIES

- See the "Station Area Utility Plan" beginning on page 10-20 for all utility recommendations.

FIGURE 10-8. ACCESS + CIRCULATION PLAN

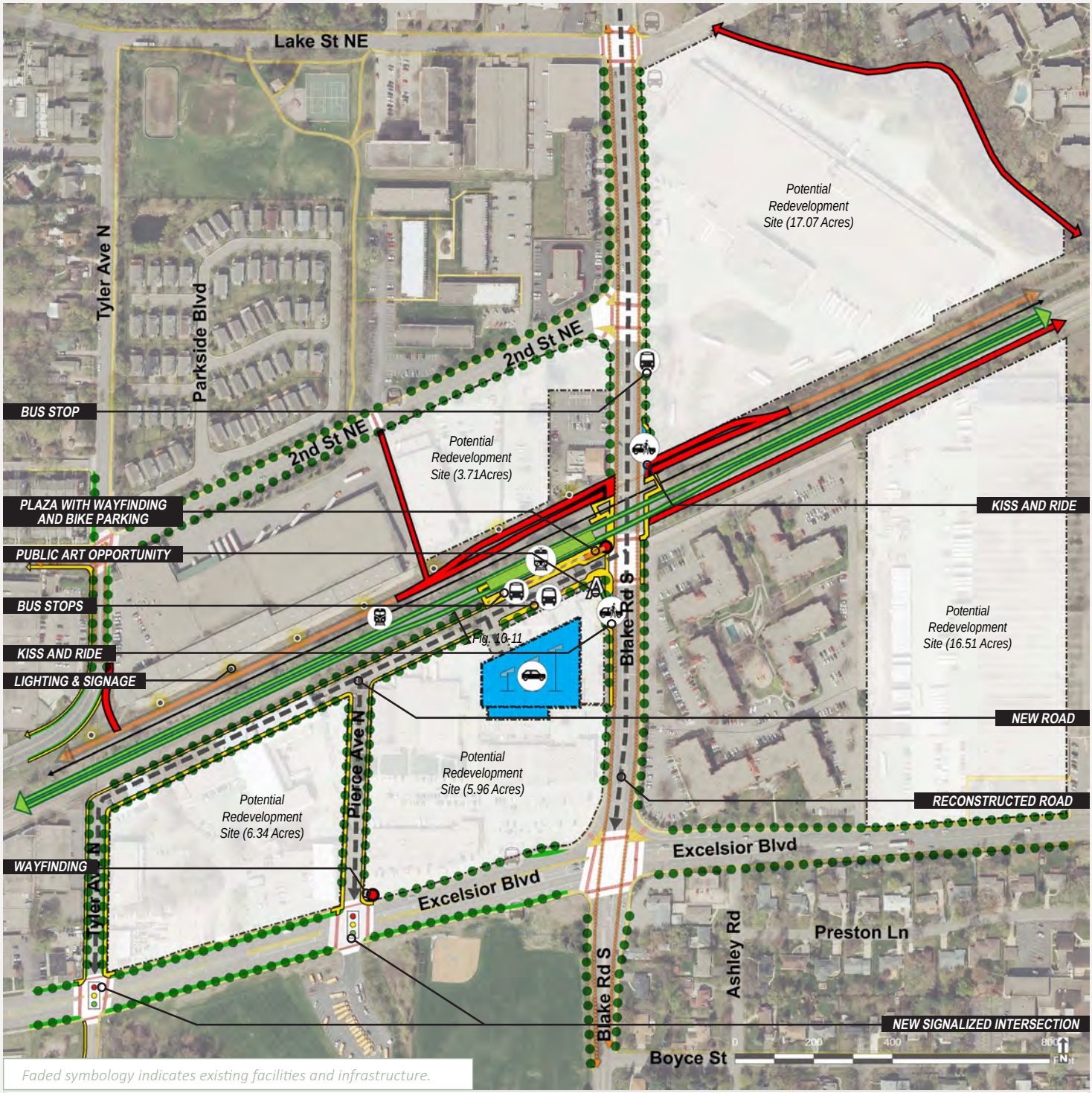


This illustration includes both existing and proposed facilities to show the full network of future bike, pedestrian, automobile, and transit connections.

- LRT PLATFORM
- LRT LINE
- BUS STOP
- PARK AND RIDE
- FREIGHT LINE
- NEW ROADWAY
- KISS AND RIDE
- EXISTING WALKSHED
- EXISTING PEDESTRIAN CONNECTION
- EXISTING BIKE CONNECTION
- EXISTING MULTI USE CONNECTION
- FUTURE WALKSHED (WITH TSAAP IMPROVEMENTS)
- PROPOSED(DASHED) PEDESTRIAN CONNECTION
- PROPOSED(DASHED) BIKE CONNECTION
- PROPOSED(DASHED) MULTI USE CONNECTION

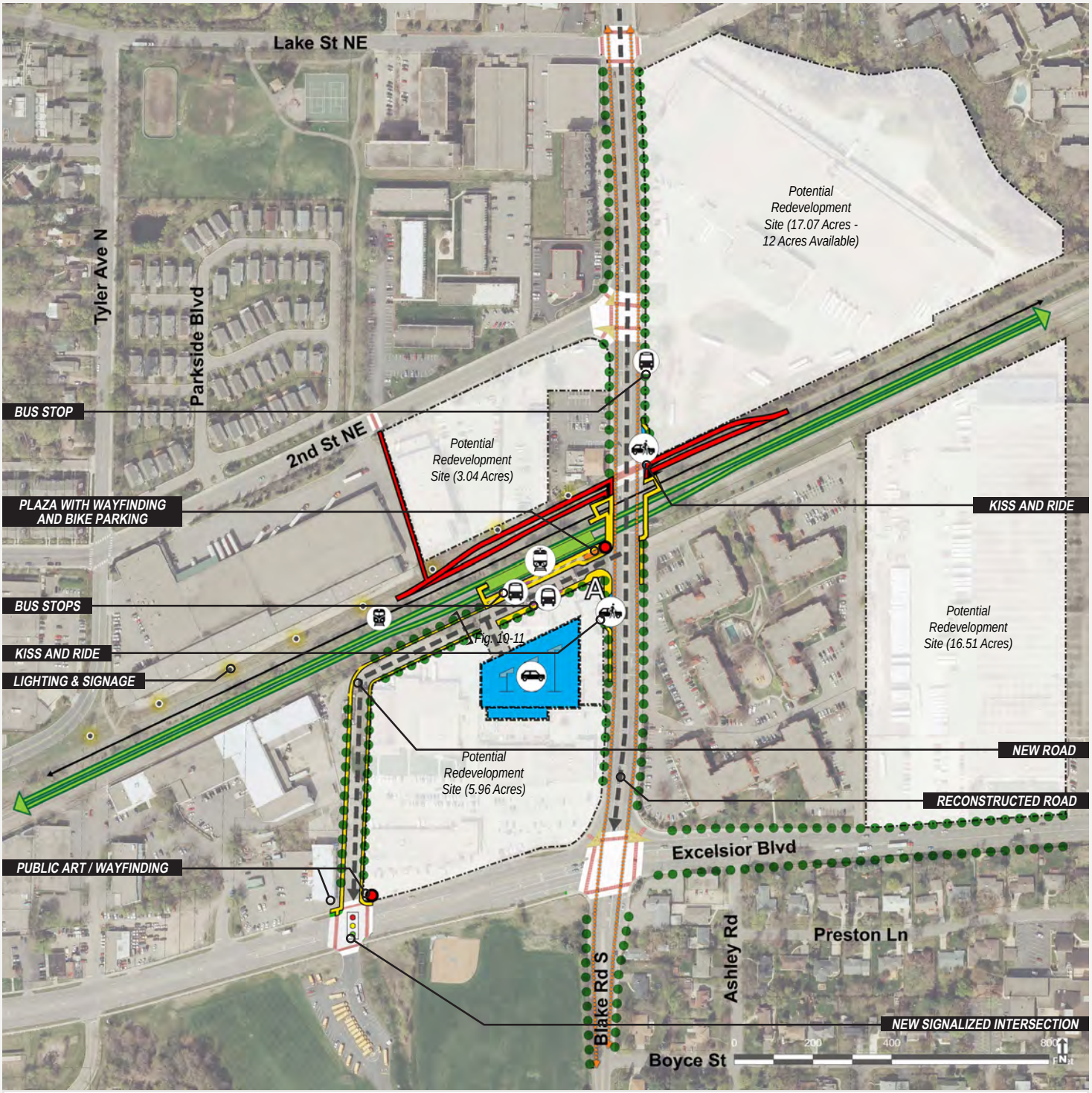
NOTE: Existing walkshed approximates the area accessible within a 10-minute walk from the station platform using only the existing sidewalk/trail network. Future walkshed incorporates all proposed improvements to the sidewalk/trail network. Walksheds are based on GIS modeling and available sidewalk/trail information- and may not reflect exact on-the-ground conditions. See Glossary for detailed explanation of walkshed assumptions and methodology.

FIGURE 10-9. STATION AREA IMPROVEMENTS



LRT PLATFORM
FREIGHT LINE
BUS STOP
BUS SHELTER
NEW SIDEWALK / SIDEWALK IMPROVEMENT
ON STREET BIKE INFRASTRUCTURE
MULTI-USE PATH
NEW CROSSING / CROSSING IMPROVEMENT
NEW LIGHTING
NEW ROADWAY
STREETSCAPE
PARK AND RIDE
KISS AND RIDE
NEW SIGNALIZED INTERSECTION
BIKE PARKING
WAYFINDING
PUBLIC ART OPPORTUNITY
POTENTIAL DEVELOPMENT SITE
PLAZA SPACE / BUILDING SETBACK AREA

FIGURE 10-10. OPENING DAY STATION AREA IMPROVEMENTS



LRT PLATFORM
FREIGHT LINE
BUS STOP
BUS SHELTER
NEW SIDEWALK / SIDEWALK IMPROVEMENT
ON STREET BIKE INFRASTRUCTURE
MULTI-USE PATH
NEW CROSSING / CROSSING IMPROVEMENT
NEW LIGHTING
NEW ROADWAY
STREETSCAPE
PARK AND RIDE
KISS AND RIDE
NEW SIGNALIZED INTERSECTION
BIKE PARKING
WAYFINDING
PUBLIC ART OPPORTUNITY
POTENTIAL DEVELOPMENT SITE
PLAZA SPACE / BUILDING SETBACK AREA

Conceptual Street Sections

The street cross section illustrated below is conceptual and represents a potential future streetscape condition, addressing facilities for a variety of transportation modes, streetscape amenities, and the relationship between buildings and the street edge. Further design and engineering work will be required to ensure the streetscape is in compliance with City and/or County design standards and needs.

NEW ROAD SEGMENT

Dimensional Criteria:

- » 66 feet — Right-of-Way Width
- » 32 feet — Pavement Width (2-way)
- » 20'-30' o/c — Street Tree Spacing
- » 6'-0" — Sidewalk Width (both sides of street)

Design Features:

- » Sidewalks
- » Street Trees/Plantings/Raingardens
- » Streetscape Furnishings (seating, planters, trash receptacles, bicycle racks)
- » Signage
- » Street and Pedestrian Lighting
- » Pedestrian-Friendly Crossings (countdown signals, markings, and ADA features)

FIGURE 10-11. CONCEPTUAL STREET SECTION - NEW ROAD SEGMENT

Opening Day Improvements

The following tables and diagrams outline the proposed improvements to be implemented in advance of SW LRT's opening day in 2018. Table 10-1 and Figure 10-12 show opening day improvements that are part of the SW LRT anticipated base project scope; these improvements will be part of the overall project cost for construction of the LRT line. Table 10-2 and Figure 10-12 include opening day improvements that are recommended as part of the Southwest Corridor Investment Framework and are beyond the SW LRT base project scope. Table 10-3 (also shown in Figure 10-13) includes locally requested "betterments"- or improvements that cities have requested to be included in the base project scope pending funding availability.

TABLE 10-1. SOUTHWEST LRT ANTICIPATED BASE PROJECT SCOPE - OPENING DAY STATION AREA IMPROVEMENTS

PLAN KEY	IMPROVEMENT	PROJECT LOCATION	PROJECT NOTES
A	LRT Platform	North of Excelsior Blvd, west of Blake Road	Includes related LRT infrastructure
B	Park and Ride	South of station platform, west of Blake Road	445 stall park and ride ramp, incl. lighting and signage
C	Kiss and Ride	South of station platform, along Blake Road	Dropoff area
D	Bus Facilities	New road adjacent to LRT station	Bus stop
E	Roadway	New street- between Pierce and Blake Road and the west side of the Park and Ride	Along south edge of LRT line
F	Access Roadway	New access roadway- Pierce Ave	Extend north from Excelsior Blvd to Park and Ride along south edge of LRT line
G	Sidewalk/Trail	Along new access road, between Blake Road and the west side of the Park and Ride	Both sides of road
H	Sidewalk/Trail	Along Blake Road- park and ride north to regional trail	Both sides of road
I	Intersection Enhancement	Pierce Ave and Excelsior Blvd	New traffic signals and crosswalks
J	Intersection Enhancement	Blake Road and trail crossing	Trail crosswalk
K	Bike Facilities	Near station platform	Allowance for bike storage
L	Wayfinding	Station platform	Allowance
M	Landscaping	Near station platform	Allowance
N	Stormwater Management*	Varies	Allowance
O	Utilities*	Varies	New water, sanitary sewer and fire hydrant

Note: Anticipated Southwest LRT Base Project Scope as of December 2013 (subject to change)

** Improvement not symbolized on opening day figures (exact location to be determined as part of the base project scope)*

TABLE 10-2. SOUTHWEST CORRIDOR INVESTMENT FRAMEWORK (TSAAP) - OPENING DAY STATION AREA IMPROVEMENTS

PLAN KEY	IMPROVEMENT	PROJECT LOCATION	PROJECT NOTES	PRIORITY
1	Streetscape	Blake Road- SH 7 to Interlachen Road (City of Edina)	Includes roadway, sidewalk, bike lanes, tree plantings, streetscape furnishings, lighting and ped crossing improvements	Primary
2	Streetscape	Excelsior Blvd- Blake Road east to Powell Road	Includes sidewalk, tree plantings, streetscape furnishings, lighting improvements	Secondary
3	Sidewalk/Trail	Along west edge of HCRRA site (43 Hoops)	trail connection between 2nd St. NE and the regional trail	Secondary
4	Sidewalk/Trail	Along Pierce Ave- Excelsior Blvd to new road	Both sides of road	Secondary
5	Pedestrian crossing	on 2nd Street NE near HCRRA site	Pedestrian crossing markings	Secondary
6	Lighting	Along regional trail- between station platform and Excelsior Crossing	Lighting for safety along trail	Secondary
7	Public Art	Station area	Include public art (beyond SPO improvements)	Secondary
8	Public Plaza	Near station platform	Includes paving, plantings, seating, and lighting (beyond SPO improvements)	Primary
9	Wayfinding	At Excelsior Blvd and Pierce Ave	Include wayfinding at intersection (beyond SPO improvements)	Primary
10	Stormwater Management	Along Blake Road	Include green infrastructure along Blake Road- tree trenches, raingardens (beyond SPO improvements)	Primary
11	Storm Sewer	Along Blake Road	Replace trunk line	Primary
12	Traffic signals	Blake Road- TH 7 to Interlachen Road (City of Edina)	Signals at 2nd, Cambridge and Excelsior	Primary
13	Pedestrian crossing	Tyler Street /Excelsior Blvd	Pedestrian crossing markings and ramps	Secondary
14	Sanitary Sewer	Pierce Avenue North	Construct 8-inch minimum sanitary sewer with roadway construction	Primary
15	Water	New road connecting platform to Excelsior Boulevard via Pierce Avenue North	Construct 8-inch minimum water main with roadway reconstruction/ construction	Primary

TABLE 10-3. SOUTHWEST LRT LOCALLY REQUESTED BETTERMENTS - OPENING DAY STATION AREA IMPROVEMENTS

PLAN KEY	IMPROVEMENT	PROJECT LOCATION	PROJECT NOTES
B1	Sidewalk/Trail	North of freight rail line	Realign regional trail and grade separate trail under Blake Road
	Joint Development	Northwest corner of Blake and Excelsior	Site and access improvements

FIGURE 10-12. ANTICIPATED BASE PROJECT SCOPE - OPENING DAY STATION AREA IMPROVEMENTS

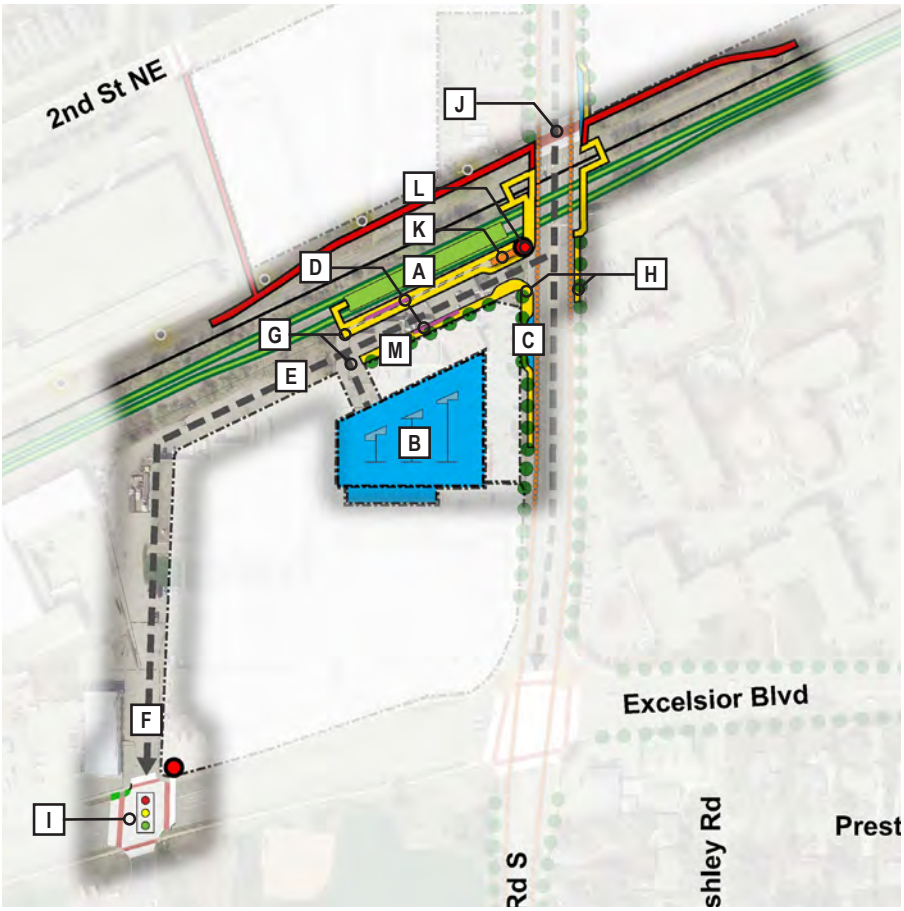
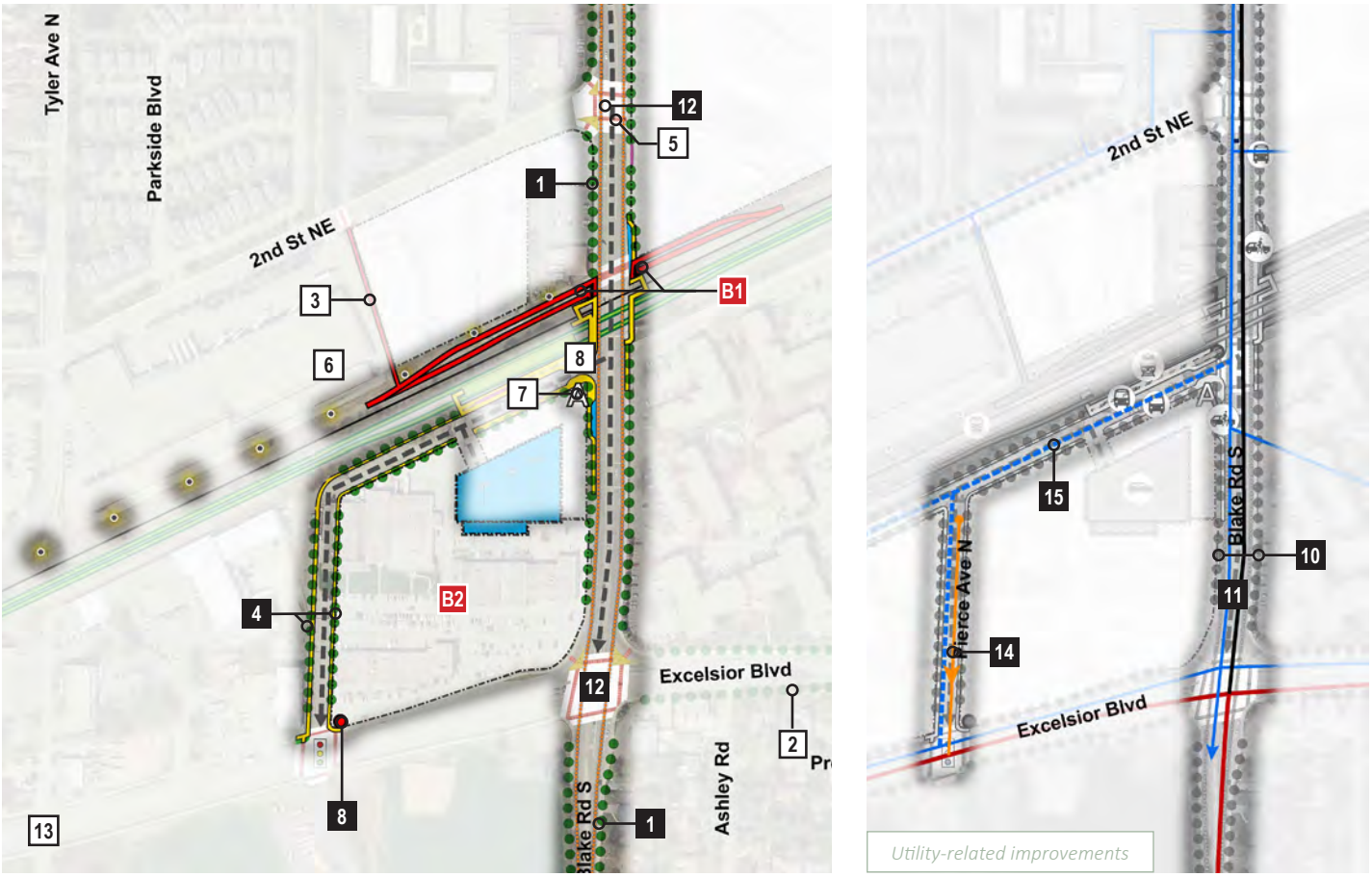


FIGURE 10-13. SW CORRIDOR INVESTMENT FRAMEWORK (TSAAP) - OPENING DAY STATION AREA IMPROVEMENTS + BETTERMENTS



PRIMARY PRIORITY # SECONDARY PRIORITY B LOCALLY REQUESTED BETTERMENT

Development Potential

OVERVIEW

The Blake station area has strong redevelopment potential. Factors supporting redevelopment in the Blake station area include a diverse population base, good station access, several strategic sites available for redevelopment, a number of underutilized properties, and open space amenities such as Minnehaha Creek and Cottageville Park.

Near the proposed station platform, the Hennepin County-owned 43 Hoops site presents a near-term redevelopment opportunity for transit supportive uses. The Cold Storage site, now owned by the Minnehaha Creek Watershed District, and several underutilized sites along Excelsior Boulevard offer additional redevelopment opportunities near the station. A potential joint development project includes a park and ride ramp with a wrapper of mixed-use facing Blake Road and the station platform, located just south of the station. Other potential development sites could include mixed-use, high-density residential and employment uses. Development is expected to occur short to long-term in the area.

Key challenges that should be addressed to facilitate long-term development potential include station connectivity. Near term, development can be catalyzed by introducing a new park and ride ramp/mixed-use development along Excelsior Boulevard, near the station platform. Streetscape improvements should be introduced, connecting the station to nearby businesses and neighborhoods, particularly along Blake Road.

LAND USES

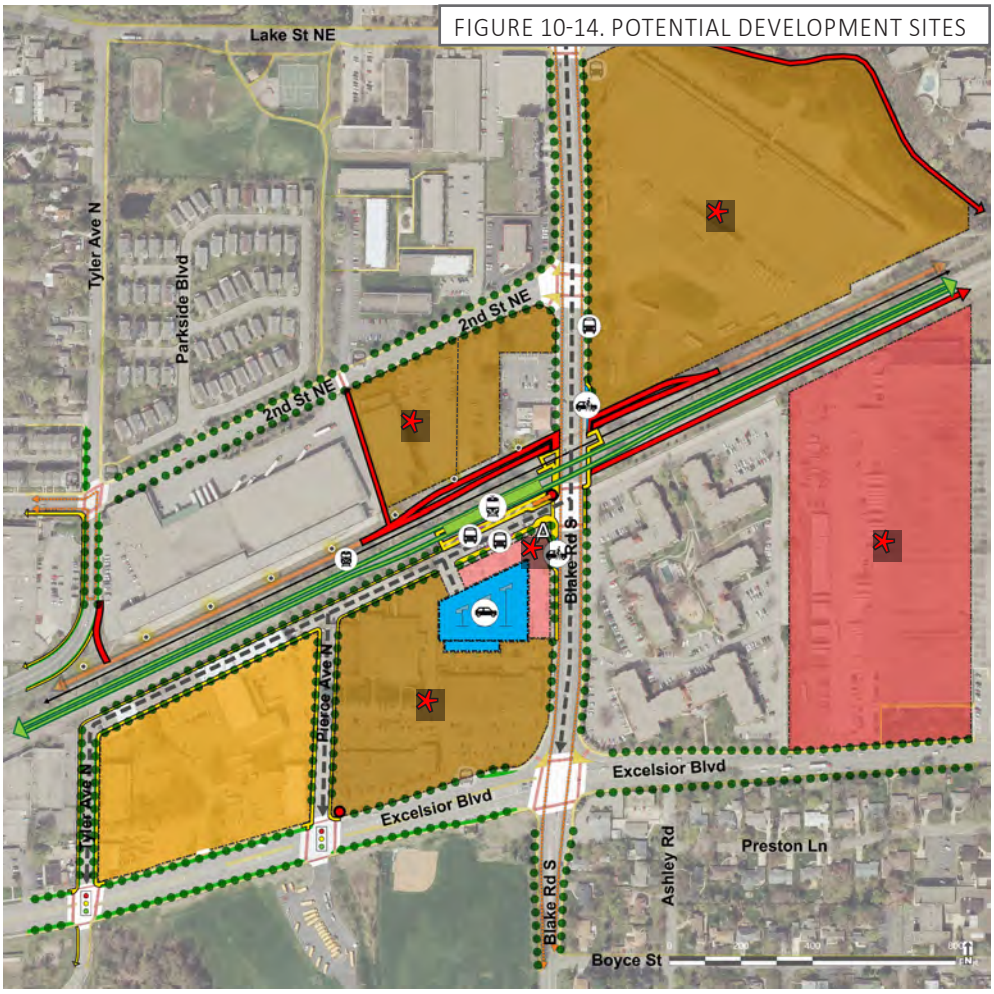
High-density, mixed-use, transit-oriented development is likely to occur near the Blake station. Future land uses in the Blake station area should consist of high-density residential, office, and retail uses.

PLANNING STRATEGIES

Strategies that should be considered to facilitate future development in the station area include new roadways, streetscape improvements, Minnehaha Creek and Cottageville Park imrovements, and pedestrian crossings along roadways connecting the station with potential development sites, local destinations, and neighborhoods, particularly on Blake Road.

The Blake station park and ride should be provided in a parking ramp, located between Excelsior Boulevard and the proposed LRT station platform. The park and ride ramp should be a joint development with mixed-use development.

FIGURE 10-14. POTENTIAL DEVELOPMENT SITES



Key Considerations for Change and Development Over Time

The station area should remain an employment destination with a focus on establishing a mix of new residential and neighborhood serving retail uses and improving connectivity to key destinations along Blake Road and 2nd Street. Key considerations should include:

BUILT FORM AND LAND USE

» Introduce a mix of higher density employment and residential uses along Excelsior Blvd, Blake Road, and 2nd Street that can help to increase transit ridership and increase activity levels in and around the station area.

» Designing new buildings to enhance pedestrian access by orienting them towards the street and locating them as close to the street line as possible.

» Minimize the impact of parking and circulation on pedestrians by locating parking to the rear or side of new buildings in structures or below grade.

» Incorporate active ground level uses on buildings adjacent to the station and facing onto Blake Road and Excelsior Blvd.

» Integrate park and ride facilities with new uses and/or development that can actively address both Blake Road and the station to improve safety and provide convenient access to services for transit riders, residents and area employees.

PUBLIC REALM

» Introduce a public plaza near the station at the corner of Blake Road and the new road to provide spill-out space for active uses facing the station and act as a receiving point for passengers walking to the station or transferring to the LRT by bus, bike, or car.

» Improve connections between the station and area destinations such as The Blake School and Cargill corporate offices through enhanced streetscaping along Blake Road and 2nd Street. This should include sidewalk improvements to increase path widths, provide consistent curb cuts, develop a new boulevard separating pedestrians from vehicular traffic, new tree planting to enhance the street image and improve pedestrian comfort, and new pedestrian-oriented lighting to increase safety for students and employees walking to and from the station at night.

» Remove channelized turning lanes, reduce curb radii, and initiate intersection improvements at Excelsior Boulevard and Blake Road to improve safety for students walking or cycling from the station to The Blake School.

» Enhance greenway, open space, and park areas, as well as Minnehaha Creek access and visibility for the benfit of transit users and to attract new development interest in the area.

MOBILITY

» Develop a new walkable street and block pattern in the area between Excelsior Blvd. and the rail corridor including a new street running parallel to the rail corridor to provide access for buses and create an address for development facing the station.

» Ensure redevelopment of the Cold Storage site that results in the establishment of a new street and block network that improves access to Minnehaha Creek for area residents and transit users.

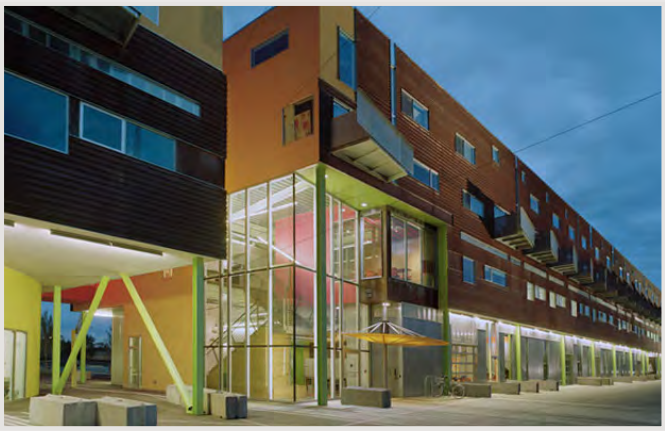
» Accommodate retail and short-term parking on-street or in shared parking facilities to minimize the construction of single-use parking areas.

» Consolidate access and servicing between adjacent developments and minimize vehicular access points along key routes leading to and from the station including Blake Road, 2nd Street, and Excelsior Boulevard.

» Incorporate signed on-street bike facilities to improve access for cyclists traveling to destinations along the Blake Road corridor.

Mixed-use development with active street level uses

Higher density office and light industrial uses



Live / work development

Station Area Utility Plan

OVERVIEW

The station area utility plan and strategies recommended below were developed by considering future transit-oriented development within the station area, as depicted by the Station Area Site Plan (Figure 10-9). Hopkins will need to apply these localized recommendations to the city-wide system to ensure that the potential development/redevelopment will not be limited by larger system constraints. Existing models or other methods each can be used to check for system constraints in the station areas.

Hopkins should also consider reviewing the condition of the existing utilities in each station development area. The station construction would provide Hopkins an opportunity to address any utilities needing repairs. Once the larger system has been reviewed for system constraints, Hopkins will be able to accurately plan for necessary utility improvements in their city Capital Improvement Program (CIP). All utilities located beneath the proposed LRT rail or station platform should be encased prior to the construction of these facilities. Costs associated with encasing these facilities is assumed to be a project cost and are not included in potential improvements identified for the City of Hopkins CIP.

APPROACH

Utility improvement strategies are outlined in this report for the ultimate station area development (2030), as well as improvements which should be considered prior to opening day anticipated in 2018. Although recommendations are categorized in one of these two timeframes, Hopkins should weigh the benefits of completing more or less of these improvements as land becomes available for future development. Hopkins should take the utility analysis a level further and model future utilities in their city utility system models.

The proposed development and redevelopment areas were evaluated based on Metropolitan Commission Sewer Availability Charge (SAC) usage rates and estimated flows. Estimated flows for one possible development scenario in this area indicate that internal to the station area, no more than eight inch pipe are necessary to serve the mix of proposed and existing development. Each utility system should still be reviewed to identify capacity and demand constraints to the larger system associated with increase in flows from the proposed developments and existing developments in the area. Hopkins should anticipate the construction of new municipal utilities in conjunction with new or realigned roadways.

GENERAL RECOMMENDATIONS - SANITARY SEWER

Sanitary sewer recommendations for station area improvements include opportunities for Hopkins to improve the existing sanitary sewer network, without necessarily replacing existing sanitary sewers. When recommendations for “improving” existing sanitary sewer are noted, Hopkins should consider the level to which each specific sewer should be improved. Methods of improvement could include: lining the existing sewer, pipe joint repair, sewer manhole repair, relocation, and complete replacement.

The following items should be evaluated prior to opening day of the station, although action may not be required until necessary for development:

» Televising existing sewer mains in the station area and proposed development area to determine the condition of the sewer mains, susceptibility for backups or other issues and evaluate for Infiltration and Inflow (I&I).

» Locations of known I&I. If previous sewer televising records, city maintenance records, or an I&I study have shown problems, the city should consider taking measures to address the problem.

» The age and material of existing gravity and/or forcemain sanitary sewer in the identified station area. If the lines are older than the material’s typical design life or materials which are susceptible to corrosion relative to soils in the area, the city should consider repairing, lining or replacing the mains.

» Locations of known capacity constraints or areas where city sewer models indicate capacity issues. If there are known limitations, the city should further evaluate the benefit of increasing pipe sizes.

» City sewer system models (existing and future). A review of these models with future development would assist Hopkins in determining if sewers in the project area should be increased to meet existing or future city system needs.

» Existing sewer pipes should be relocated or encased in areas where they cross or are immediately adjacent to the LRT line/station.

GENERAL RECOMMENDATIONS - WATER MAIN

Water main recommendations for station area improvements also include opportunities for Hopkins to improve the existing water system network. Creating loops in the network can help prevent stagnant water from accumulating along water main stubs, and creating loops of similar sized water main provides the city a level of redundancy in their water network. Redundancy helps reduce the impacts to the community during system repairs, and also helps stabilize the pressure in the network.

The following items should be evaluated prior to opening day of the station, although action may not be required until necessary for development:

- The age and material of the existing mains in the identified station area. If the mains are older than the materials typical design life or materials which are susceptible to corrosion relative to soils in the area, the city should consider replacing the main.
- Locations of previous water main breaks. If water main breaks repeatedly occur in specific areas, the city should consider replacing or repairing the main.
- Locations with known water pressure issues or areas where city model indicate low pressure. If there are known limitations (for either fire suppression or domestic uses), the city should further evaluate the benefit of increasing main sizes.
- Locations with known or potential water quality issues. If there are mains known to be affecting the water quality (color, taste, odor, etc.) of their system, Hopkins should consider taking measures to address the problem affecting water quality.
- City water system models (existing and future). A review of these models with future development would assist Hopkins in determining if mains in the project area should be improved to meet existing or future city system needs based on demand constraints.
- Existing water main pipes should be relocated or encased in areas where they cross or are immediately adjacent to the LRT line/station.

GENERAL RECOMMENDATIONS – STORM SEWER

Local storm sewer improvements are recommended to be completed in conjunction with other improvements in the station area. Improvements which will likely require storm sewer modifications include: roadway realignments, roadway extensions, and pedestrian sidewalk/street scape improvements. Storm sewer improvements may consist of: storm sewer construction, manhole reconstruction, drain tile extensions, storm sewer relocation, and complete replacement. These local storm sewer improvements are included as part of the overall cost of roadway and streetscape improvements recommended in this plan. Where roadway/streetscape improvements are part of the SW LRT anticipated base project scope, associated storm sewer improvements are assumed to be a project cost. Hopkins should also consider coordinating with the local watershed district and other agencies to review the condition of and capacity of existing trunk storm sewer systems serving more regional surface water needs.

Currently MCWD has plans to divert stormwater from existing Blake Road, Lake Street, and Powell Road storm sewer systems to Cottageville Park and/or the Cold Storage Site. Stormwater from the proposed Blake station area may also be routed to the Cold Storage site upon redevelopment.

STORMWATER BEST MANAGEMENT PRACTICES

There are numerous stormwater best management practices (BMPs) that can be used to address stormwater quality and quantity. As part of this project, BMP guides were developed for four stations (Royalston, Blake, Shady Oak, and Mitchell) which exemplify the range of development intensity and character in the urbanized environment along the Southwest LRT Corridor. The recommendations and practices identified in each of the four BMP guides are applicable to various stations along the corridor.

The following section (starting on p. 10-22) includes a detailed stormwater analysis and BMP guide for Blake station. These BMPs may also be applicable to the station areas at Belt Line, Wooddale, Louisiana, Downtown Hopkins, Eden Prairie Town Center, and Southwest. Cities should consider incorporating these practices where appropriate as development/ redevelopment occurs.

Station Area Utility Plan (Continued)

STATION AREA UTILITY RECOMMENDATIONS

The following discussion covers station-specific utility recommendations for both opening day improvements and long-term recommendations. Utility recommendations (illustrated in Figure 10-16) are based on a localized analysis of proposed development. It is recommended that the City of Hopkins take this analysis a step further and review system constraints to the existing and future sanitary sewer and water main systems using existing sewer CAD or water CAD models, or other methods of modeling these systems.

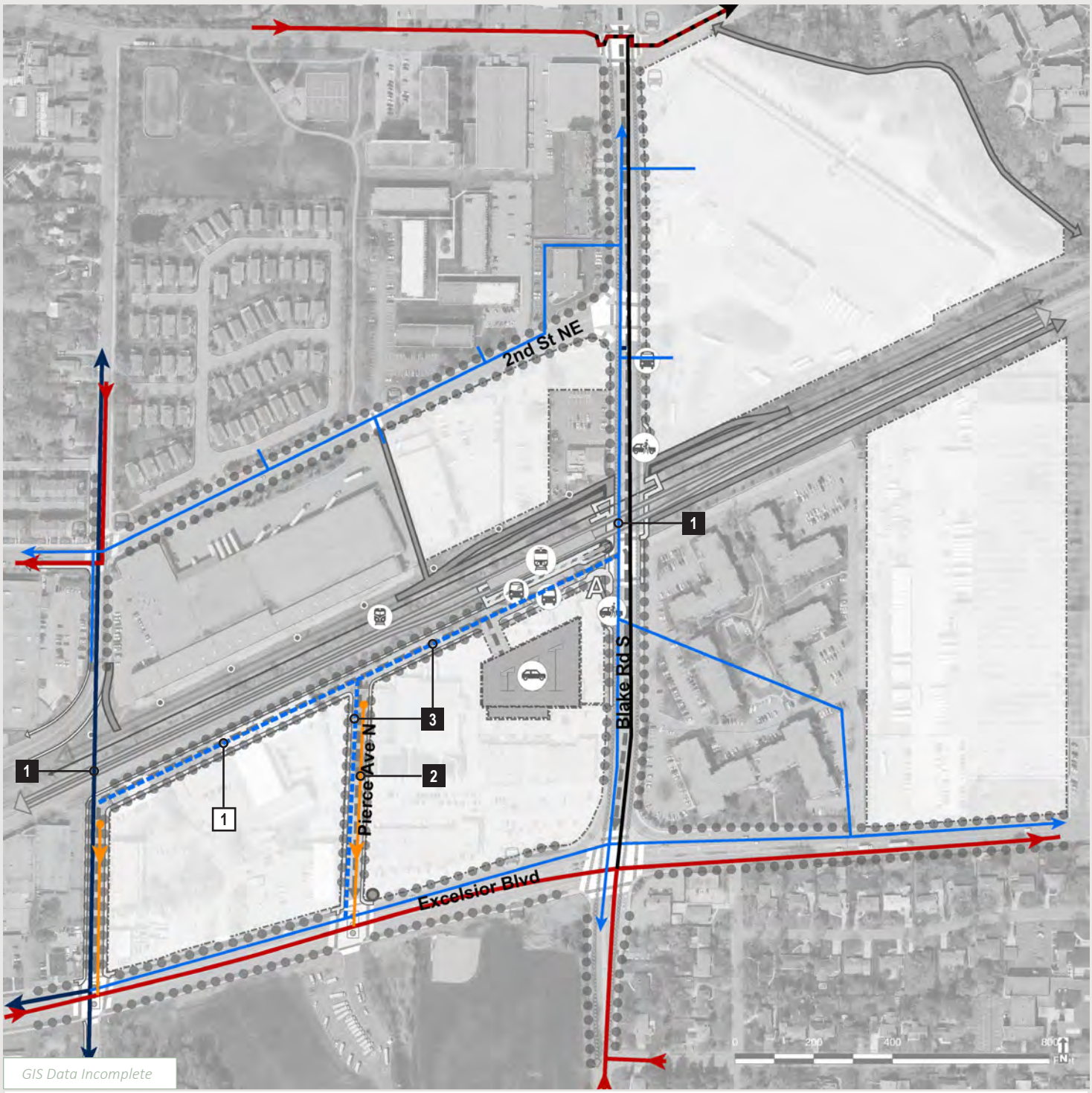
Opening Day Recommendations:

1. Encase existing water main crossing LRT rail construction.
2. Construct 8-inch minimum sanitary sewer in conjunction with roadway construction on Pierce Avenue N.
3. Construct 8-inch minimum water main in conjunction with roadway reconstruction/construction on new road connecting platform to Excelsior Boulevard via Pierce Avenue N.

Long-Term Recommendations:

1. Construct 8-inch minimum water main in conjunction with new roadway construction connecting Pierce Avenue to Tyler Avenue; tie to existing main on Tyler Avenue.

FIGURE 10-15. STATION AREA UTILITY PLAN



OPENING DAY RECOMMENDATION

LONG-TERM RECOMMENDATION

EXISTING UTILITIES

PROPOSED UTILITIES

SERVICE SANITARY

LOCAL SANITARY

TRUNK SANITARY

MCES SANITARY INTERCEPTOR

SANITARY SEWER FORCEMAIN

LIFT STATION

SERVICE WATER MAIN

LOCAL WATER MAIN

TRUNK WATER MAIN

WATER TOWER

Stormwater Management Recommendations

INVENTORY

The Blake Road station area is within the Minnehaha Creek Watershed District (MWCD). The proposed station location lies about 0.3 miles west of the creek and is tributary to the creek through shallow ditches adjacent to the regional trail.

The MPCA lists Minnehaha Creek as impaired for chloride, fecal coliform, fish bioassessments, and dissolved oxygen. Chloride arrives from road salting, fecal coliform from animal waste, and low dissolved oxygen makes it difficult for fish to survive.

CONSTRAINTS:

Impaired Waters

Discharging within one mile of an impaired water may trigger additional Minnesota Pollution Control Agency NPDES (National Pollution Discharge Elimination System) requirements which require more capacity for stormwater management. For impaired waters where a TMDL (Total Maximum Daily Load) has been approved, these requirements may increase further.

THe MCWD and MPCA have neared completion on the Minnehaha Creek Lake Hiawatha TMDL which considers impairments due to nutrients (eutrophication), biota, dissolved oxygen, chloride, and fecal coliform bacteria. The TMDL implementation plan will have substantial impact on stormwater management within the station impact area as redevelopment activity will be looked at as the primary means to implement water quality improvements – perhaps above what MCWD would normally require. Cost-sharing may occur when redevelopment exceeds standards normally applied.

Floodplain

MCWD shows extensive mapped floodplain upstream (west) of Blake Road, evidence that Blake Road restricts creek flow. This floodplain and floodway covers the Target parking lot and other urban uses so redevelopment will need to consider floodplain management and mitigation. Specifically, floodplain may need to be integrated into redevelopment through open space and stormwater management features. MCWD regulates floodplain base on approved FEMA maps. Flood maps for this station area are currently in the process of being revised by FEMA.

Contamination

Three contaminated properties are identified in the EIS: one agricultural chemical spill, one leaking underground storage tank site, and a third unspecified contamination. Remediating soil contamination may be necessary prior to constructing infiltration practices.

Soils

The majority of the soils within the 10-minute walk zone have been identified as hydrologic group B or Urban. B soils typically allow for infiltration. Urban soils are highly variable as significant development and/or fill has occurred in these areas.

Stormwater Management

MCWD stormwater rules exempt redevelopment sites less than five acres where redevelopment results in at least a ten percent reduction of impervious surface. Another exemption is available for sites five acres or greater where the proposed activity disturbs less than 40 percent of the site and results in at least a ten percent reduction in impervious surface.

Discounting exemptions, MCWD requires volume control for the runoff from the first inch of rainfall off impervious surface for redevelopment. When the volume control requirement cannot be met due to soils or contamination then a phosphorus standard must be met where the amount is equivalent to what would have been removed if the one-inch volume standard were met. In many respects, the MCWD rules are similar to the requirements contained in the construction stormwater permit.

Peak rates of discharge for the 1, 10 and 100-year rainfalls must be maintained at current conditions. It is anticipated that maintaining and significantly reducing existing discharge rates may easily be achieved due to the water quality and volume features that will be required.

STORMWATER MANAGEMENT CALCULATION

Total redevelopment area is approximately 61 acres. The 61 acres can be categorized into 3 groups; station improvements, ROW improvements, and individual site redevelopment. The following shows the area breakdown by category. Note this breakdown is highly variable depending on the timeline of ROW and individual site redevelopment.

» Station improvements (park and ride, LRT Platform) – 4 acres

» ROW improvements – 11 acres

» Individual Site Redevelopment – 46 acres

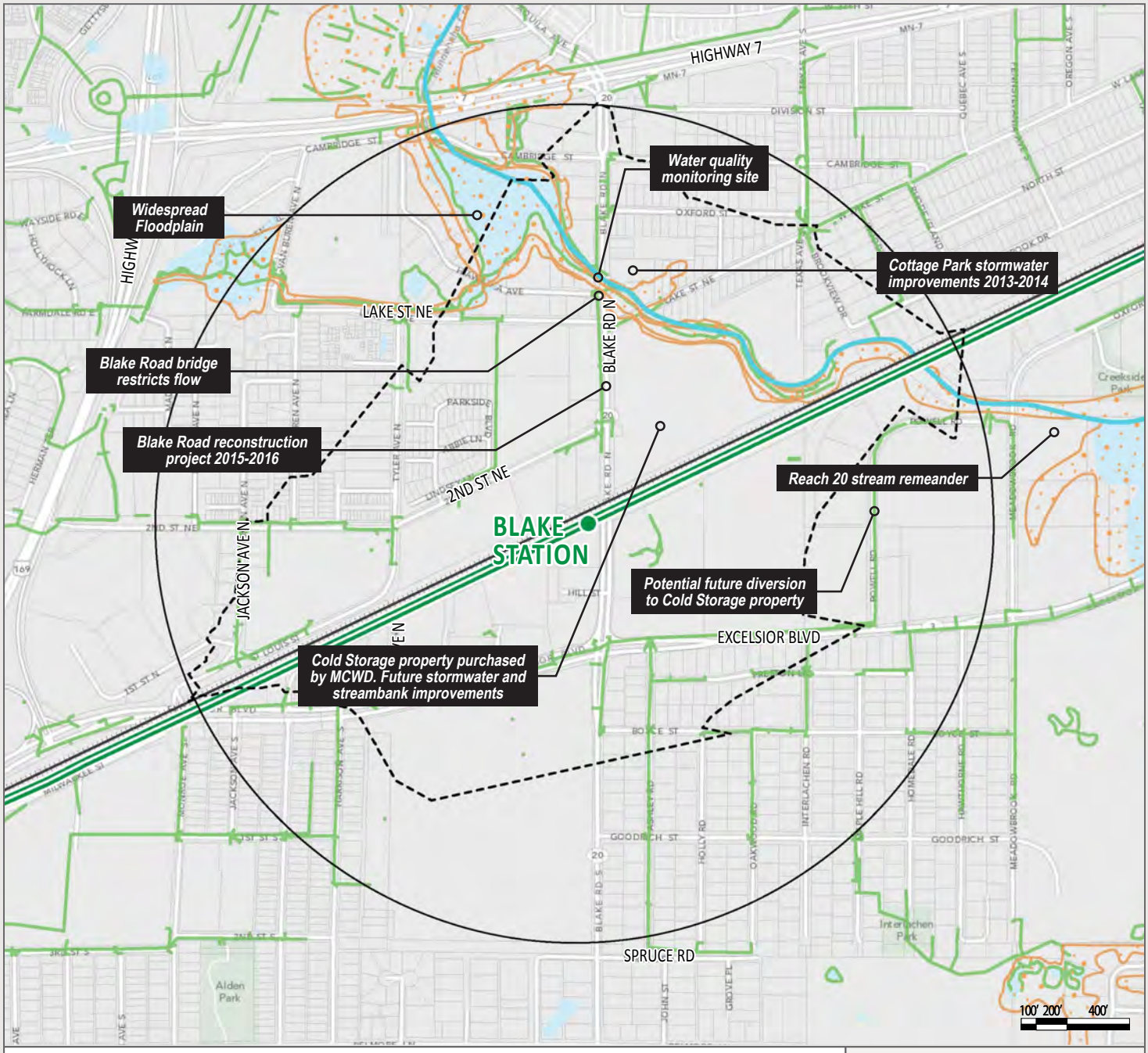
Based on Minnehaha Creek Watershed District Rules (June 2011) and MPCA NPDES requirements outline above, these areas will likely need to provide stormwater management to meet volume control, rate control, and pollutant removal requirements.

Volume Control

Volume control will need to be provided for the majority of the 61 acres estimated to redevelop. The one exception being, approximately 7 acres of ROW on Blake Road is anticipated to qualify as a linear project. Assuming there is less than 10,000 square feet of new impervious, Blake Road would qualify for exemption from the volume control requirement. If there is more than 10,000 square feet of new impervious surface, volume control-rate control-phosphorus control will be required for the new impervious surface.

The following impervious coverages are assumed for the different types of redevelopment. These impervious estimates are highly variable depending on the type and configuration of development that occurs.

FIGURE 10-16. EXISTING STORMWATER



Stormwater Management Recommendations (Continued)

» Station improvements (park and ride, LRT platform, OMF site) – 75% (3 acres)

» ROW improvements – 55% (6.1 acres)

» Individual site redevelopment – 65% (29.9 acres)

Using the assumed impervious coverages the following volume control is anticipated to be required:

$$3 \text{ acres} \times \frac{1 \text{ inch}}{12 \text{ in/ft}} + 6.1 \text{ acres} \quad \frac{1 \text{ inch}}{12 \text{ in/ft}} + 29.9 \text{ acres} \times \frac{1 \text{ inch}}{12 \text{ in/ft}} = 3.3. \text{ Acre}$$

Pollutant Removal

If volume reduction is achieved in accordance with the standard, then phosphorus requirements are likely to be met. If volume control is unattainable due to site constraints, then an equivalent phosphorus reduction would be required equivalent to which would be achieved through abstraction of one inch of rainfall from the site's impervious surfaces.

Based on redevelopment of 61 acres and providing volume control for the first inch of rainfall, it is estimated that 60-80% reduction of total phosphorus would be required (depending on the site) to result in an annual reduction of 36-48 pounds of phosphorus. Volume control is likely to be a viable option in most locations, however some areas may have high groundwater, poor soils, or require contamination remediation to allow for infiltration. If one of these conditions is present, filtration BMPs may be needed to treat stormwater.

Rate Control

Rate control is not anticipated to be a controlling requirement given the high amount of existing impervious coverage on redevelopment areas (approximately 90%) and the need to provide volume control and/or pollutant removal. As a result, proposed discharge rates are anticipated to be significantly less than existing discharge rates.

EXAMPLE STORMWATER MANAGEMENT SCENARIO:

Figure 10-18 shows a possible stormwater management scenario for meeting the Minnehaha Creek Watershed District and MPCA NPDES redevelopment requirements. The scenario below has been developed to meet the stormwater volume control requirement of 3.3 acre feet. This scenario has been developed with the knowledge that regional stormwater management will be constructed in the near future on the Cottageville Park and Cold Storage sites. Development and future projects will need to develop stormwater management plans considering these regional systems.

The following BMPs are considered in this scenario:

Enhanced Media Filter: One enhanced media filter is shown on the Cold Storage site and one is shown near the park and ride. It is anticipated that these systems will be regional stormwater treatment facilities and treat approximately 1.5 acre feet of stormwater runoff volume. Additional capacity may be constructed in the Cold Storage system by MCWD to address regional stormwater needs.

Landscape Filters: Landscape filters are currently shown throughout the redeveloping area. These stormwater filters will be used to collect and treat stormwater prior to discharge downstream into additional stormwater facilities. These systems will be used primarily as pretreatment to the other best management practices.

Storage & Reuse: A large detention basin is shown on the Cold Storage site. This regional basin may be combined with an enhanced media filter as well as a reuse system to irrigate vegetated areas and landscape features on/near the Cold Storage site. It is anticipated that this reuse system will treat approximately one acre foot of stormwater runoff volume.

Permeable Pavement: Permeable pavement is shown adjacent to the park and ride structure. This will reduce the impervious footprint by approximately 1 acre. This BMP will likely be constructed in conjunction with an underground storage/ filtration/infiltration system. This system will reduce the required stormwater management treatment volume by approximately 0.2 acre feet.

Streetside Treatment Swale: A streetside treatment swale is shown just south of the tracks, between Tyler Avenue and the LRT platform. It is anticipated that this BMP will treat approximately one-third of an acre foot of stormwater runoff volume.

Biofiltration Cells: Biofiltration cells are shown to treat localized runoff on individual redevelopment sites. It is anticipated that the majority of stormwater treatment can be provided through

TABLE 10-4. STORMWATER MANAGEMENT SCENARIO - COST SUMMARY

BEST MANAGEMENT PRACTICE (BMP)	DRAINAGE AREA (ACRES)	VOLUME RESTRICTION (AF)	ANNUAL TOTAL PHOSPHORUS REDUCTION (LBS)	SIZE OF BMP	COST OF BMP ($/UNIT)	TOTAL COST ($)
Enhanced Media Filter	44	1.5	7	2,000 CY	$75/CY	$150,000
Landscape Filters	11	Pretreatment	3	200 Filter Boxes	$1,000/Box	$200,000
Storage + Reuse	44	2	20	15,000 CY	$40/CY	$600,000
Permeable Pavement	3	0.2	3	10,000 SY	$30/SY*	$300,00
Streetside Treatment Swale	12	0.3	5	2,000 CY	$40/CY	$80,000
Biolfiltration Cells	31	0.5	10	10,000 CY	$40/CY	$400,000
TOTAL	-	**3.5**	**48**	-	-	**$1,730,000**

** More than standard parking lot section*

FIGURE 10-17. STORMWATER MANAGEMENT SCENARIO

STORMWATER BEST MANAGEMENT PRACTICES:

- *ENHANCED MEDIA FILTER*
- *BIOFILTRATION CELLS*
- *STREETSIDE TREATMENT SWALE*
- *LANDSCAPE FILTERS*
- *STORAGE AND REUSE*
- *PERMEABLE PAVEMENT*

Table 10-4 opposite summarizes the costs and stormwater management information related to each BMP shown in this example scenario. These numbers are highly variable based on conditions at the time of redevelopment, some of which include ultimate BMP location, size, elevation, soil type, development features, and other unknown conditions at this time. It is important to note that storm sewer to collect and convey stormwater is included in the cost estimate for street improvements and therefore is not included in the cost estimates Table 10-4 to avoid duplication.

Stormwater Management Recommendations (Continued)

regional systems, however these systems may be necessary to help meet requirements or provide enhanced treatment. It is anticipated that the biofiltration cells will treat approximately half an acre foot of stormwater runoff volume.

OPPORTUNITIES:

» Naturalizing the creek corridor is a strong water resources theme and development strategy for this station area. This theme could be reinforced by utilizing overland drainage through treatment swales within the redevelopment areas and by restoring urban floodplain to a more natural condition.

» Cottageville Park Feasibility Study (2013) describes stormwater management improvements including ponding, biofiltration, filtration, stormwater reuse, and shoreline restoration.

» MCWD acquisition of the Cold Storage site as well as Cottageville Park property provides opportunity to enhance 1,000 feet of Minnehaha Creek as well as provide stormwater treatment adjacent to the creek. Redevelopment of these parcels using regional LID concepts and an integrated strategy among the various entities will be important to stormwater management in the area. Stormwater will likely be routed to Cold Storage through Blake Road and Powell Road storm sewer systems. Redevelopment on these properties also presents an opportunity to open the area to Minnehaha Creek. Once completed, these projects will connect to the trail system between Cottageville Park and Methodist Hospital. Implementation of Cottageville Park and Cold Storage improvements along the creek is part of a planning strategy to encourage private investment, redevelopment, pedestrian transit, walkable station areas, etc.

» The west side of Blake Road has fairly wide-spreading floodplain so floodplain mitigation will be important. Preserving floodplain tends to limit the density of building footprint and lends itself to restoring green space where floodplain occurs. The east side of Blake Road is not encumbered by wide spreading floodplain, so denser redevelopment could occur.

» MCWD has recently completed its Reach 20 Remeander Project immediately east of the station impact area and directly upstream of a similar, recently completed project at Methodist Hospital. This project resulted in 4,000 feet of realigned and restored stream banks along Minnehaha Creek, a looped trail system connecting Meadowbrook Manor, Excelsior Townhomes, Municipal Services Center, Creekside Park, and Methodist Hospital to the project (to be done in 2014), and access to over 30 acres of restored greenspace around Minnehaha Creek.

Stormwater Best Management Practices (BMP) Guide

The following section summarizes the key features and design considerations related to each of the stormwater best management practices recommended for the Blake station area.

NOTE: These BMPs may also be applicable to the station areas at Belt Line, Wooddale, Louisiana, Downtown Hopkins, Eden Prairie Town Center, and Southwest. Cities should consider incorporating these practices where appropriate as development/redevelopment occurs.

STREETSIDE TREATMENT SWALE

Features

» Volume control through infiltration and vegetative uptake

» Retains stormwater to reduce peak flows

» Reduces storm sewer needed to collect/convey stormwater

Design Considerations

» In-situ soils determine infiltration potential

» Vegetation will need to tolerate both wet and dry conditions

» Periodic maintenance of vegetation will be required

BIOFILTRATION CELLS

Features

» Treats stormwater through filtration, vegetative uptake, and infiltration

» Retains stormwater to reduce peak flows

» Creates naturally vegetated green space adjacent to development

Design Considerations

» Many different native vegetation options and combinations; trees, shrubs, grasses

» In-situ soils determine infiltration potential

» Noxious weeds will need to be managed to maintain native landscape

» Draintile can be added to help facilitate filtration

POSSIBLE AREAS FOR IMPLEMENTATION

POSSIBLE AREAS FOR IMPLEMENTATION

PERMEABLE PAVEMENT

Features

» Multiple types of permeable pavements; bituminous, concrete, and pavers

» Provides volume control by reducing impervious surface

» Treats stormwater using filtration and infiltration

Design Considerations

» In-situ soils beneath pavement will control infiltration potential

» Special vacuum truck required to maintain pavement surface

» ADT criteria, low traffic preferred

» Parking bumpouts as pervious area

ENHANCED MEDIA FILTER

Features

» Treatment provided by filtering stormwater

» Enhanced treatment, to target dissolved pollutants, can be achieved by adding iron filings or spent lime to the filtration media

» Allows for dissolved pollutant removal without infiltration (may be necessary in or near contaminated areas)

Design Considerations

» Free draining system is necessary to achieve desired pollutant removal

» Plant with vegetation that tolerates enhanced media

» Regular maintenance will be needed to ensure functioning filter

» Valves can be incorporated to verify system functionality

POSSIBLE AREAS FOR IMPLEMENTATION

POSSIBLE AREAS FOR IMPLEMENTATION

STORAGE AND REUSE

Features:

» Large basin to reduce stormwater discharge rates and serve as an irrigation reservoir

» Volume control through irrigation or circulating of stormwater

» Reduces potable water demand for irrigation

Design Considerations:

» Large basin to reduce stormwater discharge rates and serve as an irrigation reservoir

» Volume control through irrigation or circulating of stormwater

» Reduces potable water demand for irrigation

LANDSCAPE FILTERS

Features:

» Volume control through infiltration and vegetative uptake

» Treatment by filtration and infiltration

» Detention capacity to reduce peak flow rates

» Irrigation of aesthetic landscaping features

» Minimal footprint

Design Considerations:

» In-situ soils determine infiltration potential

» Periodic maintenance of underground filter system will be required to ensure performance

POSSIBLE AREAS FOR IMPLEMENTATION

POSSIBLE AREAS FOR IMPLEMENTATION

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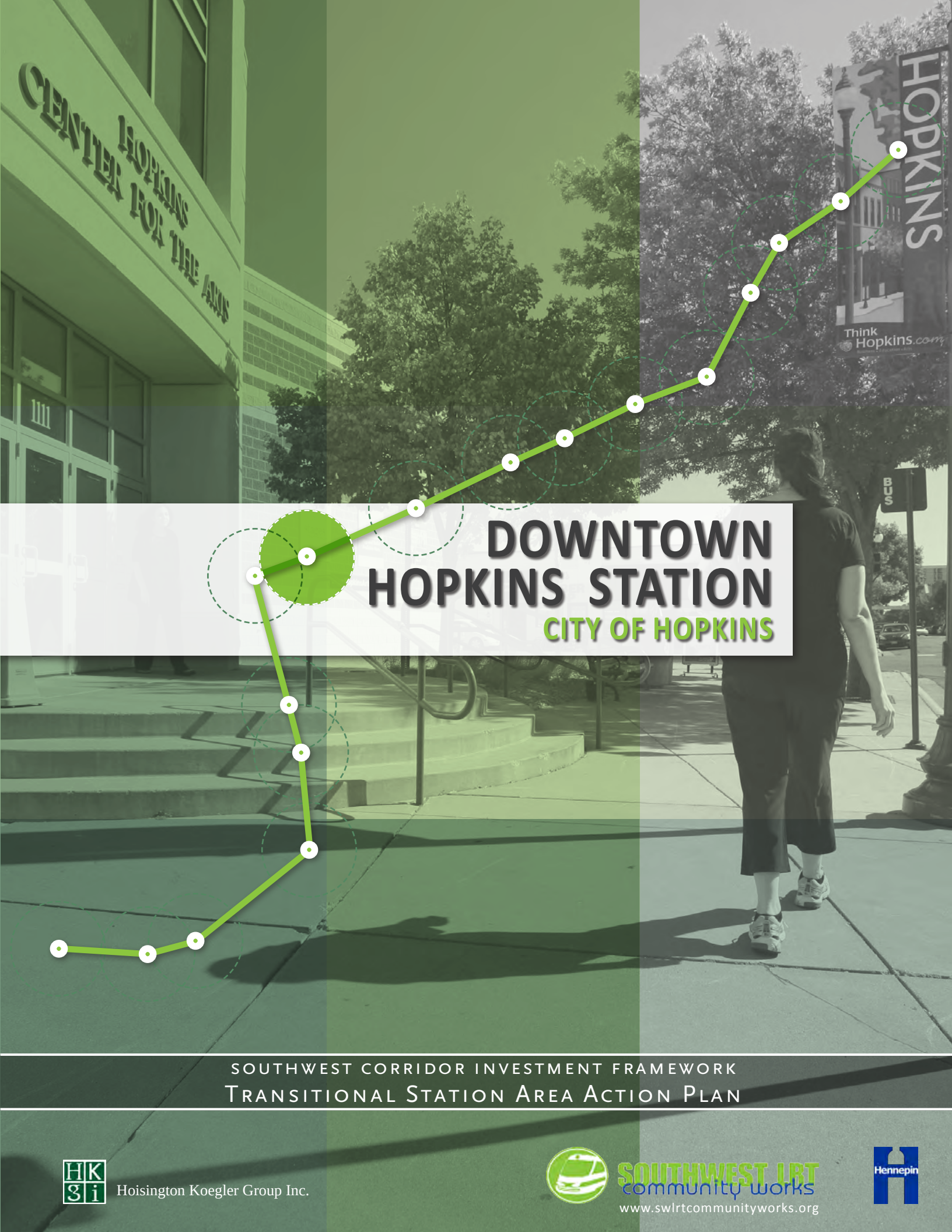


DOWNTOWN HOPKINS STATION

CITY OF HOPKINS

SOUTHWEST CORRIDOR INVESTMENT FRAMEWORK

TRANSITIONAL STATION AREA ACTION PLAN

Hoisington Koegler Group Inc.

SOUTHWEST LRT community works
www.swlrtcommunityworks.org

Hennepin

ABOUT THIS CHAPTER:

The Transitional Station Area Action Plans are the product of a Hennepin County led effort to help communities along the Southwest LRT corridor prepare for SW LRT's opening day in 2018 and beyond.

An individualized plan has been created for each of the 17 stations in the Southwest corridor, each plan comprising a chapter in the larger Southwest Corridor Investment Framework. The station area action plans suggest ways to build on local assets, enhance mobility, identify infrastructure needs, and capitalize on promising opportunities for development and redevelopment near each station.

Plan Components:

INTRODUCTION 11-2
A brief overview of the station location and its surroundings

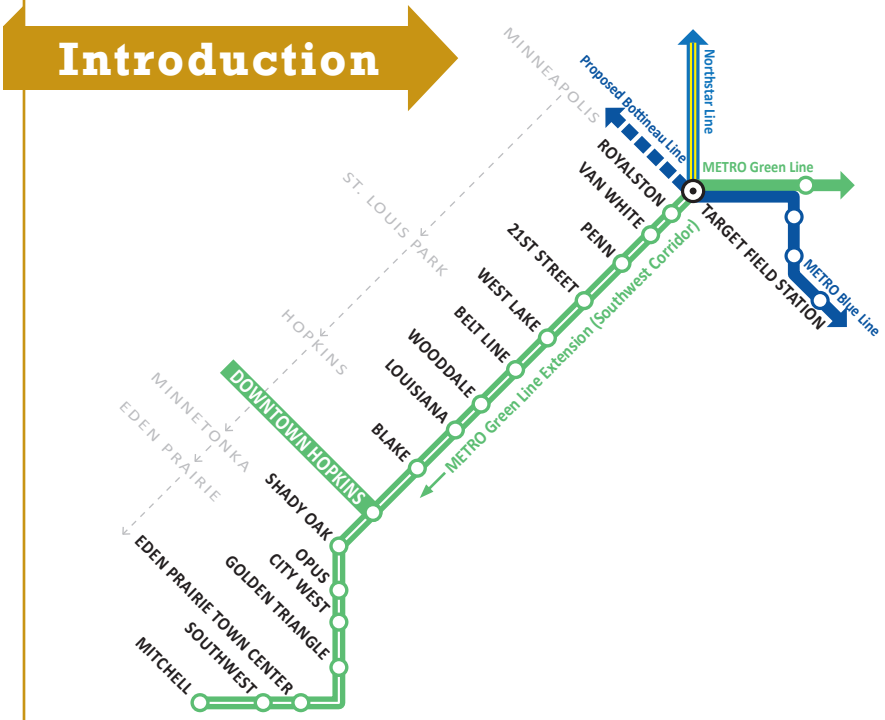
WHERE ARE WE TODAY? 11-4
A description of existing conditions in the station area, including:

- Land Use
- Transit Connections
- Access + Circulation Issues (Bike, Ped, and Auto)
- Infrastructure Needs

WHERE ARE WE GOING? 11-8
This section presents a number of recommendations for the station area in anticipation of opening day needs and the long-term TOD environment. This includes:

- Access + Circulation Plan
- Station Area Site Plan
- Infrastructure Plan
- Development Potential
- Summary of Key Initiatives

Introduction



DOWNTOWN HOPKINS STATION WITHIN THE CORRIDOR:

A vibrant and attractive Urban Village that acts as a gateway to Mainstreet and supports access to regional multi-use trails.

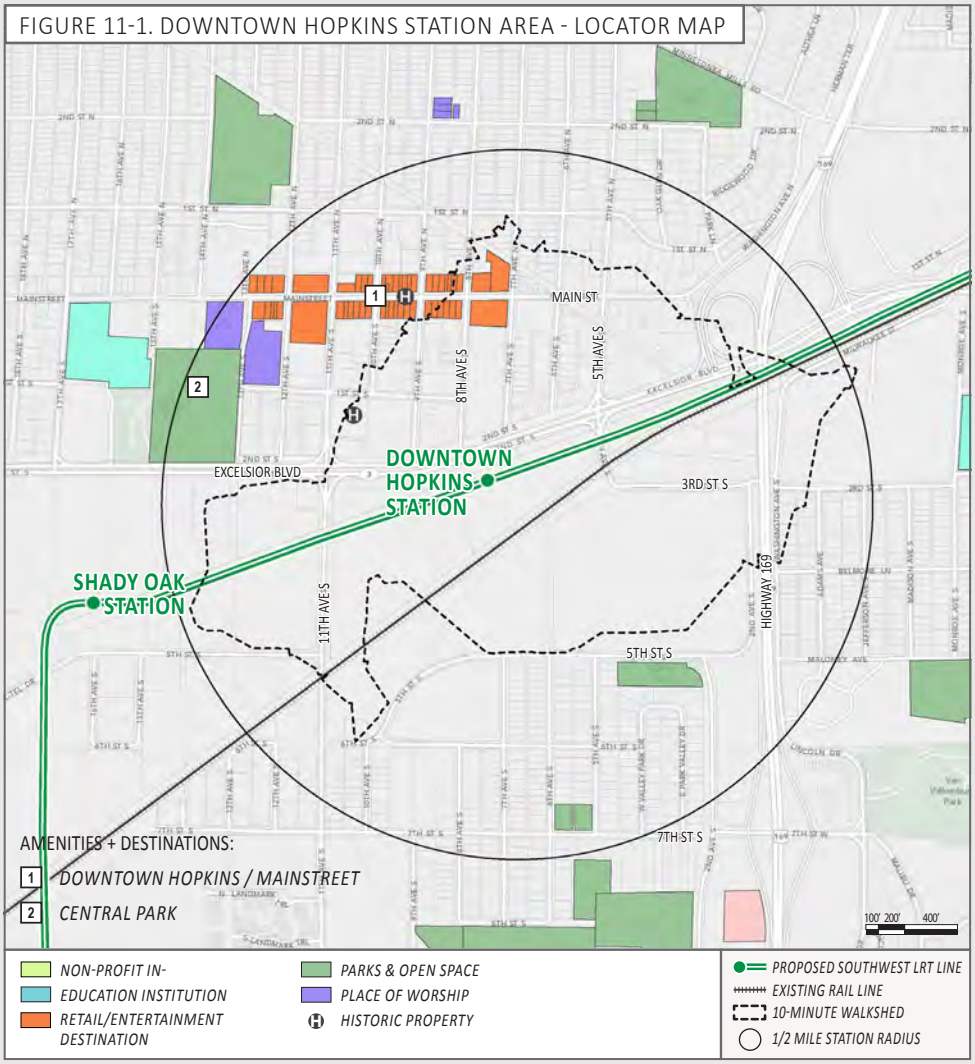
URBAN VILLAGE The Downtown Hopkins station is identified as an Urban Village (see Place Types discussion beginning on p. 1-19) as it lies within a short walking distance of Downtown Hopkins and the Hopkins commercial historic district to the north. Mainstreet is already an important destination and contains a range of restaurants and retail establishments that attract both visitors and local residents.

NEIGHBORHOOD The Hopkins neighborhoods north of Mainstreet have good connections to the station along the existing sidewalk grid. The Peaceful Valley and Park Valley neighborhoods to the south of the station are well-established residential areas that consist of predominantly single-family housing. While the neighborhoods are cut off from the downtown by several large commercial facilities, access for pedestrians and cyclists is provided by a dedicated multi-use path running north on 11th Avenue.

CULTURAL AMENITIES The historic architecture of Mainstreet Hopkins, along with the small town feel and unique character of the area has made the downtown a popular destination. The Hopkins Center for the Arts located along Mainstreet is a destination. The City of Hopkins has initiated a plan to transform 8th Avenue as a space for interactive public art (the ARTery) and as a connecting route from Excelsior Blvd to Mainstreet. This initiative will help to attract even greater numbers of visitors from neighboring areas and will support transit ridership at the Hopkins station over the long-term. National Register listed/ eligible historic properties in this station area include the Hopkins historic commercial district and the Hopkins City Hall.

TRAIL CONNECTIONS The station is located at a pivotal point within the regional trail network. To the north of the station, up 8th Avenue, is the Lake Minnetonka LRT Regional trail with connections west to Excelsior. The station sits adjacent to the Cedar Lake LRT Regional Trail linking downtown Minneapolis with Eden Prairie and has immediate connection to a multi-use path network that runs south on 11th Avenue to the Opus station area and beyond.

FIGURE 11-1. DOWNTOWN HOPKINS STATION AREA - LOCATOR MAP



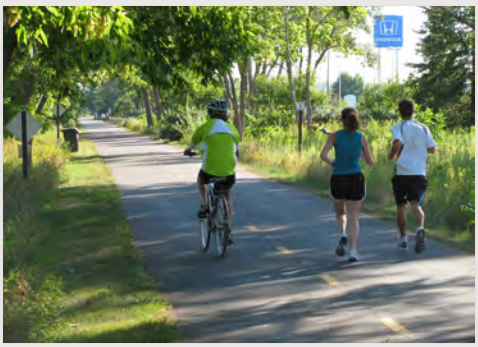
NOTE: 10-minute walkshed approximates the area accessible within a 10-minute walk from the station platform using only the existing sidewalk/trail network. See Glossary for walkshed assumptions and methodology.

Station Location

The Downtown Hopkins station is located along Excelsior Boulevard at 8th Ave, approximately 2 blocks south of Mainstreet. The land uses near the station are varied, including a mix of residential, retail, commercial, civic, and light industrial uses.

It's proximity to Downtown Hopkins offers a tremendous opportunity to support downtown businesses and residents. This is a highly visible site with access directly onto Excelsior Boulevard, an important east-west arterial in Hopkins. It also benefits from its adjacency to a number of regional multi-use trails, which suggests the Downtown Hopkins station has the opportunity to become a regional multi-modal hub. Access and connection challenges exist to the south of the station due to land uses, large block sizes, and a lack of roadway network. The Downtown Hopkins station is anticipated to serve Downtown Hopkins, 8th Avenue, Peaceful Valley and Park Valley neighborhoods, many apartment developments, as well as local businesses in the area.

DOWNTOWN HOPKINS STATION AREA TODAY:



Cedar Lake LRT Regional Trail

8th Avenue/ARTery connection to downtown

Hopkins historic commercial district

Picnic shelter adjacent to Cedar Lake Trail

Mainstreet/Downtown Hopkins

Mainstreet/Downtown Hopkins

Where Are We Today?

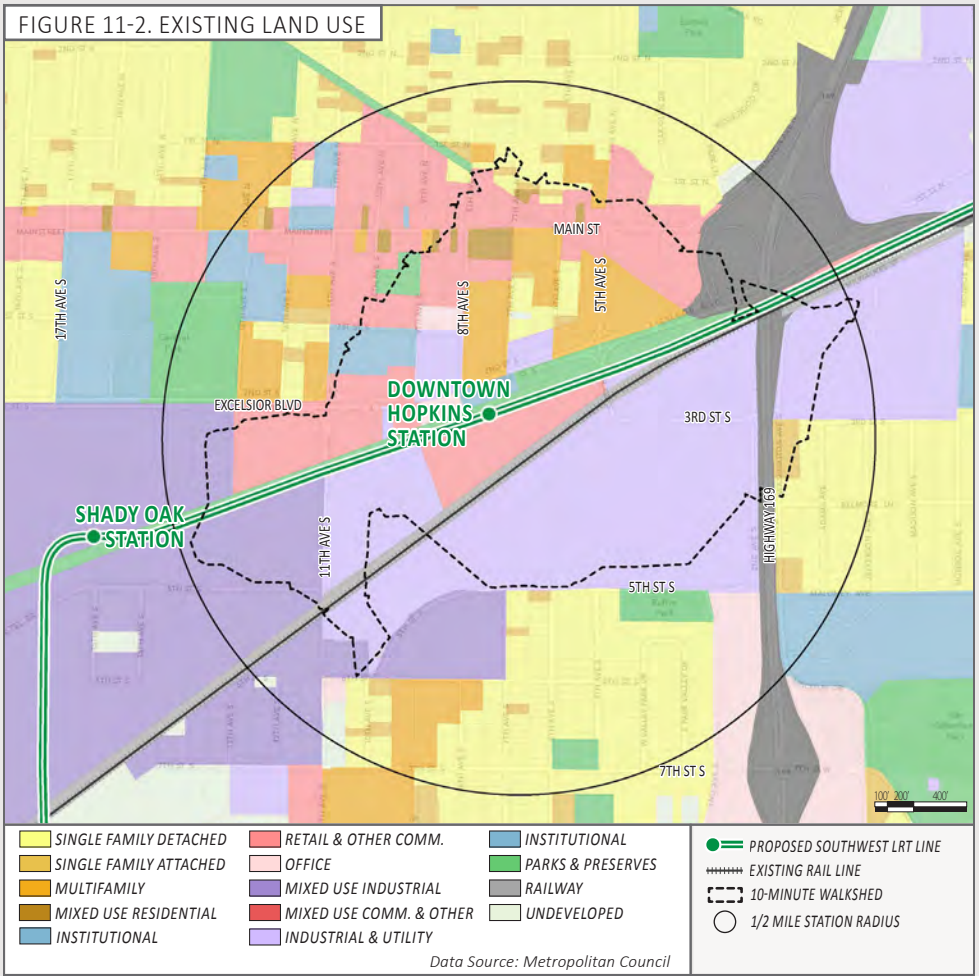
The following section describes the station area's EXISTING CONDITIONS, including the local context, land uses, transit and transportation systems, pedestrian and bicycle facilities, assets, destinations, and barriers to accessing the station. This analysis of current conditions presents key issues and opportunities in the station area and informs the recommendations for future station area improvements.

NOTE: Existing conditions maps are based on data provided by Hennepin County and local municipalities. The data used to create each map is collected to varying degrees of accuracy and represents infrastructure and conditions at varying points in time. Actual conditions may vary slightly from what is shown.

Land Use

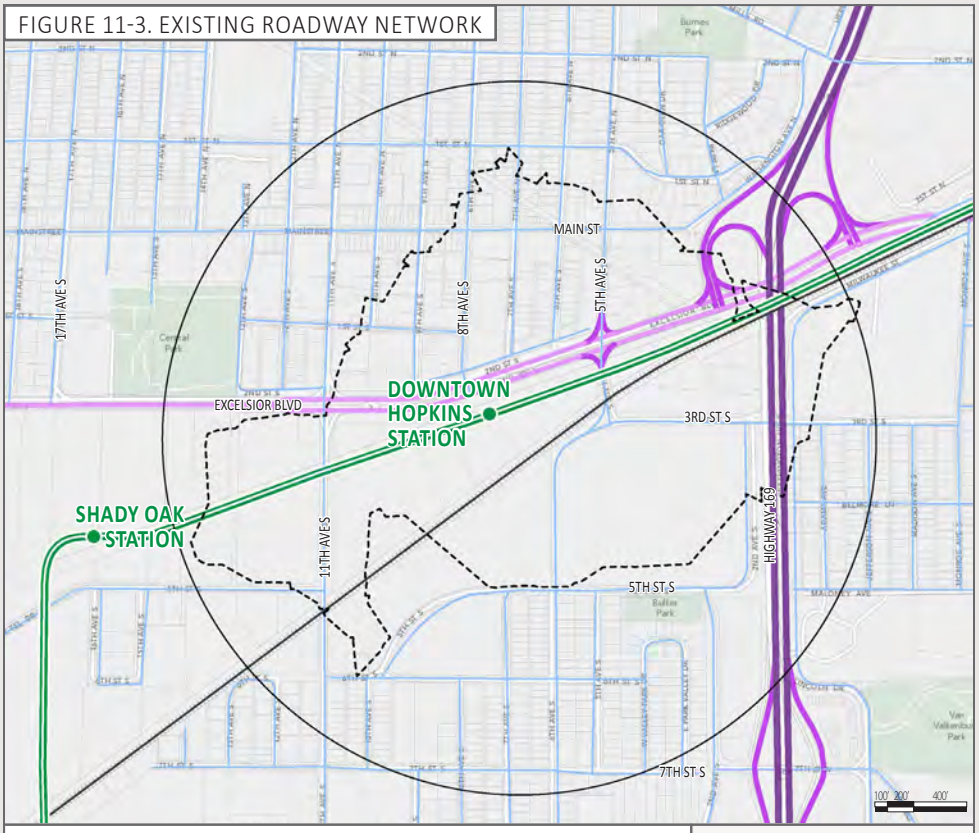
The land uses near the Downtown Hopkins station include a mix of retail, office, civic/institutional, residential, and light industrial uses. A block to the north of the station is the Hopkins historic commercial district, which is a vibrant, mixed-use, retail corridor that reflects the character and scale of an old town main street. Mainstreet is easily accessed from the station along 8th Avenue. The residential land uses near the station include a range of densities and housing types, including affordable housing options. The large commercial and light industrial land uses and super-blocks that lie south of the station create a real access challenge for the Peaceful Valley and Park Valley neighborhoods.

FIGURE 11-2. EXISTING LAND USE



Data Source: Metropolitan Council

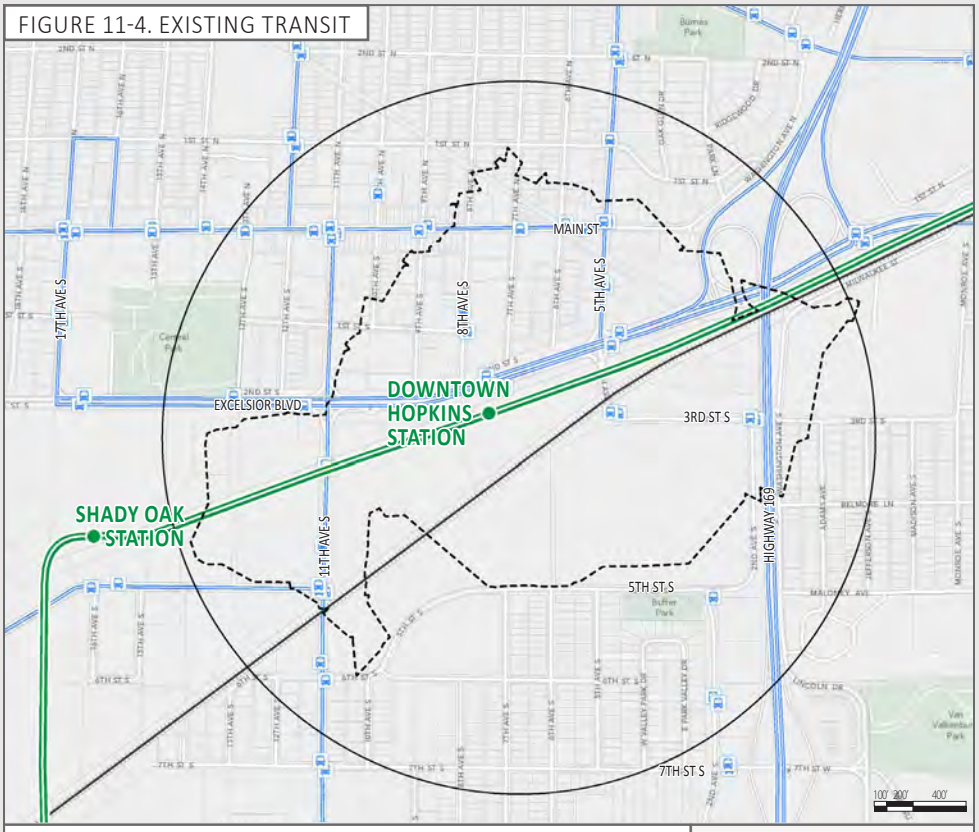
FIGURE 11-3. EXISTING ROADWAY NETWORK



Roadway Network

The roadway network in the Downtown Hopkins station area varies. North of Excelsior Boulevard, the street system is an historic grid pattern, typical of historic downtowns. South of Excelsior Boulevard, the street network is very limited, due to large parcels, commercial and industrial land uses, and super-blocks. South of these uses, the residential neighborhoods return to the historic grid pattern of streets. Excelsior Boulevard, a busy arterial, provides direct access to the station, running east-west through Hopkins and beyond. 8th Avenue, a local street runs north and delivers people to downtown Hopkins. The City is planning art-oriented streetscape improvements to 8th Avenue to include better pedestrian and bicycle facilities. Pedestrian connections across Excelsior Boulevard at 5th and 8th Avenues will be a challenge. 11th Avenue runs north-south and provides the most logical link to neighborhoods existing to the south of the station. Highway 169 runs north-south and lies within a half-mile to the east of the station.

FIGURE 11-4. EXISTING TRANSIT



Transit

The Downtown Hopkins station is served by existing bus routes along Excelsior Boulevard. Route #665, an express route runs along Excelsior Boulevard, with stops along Excelsior Boulevard near the proposed LRT station. Routes #12 (local) and #664 (express) also run nearby along 11th Avenue and 5th Avenue.

Sidewalk, Trails and Bikeways

The sidewalk system in the station area, like the roadway network, is also varied. Streets to the north of the station all have existing sidewalks on them, while very few streets to the south of Excelsior Boulevard have sidewalks, limiting access to the station from the south. The Minnesota River Bluffs LRT Regional Trail, a multi-use trail, runs alongside the LRT line and continues east and west. A couple of blocks to the north of the station, accessed along 8th Avenue, the Lake Minnetonka LRT Regional Trail begins and runs northwest of Hopkins. There is tremendous potential for a trail hub with wayfinding and bike facilities here at the Downtown Hopkins station.

FIGURE 11-5. EXISTING SIDEWALKS, TRAILS, AND BIKEWAYS

Sanitary Sewer

Sanitary sewer infrastructure consists of a collection of gravity flow sewer mains, lift stations, and pressurized forcemains that transport sewage to a wastewater treatment plant (WWTP). An efficient collection system has the capacity to accommodate all of the existing land uses within its particular sewershed. Beyond capacity, the material and age of pipes within a system can also impact a system's effectiveness.

Sanitary sewer infrastructure within the project area is typically maintained by either the City of Hopkins or by the Metropolitan Council Environmental Services (MCES) Division. MCES maintains a series of interceptor trunk sewers which collect sewage at key locations and convey sewage across community boundaries to regional WWTPs. Wastewater from the station area is treated by the MCES Metro WWTP located in St. Paul.

FIGURE 11-6. EXISTING SANITARY SEWER

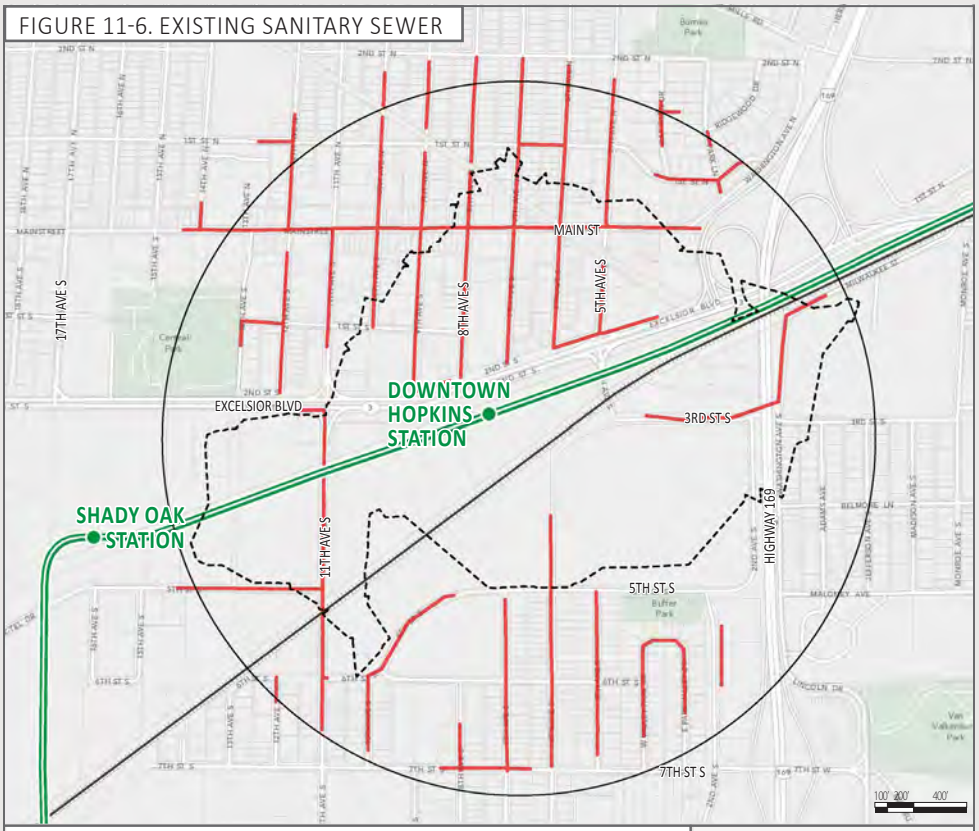
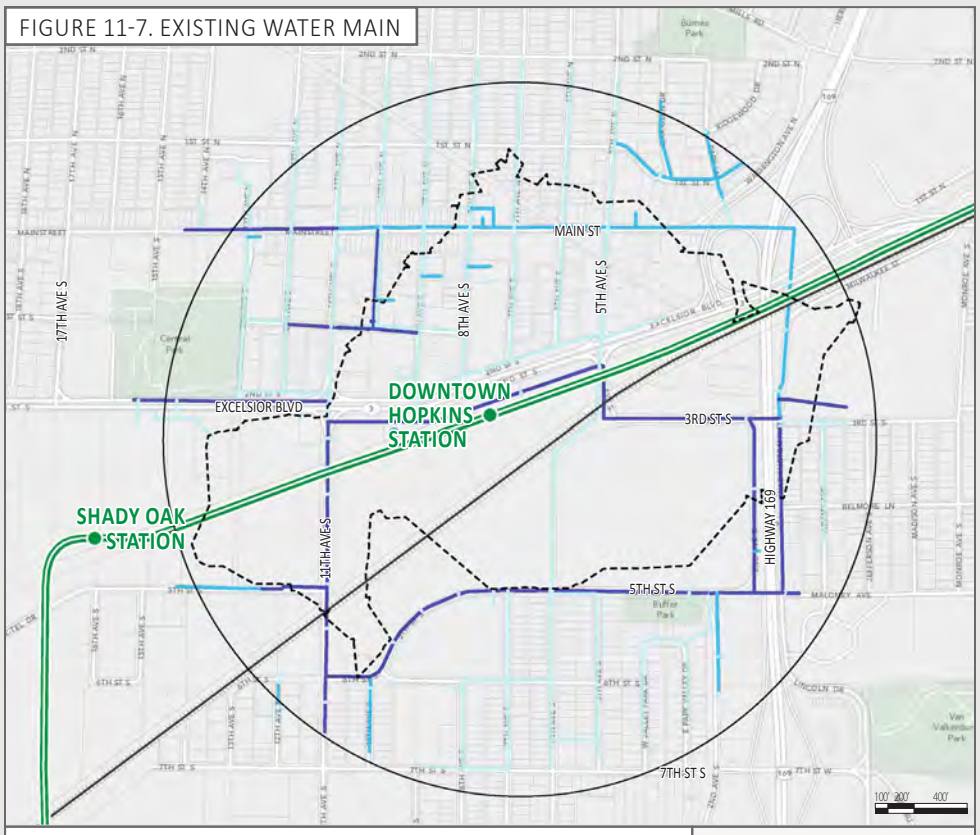


FIGURE 11-7. EXISTING WATER MAIN

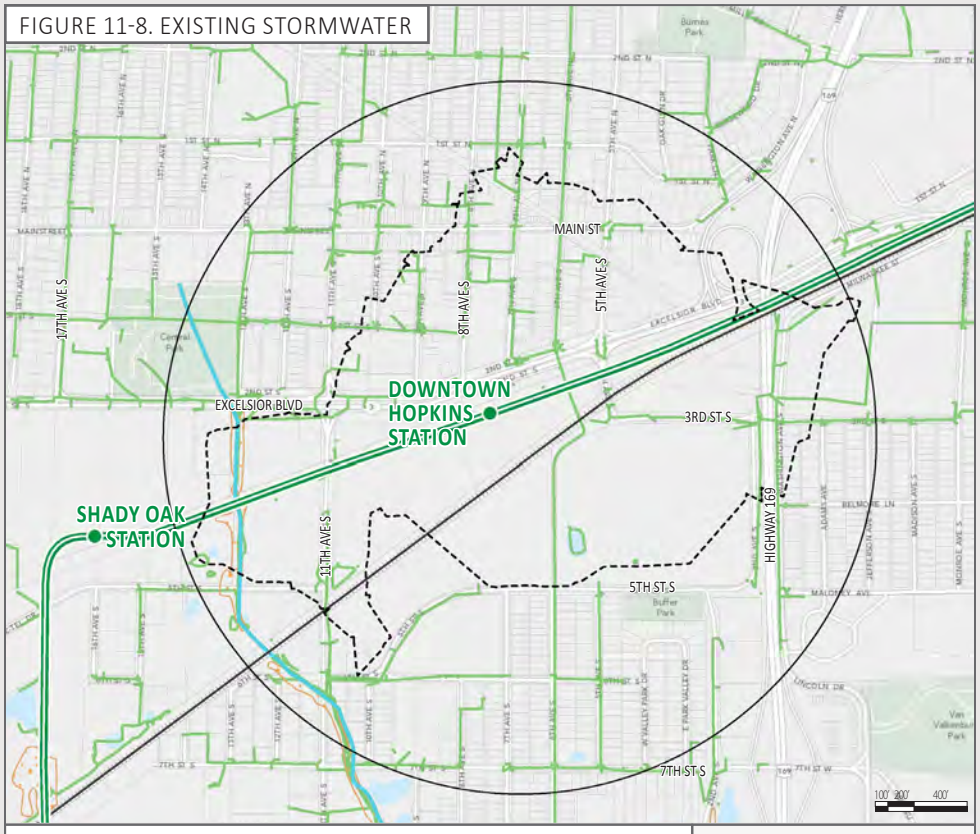


Water Main

Water main distribution systems serve to supply potable water to individual properties and to support fire suppression throughout the community. A well-designed system can maintain adequate pressure to support demand of individual properties and provide high flow rates to fire hydrants/fire suppression systems in emergency situations. Because of the complexity of water distribution networks and the importance of pressure, flow, and water quality, City water system models are used to evaluate a system's adequacy. The material and age of the system's water mains can also be factors in system breaks, leaks, and pressure and flow degradations.

Water pressure and flow rates can be influenced by: the size of water main serving an area, proximity and elevation relative to a water tower, proximity to a trunk water main with high flow capacity, if the main creates a loop, the demand of adjacent land uses, and the condition of the main.

FIGURE 11-8. EXISTING STORMWATER



Stormwater

This station is in the Nine Mile Creek Watershed District. A majority of the drainage is directed southwest to Nine Mile Creek. The creek is impaired by chloride and fish biology. A small portion of the area is in the Minnehaha Creek Watershed District and discharges toward Minnehaha Creek, which is impaired by dissolved oxygen depletion, chloride, fecal coliform, and fish biology. There is 100-year floodplain along portions of Nine Mile Creek in the walk zone.

Discharging within one mile of impaired water may trigger additional National Pollution Discharge Elimination System measures which require more capacity for stormwater management. For impaired waters with a Total Maximum Daily Load, requirements may increase further. Zoning requirements for areas within the 100-year floodplain may limit development/ redevelopment potential.

Any development/redevelopment is anticipated to improve drainage as a result of enforcing City and Watershed requirements.

Where Are We Going?

The plans and diagrams on the following pages illustrate a range of recommendations for infrastructure improvements, station amenities, and potential redevelopment opportunities within the station area.

The ACCESS AND CIRCULATION PLAN shown in Figure 11-9 provides a high level view of how future transit, automobile, bike, and pedestrian systems will connect to the station area and its surroundings.

Figure 11-10 illustrates the STATION AREA IMPROVEMENTS that will facilitate access to and from the station and catalyze redevelopment in the station area. This includes opening day and long-term station area improvements

Figure 11-11 focuses on OPENING DAY STATION AREA IMPROVEMENTS only. These recommendations represent the improvements necessary to enhance the efficient function of the transit station, roadways, pedestrian and bicycle connections, and transit connections on opening day in 2018.

Station Area Improvements

The discussion below outlines a range of future station area improvements. While some of the identified improvements may be constructed as part of the LRT project itself, other improvements must be funded, designed and constructed by other entities and will require coordination between the City, County, and Metro Transit as well as local stakeholder and community groups.

ROADWAYS

Opening Day Improvements:

» Rely primarily on the existing street and block network to support pedestrians and cyclists.

PEDESTRIAN CONNECTIONS

Opening Day Improvements:

» Focus sidewalk and streetscape enhancements along 8th Avenue to connect the station with Mainstreet and the heart of Downtown Hopkins businesses and residents.

» Improve pedestrian crossings on Excelsior Boulevard at 5th and 8th Avenues.

» The improvement of the 8th Avenue pedestrian crossing should be a high priority. Where feasible, eliminate dedicated turning lanes and reduce turning radii to minimize crossing distances of Excelsior Boulevard, introduce countdown timing traffic signals, highly visible pedestrian crosswalks, and a pedestrian refuge in the street median.

» Introduce sidewalk and streetscape enhancements along Excelsior Boulevard from 8th Avenue east to 5th Avenue in conjunction with station area improvements.

» Develop a public plaza between the station platform and Excelsior Boulevard. This should be a large and programmatically flexible space with significant public art, enhanced bike amenities, seating, shelter, and wayfinding.

» Continue redevelopment along 8th Avenue to enhance the pedestrian experience and connection to Mainstreet.

Long-Term Improvements:

» Establish a new mid-block connection between 8th Avenue and the site of the farmers market.

» Enhance the sidewalk and streetscape along 5th Avenue from Excelsior Boulevard to Mainstreet.

TRANSIT CONNECTIONS

Opening Day Improvements:

» Provide new bus facilities near the station platform for connecting bus routes.

» Develop a consistent design language between the LRT platform and the east and westbound bus shelters so that they help to identify the gateway to the downtown and the connections between transit modes.

Streetscape enhancements

Wayfinding and gateway signage

Public art integration

» Develop a local circulator service to move people between the LRT station, Mainstreet and employment centers (i.e. Excelsior Crossing).

BIKE CONNECTIONS

Opening Day Improvements:

» Establish a new dedicated cycling connection between the Lake Minnetonka LRT Regional Trail and Minnesota River Bluffs LRT Regional Trail via 8th Avenue.

» Provide bike parking and enhanced cycling amenities such as an air pump, drinking fountain, repair stand, bike lockers, Nice Ride facilities, and wayfinding signage just north of the LRT platform in the station plaza.

Long-Term Improvements:

» Consider a bike sales/rentals, service facility, or businesses near the station.

KISS AND RIDE

Opening Day Improvements:

» Accommodate Kiss and Ride at the eastern end of the platform in a dedicated facility off of Excelsior Boulevard.

STATION AMENITIES (*Beyond SW LRT Base Project Scope*)

Opening Day Improvements:

» Wayfinding – include signage and wayfinding near the station area platform, the kiss and ride dropoff and along sidewalks and trails near the station. Provide an information kiosk with maps and information regarding local businesses and regional transit, trails, etc.

» Seating – provide comfortable and durable seating near the station platform.

» Lighting – provide adequate lighting for the safety of transit users near the station platform, in the public plaza, and near the kiss and ride dropoff.

» Plaza – provide a large and flexible public plaza area near the station platform, between the LRT line and Excelsior Boulevard to provide transit users with a paved area to gather, queue for trains, and move about the station area.

» Bike Facilities – provide bicycle parking, lockers, and bike sharing facilities in a highly visible area near the station platform.

» Provide drinking fountains in the station area plaza.

» Public Art – provide public art in the station area to create an identity along Excelsior Boulevard. Integrate public art goals with the 8th Avenue ARTery design concepts.

DEVELOPMENT POTENTIAL

Opening Day Improvements:

» The property at 8th Avenue and 1st Street S. is currently under development and will be complete by the Spring of 2014.

» Redevelopment of the property bounded by 8th Avenue, 1st Street, and Excelsior Boulevard is anticipated by opening day.

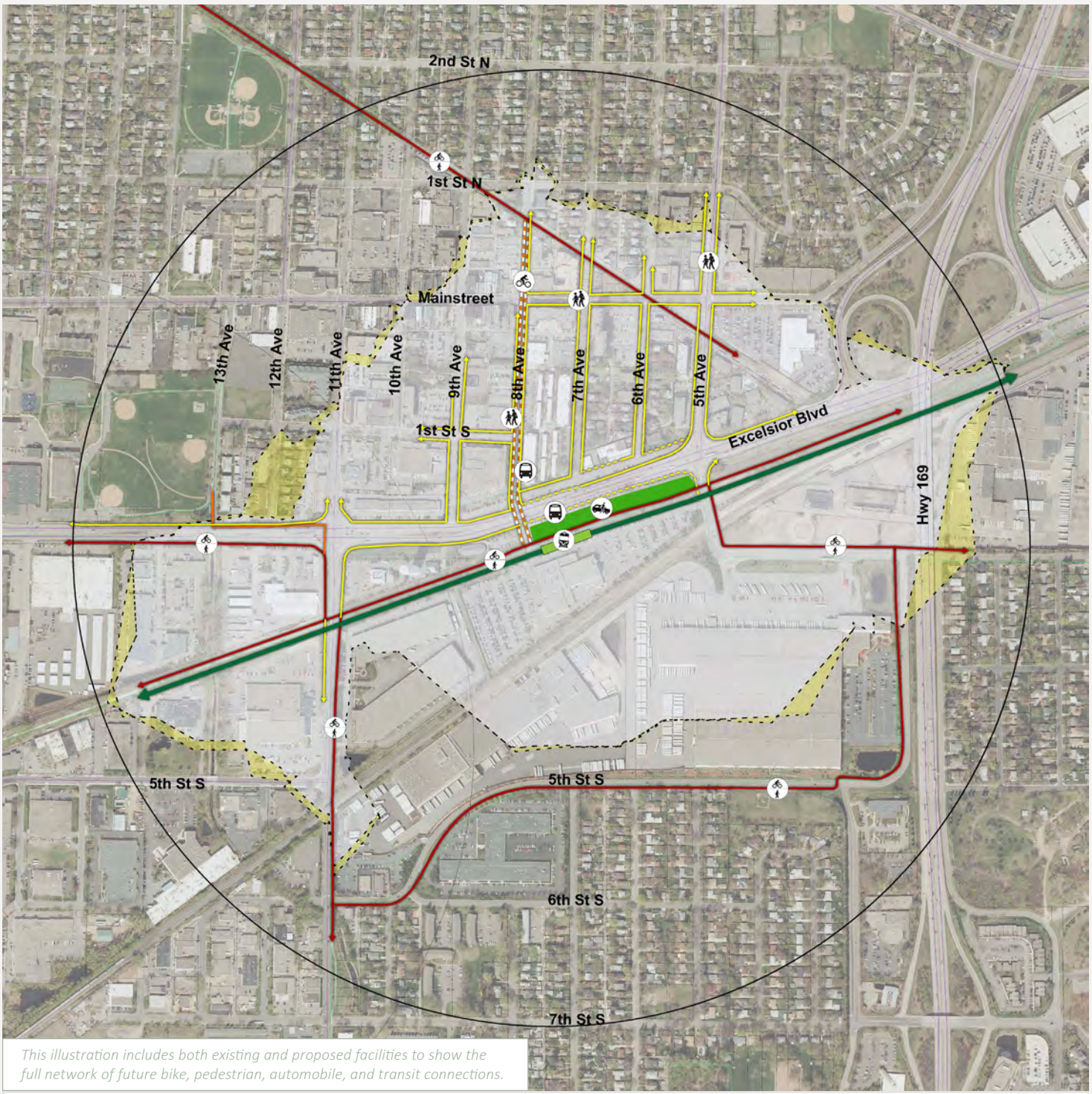
Long-Term Improvements:

» See the "Development Potential" discussion on page 11-16 for more on long-term development opportunities.

UTILITIES

» See the "Station Area Utility Plan" beginning on page 11-18 for all utility recommendations.

FIGURE 11-9. ACCESS + CIRCULATION PLAN

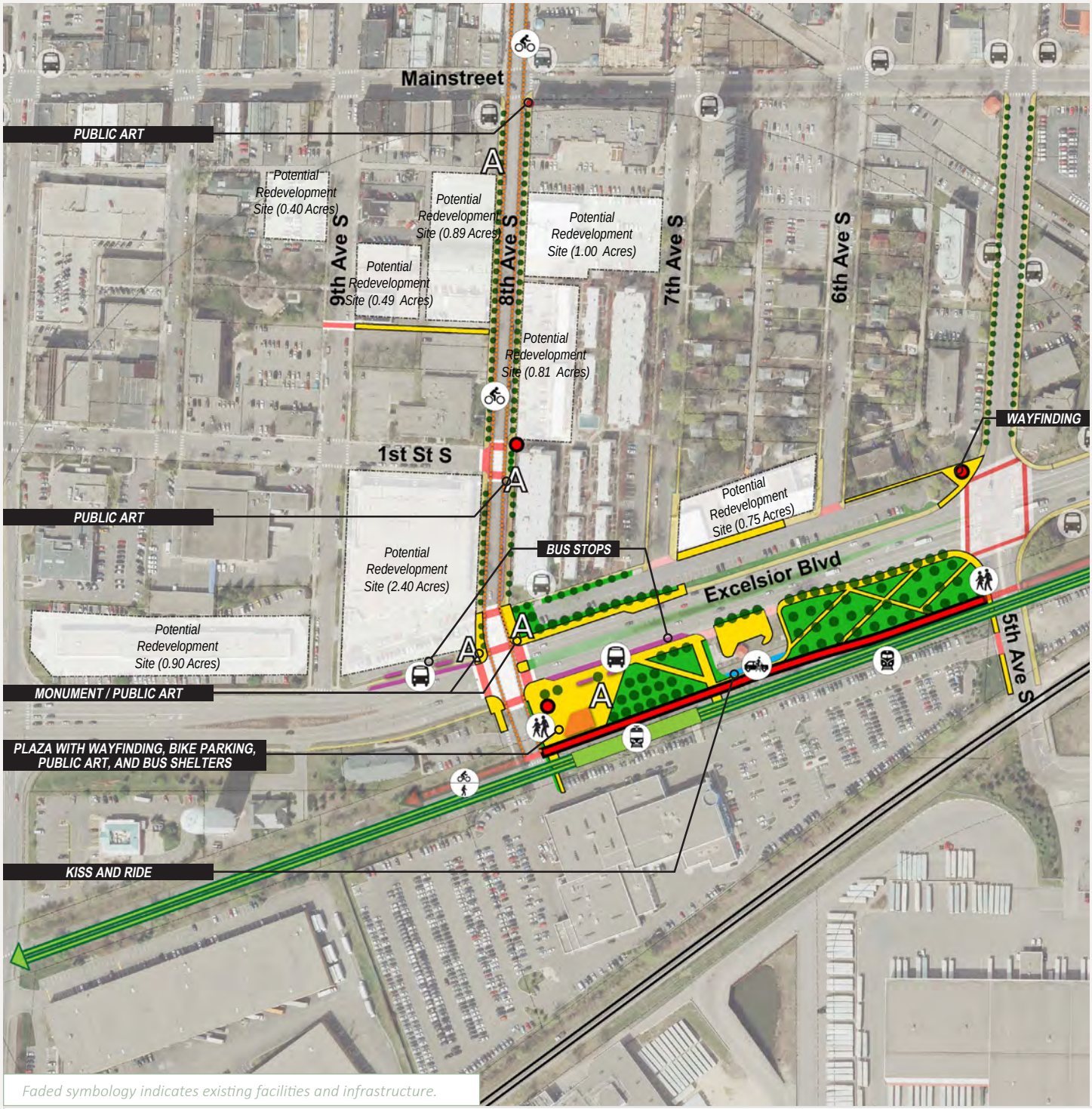


This illustration includes both existing and proposed facilities to show the full network of future bike, pedestrian, automobile, and transit connections.

- LRT PLATFORM
- LRT LINE
- BUS STOP
- PARK AND RIDE
- FREIGHT LINE
- NEW ROADWAY
- KISS AND RIDE
- EXISTING WALKSHED
- EXISTING PEDESTRIAN CONNECTION
- EXISTING BIKE CONNECTION
- EXISTING MULTI USE CONNECTION
- FUTURE WALKSHED (WITH TSAAP IMPROVEMENTS)
- PROPOSED(DASHED) PEDESTRIAN CONNECTION
- PROPOSED(DASHED) BIKE CONNECTION
- PROPOSED(DASHED) MULTI USE CONNECTION

NOTE: Existing walkshed approximates the area accessible within a 10-minute walk from the station platform using only the existing sidewalk/trail network. Future walkshed incorporates all proposed improvements to the sidewalk/trail network. Walksheds are based on GIS modeling and available sidewalk/trail information- and may not reflect exact on-the-ground conditions. See Glossary for detailed explanation of walkshed assumptions and methodology.

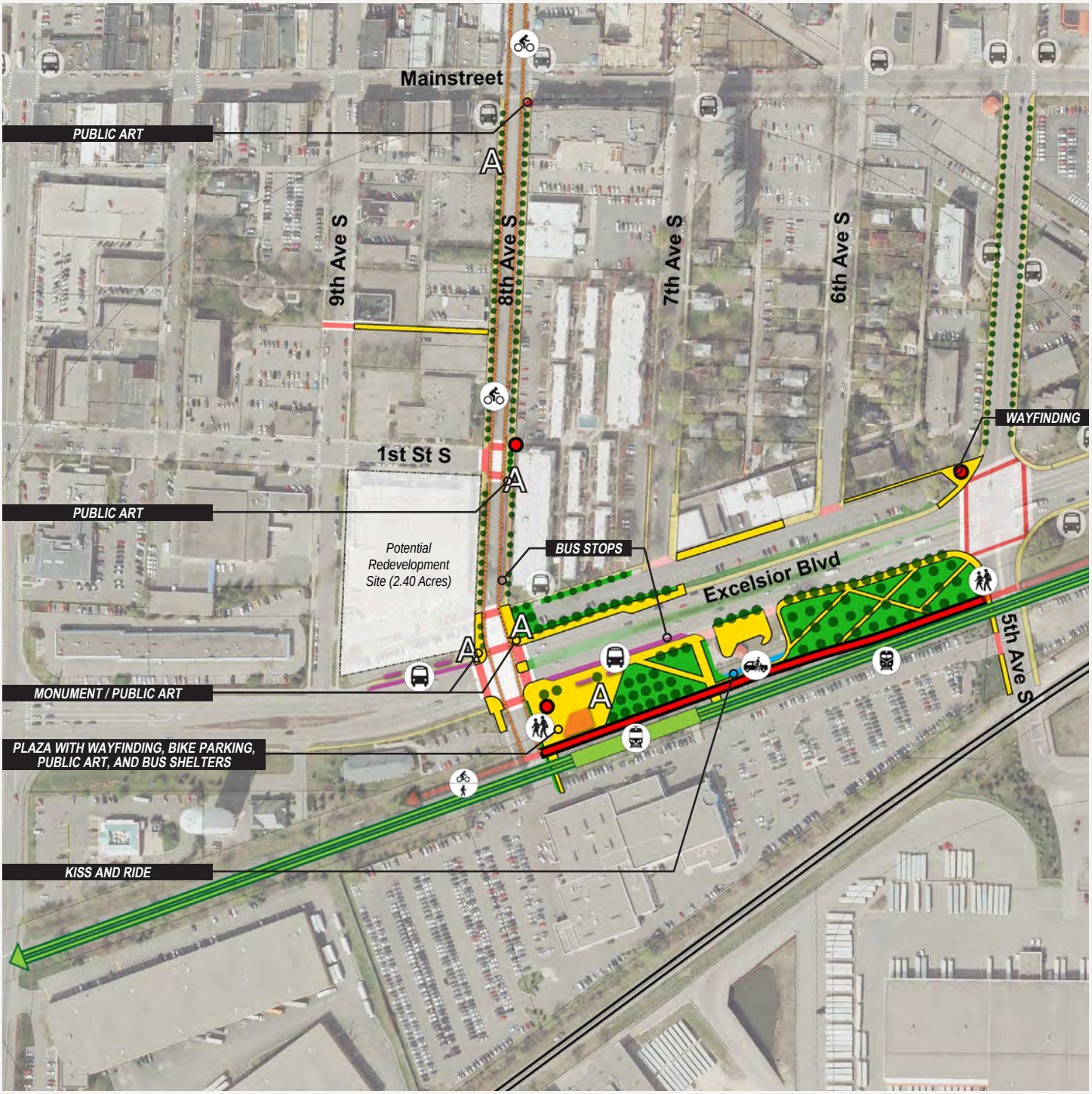
FIGURE 11-10. STATION AREA IMPROVEMENTS



Faded symbology indicates existing facilities and infrastructure.

- LRT PLATFORM
- FREIGHT LINE
- BUS STOP
- BUS SHELTER
- NEW SIDEWALK / SIDEWALK IMPROVEMENT
- ON STREET BIKE INFRASTRUCTURE
- MULTI-USE PATH
- NEW CROSSING / CROSSING IMPROVEMENT
- NEW ROADWAY
- STREETSCAPE
- PARK AND RIDE
- KISS AND RIDE
- NEW SIGNALIZED INTERSECTION
- BIKE PARKING
- WAYFINDING
- PUBLIC ART OPPORTUNITY
- POTENTIAL DEVELOPMENT SITE
- PLAZA SPACE / BUILDING SETBACK AREA

FIGURE 11-11. OPENING DAY STATION AREA IMPROVEMENTS



LRT PLATFORM
FREIGHT LINE
BUS STOP
BUS SHELTER
NEW SIDEWALK / SIDEWALK IMPROVEMENT
ON STREET BIKE INFRASTRUCTURE
MULTI-USE PATH
NEW CROSSING / CROSSING IMPROVEMENT
NEW ROADWAY
STREETSCAPE
PARK AND RIDE
KISS AND RIDE
NEW SIGNALIZED INTERSECTION
BIKE PARKING
WAYFINDING
PUBLIC ART OPPORTUNITY
POTENTIAL DEVELOPMENT SITE
PLAZA SPACE / BUILDING SETBACK AREA

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Opening Day Improvements

The following tables and diagrams outline the proposed improvements to be implemented in advance of SW LRT's opening day in 2018. Table 11-1 and Figure 11-12 show opening day improvements that are part of the SW LRT anticipated base project scope; these improvements will be part of the overall project cost for construction of the LRT line. Table 11-2 and Figure 11-13 include opening day improvements that are recommended as part of the Southwest Corridor Investment Framework and are beyond SW LRT's anticipated base project scope.

TABLE 11-1. SOUTHWEST LRT ANTICIPATED BASE PROJECT SCOPE - OPENING DAY STATION AREA IMPROVEMENTS

PLAN KEY	IMPROVEMENT	PROJECT LOCATION	PROJECT NOTES
A	LRT Platform	South of Excelsior Blvd, east of 8th Ave	Includes related LRT infrastructure
B	Kiss and Ride	East of station platform, along south of Excelsior Blvd	Off-street kiss and ride area
C	Bus Facilities	On Excelsior Blvd	East bound bus bay (2 bus routes), west bound bus bay (1 bus route)
D	Bus Facilities	Near Excelsior Blvd	Potential bus driver facility
E	Intersection Enhancement	Excelsior Blvd and 8th Ave	Curb extensions and crosswalk improvements on Excelsior Blvd (east side of intersection only)
F	Sidewalk/Trail	Excelsior Blvd (8th Ave to kiss and ride facility)	New sidewalk on south side of Excelsior Blvd
G	Sidewalk/Trail	At 8th Ave and regional trail crossing	Reconstruction of regional trail and crossing
H	Public Plaza	Between station platform and Excelsior Blvd	New plaza (includes landscaping and ped access to station platform)
I	Bike Facilities	Near station platform	Allowance for bike storage
J	Wayfinding	Near station platform	Allowance
K	Landscaping	Near LRT	Allowance
L	Stormwater Management*	Varies	Allowance
M	Utilities*	Varies	Adjustment of existing utilities within project limits
N	Utilities*	Varies	New water service and fire hydrant to station

Note: Anticipated Southwest LRT Base Project Scope as of December 2013 (subject to change)

** Improvement not symbolized on opening day figures (exact location to be determined as part of the base project scope)*

TABLE 11-2. SOUTHWEST CORRIDOR INVESTMENT FRAMEWORK (TSAAP) - OPENING DAY STATION AREA IMPROVEMENTS

PLAN KEY	IMPROVEMENT	PROJECT LOCATION	PROJECT NOTES	PRIORITY
1	Roadway	Excelsior Blvd frontage road at 8th Ave	Close of frontage road at 8th Ave	Primary
2	Streetscape	8th Ave, Excelsior Blvd to Mainstreet	Includes roadway, sidewalk, bike lanes, tree plantings, streetscape furnishings, lighting and ped crossing improvements	Primary
3	Streetscape	5th Ave, Excelsior Blvd to Mainstreet	Includes tree plantings, streetscape furnishings, lighting improvements	Secondary
4	Streetscape	Along north side of Excelsior Blvd and Frontage Road, 7th Ave to 8th Ave	Includes sidewalk, tree plantings, streetscape furnishings, lighting improvements	Secondary
5	Streetscape	Along south side of Excelsior Blvd, kiss and ride to 5th Ave	Includes sidewalk, tree plantings, and streetscape furnishing improvements	Secondary
6	Sidewalk/Trail	Along north side of Excelsior Blvd Frontage Road, 5th Ave to 7th Ave	sidewalk and ped crossings	Secondary
7	Pedestrian crossing	At Excelsior Blvd and 5th Ave	Pedestrian crossing markings, removal of pork chops	Primary
8	Pedestrian crossing	At Excelsior Blvd and 8th Ave	Pedestrian crossing improvements- west side of intersection	Primary
9	Public plaza	Between station platform and Excelsior Blvd	Plaza paving , landscaping, lighting, furnishings and shelter (beyond SPO improvements)	Primary
10	Bike Facilities	Public plaza	Bike parking, lockers, pumping station and bike share facilities (beyond SPO improvements)	Primary
11	Landscaping	East of public plaza along Excelsior Blvd to 5th Ave	Small park, landscape improvements (beyond SPO improvements)	Secondary
12	Public Art	At Excelsior Blvd, 8th Ave, and public plaza	Include public art along 8th Avenue, intersection of 8th Ave and Excelsior Blvd and in the public plaza	Primary
13	Wayfinding	Along 8th Ave, public plaza and Excelsior Blvd at 5th Ave	Include wayfinding and sigange (beyond SPO improvements)	Primary
14	Water	Along 8th Ave	Construct 12-inch minimum trunk water main south of 1st street and 8-inch minimum water main north of 1st street with roadway reconstruction	Primary

FIGURE 11-12. SOUTHWEST LRT ANTICIPATED BASE PROJECT SCOPE - OPENING DAY STATION AREA IMPROVEMENTS

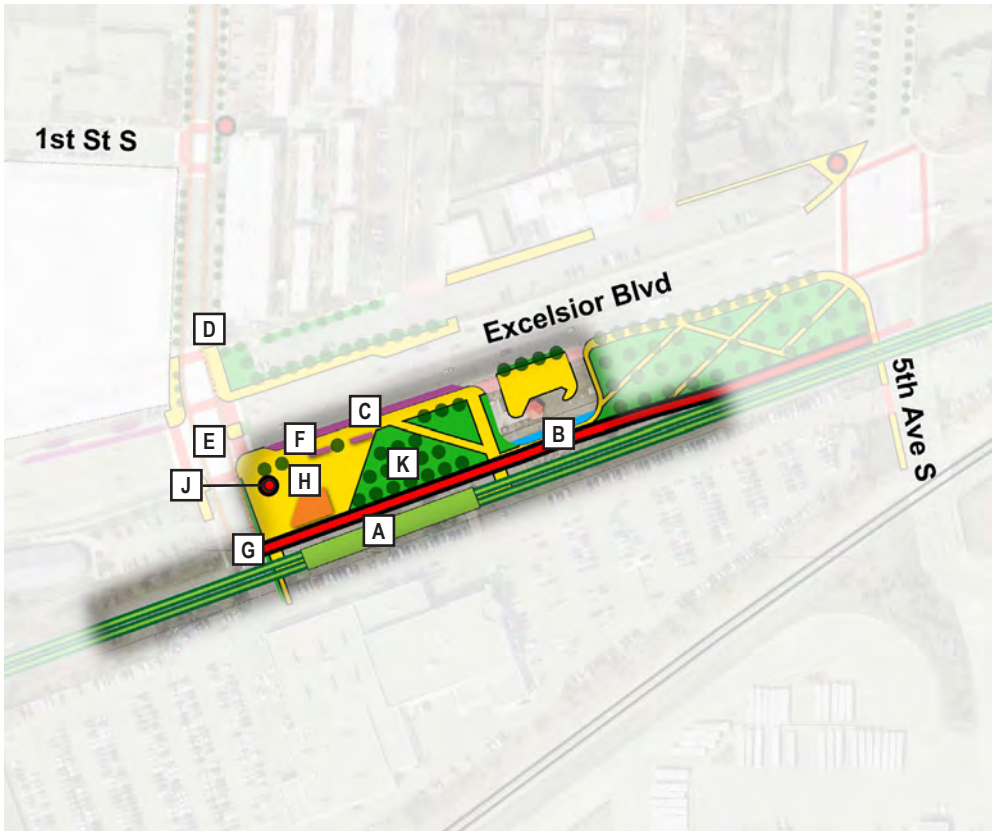
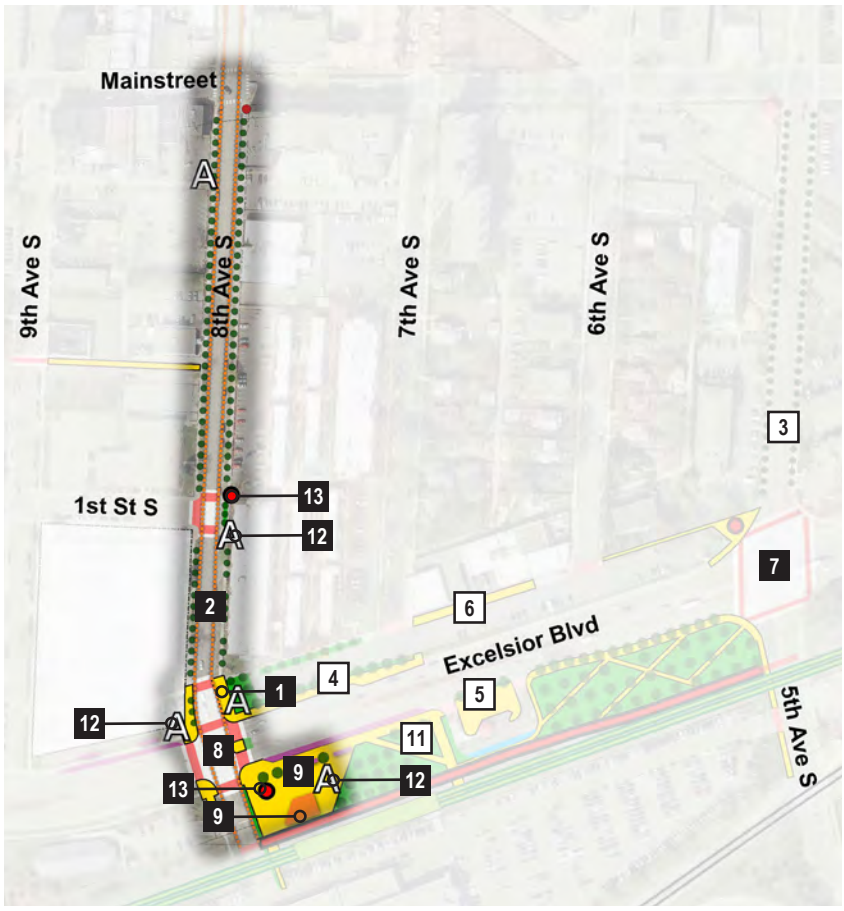


FIGURE 11-13. SOUTHWEST CORRIDOR INVESTMENT FRAMEWORK (TSAAP) - OPENING DAY STATION AREA IMPROVEMENTS



PRIMARY PRIORITY # SECONDARY PRIORITY

Development Potential

OVERVIEW

Downtown Hopkins has a strong sense of place and can benefit greatly with new redevelopment along 8th Avenue that provides better connections between the station and Mainstreet, the heart of downtown. Underutilized sites along 8th Avenue and Excelsior Boulevard have been identified for potential mixed-use redevelopment. Redevelopment of these sites has already begun and more can be expected to follow in the short- to mid-term. Development opportunities south of the station are very limited. Land uses, healthy businesses, large parcels and block sizes, and lack of connectivity through this area limit its redevelopment potential.

Key challenges that should be addressed to facilitate long-term development potential include station connectivity, particularly the pedestrian crossings along Excelsior Boulevard at 8th and 5th Avenues. 8th Avenue is the lifeline connecting the station to Mainstreet. The City of Hopkins recognizes this and has already begun design efforts to improve the streetscape along 8th Avenue (the ARTery), incorporating better pedestrian and bicycle facilities, as well as a major statement of public art.

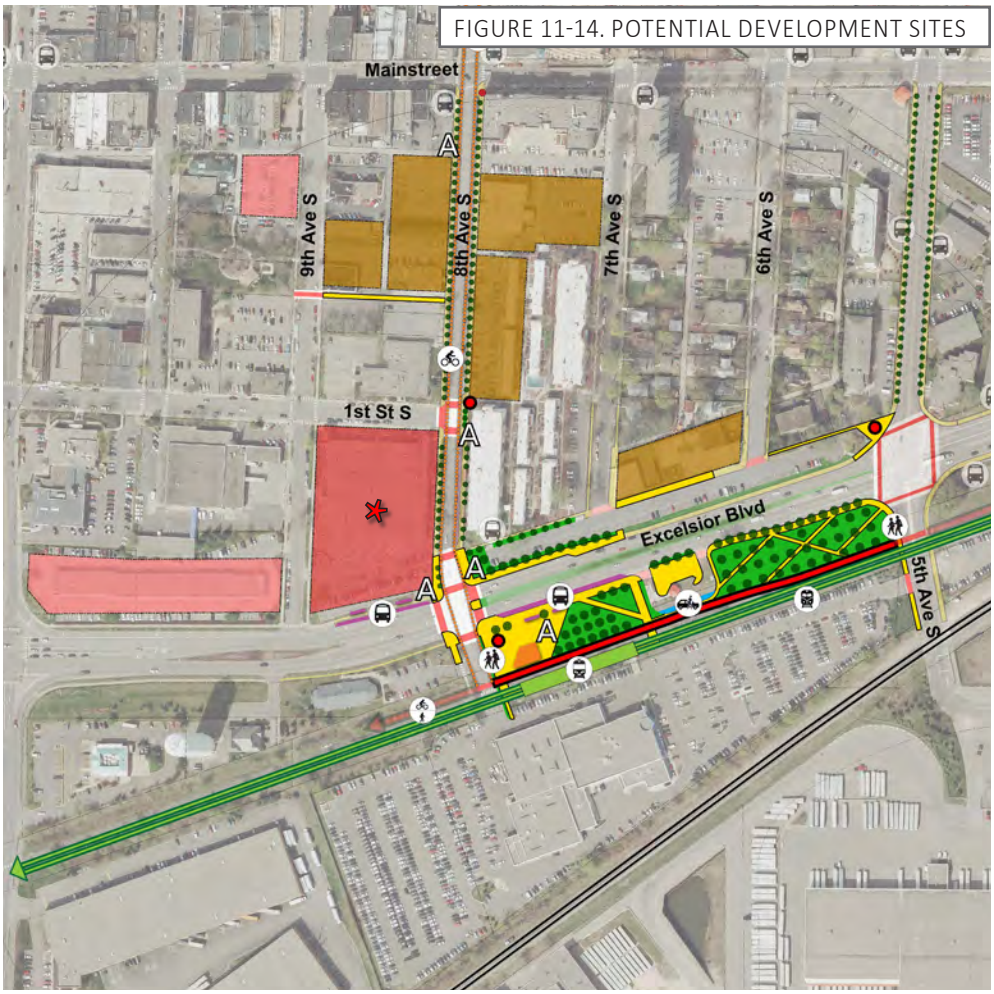
LAND USES

High-density, mixed-use, transit-oriented development is likely to occur near the Downtown Hopkins station. Future land uses in the Downtown station area should consist of high-density residential, office, hotel, and retail uses.

PLANNING STRATEGIES

Strategies that should be considered to facilitate future development in the station area include streetscape improvements and pedestrian crossings along roadways connecting the station with potential development sites, local destinations, and neighborhoods, particularly on Excelsior Boulevard, 8th Avenue, and 5th Avenue. Complete the City plans for 8th Avenue ARTery streetscape improvements and enhance pedestrian crossings at 8th Avenue and Excelsior Boulevard. Investigate the use of financial incentives for the rehabilitation of buildings in the historic district through the Federal Historic Preservation Tax Credit program.

FIGURE 11-14. POTENTIAL DEVELOPMENT SITES



Key Considerations for Change and Development Over Time

The evolution of station area over time should focus on strengthening the connection between the station and Mainstreet through a series of public realm improvements and new mixed-use development. Key considerations should include:

BUILT FORM AND LAND USE

» Introduce a greater mix of uses , and medium to higher density development throughout the station area but with a particular focus along 8th Avenue and facing onto Excelsior Boulevard.

» Design new buildings to enhance pedestrian access by orienting them towards the street and locating them as close to the street line as possible.

» Incorporate active street level uses on buildings facing 8th Avenue in order to extend retail activity between Mainstreet and the station.

» Ensure new development preserves space for the creation of a direct mid-block connection between the farmers market and 8th Avenue.

» Consider the formulation of design guidelines for the Hopkins historic commercial district to encourage the preservation of its distinctive character.

PUBLIC REALM

» Introduce a public plaza adjacent to the station which can act as a receiving point for passengers walking to the station or transferring to the LRT by bus, bike, or car.

» Design the public plaza with a mix of hard and soft landscaping and generous tree planting.

» Extend elements of the public realm treatment from the station plaza north along 8th Avenue to Mainstreet and explore opportunities for the inclusion of public art along this route to emphasize the connection.

» Integrate the design of bus and passenger pick-up and drop-off facilities into the overall design of the station plaza so that they do not detract from the design of the plaza.

MOBILITY

» Remove channelized turning lanes and initiate intersection improvements at Excelsior Boulevard and 8th Avenue to improve safety for pedestrians walking between the station and Downtown Hopkins to the north.

» Accommodate retail and short term parking on-street or in shared parking facilities to minimize the construction of single-use parking areas.

» Minimize the impact of parking and circulation on pedestrians by locating parking below grade or to the rear of new buildings, and consolidating access and service drives.

» Limit vehicular access points along Excelsior Blvd. and 8th Avenue.

» Incorporate a visitor center and bicycle sales, rentals, service center near the LRT station platform.

» Incorporate a higher level of wayfinding and signage at the station to direct pedestrians and cyclists to Mainstreet and the areas numerous trail networks.

» Design 8th Avenue as a Complete Street with enhanced pedestrian amenities and dedicated cycling facilities connecting the station north to the Lake Minnetonka LRT Regional Trail.

Active downtown street level uses

New mixed-use development

Public plaza example

Station Area Utility Plan

OVERVIEW

The station area utility plan and strategies recommended below were developed by considering future transit-oriented development within the station area, as depicted by the Station Area Improvements Plan (Figure 11-10). Hopkins will need to apply these localized recommendations to the city-wide system to ensure that the potential development/redevelopment will not be limited by larger system constraints. Existing models or other methods each city uses to model these systems can be used to check for system constraints in the station areas.

Hopkins should also consider reviewing the condition of their existing utilities in the station development area. The station construction would provide Hopkins an opportunity to address any utilities needing repairs. Once the larger system has been reviewed for system constraints, Hopkins will be able to accurately plan for necessary utility improvements in their city Capital Improvement Program (CIP). All utilities located beneath the proposed LRT rail or station platform should be encased prior to the construction of these facilities. The cost associated with encasing these facilities is assumed to be a project cost and is not included in potential improvements identified for the City of Hopkins CIP.

APPROACH

Utility improvement strategies are outlined in this report for the ultimate station area development (2030), as well as improvements which should be considered prior to opening day anticipated in 2018. Although recommendations are categorized in one of these two timeframes, Hopkins should weigh the benefits of completing more or less of these improvements as land becomes available for future development. Hopkins should take the utility analysis a level further and model future utilities in their city utility system models.

The proposed development and redevelopment areas were evaluated based on Metropolitan Commission Sewer Availability Charge (SAC) usage rates and estimated flows. Estimated flows for one possible development scenario in this area indicate that internal to the station area, no more than eight inch pipe are necessary to serve the mix of proposed and existing development. Each utility system should still be reviewed to identify capacity and demand constraints to the larger system associated with increase in flows from the proposed developments and existing developments in the area. Hopkins should anticipate the construction of new municipal utilities in conjunction with new or realigned roadways.

GENERAL RECOMMENTATIONS - SANITARY SEWER

Sanitary sewer recommendations for station area improvements include opportunities for Hopkins to improve the existing sanitary sewer network, without necessarily replacing existing sanitary sewers. When recommendations for “improving” existing sanitary sewer are noted, Hopkins should consider the level to which each specific sewer should be improved. Methods of improvement could include: lining the existing sewer, pipe joint repair, sewer manhole repair, relocation, and complete replacement.

The following items should be evaluated prior to opening day of the station, although action may not be required until necessary for development:

- Televising existing sewer mains in the station area and proposed development area to determine the condition of the sewer mains, susceptibility for backups or other issues and evaluate for Infiltration and Inflow (I&I).
- Locations of known I&I. If previous sewer televising records, city maintenance records, or an I&I study have shown problems, the city should consider taking measures to address the problem.
- The age and material of existing gravity and/or forcemain sanitary sewer in the identified station area. If the lines are older than the material’s typical design life or materials which are susceptible to corrosion relative to soils in the area, the city should consider repairing, lining or replacing the mains.
- Locations of known capacity constraints or areas where city sewer models indicate capacity issues. If there are known limitations, the city should further evaluate the benefit of increasing pipe sizes.
- City sewer system models (existing and future). A review of these models with future development would assist Hopkins in determining if sewers in the project area should be increased to meet existing or future city system needs.
- Existing sewer pipes should be relocated or encased in areas where they cross or are immediately adjacent to the LRT line/station.

GENERAL RECOMMENDATIONS - WATER MAIN

Water main recommendations for station area improvements also include opportunities for Hopkins to improve the existing water system network. Creating loops in the network can help prevent stagnant water from accumulating along water main stubs, and creating loops of similar sized water main provides the city a level of redundancy in their water network. Redundancy helps reduce the impacts to the community during system repairs, and also helps stabilize the pressure in the network.

The following items should be evaluated prior to opening day of the station, although action may not be required until necessary for development:

- The age and material of the existing mains in the identified station area. If the mains are older than the materials typical design life or materials which are susceptible to corrosion relative to soils in the area, the city should consider replacing the main.
- Locations of previous water main breaks. If water main breaks repeatedly occur in specific areas, the city should consider replacing or repairing the main.
- Locations with known water pressure issues or areas where city models indicate low pressure. If there are known limitations (for either fire suppression or domestic uses), the city should further evaluate the benefit of increasing main sizes.
- Locations with known or potential water quality issues. If there are mains known to be affecting the water quality (color, taste, odor, etc.) of their system, Hopkins should consider taking measures to address the problem affecting water quality.
- City water system models (existing and future). A review of these models with future development would assist Hopkins in determining if mains in the project area should be improved to meet existing or future city system needs based on demand constraints.
- Existing water main pipes should be relocated or encased in areas where they cross or are immediately adjacent to the LRT line/station.

GENERAL RECOMMENTATIONS – STORM SEWER

Local storm sewer improvements are recommended to be completed in conjunction with other improvements in the station area. Improvements which will likely require storm sewer modifications include: roadway realignments, roadway extensions, and pedestrian sidewalk/street scape improvements. Storm sewer improvements may consist of: storm sewer construction, manhole reconstruction, drain tile extensions, storm sewer relocation, and complete replacement. These local storm sewer improvements are included as part of the overall cost of roadway and streetscape improvements recommended in this plan. Where roadway/streetscape improvements are part of the SW LRT anticipated base project scope, associated storm sewer improvements are assumed to be a project cost. Hopkins should also consider coordinating with the local watershed district and other agencies to review the condition of and capacity of existing trunk storm sewer systems serving more regional surface water needs.

STORMWATER BEST MANAGEMENT PRACTICES

There are numerous stormwater best management practices (BMPs) that can be used to address stormwater quality and quantity. As part of this project, BMP guides were developed for four stations (Royalston, Blake, Shady Oak, and Mitchell) which exemplify the range of development intensity and character in the urbanized environment along the Southwest LRT Corridor. The recommendations and practices identified in each of the four BMP guides are applicable to various stations along the corridor.

Potential stormwater management strategies for this station area may be similar to those shown in the BMP guide for the Blake station (see p. 10-28). Hopkins should consider implementing applicable best management practices similar to those in the Blake station BMP guide. Stormwater management recommendations should be constructed in conjunction with public and private improvements and future development/ redevelopment in the station area.

Station Area Utility Plan (Continued)

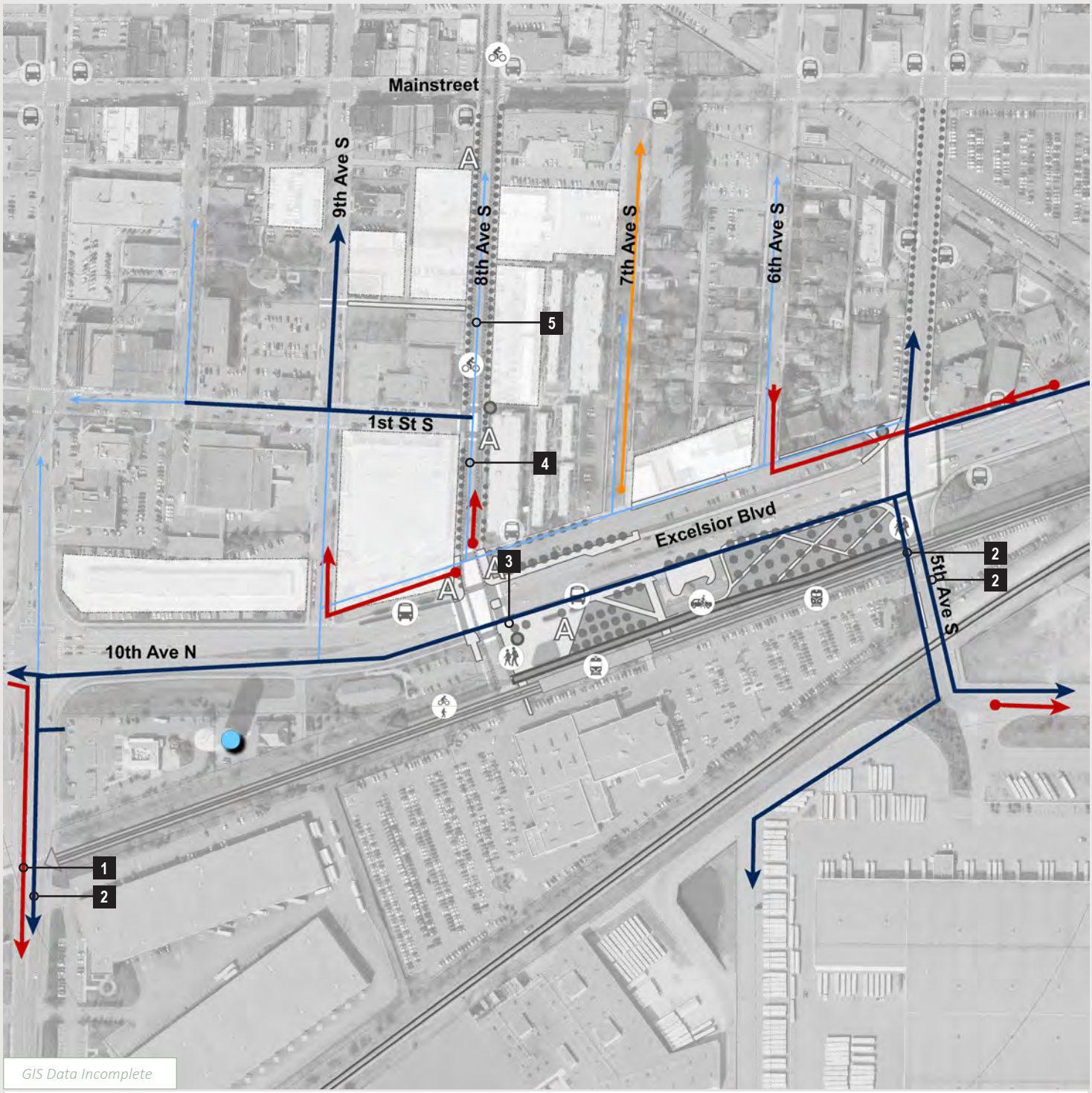
STATION AREA UTILITY RECOMMENDATIONS

Utility recommendations (illustrated in Figure 11-16) are based on a localized analysis of proposed development. It is recommended that the City of Hopkins take this analysis a step further and review system constraints to the existing and future sanitary sewer and water main systems using existing sewer CAD or water CAD models, or other methods of modeling these systems.

Opening Day Recommendations:

1. Encase existing sanitary sewer crossing the LRT rail construction.
2. Encase existing water main crossing the LRT rail construction.
3. Install fire hydrant to serve station area and plaza.
4. Construct 12-inch minimum trunk main in conjunction with reconstrution of 8th Avenue S. south of 1st Street S.
5. Construct 8-inch minimum water main in conjunction with reconstrution of 8th Avenue S. North of 1st Street S.

FIGURE 11-15. STATION AREA UTILITY PLAN



OPENING DAY RECOMMENDATION

LONG-TERM RECOMMENDATION

EXISTING UTILITIES

PROPOSED UTILITIES

SERVICE SANITARY

LOCAL SANITARY

TRUNK SANITARY

MCES SANITARY INTERCEPTOR

SANITARY SEWER FORCEMAIN

LIFT STATION

SERVICE WATER MAIN

LOCAL WATER MAIN

TRUNK WATER MAIN

WATER TOWER

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IMPLEMENTATION

Implementation

OVERVIEW

The Transitional Station Area Action Planning (TSAAP) process that has resulted in this Investment Framework, with its specific focus on opening day station area improvements, is an important piece in the overall implementation of the SW LRT Green Line but it is not the only piece. Planning and design work currently underway by the Metropolitan Council's Southwest Project Office (SPO) forms the basis for the actual construction of the line, station platforms and associated infrastructure. At the present time, that planning, design and construction initiative is expected to result in a new SW LRT Green Line extension that will begin operation in 2018.

At its core, implementation of the SW LRT has two primary components; 1) physical improvements and 2) policy and regulatory initiatives. The public sector is expected to play a prime role in both of these aspects of implementation while the involvement of the private sector will be largely limited to the physical aspects of implementation.

Implementing Transit Oriented Development along the SW LRT Green Line extension will take time, in many cases, time measured in decades. However, many things can happen in the next few years. Identifying and prioritizing improvements required for opening day at each station establishes a consistent standard of station quality. Further identification of key catalyst projects, whether or not they require additional investment in public infrastructure, can effectively encourage private investment into those areas where a more robust market exists.

PHYSICAL IMPROVEMENTS – RECOMMENDED PUBLIC ACTIONS

Each of the seventeen station chapters in this Investment Framework outline a comprehensive list of physical improvements that are recommended for implementation either by opening day in 2018 or longer term. Opening day improvements fall into three categories; 1) anticipated base project scope items that are being designed by the SPO and will be built as part of the project, 2) "betterments" which are major improvements identified as desirable during the initial TSAAP and SPO planning process but are not currently funded as part of the base project cost, and 3) improvements outside of the previous two categories that have been identified for both opening day and beyond during the TSAAP process.

Most, but not all, of the physical improvements identified in the three categories above will be designed and built by the public sector. Private sector involvement in physical improvements is expected to be limited to improvements related to specific private development building projects such as roadway and utility construction. In some cases, public/private partnerships are likely to be used to advance desired objectives.

For each station area, opening day base project scope improvements will be funded by the Southwest LRT project. Improvements listed as betterments will need to be funded by the Southwest LRT project contingency or by other entities such as the appropriate city and/or Hennepin County. The opening day station area improvements specifically recommended as part of the Investment Framework will need to be designed and funded by entities outside of the Southwest Project Office. The cities in partnership with Hennepin County and other governmental agencies will have primary responsibility for these improvements. The intent of the TSAAP process is to quantify and prioritize these improvements for inclusion in the capital improvement programs of both the cities and Hennepin County. These improvements also constitute a list of activities that can be used to pursue other outside grant funding.

PHYSICAL IMPROVEMENTS – RECOMMENDED PRIVATE ACTIONS

The TSAAP process is intended to identify and prioritize infrastructure improvements that enhance existing businesses, support mixed-income housing opportunities and encourage new development. Having the appropriate improvements and infrastructure in place, it becomes the role of the private sector to actually construct buildings for new businesses and new housing units.

Decisions to move forward with private development projects are largely based on market opportunities and financing. Market opportunities are not and will not be uniform at all seventeen stations along the corridor. Some stations, like Wooddale, already have an established pattern of transit oriented development. These areas already have the attention of the private development community, and at these locations private development is expected to continue. Others, like City West and 21st Street, have very little additional development potential since they serve land that is either fully developed or planned for full development. Still others have been identified as potential joint development sites.

PHYSICAL IMPROVEMENTS – JOINT DEVELOPMENT

A subset of Transit-Oriented Development, Joint Development refers to the development of real property that was purchased with FTA funds. More often than not, this real property is developed while maintaining its original public transportation purpose. This is done by placing residential, commercial, or community service development on, above, or adjacent to property that was purchased with FTA funds. Joint Development may include, but is not limited to, the following:

» Commercial and residential development;

» Pedestrian and bicycle access to a public transportation facility;

» Construction, renovation, and improvement of intercity bus and intercity rail stations and terminals; and

» Renovation and improvement of historic transportation facilities.

To be eligible for FTA funds, Joint Development improvements must satisfy certain economic criteria, provide a public transportation benefit, and provide revenue for public transportation. Here is a list of the type of improvements and activities that may be funded by FTA as part of a Joint Development project:

» Real estate acquisition

» Demolition

» Site preparation

» Building foundations

» Utilities

» Walkways

» Open space

» Safety and security equipment and facilities

» Facilities that incorporate community services like healthcare and daycare

» Intermodal transfer facilities

» Transportation-related furniture, fixtures and equipment

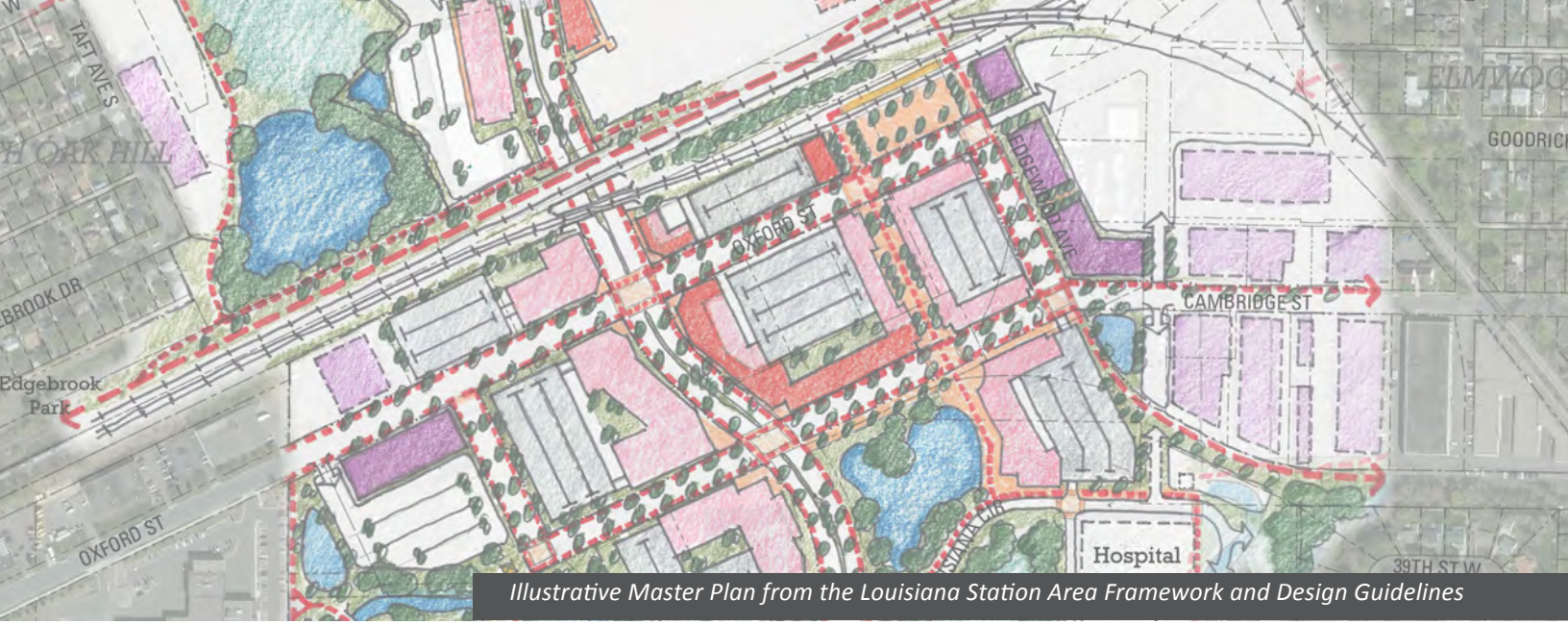
» Parking

» Project development activities

» Professional services

» Pedestrian improvements

» Bicycle improvements



Illustrative Master Plan from the Louisiana Station Area Framework and Design Guidelines

POLICY AND REGULATORY INITIATIVES – RECOMMENDED PUBLIC ACTIONS

The public sector is uniquely suited to take a number of actions that will further investment and development associated with the SW LRT Green Line extension. Initiatives and actions include:

Identify Plan Stewards

For projects identified in the Investment Framework for opening day, specific project leads are identified. Project leads are the public entities that are expected to oversee planning, design and implementation of specific project improvements. Broader plan stewardship will also be required to continue established momentum and to help channel energy and resources to those stations along the rail line that have the strongest potential for early and ongoing success.

Hennepin County Community Works and the SW LRT project have an established committee structure that can be used to advance the project. Specifically, the Steering Committee should continue to be engaged on a long-term basis to help guide corridor-wide decisions and to serve as a sounding board for local communities.

Adopt/Endorse the Plan

The Investment Framework is the product of a unique collaboration involving jurisdictions with specific statutory authority to implement recommendations in a variety of ways. In order to strengthen the plan as an official declaration of local policies, the Investment Framework should be adopted or endorsed by each community. Adoption could be in the form of simply adopting the appropriate station chapter as a small area plan or policy guide plan, it could be adopting the station plan by reference as part of the community's comprehensive plan, or it could be an action that otherwise endorses the direction and content of the Framework.

Local adoption or endorsement of the plan is important for a number of reasons. It is supportive of applications for project funding to the FTA and other agencies and it places responsibility in the hands of the local communities to keep the plans current. Circumstances at each of the station areas will change between now and 2018 and local communities will be in a position to update and modify their portions of the Framework to ensure that recommendations remain current.

MASTER PLAN STUDIES

While the Investment Framework provides guidance for all stations, additional, more detailed planning is needed for those stations deemed ready for near-term development. Additional Master Plan Studies should include a verification of the vision for the station and specific concept plans for land use, transportation, environmental resources, park and open space, public facilities and urban design. Additionally, Master Plan Studies should include a more detailed look at implementation.

Three stations are immediate candidates for additional Master Plan Studies. They include West Lake, Belt Line and Blake. Beyond these three stations, Mitchell, Eden Prairie Town Center, Golden Triangle, Shady Oak, Louisiana, Wooddale, Penn, and Royalston comprise a second tier of locations appropriate for potential expanded station area planning. These are stations deemed likely for mid-term development or redevelopment that may require additional planning and design. St. Louis Park has already completed the Louisiana Station Area Framework + Design Guidelines. While not containing the same level of information found in a Master Plan Study, it does provide a significant amount of land use planning detail as well as guidelines for site development, parking, utilities, stormwater management, buildings, parks and open space and public art.

PARKING MANAGEMENT STRATEGIES

Southwest LRT station locations range from highly urban environments such as Royalston and West Lake to suburban environments like Mitchell. Over time, the SW LRT is expected to be a catalyst for higher densities at all locations. As jobs and housing densities increase, parking management will become increasingly more important.

Parking management focuses on strategies that result in more efficient use of existing parking resources. Effective parking management can support urban development/redevelopment, create more walkable communities, reduce pavement, encourage use of alternative transportation modes, and create more attractive streets. These benefits can accrue regardless of the density of the area in which they apply.

Corridor communities need to formulate effective parking management strategies. Strategies can be generally ordinance or regulatory based, which is discussed below, or policy and practices based. On the policy and practices side, communities should consider:

» Management practices and signage changes to encourage those requiring longer-term parking to use less convenient or off-site parking.

» Provide information on parking availability and price (as applicable) through static and electronic signage and other communications.

» Encourage Transportation Management Associations, member controlled organizations, in areas of high parking demand such as commercial districts, around regional shopping malls, etc.

According to the Victoria Transport Policy Institute, improved management typically reduces parking requirements by 20% to 40% compared with conventional standards, and even more in TOD locations.

ORDINANCE AND REGULATORY CONTROLS

Cities and other units of government provide the regulatory framework within which the private sector operates. That framework is typically identified in either zoning ordinances or other regulatory controls that specify required characteristics of development.

Light rail transit is new to four of the five communities along the corridor. Minneapolis has experience with the original Hiawatha line (Blue Line) as well as with the about to open Central Corridor line (Green Line). Accordingly, Minneapolis has had a chance to modify some of its regulatory provisions to be more transit development supportive. The other four communities are in the process of reviewing their regulatory controls and considering future modifications.

In advance of the SW LRT, the City of Minnetonka adopted a SW LRT Ordinance and Interim Use Ordinance that applies to specific properties around the Opus and Shady Oak transit stations. Minnetonka's ordinance approach seeks to control development and redevelopment in these areas to limit the establishment or expansion of uses that are not transit supportive. The ordinances are meant to regulate property prior to the opening of the SW LRT or at least until more detailed station area development plans have been completed. St. Louis Park is currently considering the establishment of a form-based code that will apply to all three of their LRT station areas. All of the communities need to undertake a comprehensive review of their current regulatory structure to ensure that it facilitates the planned elements of the Investment Framework and directs development consistent with the community's vision for the station area.

TOD ASSESSMENT

Transit Oriented Development along the Green Line extension is not a one size fits all proposition. Some stations are more ready for development in the short term and should be the recipient of funding and support that establishes initial successes. Hennepin County will need to conduct a study and assessment process to create funding and development criteria that can help guide the allocation of public financial resources.

CONTINUE THE PATTERN OF COLLABORATION

Hennepin County's Southwest LRT Community Works program is an unprecedented collaboration with partners Minneapolis, St. Louis Park, Hopkins, Minnetonka, Eden Prairie, Edina, the Hennepin County Regional Railroad Authority (HCRRA), the Metropolitan Council, the Minnehaha Creek Watershed District, SouthWest Transit, the Minneapolis Parks and Recreation Board, and the Urban Land Institute – the focus of which is the build the SW LRT line and enhance regional mobility. This collaboration will need to continue well beyond the cutting of the ceremonial ribbon on the opening day of the Green Line extension in 2018. All of these partners need to have long-term, collaborative commitments to realize the full benefits of the project. In doing so, both the individual communities and the region as a whole will remain competitive and attractive to new residents and employers.

IMPLEMENTATION STRATEGIES BY STATION

Each of the chapters in the Investment Framework contain detailed recommendations for station area improvements for opening day and beyond. Once implemented, they will enhance the function of each station and lay the foundation for development and redevelopment over time.

Implementation of the SW LRT is truly a "sum of the parts". Improvements at each station not only make that station a better place but also improve the overall line. While it is important to focus on the station level for implementation, it is also important to consider the role of each station within the context of the entire Green Line extension. Funding and development initiatives will not be evenly dispersed among all of the stations. The stations have varying degrees of readiness for associated development and redevelopment based on the attributes of the place, market conditions, and the energy or "seed" elements that exist at the present time. The Station Implementation matrix (Table 19-1) presents information for each of the 17 stations and allows a comparison of anticipated activities and initiatives at each one.

Tables 19-2, 19-3, and 19-4 on the following pages outline various potential funding sources for infrastructure, development, and other station area improvement projects.

The following categories are included in the implementation matrix:

Corridor Characterization- Early in the Investment Framework document, the primary and secondary character elements of each station were presented along with guidance on built form and land use, public realm, and mobility. Corridor characterization is included in the matrix to help define each place and its role in the SW LRT line.

Theme – The surroundings of each station and as well as their historical context contribute to an identified theme for each place.

"Seed" – Each of the stations have existing conditions and attributes that constitute a "seed" or stimulus for future development and change. These elements are building blocks for future initiatives.

Market Opportunity – Market opportunity is an assessment of the primary directions for future development and redevelopment based on market analyses that were done prior to and as a part of the TSAAP process.

Timing – Development around station areas is expected to occur over several decades. Short-term improvements are those that are generally expected to occur in the next five years. Mid-term improvements are those that are generally expected to occur in the next five to ten years and long-term improvements will occur in ten plus years.

Development Type – The Urban Land Institute (ULI-MN) classified each station as a specific development type. Development types are either major opportunities, those that have significant potential for transit supportive growth, and those that are infill. Infill development can be a significant contributor to the overall station environment. Some stations have both infill and major development potential.

Transit Character – ULI-MN also assessed the transit character of each station area. Stations were classified as being locations that will be either destination or origin oriented, or both.

Master Plan – A more detailed master plan can further direct the location and form of future development. Master plans should place a strong emphasis on urban design.

Zoning – Modify existing zoning regulations and regulatory policies to support Transit Oriented Development.

Incentives – Incentives can occur in monetary and non-monetary forms. They can provide financial support for a project through Tax Increment Financing or Tax Abatement. They can also reduce the cost of a project for a developer by expediting review processes and helping to secure required entitlements in an expedient manner.

Site Assembly – Land banking and other means can be used to assemble fragmented sites over time to create parcels suitably sized for redevelopment.

New Mixed Income Housing – Increase the supply of affordable housing through the promotion of residential projects that feature mixed income units.

New Market Rate Housing - Create new housing options for all segments of the market including seniors.

Preserve Existing Housing – Protect the integrity of existing housing and neighborhoods around station areas in locations not identified for future redevelopment.

Parking Management Strategy - Define a specific strategy for managing parking in station areas.

TABLE 19-1. SOUTHWEST CORRIDOR INVESTMENT FRAMEWORK (TSAAP) - IMPLEMENTATION

STATION	CORRIDOR CHARACTERIZATION (PRIMARY)	THEME	"SEED"	MARKET OPPORTUNITY	TIMING	DEVELOPMENT TYPE (ULI)	TRANSIT CHARACTER (ULI)	DEVELOPMENT FACILITATION INITIATIVES				HOUSING INITIATIVES			CREATE PARKING MANAGEMENT STRATEGY 2014 - 2018
								Master Plan	*Zoning*	*Incentives*	*Site Assembly*	*New Mixed Income*	*New Market Rate*	*Preserve Existing Housing*	
Royalston	Heritage, Arts and Culture	Redevelopment	Farmers Market	High Density – Mixed Use TOD	Short – expand the farmers market – Mid to Long –TOD	Major Opportunity	Destination	○ Secondary	●			●	●		●
Van White	Employment Area	Redevelopment	City/Private Interest	Office, Housing	Mid	Major Opportunity	Destination		●	●		●	●		
Penn	Urban Village	Neighborhood Amenity	Views	Housing, Potential Office	Short – stand alone residential	Infill	Origin	○ Secondary	●			●	●		
21st Street	Green, Recreation & Environment	Nature, Fit into Neighborhood	Strong Neighborhood, Cedar Lake	None	NA	None	Origin							●	
West Lake	Urban Village	Tie into existing community fabric	Strong existing housing and retail	Mid-density, mixed use TOD	Short – challenge = finding land	Infill	Origin & Destination	● Primary	●	●	●	●	●		●
Belt Line	Urban Village	Heavy TOD and Employment	County owned land, proximity to Excelsior Grand	Mixed Use TOD	Short – housing, Mid – TOD	Major Opportunity/ Infill	Origin & Destination	● Primary	●	●	●	●	●		●
Wooddale	Urban Village	TOD	Existing Development	Residential, retail and small office	Short	Major Opportunity/ Infill	Origin & Destination		●			●	●		●
Louisiana	Health and Wellness	Health	Methodist Hospital	Medical Village	Mid	Major Opportunity	Origin & Destination	○ Secondary	●	●	●	●	●		●
Blake	Employment Area	Redevelopment	Minnehaha Creek – Cold Storage Site	Residential, office, and retail	Short	Major Opportunity	Origin & Destination	● Primary	●	●	●	●	●	●	●
Downtown	Urban Village	Historic Downtown	Successful Downtown	Residential, retail and small office	Short to Mid	Infill	Origin					●	●		●
Shady Oak	Employment Area	Redevelopment	Park and Ride	Flex, residential and small retail	Mid to Long	Major Opportunity	Origin	○ Secondary	●		●	●			●
Opus	Employment Area	Redevelopment	Strong existing business park – high tech	Add housing and business density	Mid	Infill	Origin & Destination					●	●		●
City West	Employment Area	Development	United Health Group	Office	Short	Major Opportunity	Destination								
Golden Triangle	Employment Area	Business Park	Existing business park	Office and residential	Mid to Long	Major Opportunity/ Infill	Destination	○ Secondary	●						
Town Center	Urban Village	Redevelopment	Strong existing retail	Mixed Use - TOD	Short to Mid	Major Opportunity/ Infill	Origin & Destination	○ Secondary	●			●	●		●
Southwest	Employment Area	Connection	Existing transit	Limited due to land	NA	Infill	Origin								
Mitchell	Employment Area	Redevelopment	Available land	Mixed Use – TOD	Long	Infill	Origin	○ Secondary	●						

TABLE 19-2. INFRASTRUCTURE & DEVELOPMENT FUNDING SOURCES (PART 1 OF 3)

PROGRAM NAME	ADMINISTERING AGENCY	TYPE OF ASSISTANCE	ELIGIBLE APPLICANTS	FUNDS AVAILABLE	USE OF FUNDS	REQUIREMENTS	RESTRICTIONS	CONTACT
LCDA pre-development	Met Council	Grant	Cities, County, Development Authorities	-	Assist cities with detailed redevelopment designs and economic feasibility	-	-	Linda Milashius 651-602-1541 Linda. Milashius@metc.state.mn.us
LCDA Development	Met Council	Grant	Cities, County, Development Authorities	-	Public infrastructure and land assembly	-	-	Linda Milashius 651-602-1541 Linda. Milashius@metc.state.mn.us
LCA-TOD Pre-development	Met Council	Grant	Cities, County, Development Authorities	$100,000	Site Plans, design workshops, appraisals, market studies, impact analyses, soil testing, pro-forma development in support of a future development project	Areas within 1/2-mile of LRT, BRT, or commuter rail stations operational by 2020. Areas within 1/4-mile of high frequency local bus routes. Areas within 1/2-mile of Park & Ride stations.	*Must have associated development project	Adam Maleitzke 651.602.1633 adam. maleitzke@metc.state.mn.us
LCA-TOD Development	Met Council	Grant	Cities, County, Development Authorities	$2,000,000	Site Acquisition, Holding Costs, Publically-Accessible Infrastructure, Placemaking	Areas within 1/2-mile of LRT, BRT, or commuter rail stations operational by 2020. Areas within 1/4-mile of high frequency local bus routes. Areas within 1/2-mile of Park & Ride stations.	*Must have associated development project	Adam Maleitzke 651.602.1633 adam. maleitzke@metc.state.mn.us
TBRA-TOD Cleanup	Met Council	Grant	Cities, County, Development Authorities	$1,000,000	Cleanup of contaminated soil, groundwater, soil vapor or asbestos-containing materials and lead-based paint	Areas within 1/2-mile of LRT, BRT, or commuter rail stations operational by 2020. Areas within 1/4-mile of high frequency local bus routes. Areas within 1/2-mile of Park & Ride stations.	*Must have associated development project	Adam Maleitzke 651.602.1633 adam. maleitzke@metc.state.mn.us
Local Housing Incentives Account	Met Council	Grant	Communities participating in the Metropolitan Livable Communities Housing Incentives Program	$1,500,000 total	Gap financing costs such as land/property/structure acquisition, demolition, site preparation, general construction/structural additions, alterations and rehabilitation, interior and exterior finishing, roofing, electrical, plumbing, heating and ventilation.	-	*Must have associated development project	Linda Milashius 651-602-1541 Linda. Milashius@metc.state.mn.us
Tax Base Revitalization Account	Met Council	Grant	Cities, counties, EDAs, HRAs	$5,000,000 total	Phase 1 and 2, RAP development, demolition and site prep, soil/ groundwater remediation, soil vapor mitigation, asbestos abatement, LBP removal	Must have serious redevelopment potential	-	Marcus Martin 651-602-1054 marcus.martin@metc.state. mn.us
Transportation Alternatives Program	Met Council - Transportation Advisory Board	Grant	Local governments, Transit agencies, Natl resource or public land agencies, School districts, local ed agencies, or schools, Tribal governments, local govt entity responsible for trails	$6,000,000 total	Construction of infrastructure for bicycle and pedestrian facilities, Safe Routes to School Infrastructure, scenic and environmental improvements, and streetscape enhancements for projects implemented 2017/18	-	-	Heidi Schallberg 651-602-1721 heidi. schallberg@metc.state.mn.us
Regional Transportation Solicitation	Met Council - Transportation Advisory Board	Grant	Local governments, Transit agencies, Natl resource or public land agencies, School districts, local ed agencies, or schools, Tribal governments, local govt entity responsible for trails	-	Three evaluation categories, grouped by mode: Roadways, Transit, and Bicycle/Pedestrian, for projects implemented beginning 2018/19	-	-	Heidi Schallberg 651-602-1721 heidi. schallberg@metc.state.mn.us
Surface Transportation Program	Met Council	Grant	Local governments, Transit agencies, Natl resource or public land agencies, School districts, local ed agencies, or schools, Tribal governments, local govt entity responsible for trails	Up to 80% of project cost	This program is primarily used for roadway reconstruction, but does allow for construction of trails and sidewalks as part of a larger overall project. The program also supports the construction of independent bikeways (generally used for commuting purposes rather than recreational purposes).	-	-	-
Redevelopment	DEED	Grant	Cities, Counties, Port Authorities, EDAs, HRAs	Up to 50% of project's redevelopment costs	Land acquisition, stabilizing soils demolition, infrastructure improvements and ponding or other environmental infrastructure and costs necessary for adaptive reuse of buildings.	Eligible costs can only be applied towards publicly owned land with a public purpose, or public infrastructure costs that support a private redevelopment	-	Meredith Udiobok 651-259-7454 meredith. udoibok@state.mn.us.
Contamination Cleanup	DEED	Grant	Cities, Counties, Port Authorities, EDAs, HRAs	Up to 75% of project's cost.	Investigation and cleanup costs necessary to implement RAP	Must have serious redevelopment potential	-	DEED Brownfields and Red. 651-259-7449
Contamination Investigation and RAP Development	DEED	Grant	Cities, Counties, Port Authorities, EDAs, HRAs	Up to 75% of project's cost. Max $50,000	Investigation	Must have serious redevelopment potential	-	DEED Brownfields and Red. 651-259-7449
Innovative Business Development Public Infrastructure Program (BDPI)	DEED	Grant	Cities, Counties, special districts, public institutions	Up to 50% of project cost	"Publicly owned infrastructure related to a development project, including projects that target manufacturing, technology, warehousing and distribution; research and development; innovative business incubator; agricultural processing; or industrial, office, or research park development that would be used by an innovative business Funds from this program can also be used for land acquisition and preparation, telecommunications, bridges, parking ramps, demolition, hazard remediation, pre-design, construction, equipment and furnishings."	Grant funds are to be used to assist Eligible Applicants with complex and costly Public Infrastructure projects when a funding gap exists and alternative sources of public and private financing are not adequate.	*Must have associated development project	Gloria Stiehl 651-259-7462 gloria.stiehl@ state.mn.us
Transit Improvement Areas (TIA)	DEED	Loan	Cities and Counties	-	Fund TOD projects that increase the effectiveness of transit.	Must provide minimum density and a mix of uses	*Must have associated development project	-
Minnesota Cleanup Revolving Loan Fund	DEED-EPA	Loan	Public entities, businesses, non-profits	Up to 78% of project costs	Cleanup	Owner must be borrower and not the responsible party. Sites acquired after 1/11/2002	-	DEED Brownfields & Redev. 651-259-7449

TABLE 19-2. INFRASTRUCTURE & DEVELOPMENT FUNDING SOURCES (CONTINUED, PART 2 OF 3)

PROGRAM NAME	ADMINISTERING AGENCY	TYPE OF ASSISTANCE	ELIGIBLE APPLICANTS	FUNDS AVAILABLE	USE OF FUNDS	REQUIREMENTS	RESTRICTIONS	CONTACT
Hennepin County TOD (Supplemental Round)	Hennepin County	Grant	Cities, development authorities, private entities	-	Demonstrate a public purpose--includes public infrastructure, ped and bike facilities, clearing acquired property, acquisition of property in order to remove blight, installation of streets, utilities	Projects must be in municipally designated redevelopment/housing project areas along a transit corridor	-	Thatcher Imboden 612-348-4191 thatcher.imboden@hennepin.us
Affordable Housing Incentive Fund	Hennepin County	Loan	Cities, Nonprofits, Developers, and Lenders	-	Acquisition, new construction, rehabilitation, re-adapted reuse, preservation and stabilization of affordable rental and home ownership units	-	*Must have associated development project	Carol Stinar 612-348-2670 carol.stinar@hennepin.us
Community Development Block Grant	Hennepin County	Grant	Suburban communities in Hennepin County (except Bloomington, Eden Prairie, Minnetonka, and Plymouth)	-	Property acquisition, rehabilitation, and soft costs to facilitate affordable housing development and public services	-	-	Tonja West-Hafner 612-348-2599 tonja.west-hafner@hennepin.us
Sidewalk Participation Program	Hennepin County	Grant	Cities within Hennepin County	Up to 25% of project cost. Max $50,000	Construction of sidewalk infrastructure and crossing treatments are eligible for Sidewalk Participation funds. Eligible project expenses include construction, repair, and reconstruction of sidewalks, curb bump outs, and crossing treatments.	Sidewalk construction and reconstruction projects should be on a Hennepin County road where no sidewalks exist along at least one side of the road or existing sidewalks are in poor condition. Curb bump outs and crossing treatment projects should assist pedestrians in crossing intersections that include at least one Hennepin County road.	-	-
Roadside Enhancement Partnership Program	Hennepin County	Grant	Cities located within the 1999 Metropolitan Urban Services Area (MUSA	Up to 50% of project cost	Sidewalks, trails, undergrounding utilities, installing lighting, transit shelters, benches, streetscape materials, landscaping and vertical elements (bollards/ banner poles).	This funding is generally used in conjunction with highway reconstruction, but has been available outside of major projects in the past.	-	-
Bikeway Development Participation	Hennepin County	Grant	Cities within Hennepin County and park agencies	Up to 50% of project cost. Max $100,000 (Feasibility study Max $20,000)	Construction of trails, bike lanes, shoulder widening, bridges, tunnels, etc. Project design and plan preparation are eligible expenses as part of infrastructure projects. Feasibility studies.	The project must be a designated route on the most current Hennepin County Bicycle Transportation System Plan map or Bicycle Gap Study map	-	-
Bike Program Discretionary (Gap Program)	Hennepin County	Grant	Cities within Hennepin County and park agencies	Up to 50% of project cost. Max $100,000	Construction of trails, bike lanes, shoulder widening, bridges, tunnels, etc. Project design and plan preparation are eligible expenses.	The project must be a designated gap on the most current Hennepin County Bicycle Gap map	-	-
HOME Investment Partnership	Hennepin County	Grant	Cities, HRAS, non-profits, private developers	-	New construction of affordable housing units, rehabilitation of owner and rental properties, and acquisition.	-	*Must have associated development project	Tonja West-Hafner 612-348-2599 tonja.west-hafner@hennepin.us
Environmental Response Fund	Hennepin County	Grant	Cities, HRAs, EDAs, non-profits, and businesses in Hennepin Co.	$1- 2,000,000 total	Consulting fees, lab fees, assessment, RAP development, cleanup, acquisition, demolition and residential asbestos abatement and lead impacted soil remediation	Sites where there are no other funds, matching/in kind funds are strongly encouraged	-	Dave Jaeger 612-348-5714 david.jaeger@co.hennepin.mn.us
Brownfields Cleanup Revolving Loan Fund	Hennepin County	Loan	Public entities, businesses, non-profits	Up to $1,000,000	Cleanup	No loans to responsible parties or for petroleum-only contaminated sites	-	Dave Jaeger 612-348-5714 david.jaeger@co.hennepin.mn.us
Low Impact Redevelopment Program	Minnehaha Creek Watershed District	Grant	Cities, nonprofits, private developers	$500,000	Stormwater management infrastructure that exceeds the normal regulatory stormwater requirements.	Applicant must assume the long-term maintenance and operations of the stormwater infrastructure	*Must have associated development project	-
Housing Trust Fund (HTF)	Minnesota Housing	Grant	Cities, nonprofits, public housing agencies	-	Development, construction, acquisition, preservation, and rehab of low-income rental housing.	Currently used primarily for rent assistance and operating expenses, but has been available for capital funding previously	*Must have associated development project	-
Preservation Affordable Rental Investment Fund	Minnesota Housing	Loan	Cities, nonprofits, public housing agencies, private developers	-	Acquisition, rehab, debt restructuring	-	-	-
Highway Safety Improvement Program	MnDOT	Grant	Cities and Counties	Up to 90% of project cost Max $2,000,000	"Proactive" projects being solicited for 2014, 2015, and 2016. Examples include active intersection warning systems, ped refuge islands, curb extensions pavement messages, roundabouts, and sidewalks.	Priority will be given to applications that are making impacts throughout the network (at multiple locations) or a corridor based approach.	-	Gayle Gedstad 651-234-7815 Gayle. Gedstad@state.mn.us
Transportation Revolving Loan Fund	MnDOT	Loan	Cities, counties, other governmental entities	-	Road and bridge projects, and transit projects. Pre-design, acquisition, maintenance, repair, construction, transit capital purchases, drainage, signs, protective structures.	Projects must be eligible under Title 23 or Title 49 or the U.S. Code and Minnesota Statute.	-	Jon Solberg 651-234-7792 jon.solberg@state.mn.us
Local Trail Connections Program	MN DNR	Grant	Cities and Counties	Up to 75% of project cost Max $150,000	Acquisition and development of trail facilities. Projects must result in a trail linkage that is immediately available for use by the general public. Trail linkages include connecting where people live (e.g. residential areas within cities, entire communities) and significant public resources (e.g. historical areas, open space, parks and/or other trails).	Funds used to promote relatively short trail connections between where people live and desirable locations, not to develop significant new trails.	-	Traci Vibo 651-259-5619 traci.vibo@state.mn.us

TABLE 19-2. INFRASTRUCTURE & DEVELOPMENT FUNDING SOURCES (CONTINUED, PART 3 OF 3)

PROGRAM NAME	ADMINISTERING AGENCY	TYPE OF ASSISTANCE	ELIGIBLE APPLICANTS	FUNDS AVAILABLE	USE OF FUNDS	REQUIREMENTS	RESTRICTIONS	CONTACT
Dry Cleaner Environmental Response & Reimbursement	Minnesota Pollution Control Agency	Reimbursement	Past/present owners/operators of commercial dry cleaning or current landowners	100% after first $10,000	Cleanup and investigation. Investigation funds only eligible if cleanup is necessary	Excludes coin-ops, uniform service, linen supply, NPL sites or cleanups started prior to 7/1/95	-	Patrice Jensen 651-757-2465 patrice.jensen@state.mn.us www.pca.state.mn.us
Minnesota Targeted Brownfields Assistance Program	Minnesota Pollution Control Agency	Technical Assistance	Cities, counties, watershed districts, non-profits	In Kind	Technical consultation for Phase I, 2 and cleanup (RAP)	Must pose a potential threat with no responsible or voluntary responsible party	-	John Betcher 651-757-2226 john.betcher@state.mn.us
Small Business Environmental Improvement Loan	Minnesota Pollution Control Agency	Loan	Businesses with fewer than 50 FTE, after tax profits of <$500,000 and net worth <$1 million	$1,000 to $50,000	Investigations, cleanup, capital equipment purchase to reduce/prevent pollution/waste	Collateral required and must demonstrate ability to repay loan	-	Mike Nelson 651-757-2121 michael.nelson@state.mn.us
Clean Water Revolving Loan Fund	Minnesota Public Facilities Authority	Loan	Cities, counties, sanitary districts, or governmental subdivisions responsible for wastewater treatment	-	Build or upgrade of wastewater treatment plants. Allowable costs include site preparation, construction, engineering, equipment, machinery, bond issuance	Fund provides below-market-rate loans to finance wastewater projects	*Projects must be on the MPCA's Project Priority List	Becky Sabie 651-259-7470
Point Source Implementation Program	Minnesota Public Facilities Authority	Grant	Cities and Counties	Up to 50% of eligible costs Max $3 million	Wastewater treatment or stormwater infrastructure projects.	-	-	Becky Sabie 651-259-7471
Petroleum Tank Release Clean Up Account-Petrofund	Department of Commerce	Reimbursement	Owners/operators of underground and above ground petroleum storage tanks, owners of contaminated properties of leaking tanks	Up to 90% of eligible costs, not to exceed $1 million per release or $2 million per facility	Site investigation and cleanup deemed necessary by the MPCA	Minnesota Statutes 115C and Minnesota Rules Chapter 2890	-	Department of Commerce 651-215-1775
Federal Brownfields Cleanup Program	EPA	Grant	Local governments, states, redevelopment agencies	Up to $200,000 (20% match)	Demolitions, cleanup, removal of some abandoned containers and underground petroleum tanks	Must own the property and cannot be responsible party. 20% matching funds	-	EPA Region 5 312-886-7576
Federal Brownfields Site Assessment Program	EPA	Grant	Local governments, states, redevelopment agencies, non-profits	Up to $200,000	Inventory, characterization, Assessment (Phase I or II), remedial planning and VIC program fees	Cannot fund Federal/state Superfund sites, federal lands	-	EPA Region 5 312-886-7576
Federal Brownfields Cleanup Revolving Loan Grants	EPA	Grants to capitalize RLF	Local governments, states, redev. Agencies	Up to $1 million	Demolitions, cleanup, removal of some abandoned containers and underground petroleum tanks	Loans/grants cannot be provided to party that caused contamination. 20% match	-	EPA Region 5 312-886-7576
Joint Development	FTA	Grant	-	-	Acquisition, demolition, site preparation, utilities, building foundations, walkways, ped and bike access, safety/security facilities, construction of space for commercial uses, parking improvements with a transit justification, project development activities (design, engineering, environmental analysis)	Must benefit one of four criterion: Economic benefit; public transportation benefit; fair share of revenue; fair share of costs	-	-

TABLE 19-3. LOCAL FUNDING SOURCES (SOURCE: METROPOLITAN COUNCIL TOD STRATEGIC ACTION PLAN APPENDIX B)

PROGRAM NAME	ADMINISTERING AGENCY	TYPE OF ASSISTANCE	ELIGIBLE APPLICANTS	FUNDS AVAILABLE	USE OF FUNDS	REQUIREMENTS
Special Assessment District	Local Government	-	Local	-	Special Assessment Districts assess properties in proportion to the benefit conferred by an improvement and are used to pay for local infrastructure. Provides a uniform procedure for local government agencies to finance the maintenance and operation of public systems such as drainage, flood control, and street lighting.	-
Assessments	Local Government	-	Local	-	Assessments can be used on developments to fund infrastructure improvements.	-
Special Service Districts	Local Government	-	Local	-	Special service districts are defined areas within a city where special services are rendered. Costs of the services are paid from charges to the area.	State law mandates the creation of advisory boards through city ordinance for each special service district to advise the city on services within the district.
Housing Improvement Areas	Local Government	-	Local	-	Housing Improvement Areas are defined areas in a city in which housing improvements may be financed with assistance from the city.	-
Development Fees	Local government	-	Local	-	Local plan fees for approval of development projects that fund not only current planning/permitting staff, but also long-range planning staff who perform strategic land use, urban design, and less frequently, capital improvement planning related to transit corridor and station area development.	-
Development Impact Fees	Local Government	-	Local	-	Local governments may exact fees to compensate for the projected impact that new development will have on local public infrastructure. The major drawback with impact fees is that they are pay-as-you-go and difficult to bond against.	-
General Obligation Bonds	Local Government	-	Local	-	General obligation bonds are issued for municipal projects that do not generate revenue, including infrastructure up-grades. These tax-exempt bonds are backed by the full-faith-and-credit of the issuer and generally include a limited or unlimited property tax levy pledge.	-
Local Property Tax Levies	Municipal	-	Local	-	Local governments may impose taxes which can be used on community services (infrastructure, transit etc.) Residential voters also directly influence the levy rate variable by voting on which services to offer to the community, increases and/or decreases in funding for specific services or purchases, or both.	-
Revenue Bonds	Local Government	-	Local	-	Tax-exempt revenue bonds are issued for specific public works projects and are generally secured with revenues from the infrastructure facility. They can be used to finance utilities upgrades needed to support higher intensity development around transit.	-
Special Tax Districts	Locally enacted; enabled at state-level	-	Local	-	Special tax districts can retroactively pay for plans related to improvements financed by the district.	-
Tax Abatement	Local Government	-	Local	-	Full or partial exemption form real estate taxes for a limited time period.	-
Tax Increment Financing (TIF)	Local Government	-	Local	-	In a TIF district, projected TIF revenues are bonded against and the bond proceeds used to pay for major development initiatives or infrastructure investments that catalyze private investment and increases in property values. A TIF district is a legally defined area targeted for redevelopment.	-

TABLE 19-4. OTHER FUNDING SOURCES

PROGRAM NAME	ADMINISTERING AGENCY	TYPE OF ASSISTANCE	ELIGIBLE APPLICANTS	FUNDS AVAILABLE	USE OF FUNDS	REQUIREMENTS
Low and Moderate Income Rental Program (LMIR)	Minnesota Housing	Loan	Limited Dividend and Non-Profits	$95,000,000	New construction or substantial rehabilitation of rental housing. Acquisition and rehabilitation of existing rental housing. Refinancing or debt-restructure.	Minimum development size twenty units.
Historic Tax Credit (Rehab Tax Credit)	Minnesota Housing	Grant	Check website	-	The Credit for Historic Structure Rehabilitation provides credit against income tax or insurance premium tax liability equal to the amount of the federal historic structure rehabilitation credit for projects that are placed in service during the taxable year. The law also allows the Minnesota Historical Society to pay a grant in-lieu of the credit, equal to 90 percent of the credit.	-
Housing Tax Credit (HTC) Program	Minnesota Housing	Tax Credit	Local governments, land clearance authorities, state-created governmental entities, regional councils/MPOs, state agencies, Indian tribes	$900,000 (in 2013)	The HTC offers a ten year reduction in tax liability to owners and investors in eligible affordable rental housing units produced as a result of new construction, rehabilitation, or acquisition with rehabilitation.	Priority given to projects within a half mile of LRT, BRT, commuter rail station
Housing/ Transit-Oriented Development (TOD) Loan Program	Local Initiatives Support Corporation (LISC), Twin Cities Community Land Bank, and the Family Housing Fund	Loan	Nonprofit and socially-responsible private developers	$14.3 million	Preserve and create more housing options available to lower-income residents near transit; Strengthen neighborhood by increasing access to jobs, and integrating the promotion of TOD with other arenas such as public health, parks and green space, affordable housing, and economic development to produce more holistic and equitable outcomes for the entire corridor.	Projects must be located within ½ mile of Hiawatha, Central, or Southwest LRT corridors.
The Coaction Fund	Local Initiatives Support Corporation (LISC) Twin Cities	Grant	Nonprofit, Twin Cities-based organizations, or partnerships of organizations	$35,000 to $70,000	Capacity building program for community based development.	-
Loan & Grant Programs	Twin Cities Community Land Bank (TCCLB)	Various	Government entities, community development corporations, Non-profit and for profit partners	-	Projects must further community-based economic development and affordable housing goals.	-

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GLOSSARY

Glossary

BASE PROJECT SCOPE is the project scope identified during the FTA New Starts Preliminary Engineering (PE) process that includes the improvements that are integral to the base functioning of the transit project. The PE's Baseline Cost Estimate only includes the improvements identified as part of the Base Project Scope.

BEST MANAGEMENT PRACTICES (BMP) is a practice, or combination of practices, that is determined to be the most effective, practicable means of achieving an objective or preventing adverse impacts, typically referring to managing stormwater runoff in ways that prevent adverse impacts, such as pollution, erosion, and flooding.

BETTERMENTS are improvements to the transit project desired by the FTA grant recipient that are not part of the base functioning of the FTA transit project. Betterments are not integral to the functioning of the base project and are viewed as enhancements or upgrades to a level beyond what is normally required for base functioning of the transit project.

BICYCLE HUB is a place where multiple bike trails intersect with a transit station to enable convenient connections between the bikeway network and the transit network.

BIO-SWALES are a method of collecting, storing and infiltrating stormwater; they are planted with native vegetation that enhance filtration and cleansing of stormwater and improve water quality.

BLUE LINE refers to the existing Hiawatha LRT Line, which is currently 12 miles in length, connecting between the Target Field Station in downtown Minneapolis and the Mall of America Station in Bloomington.

BUILDING HEIGHT:

LOW-RISE BUILDINGS are typically 1 or 2 story structures, or a maximum of 30 feet

MID-RISE BUILDINGS are typically 3 to 6 story structures, or between 30' and 75'

HIGH-RISE BUILDINGS are typically 7+ story structures, or at least 75 feet.

BUILT FORM encompasses the placement, orientation, density, and height of buildings, as well as the relationships of buildings to the pattern of blocks, streets, transit, and open spaces.

BUMP-OUTS are an extension of the pedestrian realm, typically at corners/intersections, that make it easier to cross the street by reducing the crossing distance and forcing cars to slow down as the lane narrows next to the bulb-out.

CAPITAL IMPROVEMENT PROGRAM (CIP) guides the development of public facilities over a five year period. It shows the arrangement of projects in a sequential order based on a schedule of priorities and assigns an estimated cost and anticipated method of funding each project. The Capital Improvement Program provides the financial foundation necessary to implement the Comprehensive Plan and public facilities plans.

CENTER FOR TRANSIT ORIENTED DEVELOPMENT (CTOD) is a leader in creating a national marketplace for TOD, working with cities, transit agencies, developers, investors and communities. CTOD focuses on improving TOD practice through technical assistance, research and policy reform, and disseminating best practices in regions across the country. CTOD is a national collaborative partnership between Reconnecting America, the Center for Neighborhood Technology, and Strategic Economics.

CHARRETTE is a collaborative community planning and design process that brings stakeholders together in intensive work sessions to develop plans for their neighborhoods or regions.

COMPLETE STREETS are a network of streets planned, designed, and operated to enhance safety, mobility, accessibility, and convenience for all corridor users including pedestrians, bicyclists, transit riders, motorists, commercial and emergency vehicles, and for people of all ages and abilities.

CONNECTED STREET NETWORK is one that enables convenient and efficient travel by providing people with multiple choices of transportation routes and modes (driving, bicycling, walking, and riding transit). Generally, a well-connected street network is characterized by a grid of relatively small blocks with intersections at regular intervals.

CONNECTIVITY is characterized by the integration of land use, built form, and transportation patterns that enable people to move within and through a place in a convenient, safe, comfortable, and enjoyable manner.

CORRIDOR CHARACTERIZATION is the identification of a corridor's overall potential transit-oriented development (TOD) character based upon the relevant place types of each of its station areas. While each station area is designated as having a primary TOD place type, there are also contributing place types that are relevant to each station area. The overall corridor character emerges from the unique mix of place types as well as the common elements that offer key connections between station areas.

DENSITY is a way to measure concentration of development. Residential density is usually measured by dwelling units per acre and commercial density is measured by square feet or employees per acre.

ENVIRONMENTAL JUSTICE is a holistic approach to the environment, which is often seen as an all-encompassing place to "live, work and play." Environmental justice is concerned with

the unequal distribution of environmental burdens and access to environmental goods (parks, recreation, safety, healthcare, education, jobs, clean air & water, etc.).

FEDERAL TRANSIT ADMINISTRATION (FTA) is the division of the U.S. Federal Highway Administration (FHWA) that oversees federally mandated transit planning processes and manages federal grants that support the operation and construction of transit systems and acquisition of transit vehicles and equipment.

FLOOR-TO-AREA RATIO (FAR) is the ratio of gross floor area of a building (the sum, in square feet, of the gross horizontal areas of all floors of a building) to the total area of the lot. The FAR is used to measure the density of a project.

GRADE-SEPARATED CROSSING is the intersection of two movement routes, which could be automobile, rail, bicycle, and pedestrian, where one of the routes crosses over or under the other route, in the form of an underpass, tunnel, overpass, or bridge. Some grade-separated crossings may be interchanges, which provide direct connections between the two intersecting routes via entrance and exit ramps, while other grade-separated crossings may not provide any connections between the two routes.

GREEN BUILDING is a way to increase the efficiency of a building in terms of the energy used, management of stormwater, use of materials etc., which effectively reduces the human and environmental impact.

GREEN LINE refers to the 11-mile Central Corridor LRT Line, which will begin operation in 2014, connecting between the Union Depot Station in downtown St. Paul and the Target Field Station in downtown Minneapolis.

GREEN LINE EXTENSION refers to the planned 16-mile extension of the Green Line (also known as "Southwest LRT") west from the Target Field Station in downtown Minneapolis to the cities of St. Louis Park, Hopkins, Minnetonka, and Eden Prairie, with a terminus near the intersection of Mitchell Road and U.S. Highway 212 in Eden Prairie.

GREEN ROOF is a vegetative rooftop planted over an existing roof structure, and consists of a waterproof, root-safe membrane that is covered by a drainage system, lightweight growing medium, and plants. A green roof reduces rooftop and building temperatures, filters pollution, lessens pressure on sewer systems, and reduces the heat island effect.

INFILL development takes place within the existing urban fabric and can be thought of as "filling in" a city's gaps. Infill typically takes place on vacant lots or in the form of redeveloping an existing structure.

INVESTMENT FRAMEWORK is a strategic guide for prioritizing and coordinating future improvements and investments in the 17 transit station areas. The Southwest Corridor Investment Framework focuses on guiding public investments in infrastructure, as well as capitalizing on promising opportunities for development and redevelopment, that will help promote readiness for opening day of the Southwest LRT line in 2018.

JOINT DEVELOPMENT is cooperation between the public and private sectors to deliver transit-oriented development (TOD), including public-private partnerships, and usually involving development on land owned by the transit agency.

LIGHT RAIL TRANSIT (LRT) is a mode of transit that is often powered by electricity; trains operate on rails, either in the street or in a dedicated right-of-way. The term light rail is used because light rail vehicles tend to be physically lighter and have less carrying capacity than a heavy or commuter rail system. Light rail vehicles are more compatible with urban environments.

LOCALLY PREFERRED ALTERNATIVE (LPA) is the transit mode, general alignment, station locations, and termini location selected for the development of a high capacity transit system in a given corridor by local jurisdictions. The locally preferred alternative is the result of an Alternatives Analysis. Once approved by the Federal Transit Administration, the LPA is further studied during the Preliminary Engineering phase of the New Starts process.

MIXED-USE is a single building containing more than one type of land use or a single development of more than one building and use, where the different land uses are in close proximity, planned as a unified, complementary whole, and functionally integrated with transit, pedestrian access and parking areas.

MOBILITY is the ability of a person or people to travel from one place to another.

MODE refers to a person's actual method of transportation and can indicate walking, biking, driving, and riding the LRT. The Modal Split is a term that describes how many people use what form of transit and is often used to describe the percentage of people who use private automobiles in comparison to the percentage who use alternate forms of transit.

MULTI-MODAL is the provision of transportation facilities for two or more transportation modes (such as bicycle, walking, automobile and transit) in a given route, network, or station.

PEDESTRIAN BOULEVARDS/PARK STREETS/GREEN BOULEVARDS/GREEN STREETS are all methods of improving the pedestrian realm by adding green spaces, plantings, or trees.

PEDESTRIAN-FRIENDLY is transportation infrastructure and buildings that are designed to accommodate and cater to the needs of pedestrians rather than orienting primarily to the needs of motor vehicles.

Glossary (Continued)

PLACE TYPE is an easy-to-understand approach to classifying the various types of transit-oriented development (TOD) areas that can exist along a transit corridor in order to help regions and communities understand how TOD character and implementation varies from station to station.

PRELIMINARY ENGINEERING (PE) is the phase where the more technical aspects of LRT are detailed. PE will include the design and location of tracks and platforms, the design and location of streetscape improvements, determining construction phasing opportunities and approaches, and the determination of costs and sources of financial contributions.

PUBLIC REALM is those parts of a community (whether publicly or privately owned) that are available for everyone to use, including streets, sidewalks, trails, parks, squares, plazas, transit station, parking areas, etc.

RAIN GARDEN is a bio-retention area with landscaping features adapted to provide on-site treatment of stormwater runoff, which may be located in parking lot islands, street boulevards, or developed sites. Surface water runoff is directed into shallow, landscaped depressions that are designed to incorporate many of the pollutant removal mechanisms that operate in forested ecosystems.

RED LINE refers to the Cedar Avenue Bus Rapid Transit (BRT) Line, which is currently 11 miles in length, connecting between the Mall of America Station in Bloomington and the Apple Valley Transit Center at the intersection of Cedar Avenue and 155th Street in Apple Valley.

RESIDENTIAL PERMIT PARKING is a method of controlling parking in a residential neighborhood by requiring vehicles to have a permit sticker in order to park in a particular location. This ensures that only those living on the block (and their visitors) are allowed to park there, eliminating parking for proximate uses.

RIDERSHIP is the number of riders on a transit system, often calculated by year or average weekday.

SETBACK is the distance required by the zoning code that a building must be from front, side, and rear lot lines.

SOUTHWEST LIGHT RAIL TRANSIT (SW LRT) is the planned 16-mile extension of the Green Line LRT route west from the Target Field Station in downtown Minneapolis to the cities of St. Louis Park, Hopkins, Minnetonka, and Eden Prairie, with a terminus near the intersection of Mitchell Road and U.S. Highway 212 in Eden Prairie.

SOUTHWEST LRT PROJECT OFFICE (SPO) is the Metropolitan Council's (lead agency for the Southwest LRT line project) on-site project office for staff charged with overseeing the Southwest LRT project (including the Preliminary Engineering process), addressing public comments, and providing frequent project updates.

STREETSCAPE includes all of the natural and man-made elements in or near the street right-of-way, including buildings, building setbacks, lawns, sidewalks, street furniture, street trees and landscaping, signs, street lights, street paving, transportation amenities, and public art.

SUSTAINABLE DEVELOPMENT is a method of development that serves the needs of the present without compromising the needs of future generations.

TRANSIT HUB is an intermodal hub where multiple transit lines converge and transit passengers can make connections between transit lines. The Metropolitan Council's 2030 Transportation Policy Plan identifies the Target Field Station/ Interchange in downtown Minneapolis and the Union Depot in downtown St. Paul as those two intermodal hubs.

TRANSIT-ORIENTED DEVELOPMENT (TOD) is commonly described as a community or development that mixes residential, office, commercial and open space, and allows for convenient or direct access to public transportation, eliminating the need to own a car. The design of TOD is specifically influenced by transit and focuses on walkability and connections to other sites as well as transit.

TRANSITIONAL STATION AREA ACTION PLAN (TSAAP) is the planning process led by Hennepin County as part of its Southwest LRT Community Works program, resulting in the Southwest Corridor Investment Framework and including a TSAAP for each of the 17 station areas.

TYPOLOGIES are classifications or types of development that share the same or similar attributes.

WALKSHED is the area surrounding each LRT station that is accessible by walking within a 10-minute timeframe. See Walkshed Methodology below for a more detailed explanation of how walkshed were developed for this report.

WAYFINDING is a coordinated and legible system of visual elements, such as landmarks, signs, and pathways, which help people orient themselves in physical space and navigate from place to place.

Walkshed Methodology

The Walkshed Analysis used Geographic Information System (GIS) software to analyze the walkability of each of the 17 LRT station areas and create station area walksheds. To determine the true walkability of the station areas, existing sidewalk and trail infrastructure data was collected from the local municipalities along the LRT line. Any sidewalks or trails that were not included in the collected data were created based on aerial imagery.

After collecting all of the existing data, GIS software was used to select the sidewalk and trail infrastructure that was accessible within a 10- minute walk of each LRT station. Some basic assumptions were used in the selection:

» Pedestrians are walking at a speed of 5 kilometers per hour (3.1 miles per hour).

» Pedestrians are using designated pedestrian infrastructure only (sidewalks, mixed use trails, bike paths, crosswalks, etc.). This does not include streets or parking lots.

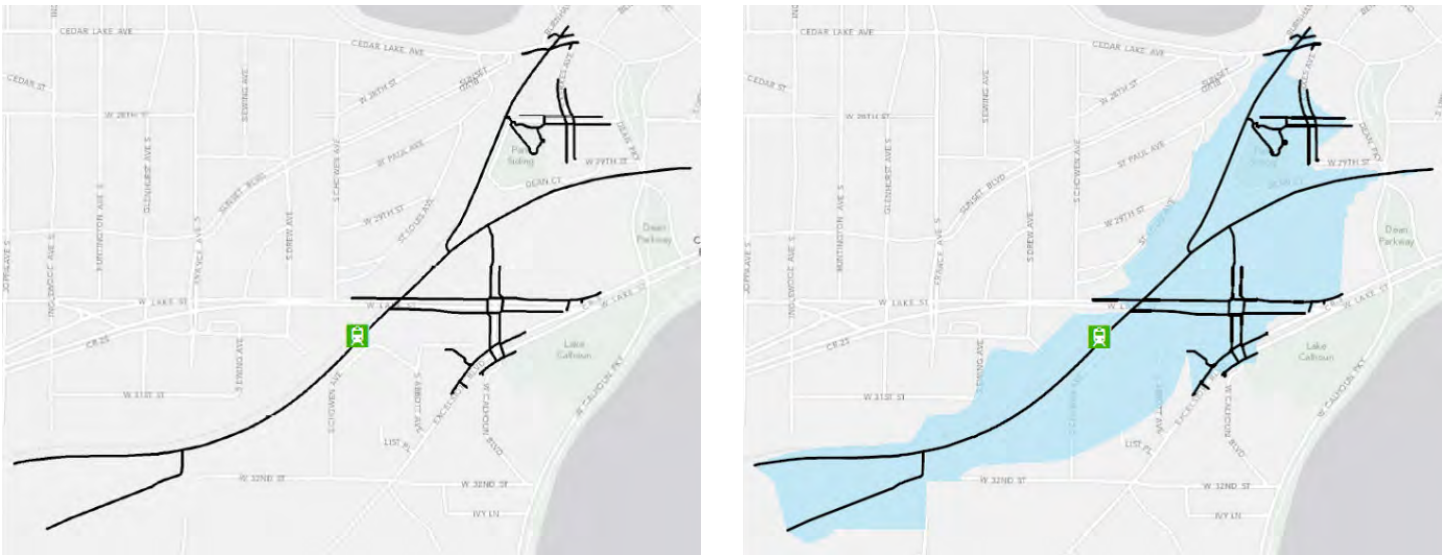
» Pedestrians are following all laws regarding traffic. Examples: crossing only at designated crosswalks and intersections, and waiting at all traffic lights.

» Pedestrians are delayed by 1 minute at designated crosswalks. Example: pedestrians must wait for traffic lights to change to cross streets.

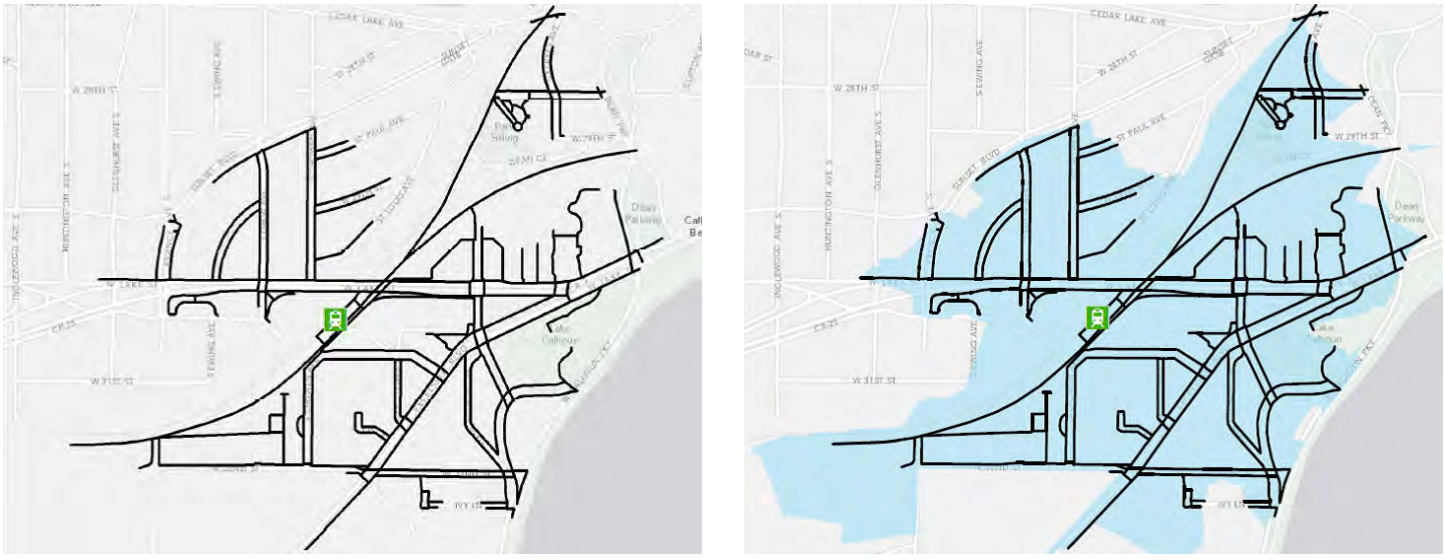
» Pedestrians are not trespassing on private property.

These selected sidewalks and trails were assumed to be the pedestrian network that was accessible within a 10- minute walk of each station area. Walksheds were generated based on the selected pedestrian networks. The walksheds were modeled using GIS software, basing the edges of the walkshed on the end points of the selected pedestrian network. Areas in between pedestrian network endpoints are more generalized, which creates some interesting walkshed shapes. Walksheds were trimmed down when they extended beyond obvious pedestrian barriers, such as water bodies or major highways.

This process was completed for the existing sidewalk and trail networks, and was repeated after adding in the sidewalks and trails that are proposed in the Transitional Station Area Action Plans. The following figures illustrate the selection of a pedestrian network accessible within a 10- minute walk from the West Lake Station, and the generation of a walkshed based on the selected pedestrian network.



The image on the left above shows existing sidewalk and trail infrastructure accessible within a 10- minute walk of the West Lake Station; the resulting existing walkshed (shown in blue above right) was generated based on this existing infrastructure and the assumptions described above.



To generate the future walkshed, proposed sidewalk and trail infrastructure for the West Lake Station were added to the existing pedestrian network (improved network shown above left); the resulting future walkshed (shown in blue above right) was generated based on this improved network and the assumptions described above.

For more information about Southwest LRT Community Works and Southwest LRT station area planning, go to:

www.swlrtcommunityworks.org