



BLAKE STATION

CITY OF HOPKINS

SOUTHWEST CORRIDOR INVESTMENT FRAMEWORK
TRANSITIONAL STATION AREA ACTION PLAN



Hoisington Koepler Group Inc.



SOUTHWEST LRT
community works
www.swlrtccommunityworks.org



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:

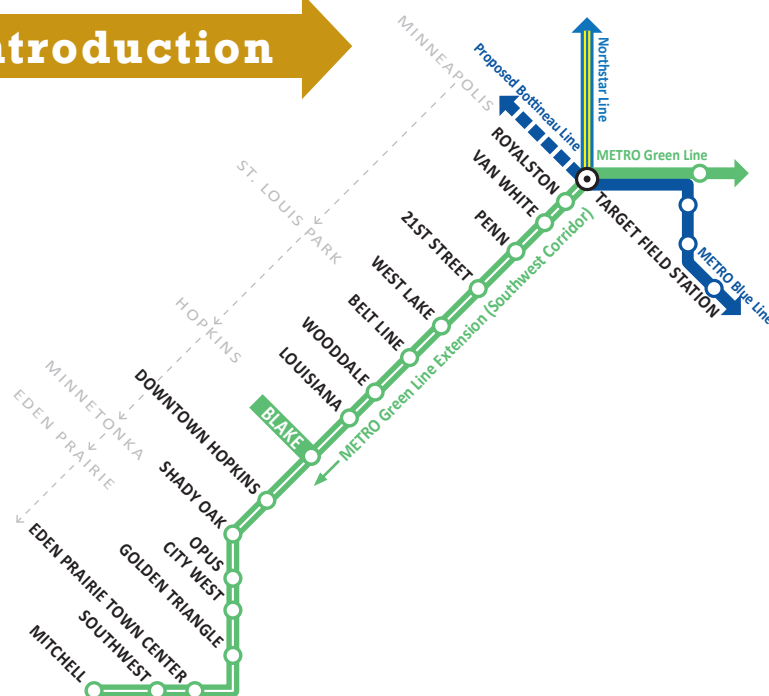
- » Land Use
- » Transit Connections
- » Access + Circulation Issues (Bike, Ped, and Auto)
- » Infrastructure Needs

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.

EDUCATION The 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.

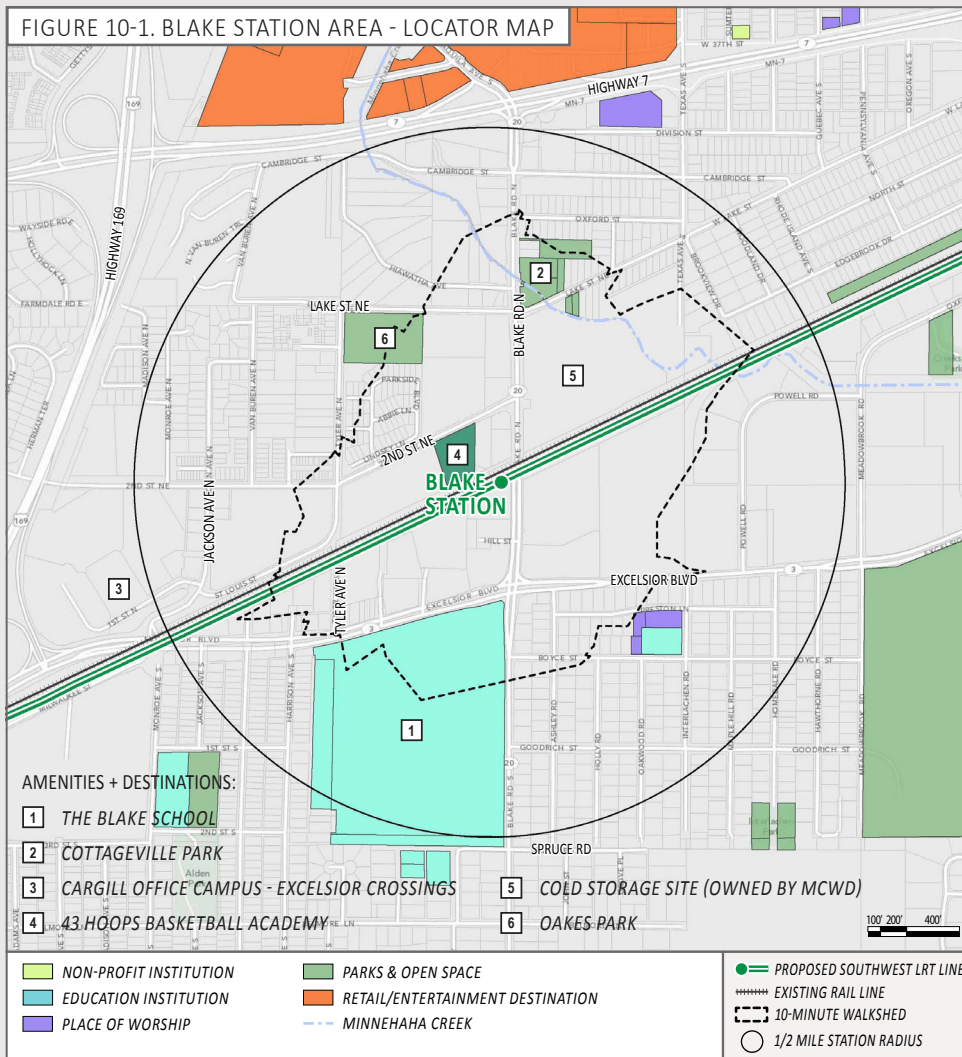
TRAIL CONNECTIONS The Cedar Lake LRT Regional Trail and Minnehaha Creek Greenway, popular biking and walking trails that connect downtown Minneapolis to the western suburbs, pass through the station area.

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.

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.



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.

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

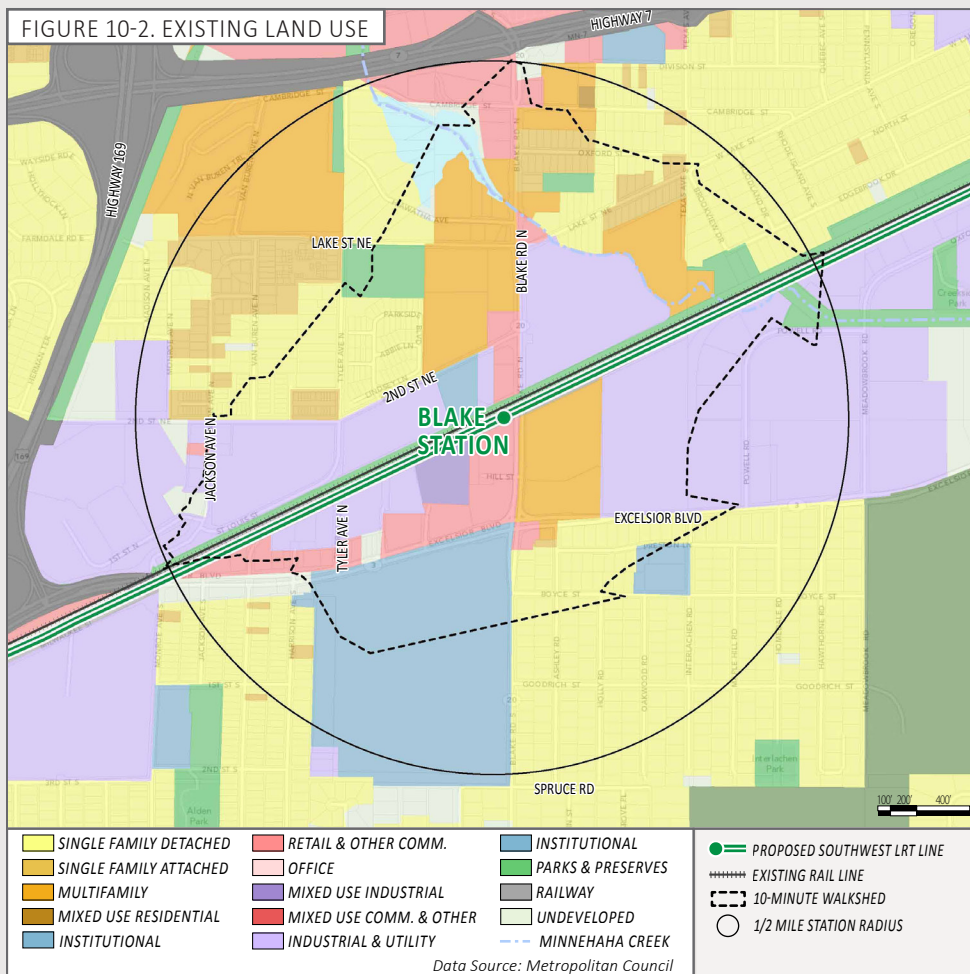
Where Are We Today?

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.

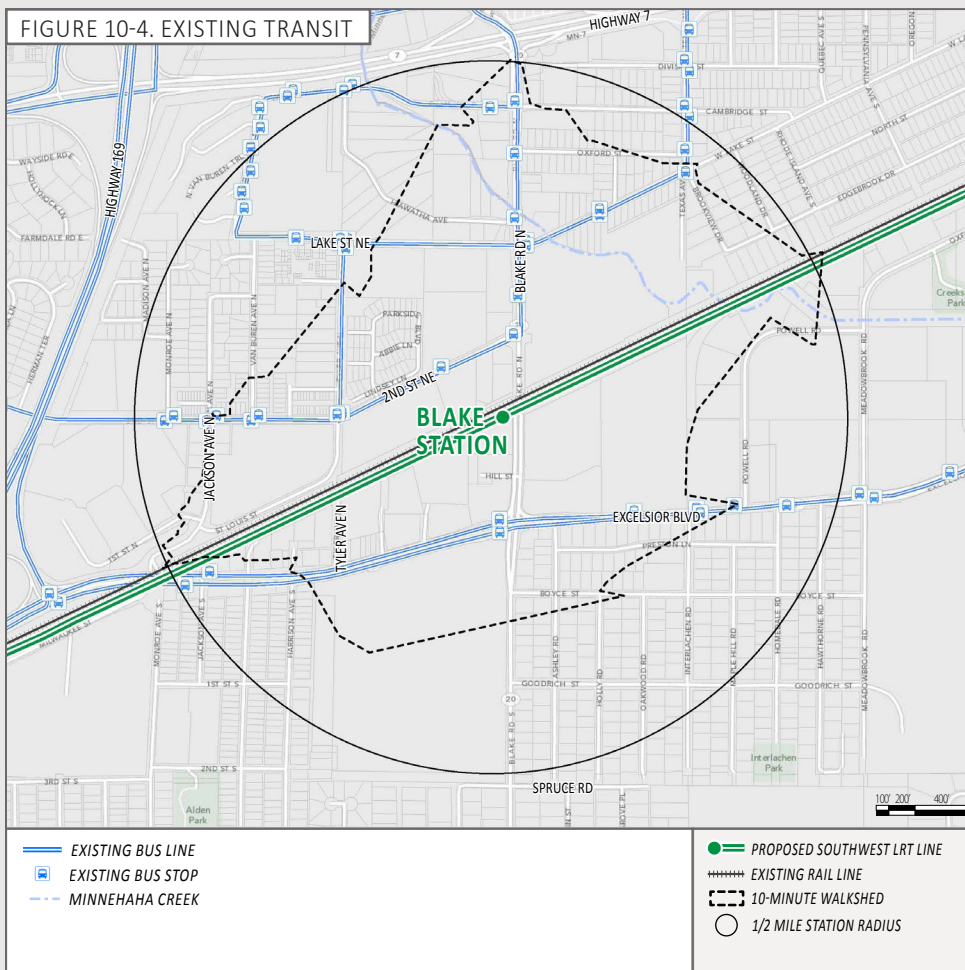
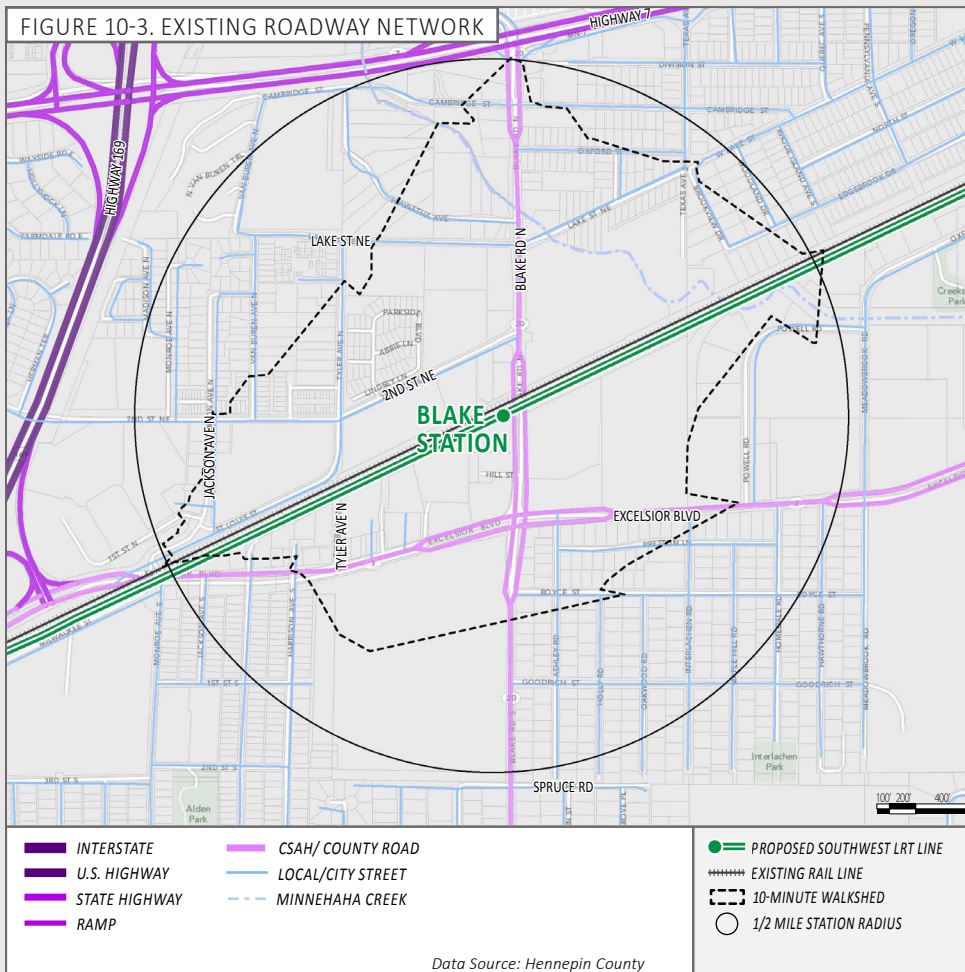


Roadway Network

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.

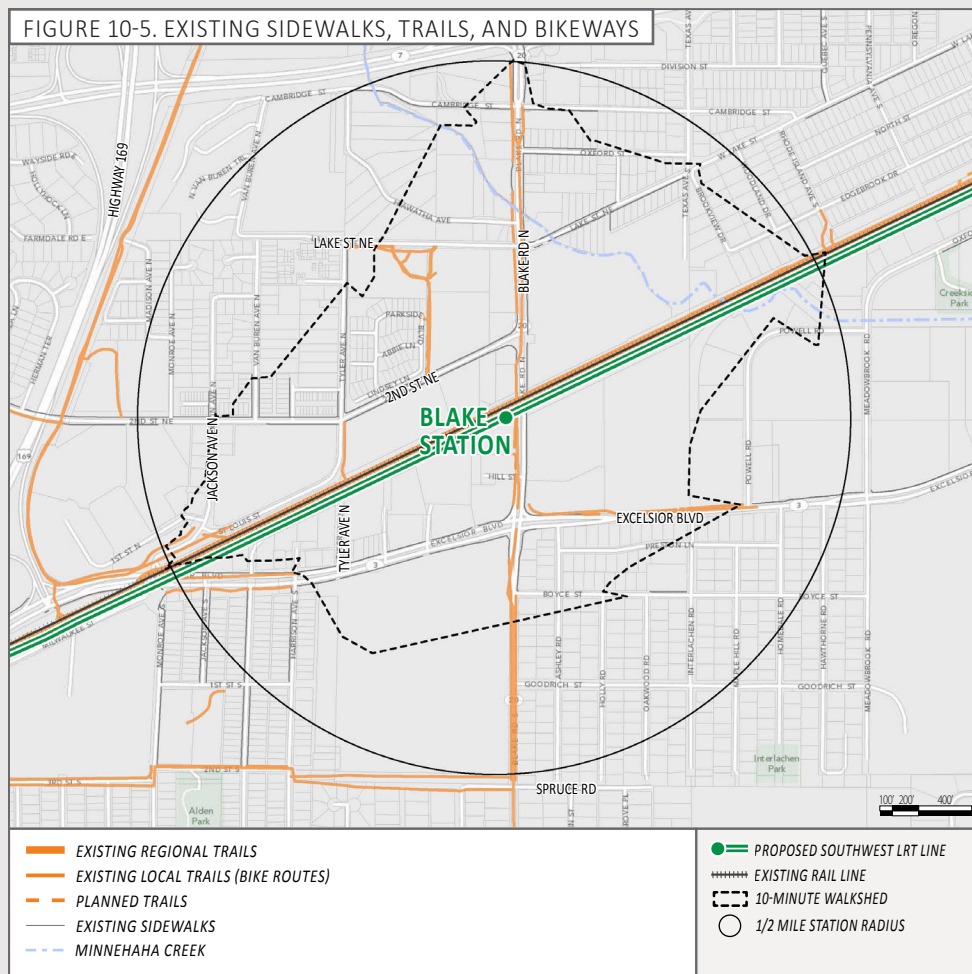
Transit

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

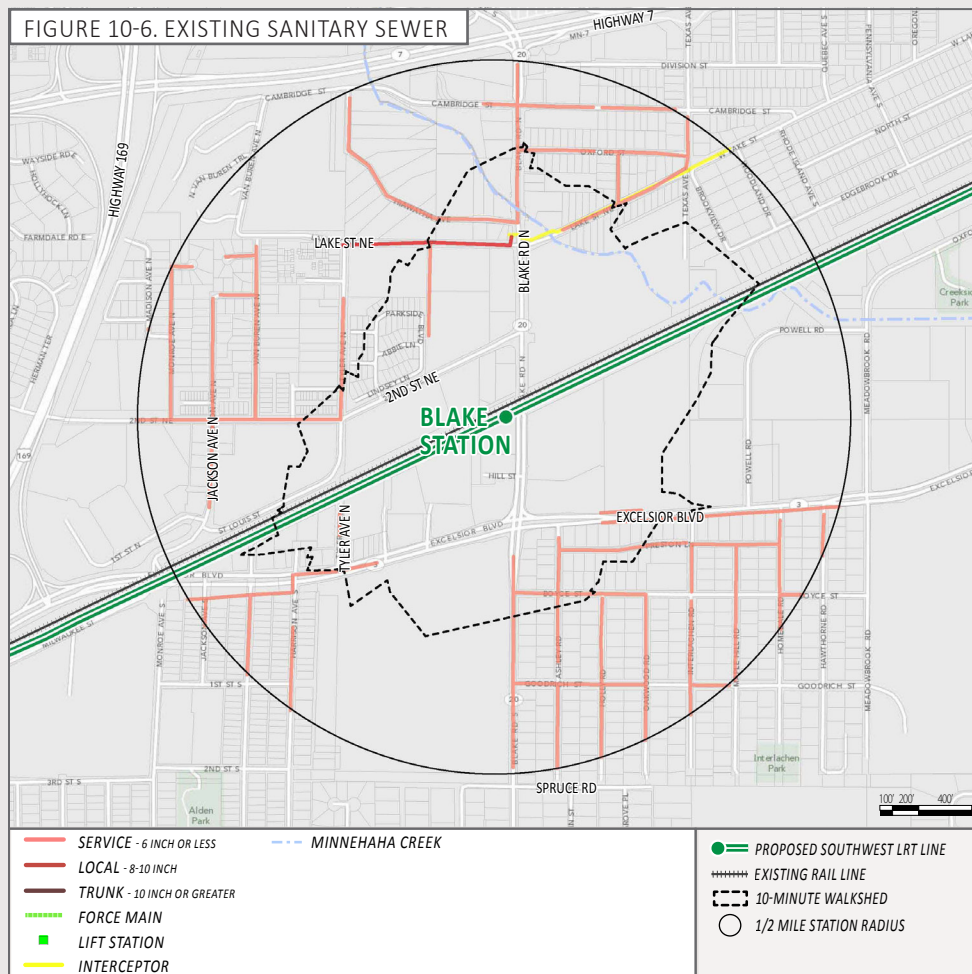
The existing sidewalk system in the Blake station area is limited and inconsistent, with many gaps existing in key areas where riders are expected to originate from – the residential neighborhoods and employments centers. The Cedar Lake LRT Regional Trail runs alongside the LRT and freight lines. The 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.



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.

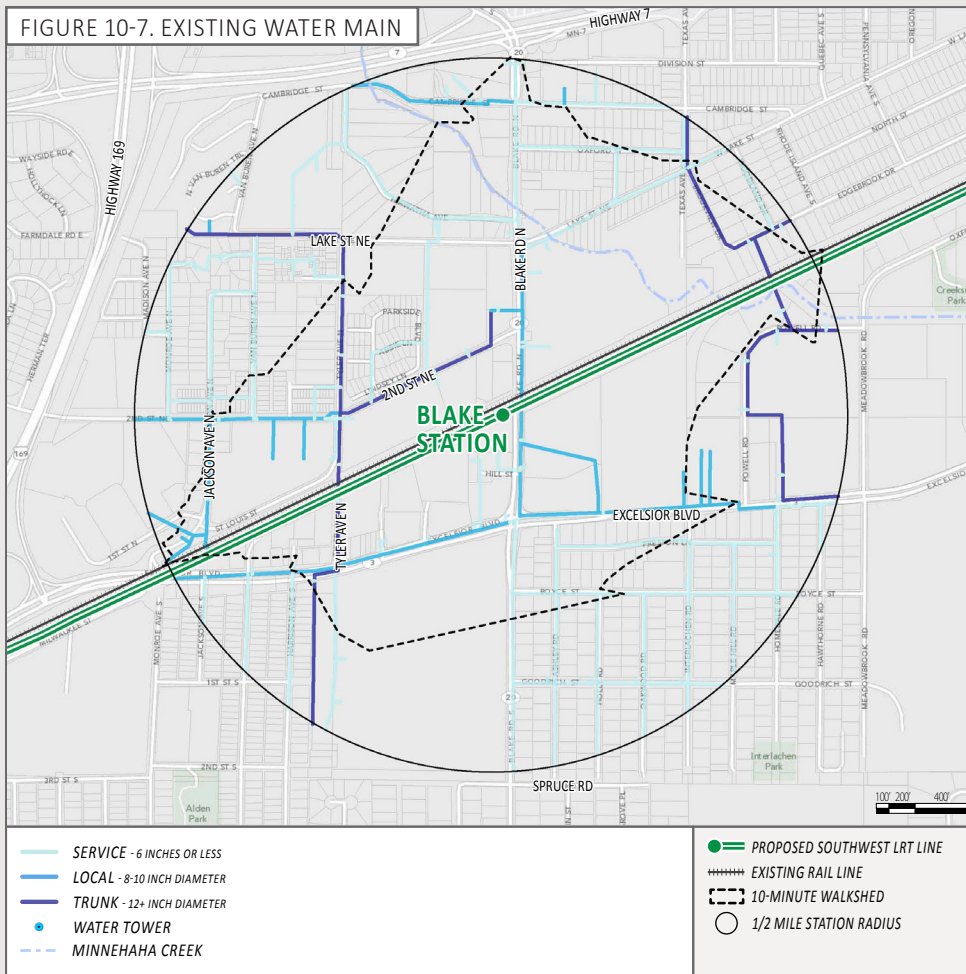
Sanitary sewer infrastructure within the project area is typically maintained by either by the City of Hopkins or by the Metropolitan Council Environmental Services (MCES) Division. MCES maintains a series of interceptor trunk sewers which collect sewage at key locations and convey sewage across community boundaries to regional WWTPs. Wastewater from the station area is treated by the MCES Metro WWTP located in St. Paul.



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.



THIS SPACE INTENTIONALLY LEFT BLANK

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.

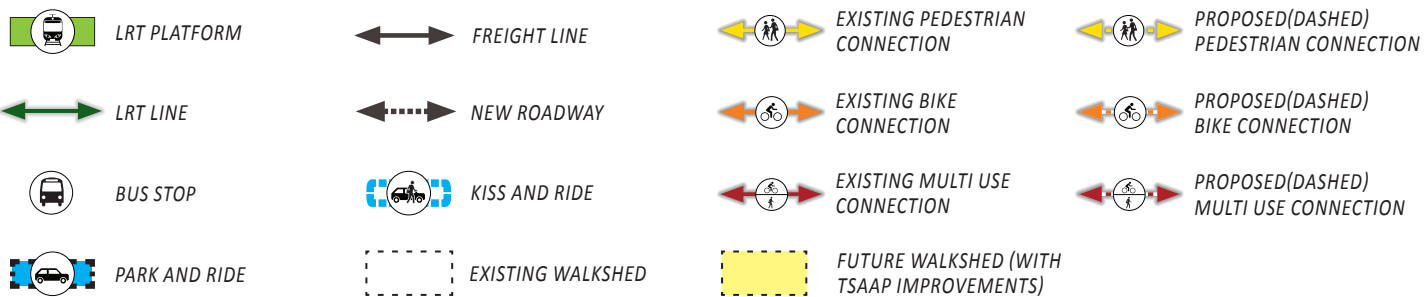
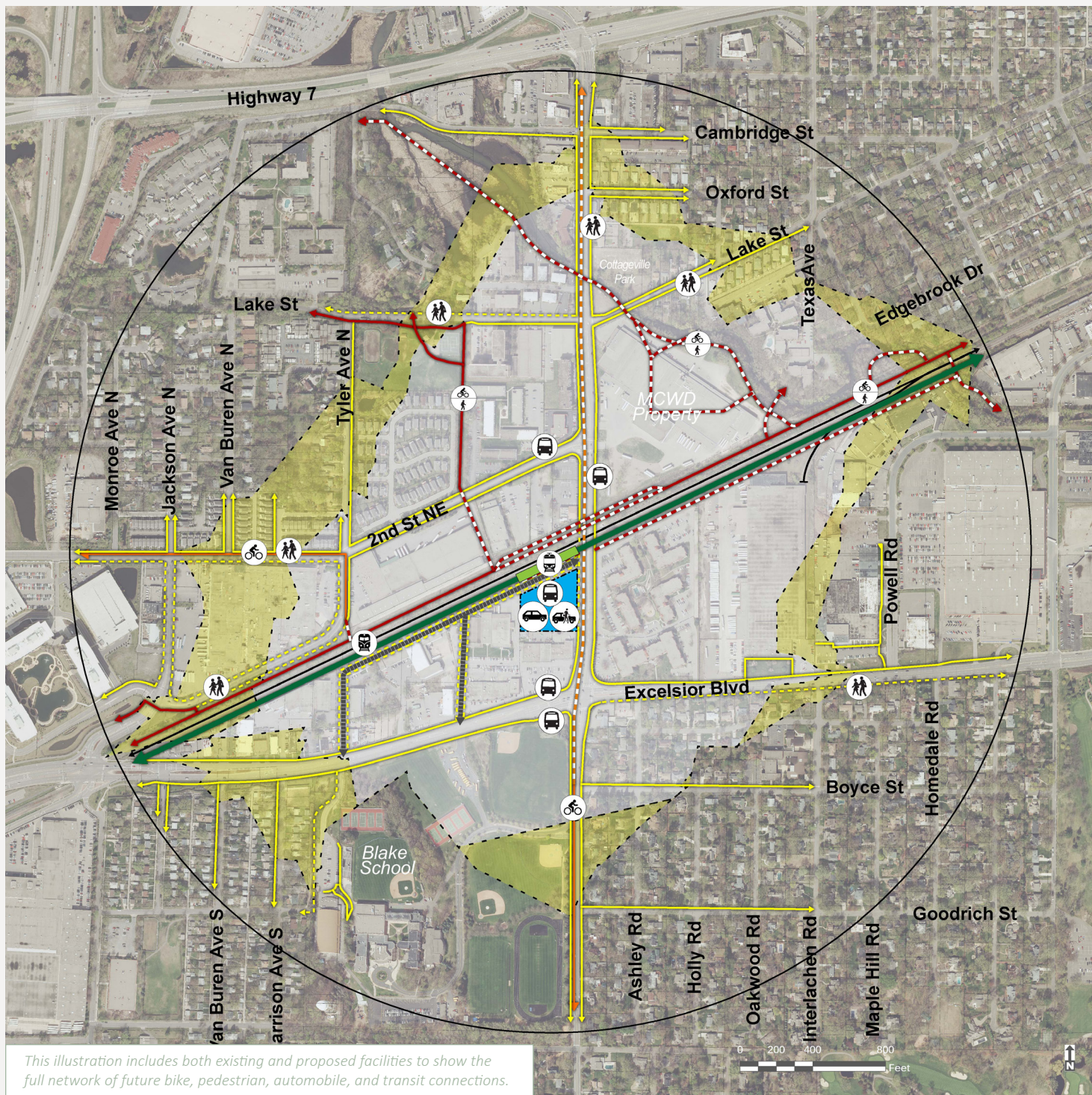
UTILITIES

- » See the “Station Area Utility Plan” beginning on page 10-20 for all utility recommendations.

FIGURE 10-8. ACCESS + CIRCULATION PLAN

WHERE ARE WE GOING?

BLAKE



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.

WHERE ARE WE GOING?

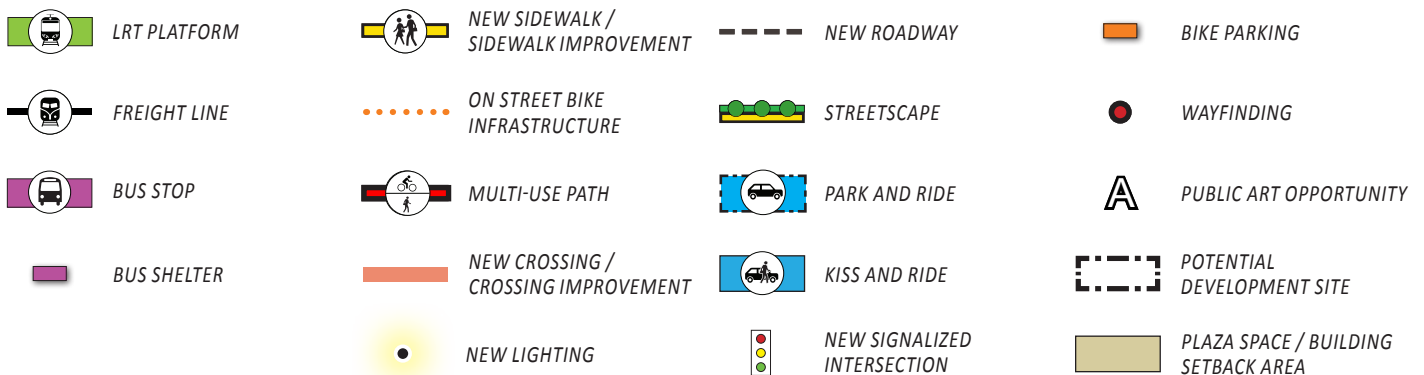


- SOUTHWEST CORRIDOR INVESTMENT FRAMEWORK - TRANSITIONAL STATION AREA ACTION PLANS 10-11

FIGURE 10-10. OPENING DAY STATION AREA IMPROVEMENTS

WHERE ARE WE GOING?

BLAKE



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

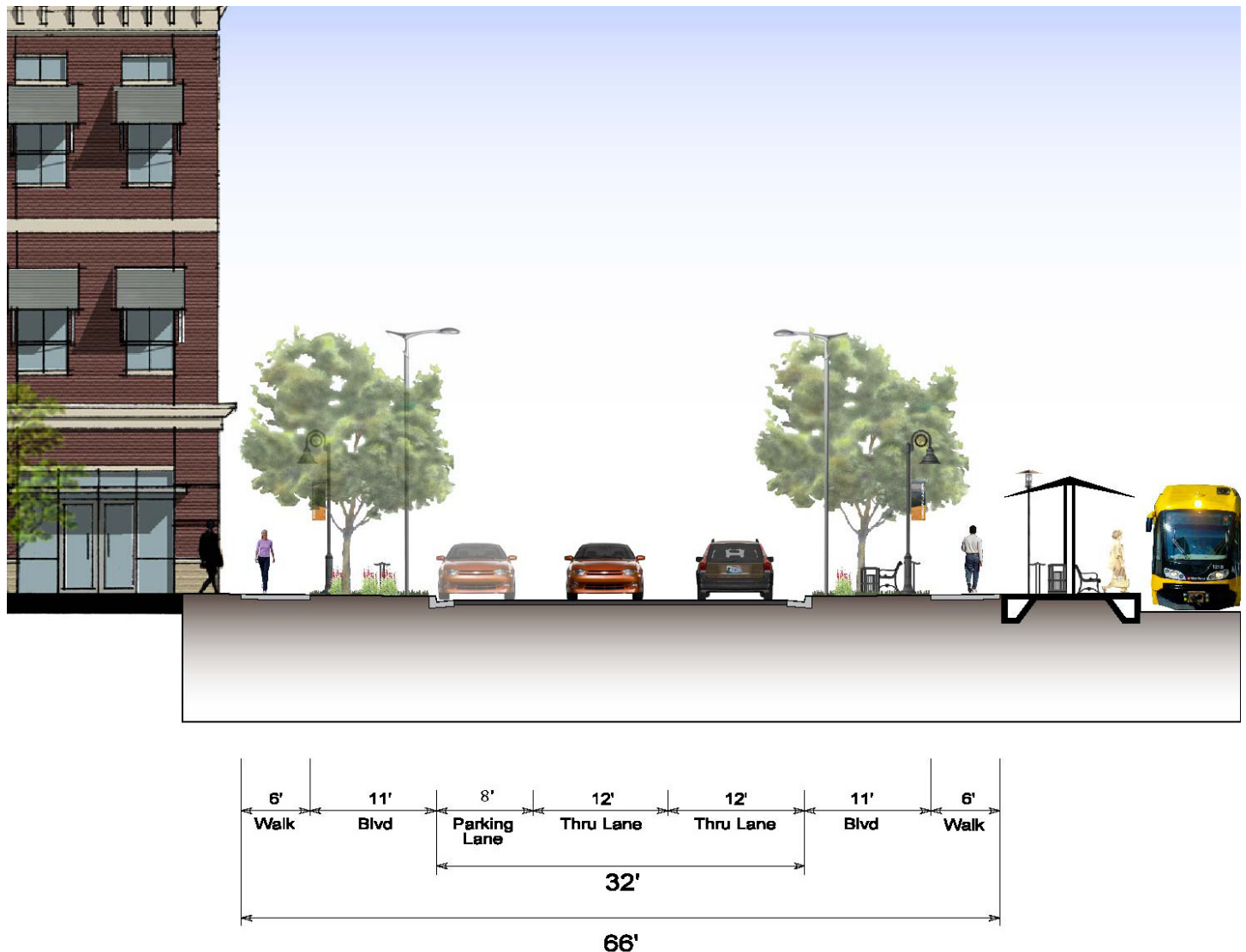
Dimensional Criteria:

- » 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
B2	Joint Development	Northwest corner of Blake and Excelsior	Site and access improvements

FIGURE 10-12. ANTICIPATED BASE PROJECT SCOPE - OPENING DAY STATION AREA IMPROVEMENTS

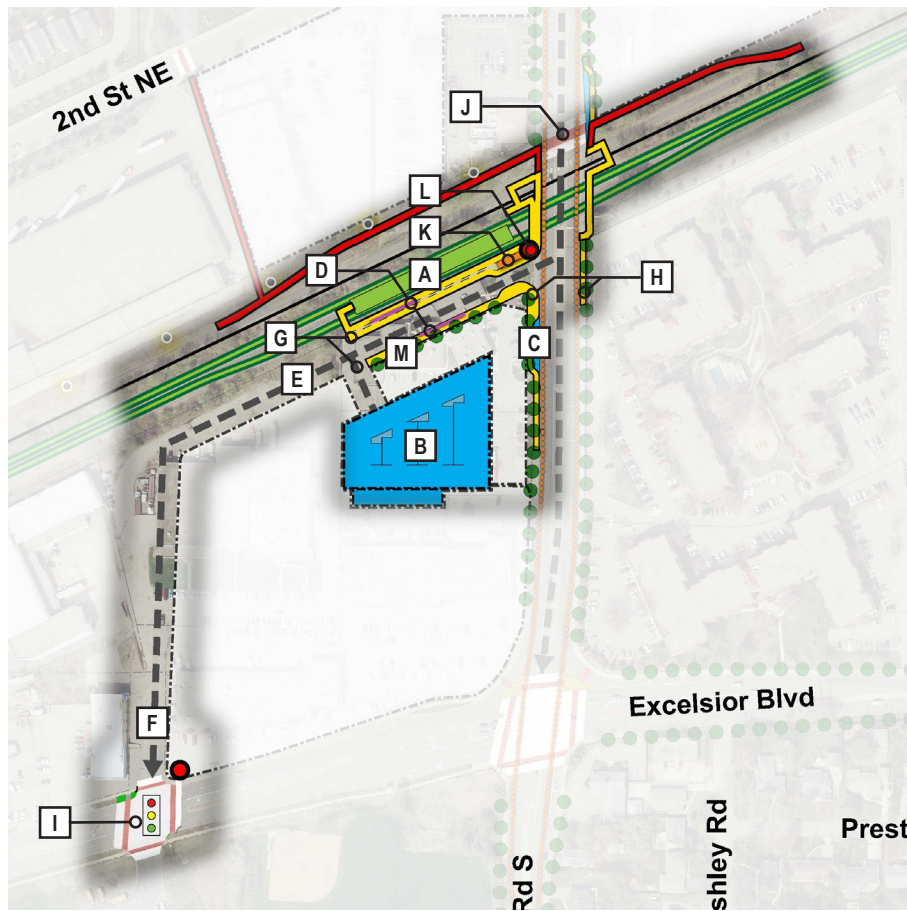
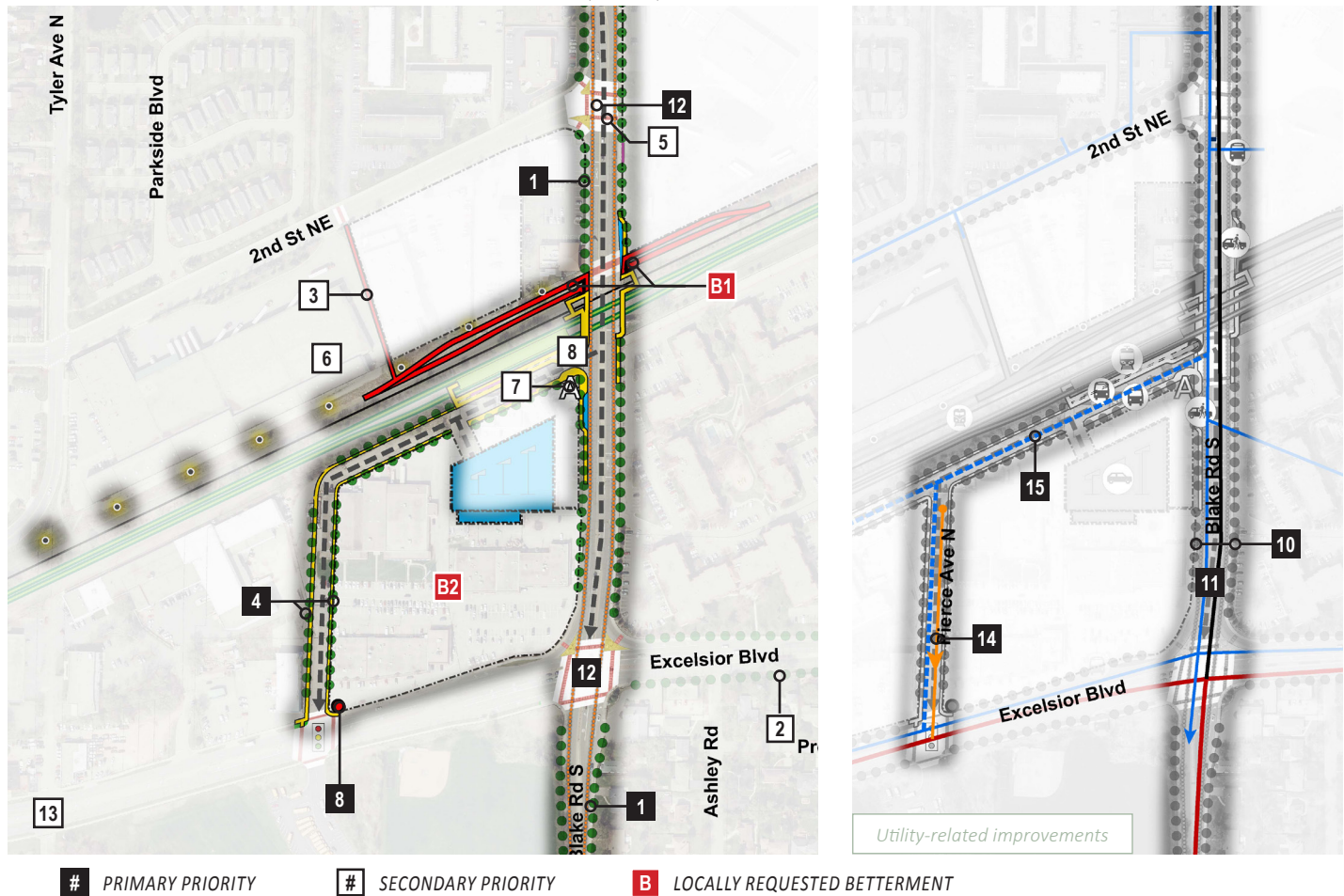


FIGURE 10-13. SW CORRIDOR INVESTMENT FRAMEWORK (TSAAP) - OPENING DAY STATION AREA IMPROVEMENTS + BETTERMENTS



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.

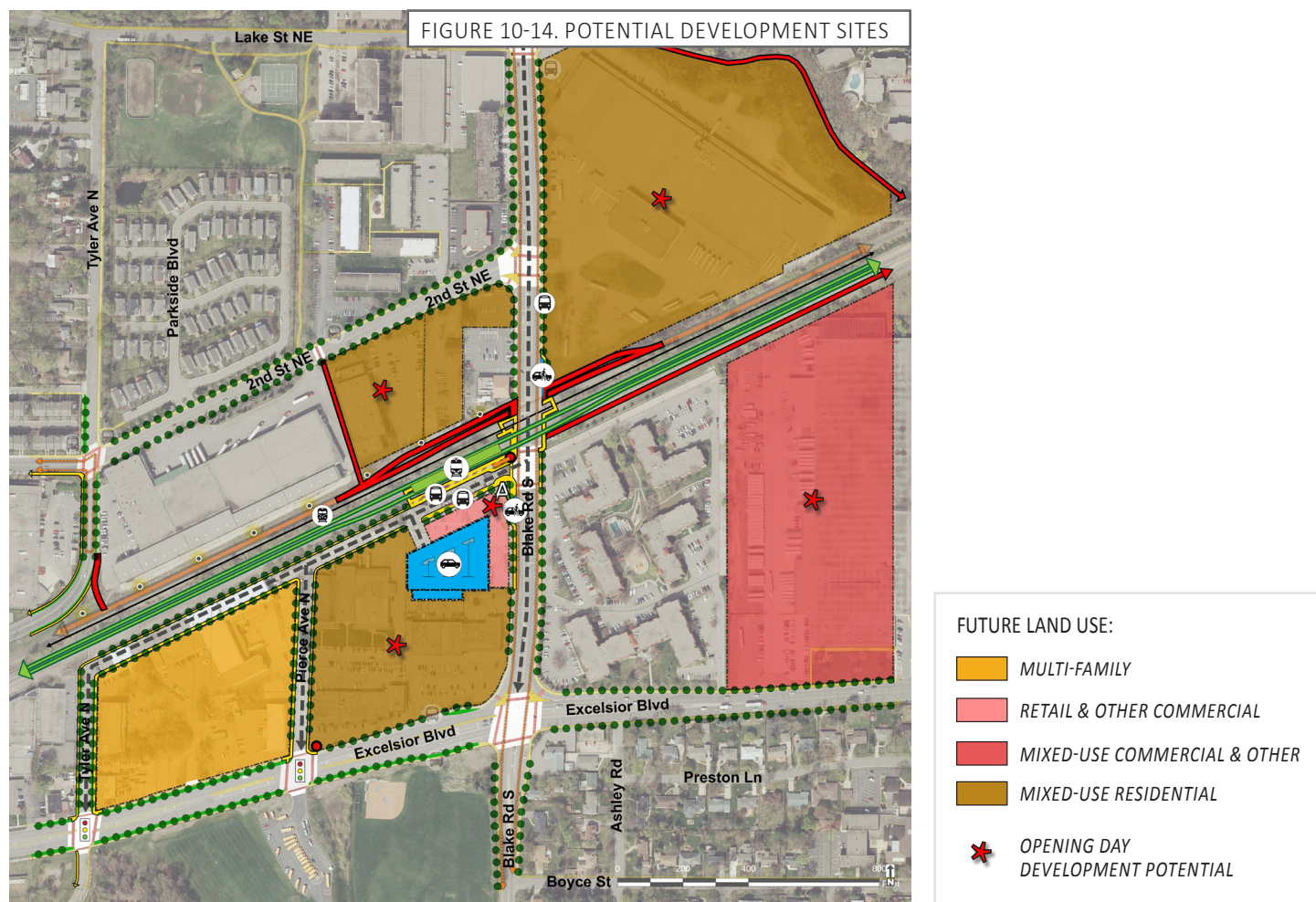
LAND USES

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 improvements, 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.



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 benefit 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.

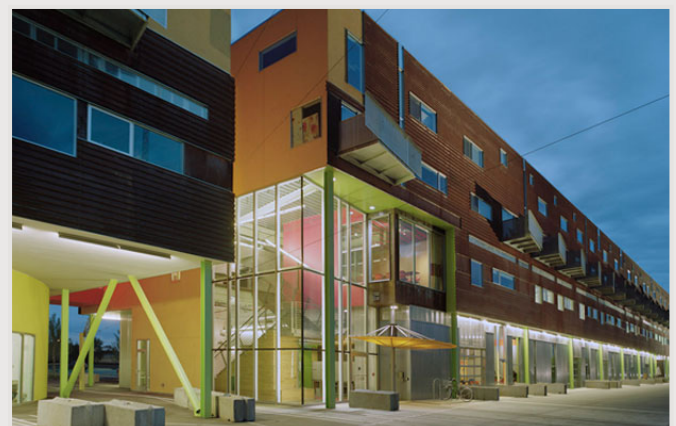
- » Accommodate retail and short-term parking on-street or in shared parking facilities to minimize the construction of single-use parking areas.
- » Consolidate access and servicing between adjacent developments and minimize vehicular access points along key routes leading to and from the station including 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

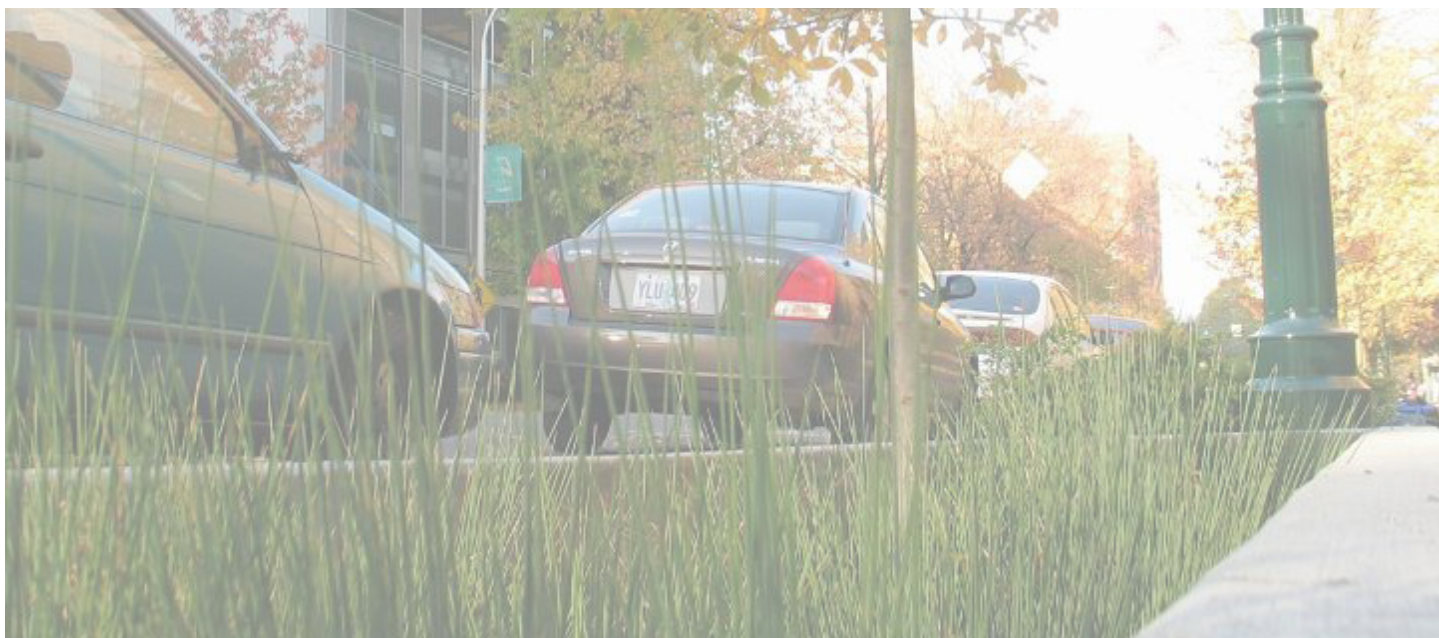
Local storm sewer improvements are recommended to be completed in conjunction with other improvements in the station area. Improvements which will likely require storm sewer modifications include: roadway realignments, roadway extensions, and pedestrian sidewalk/street scape improvements. Storm sewer 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.

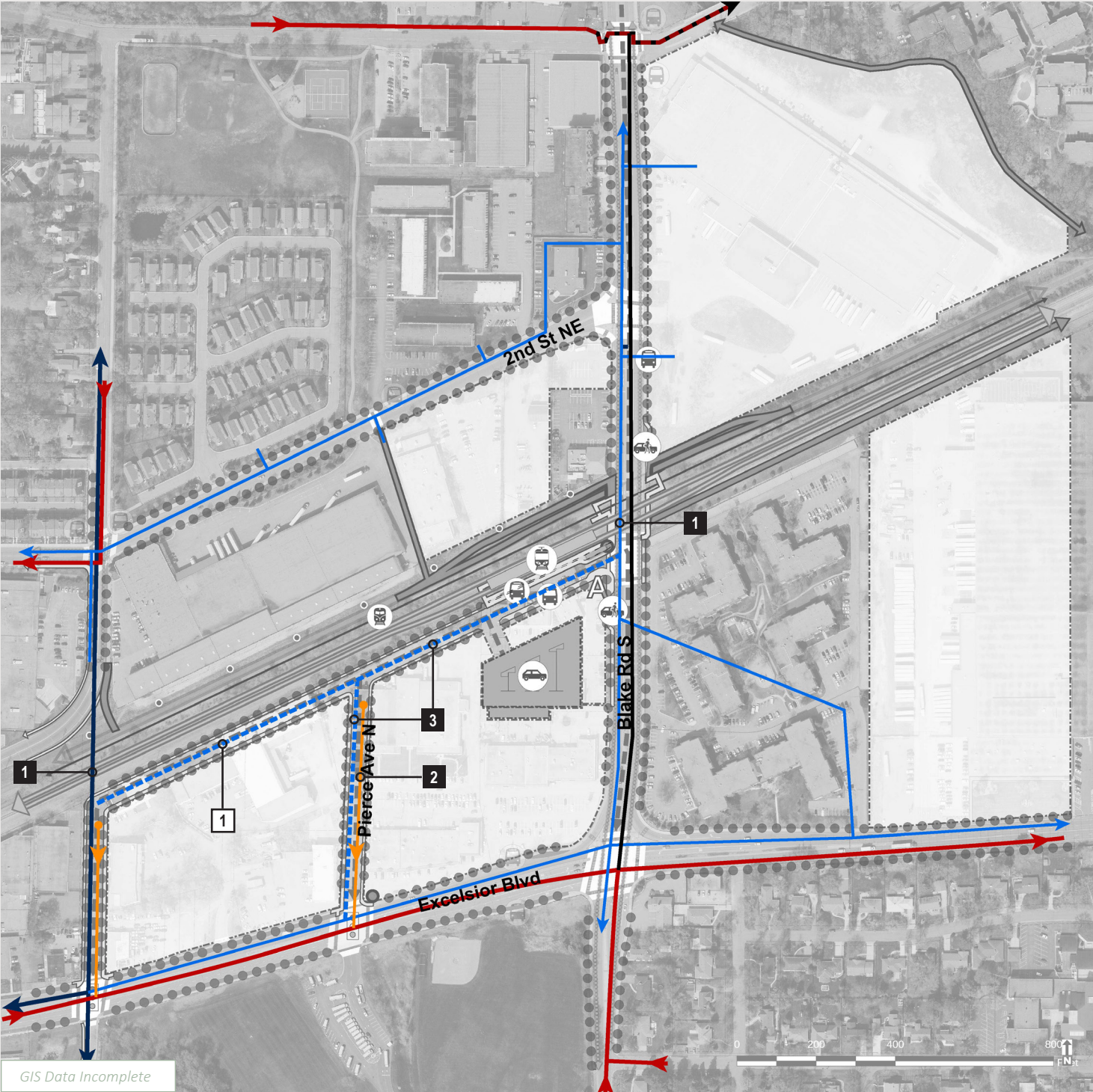
Opening Day Recommendations:

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 (MCWD). 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

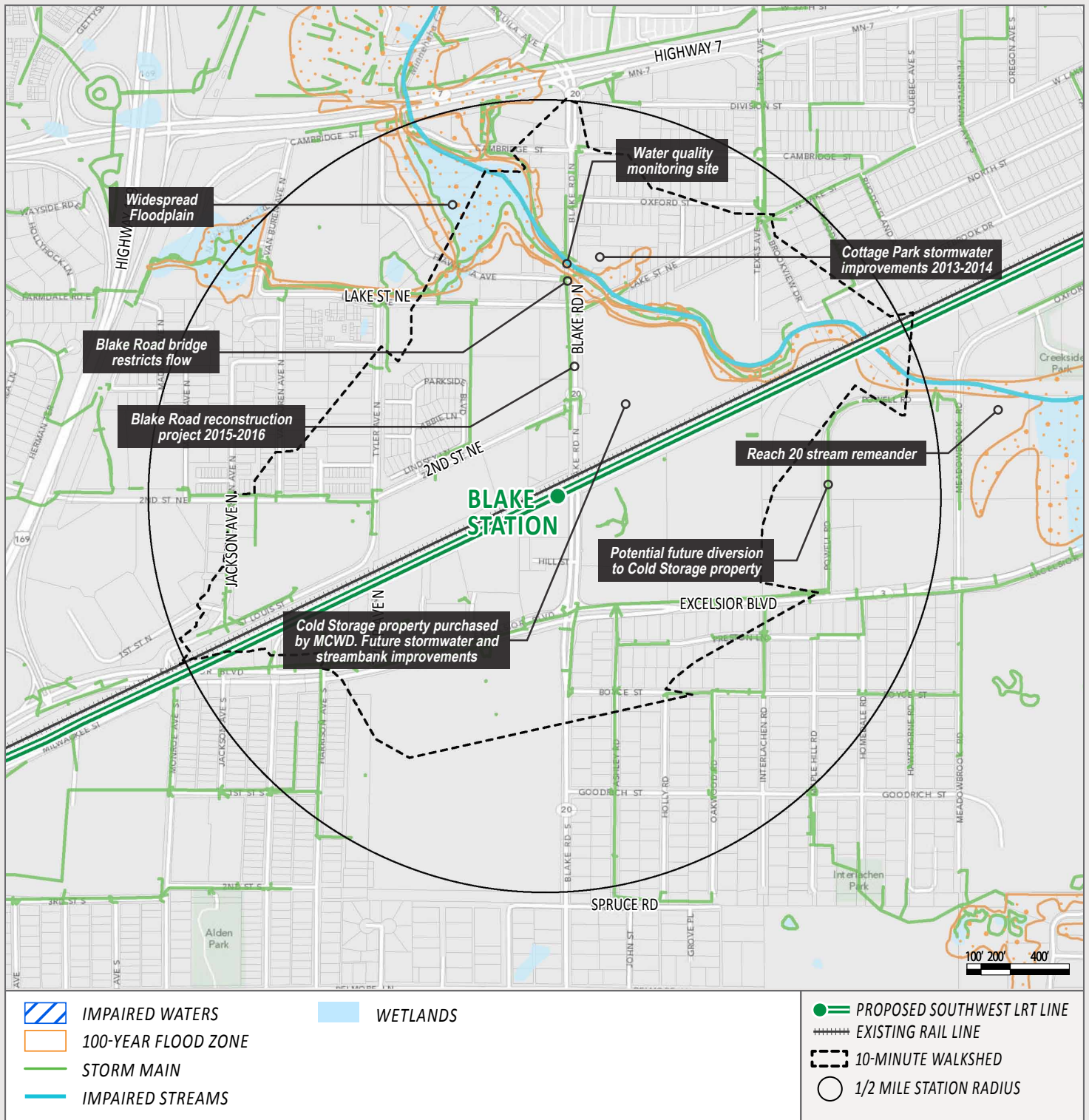
Based on Minnehaha Creek Watershed District Rules (June 2011) and MPCA NPDES requirements outline above, these areas will likely need to provide stormwater management to meet volume control, rate control, and pollutant removal requirements.

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:

$$3 \text{ acres} \times \frac{1 \text{ inch}}{12 \text{ in/ft}} + 6.1 \text{ acres} \times \frac{1 \text{ inch}}{12 \text{ in/ft}} + 29.9 \text{ acres} \times \frac{1 \text{ inch}}{12 \text{ in/ft}} = 3.3 \text{ Acre}$$

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.

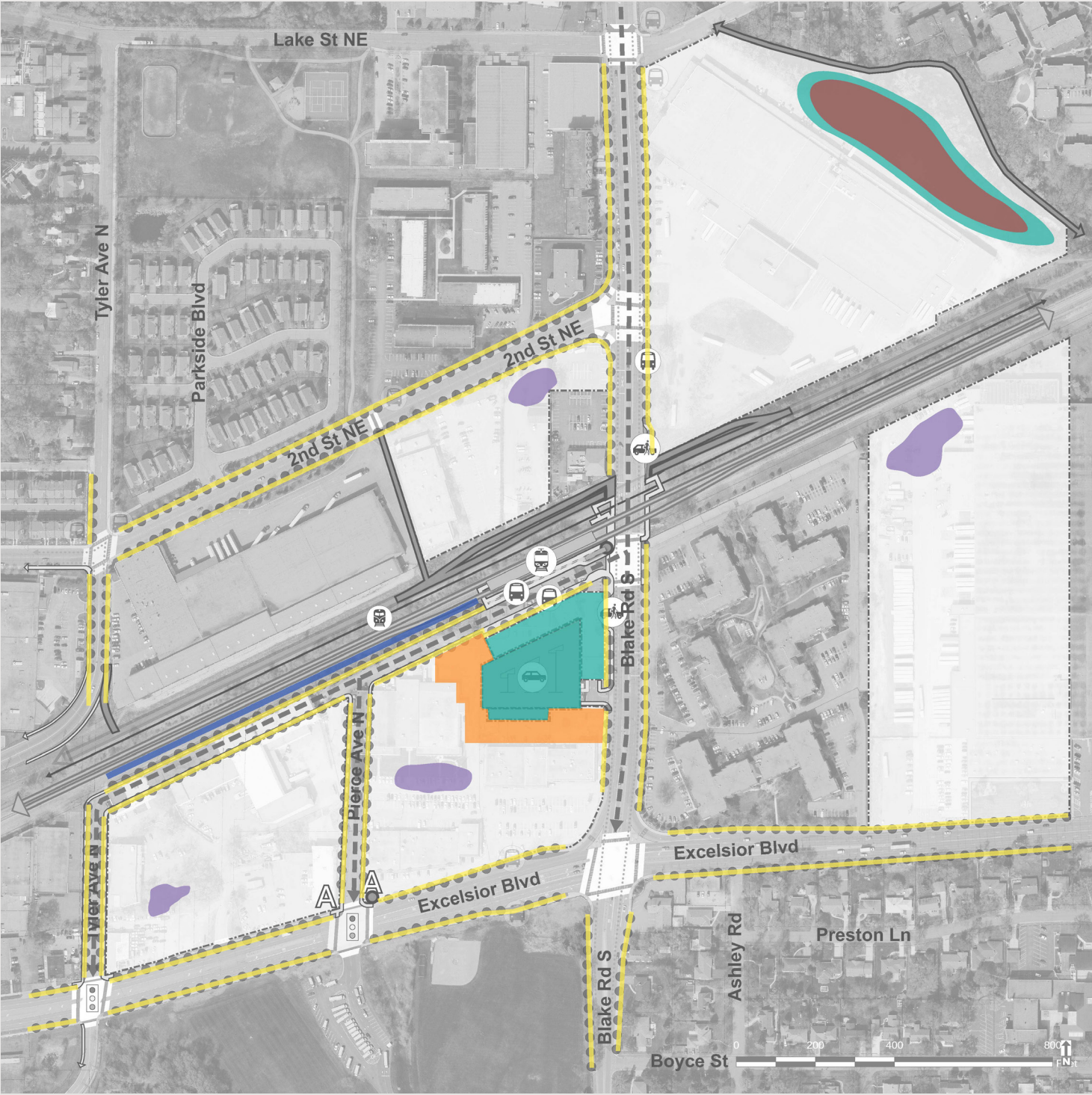
Biofiltration Cells: Biofiltration cells are shown to treat localized runoff on individual redevelopment sites. It is anticipated that the majority of stormwater treatment can be provided through

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
Biofiltration 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
- » Drantile 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:

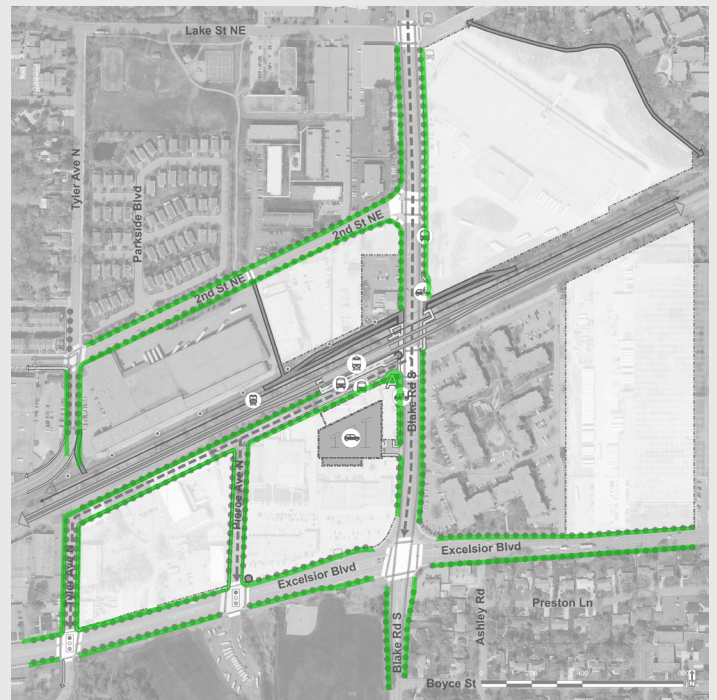
- » Volume control through infiltration and vegetative uptake
- » Treatment by filtration and infiltration
- » Detention capacity to reduce peak flow rates
- » Irrigation of aesthetic landscaping features
- » Minimal footprint

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

THIS PAGE INTENTIONALLY LEFT BLANK