

SOUTHWEST STATION

CITY OF EDEN PRAIRIE

SOUTHWEST CORRIDOR INVESTMENT FRAMEWORK
TRANSITIONAL STATION AREA ACTION PLAN



Hoisington Koegler 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 17-2

A brief overview of the station location and its surroundings

WHERE ARE WE TODAY? 17-4

A description of existing conditions in the station area, including:

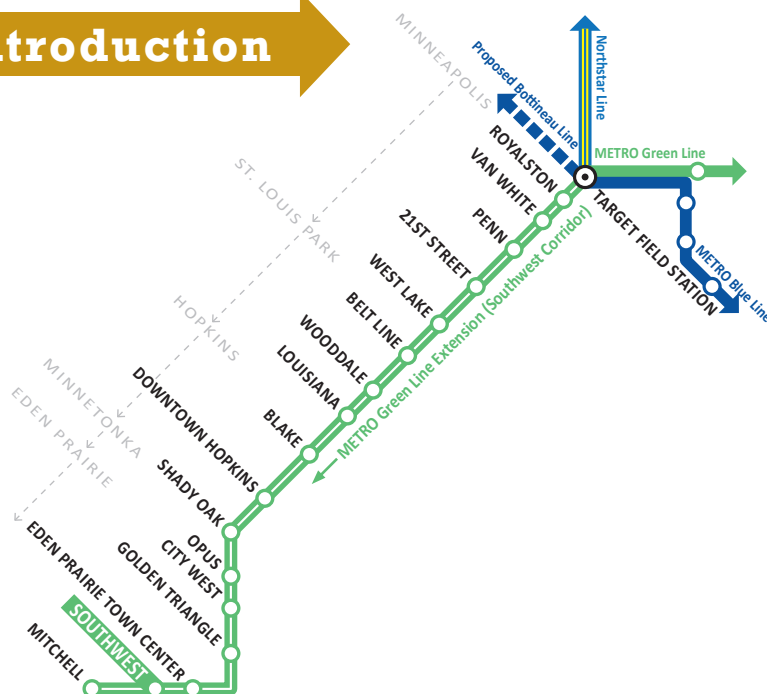
- » Land Use
- » Transit Connections
- » Access + Circulation Issues (Bike, Ped, and Auto)
- » Infrastructure Needs

WHERE ARE WE GOING? 17-8

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



SOUTHWEST STATION WITHIN THE CORRIDOR:

An important multi-modal transit hub and gateway to the Southwest Corridor for people traveling into the city from the west.

EMPLOYMENT The Southwest station is primarily an employment campus on the southern end of the corridor with some supporting commercial and residential (see Place Types discussion beginning on p. 1-19). The area is home to the Optum and Wells Fargo centers along with several other businesses, retail stores, and restaurants. Ridership at the Southwest station will be partially driven by these area employees traveling south to the area from neighborhoods along the line.

TRANSIT CONNECTIONS The station is located at the Southwest Transit Center. A five-level, 900-car facility supports express bus services traveling into Minneapolis.

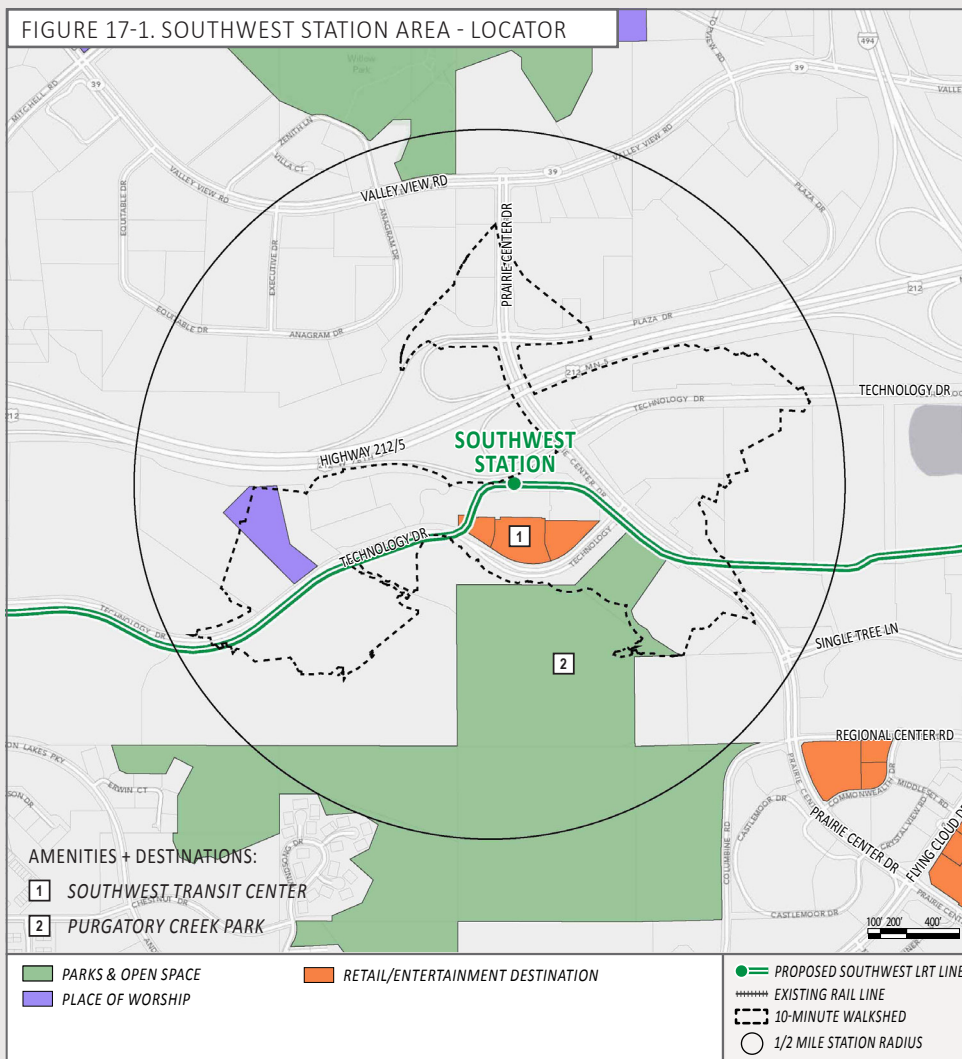
NEIGHBORHOODS Medium-density housing is located directly west of the station in mid-rise buildings facing Technology Drive. The Eden Glen apartment neighborhood also sits along the northern perimeter of the station walkshed near Valley View Road.

TRAIL CONNECTIONS Multi-use trails can be accessed off of Technology Drive and Prairie Center Drive. These will form the principal means of access for neighborhoods to the south of the station. Direct pedestrian and cycling connections from the station platform to the surrounding network of trails will help increase access and circulation.

OTHER DESTINATIONS The Purgatory Creek Park and Conservation Area is located to the immediate south of the station area. The area includes 200-acres of wetlands, a seven-acre park, and 2.5 miles of walking trails that provide recreational opportunities for residents and area employees.

Station Location

The Southwest station is located at the existing Southwest Transit Center, which services the Southwest Transit express bus line today with park and ride and ride and drop-off facilities. The park and ride structure provides parking for roughly 900 cars today and is operating near capacity. Restaurants and multi-family housing are located adjacent to the transit center. Vehicular access to the transit center is obtained off of Technology Drive. Purgatory Creek Park is located across Technology Drive from the station area. Office uses are located to the east and west of the station area, along Technology Drive. The Southwest station is anticipated to serve park and riders, as well as employees of local businesses and nearby residents.



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.

SOUTHWEST STATION AREA TODAY:



Optum campus



SW Transit Center entrance



SW Transit Center ramp



SW Station Condominiums



SW Station Condominiums



Picnic shelter at Purgatory Creek Park

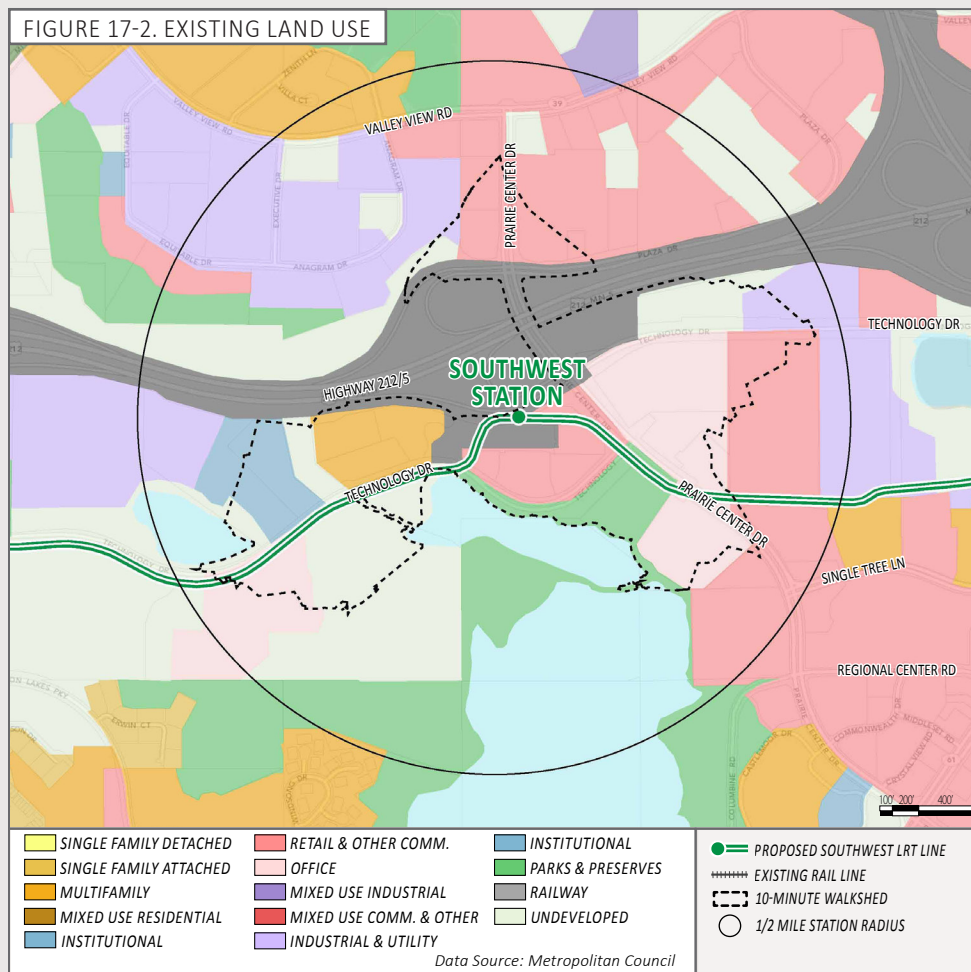
Where Are We Today?

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.

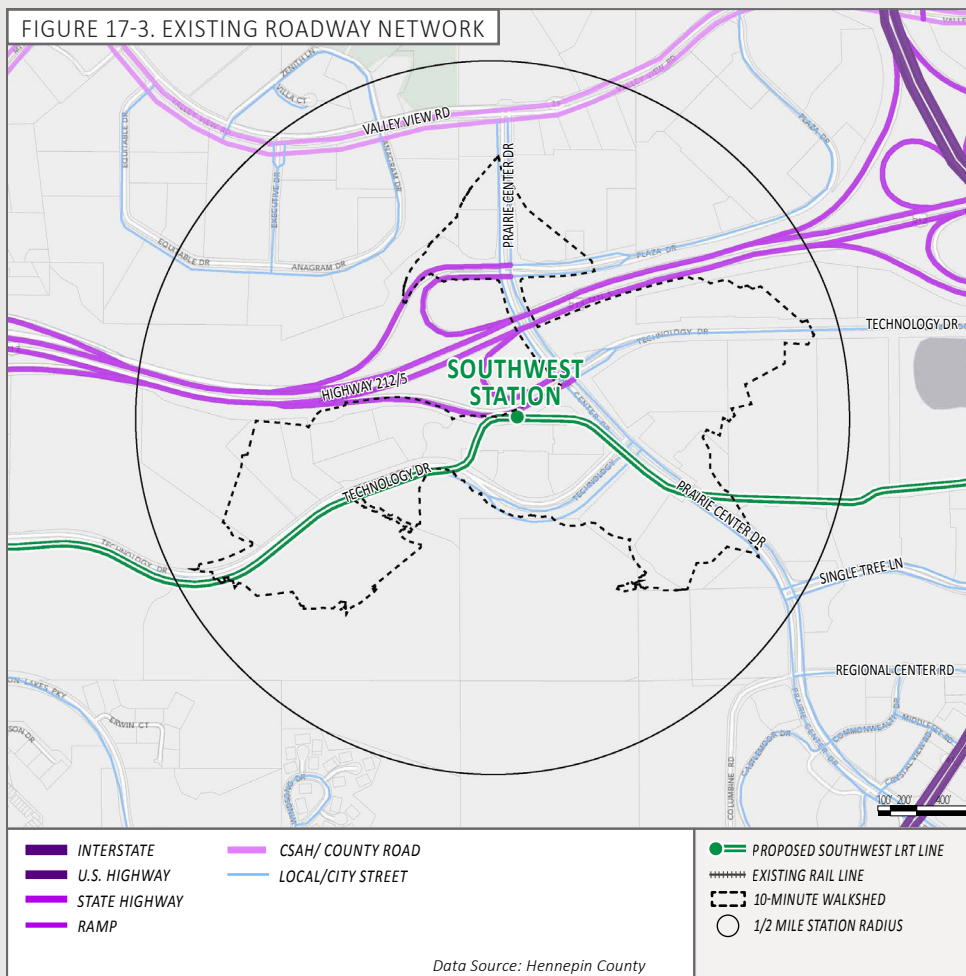
Land Use

Land uses near the Southwest station include retail, restaurant, office, multi-family residential, institutional, parks and open space. Several restaurants serve the immediate station area. More retail, restaurant, and office uses are located to the east of the station area. Nearby multi-family residential uses are located west of the station, along Technology Drive. Just west of this housing development are institutional uses and additional office development.



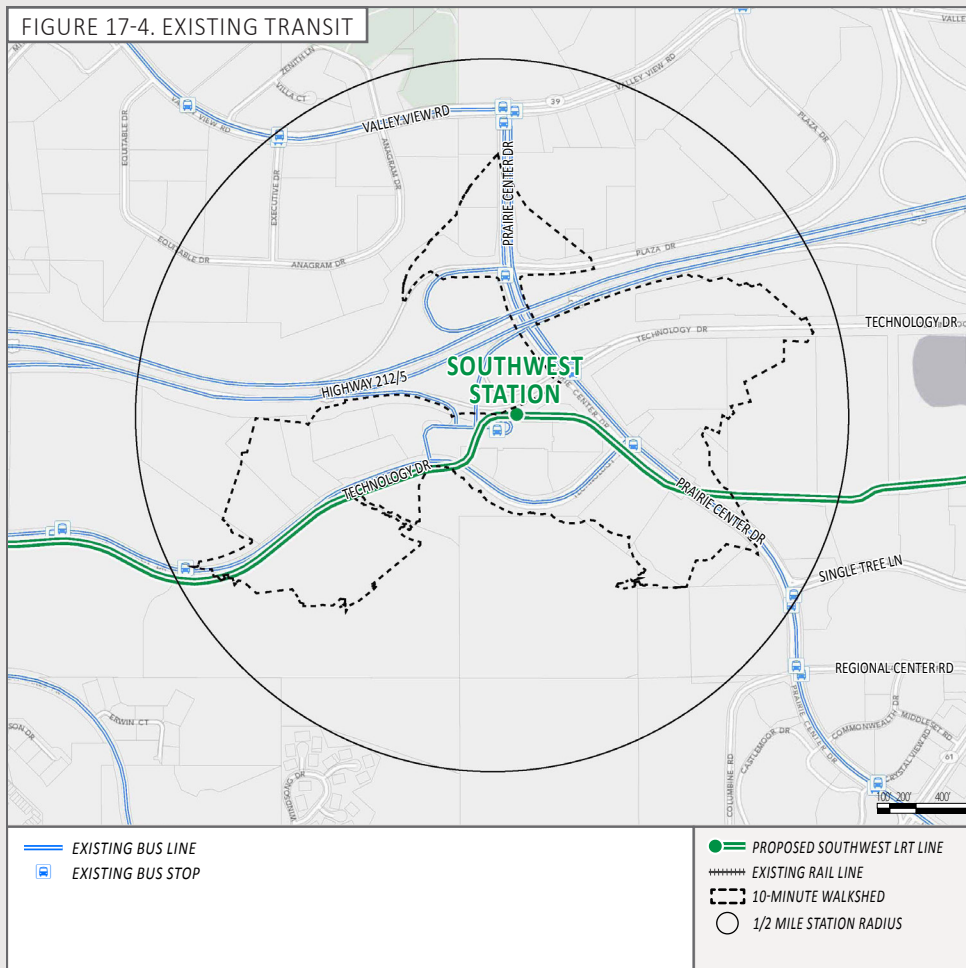
Roadway Network

The roadway network in the station area is limited, primarily consisting of Technology Drive, Prairie Center Drive, and Highway 212. These are busy roadways designed to carry heavy volumes of traffic on them. They are not pedestrian- or bicycle-friendly roadways, although trails do exist on Technology Drive and Prairie Center Drive.



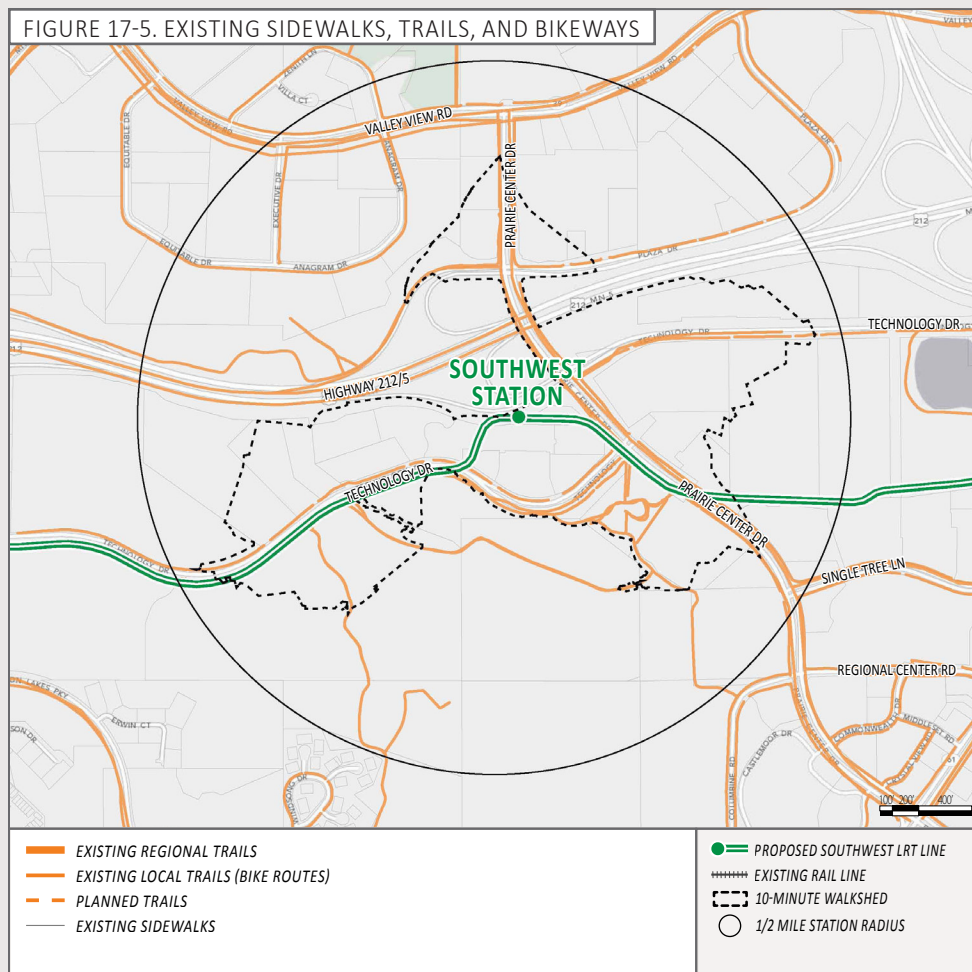
Transit

The Southwest Transit Center currently services the Southwest Transit express bus lines. Bus routes #684, #690, #695 and #698 operate along Technology Drive and Prairie Center Drive. Several other bus routes operate on Highway 212, north of the station, with direct access to Highway 212.



Sidewalk, Trails and Bikeways

There are sidewalks within the immediate vicinity of the proposed station platform location, however, these exist in a parking environment. Multi-use trails exist along Technology Drive and Prairie Center Drive. There is also an extensive trail network in the Purgatory Creek Park and open space area across Technology Drive.



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 Eden Prairie 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 Blue Lake WWTP located in Shakopee.

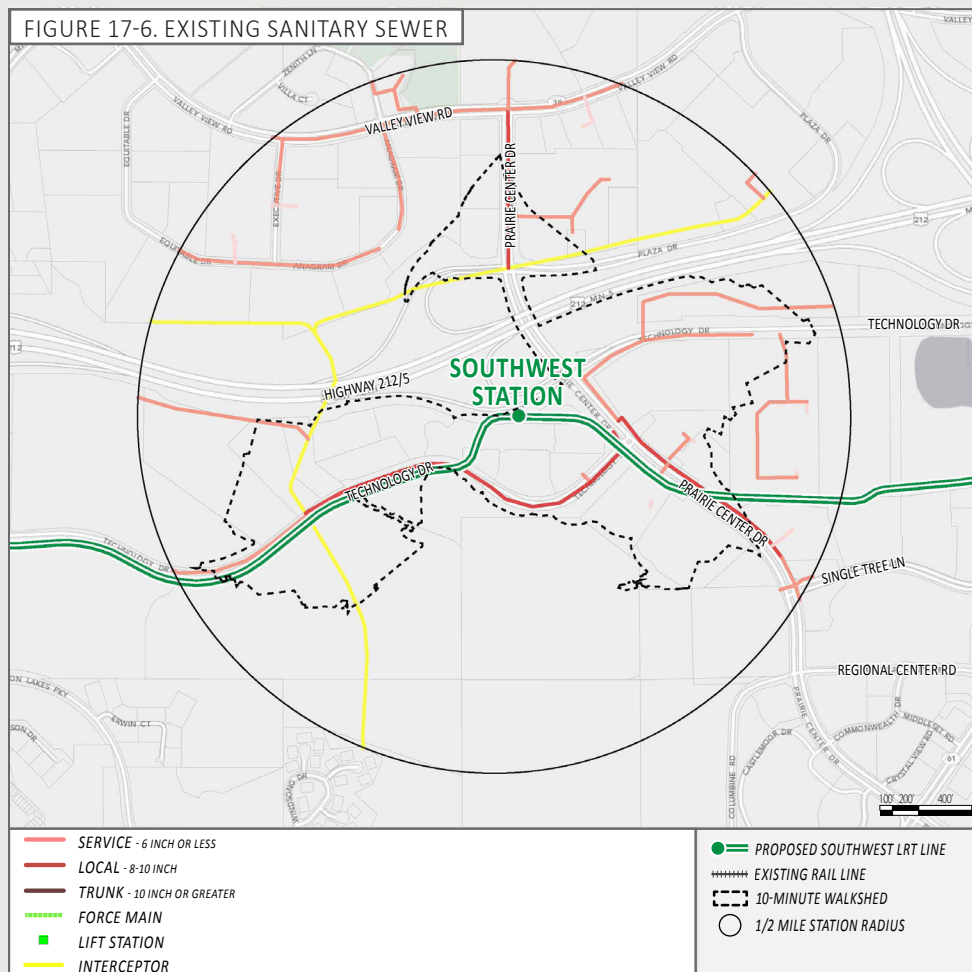
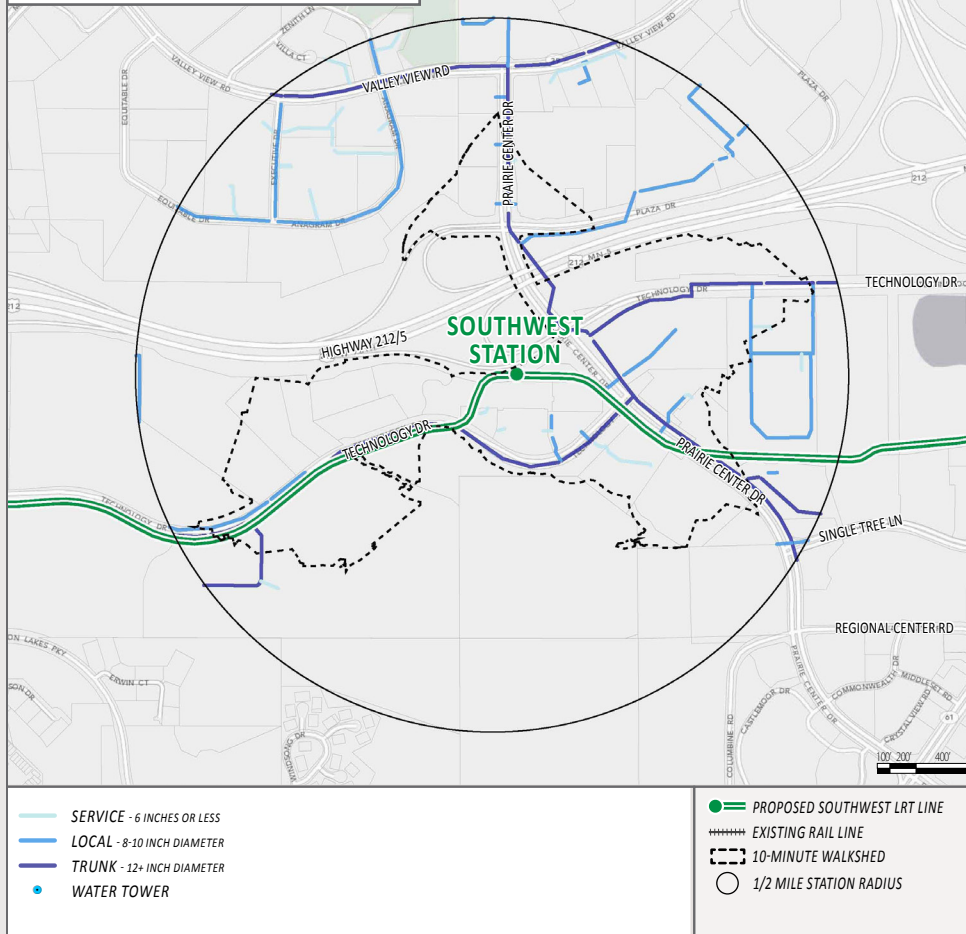


FIGURE 17-7. EXISTING WATER MAIN



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.

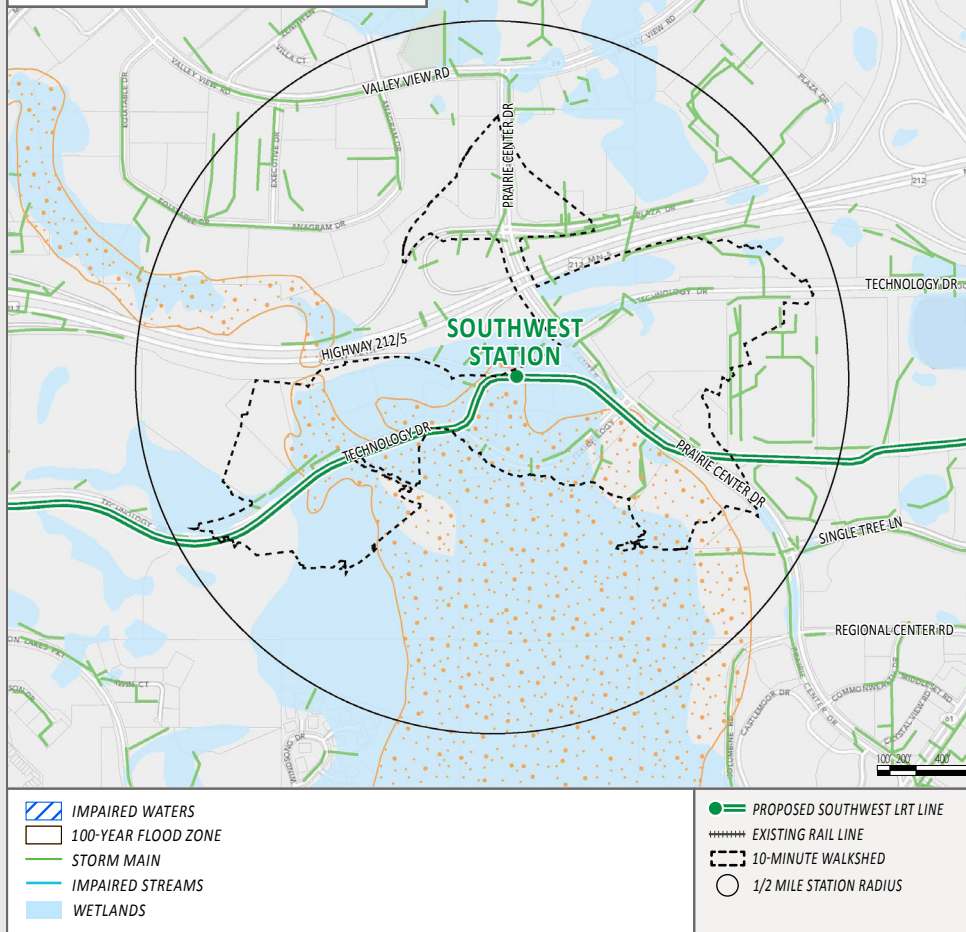
Stormwater

Southwest station is located within the Riley-Purgatory-Bluff Creek Watershed District. The majority of the drainage from the 10-minute walk zone is directed through wetlands into Purgatory Creek and ultimately into Staring Lake. Staring Lake is impaired by nutrients and mercury. There is 100-year floodplain extending from the wetlands and Purgatory Creek that covers much of the south half of the 10-minute walk zone.

Discharging within one mile of impaired water may trigger additional Minnesota Pollution Control Agency NPDES (National Pollution Discharge Elimination System) requirements which require 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.

FIGURE 17-8. EXISTING STORMWATER



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 17-9 provides a high level view of how future transit, automobile, bike, and pedestrian systems will connect to the station area and its surroundings.

Figure 17-10 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:

- » Provide multi-use trails from the station northeast to Prairie Center Drive and south to Technology Drive to connect to jobs and housing.
- » Focus sidewalk and streetscape enhancements along Technology Drive and Prairie Center Drive. Provide sidewalks and/or multi-use trails along both sides of each roadway where they do not already exist.
- » Improve pedestrian crossings along Technology Drive to enhance connections to Purgatory Creek Park and existing businesses along Technology Drive – i.e. Optum campus.
- » Provide safe and convenient pedestrian connections to nearby trail systems.

TRANSIT CONNECTIONS

Opening Day Improvements:

- » Enhance the interface between bus and rail transit by providing wayfinding/signage systems at the transit center to guide transit users between bus and light rail transit facilities.

BIKE CONNECTIONS

Opening Day Improvements:

- » Provide bike parking, lockers, pumping station, and bike share facilities in a highly visible area near the station platform to encourage multi-modal forms of transportation.

- » Provide safe and convenient bike connections to the nearby multi-use trails along Technology Drive, Prairie Center Drive, and in Purgatory Creek Park.

PARK AND RIDE

Opening Day Improvements:

- » Southwest LRT will provide new structured parking for LRT patrons integrated with the Southwest Transit facility. If necessary, due to increased transit ridership, expand the park and ride facilities. Explore the option of building a new park and ride ramp near the station platform while minimizing impacts on the pedestrian environment, existing businesses, and future economic development.

KISS AND RIDE

Opening Day Improvements:

- » Provide kiss and ride drop-off facilities near the station platform. Ensure kiss and ride facilities are designed to accommodate full-sized buses.

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, and along trails and sidewalks near the station.
- » Seating – provide comfortable and durable seating near the station platform and at the park and ride facility.



Transit center wayfinding signage



Enhanced pedestrian crossing

Key Considerations for Change and Development Over Time

Development should help to introduce a greater mix of uses that can face directly onto and help to activate the station and improve pedestrian connectivity. Key considerations should include:

BUILT FORM AND LAND USE

- » Explore opportunities to integrate active retail and service uses at street level within the park and ride facility to increase activity at the station and support riders.
- » Ensure that the design of new or expanded park and ride facilities preserve opportunities for new development and incorporate active uses at street level that can animate the station area.
- » Redevelop retail shopping sites to introduce a mix of high-density residential or commercial uses over time 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.

MOBILITY

- » Organize bus facilities to minimize conflicts between passengers transferring from the kiss and ride facility to the LRT platform.
- » Identify and enhance a series of direct walking connections from the station platform, through the bus and park and ride facilities to Technology Drive.
- » Extend the Purgatory Creek Trail network north to the station.
- » Modify one or both western access points along Technology Drive to the west of the station to accommodate people arriving from the west.
- » Create a new entrance into Purgatory Creek Park that aligns with the existing eastern access into the Southwest station site.
- » Reduce turning radii at intersections where possible to reduce vehicular speeds and minimize crossing distances for pedestrians.
- » Extend the Purgatory Creek Park driveway to connect to the existing signalized intersection at the eastern Southwest station entrance to improve access to the park and adjacent jobs.

- » Lighting – provide adequate lighting for the safety of pedestrians, bicyclists, transit users, and motorists near the station platform, at the park and ride facility, and near the kiss and ride dropoff.
- » Bike Facilities – provide bicycle parking, lockers, pumping station, and bike sharing facilities in a highly visible area near the station platform.
- » Plaza – provide a small public plaza area near the station platform.
- » Public Art – provide public art in the station area.

POTENTIAL DEVELOPMENT

- » Development potential at the Southwest station is highest at the southeast corner of the site where visibility from major roads is greatest.

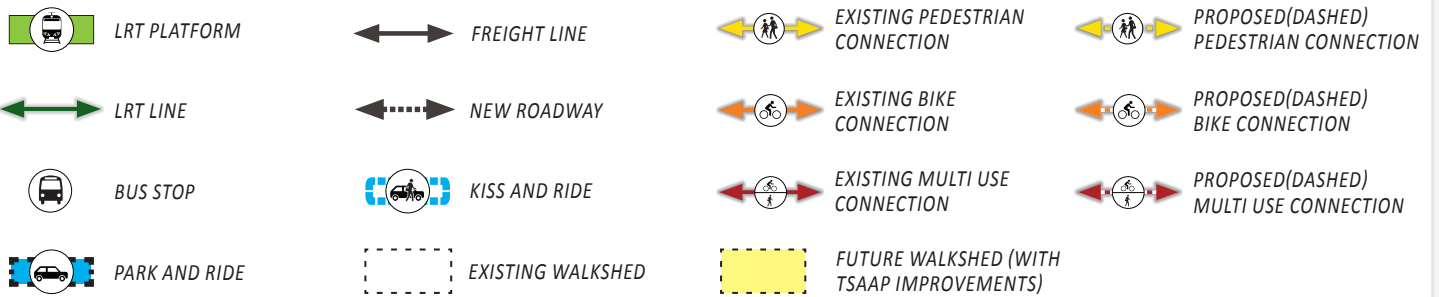
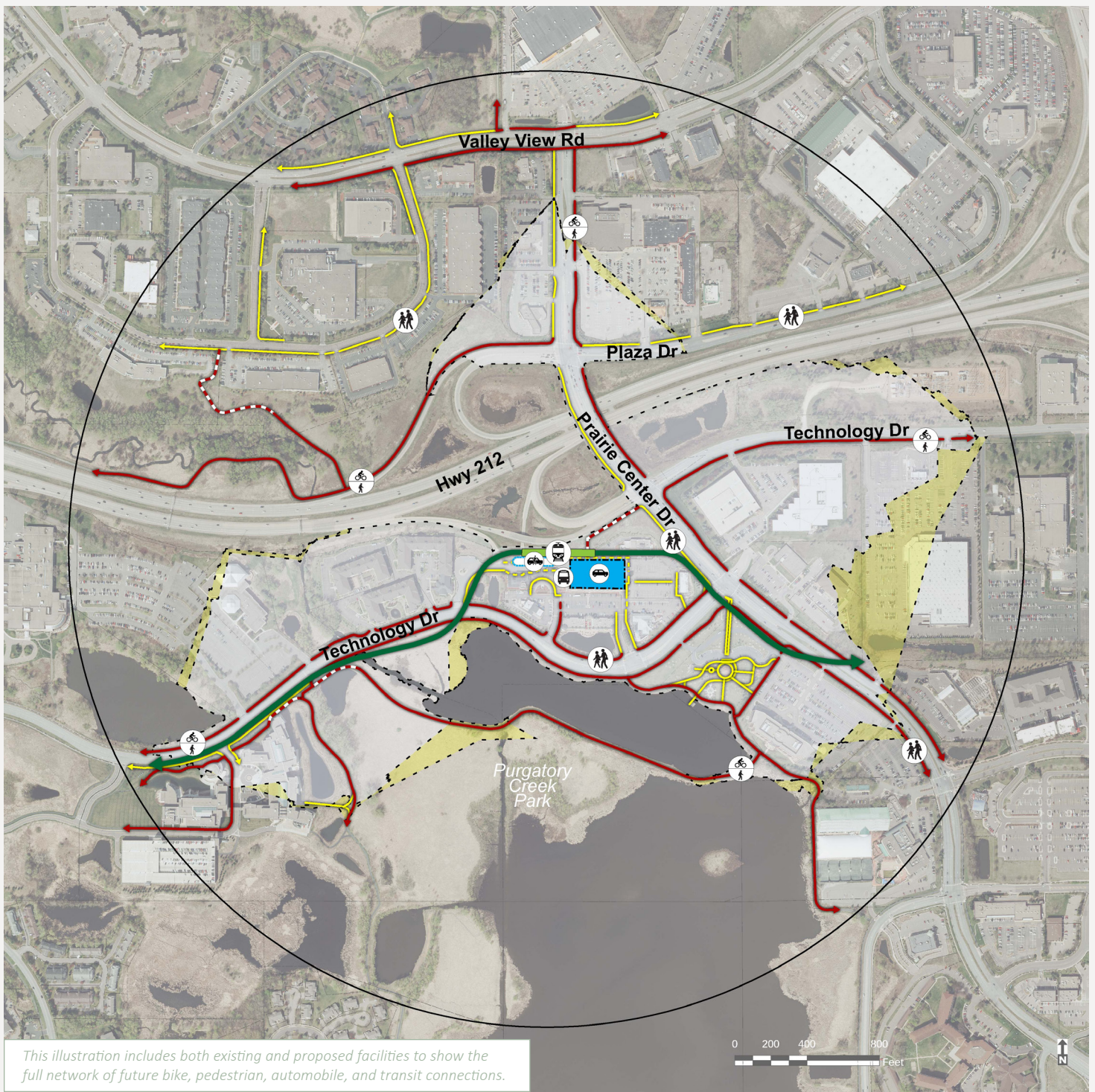
UTILITIES

- » See the “Station Area Utility Plan” beginning on page 17-14 for all utility recommendations.

FIGURE 17-9. ACCESS + CIRCULATION PLAN

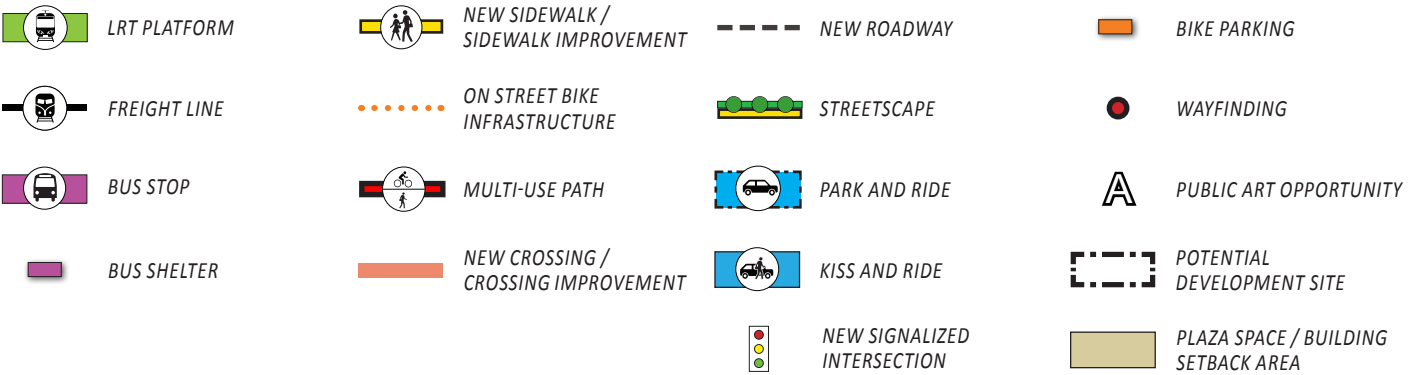
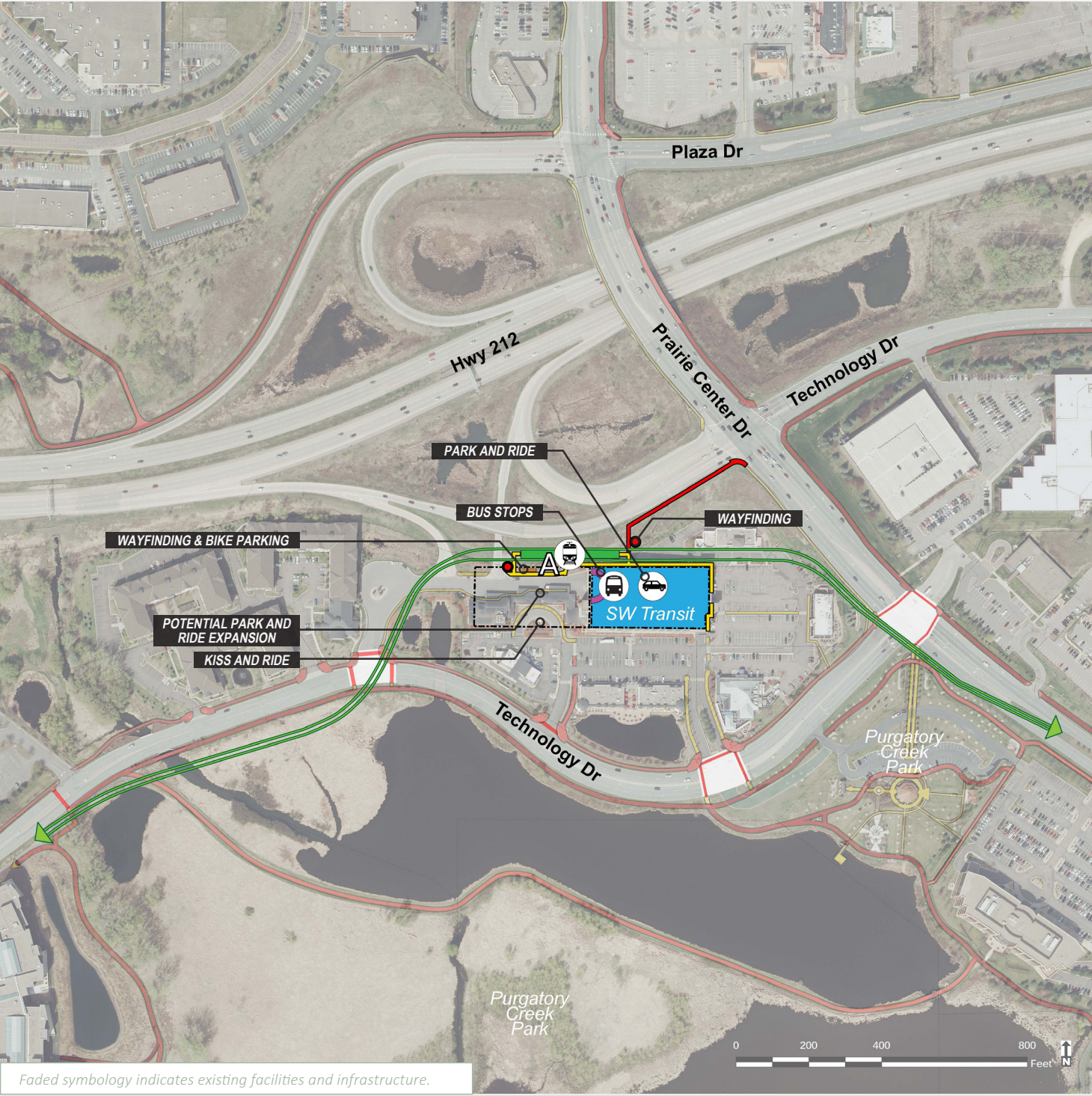
WHERE ARE WE GOING?

SOUTHWEST



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 17-10. STATION AREA IMPROVEMENTS



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 17-1 and Figure 17-11 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 17-2 and Figure 17-12 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 17-3 (also shown in Figure 17-12) includes locally requested "betterments"- or improvements that cities have requested to be included in the base project scope pending funding availability.

TABLE 17-1. SOUTHWEST LRT ANTICIPATED BASE PROJECT SCOPE - OPENING DAY STATION AREA IMPROVEMENTS

PLAN KEY	IMPROVEMENT	PROJECT LOCATION	PROJECT NOTES
A	LRT Platform	Along north side of existing Southwest Transit parking ramp	Includes related LRT infrastructure
B**	Park and Ride	Adjacent to station platform and existing park and ride ramp	Approx. 440 stalls plus retail replacement if Mitchell is terminus; <u>or</u> approx. 1,025 stalls if Southwest is terminus
C	Kiss and Ride	Adjacent to park and ride ramp	Pullout dropoff area and turnaround
D	Roadways	Prairie Center Drive	Reconfiguration of Prairie Center Dr to accommodate park and ride traffic
E	Roadways	Public access driveways into station site	Reconfiguration of access drives to accommodate park and ride traffic
F	Sidewalk/Trail	Station site	Maintain existing sidewalks and provide new sidewalks from those to station platform
G	Bike Facilities	Near station platform	Allowance for bike storage
H	Wayfinding	Near station platform	Allowance
I	Landscaping	Near station platform	Allowance
J*	Water	Near station platform	New water service and fire hydrant to station
K*	Utilities	Project limit area	Adjustment of existing utilities
L*	Sanitary Sewer	Near station platform	New sanitary sewer to station site
M*	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)*

*** Required improvement if the Southwest LRT terminates at Southwest Station*

TABLE 17-2. SOUTHWEST CORRIDOR INVESTMENT FRAMEWORK (TSAAP) - OPENING DAY STATION AREA IMPROVEMENTS

PLAN KEY	IMPROVEMENT	PROJECT LOCATION	PROJECT NOTES	PRIORITY
1	Intersection Enhancements	Along Technology Drive	Enhanced ped crossings	Primary
2	Intersection Enhancements	Along Prairie Center Drive, from Plaza Drive to Technology Drive	Enhanced ped crossings and traffic signals	Primary
3	Public Plaza	Near station platform	Includes paving, plantings, seating, and lighting (beyond SPO Improvements)	Primary
4	Public Art	Station area	Incorporate public art (beyond SPO Improvements)	Secondary
5	Bike Facilities	Near station platform	Bike parking, lockers and bike share facilities (beyond SPO improvements)	Primary
6	Intersection Enhancements	Eastern entrance of Southwest Station to Purgatory Creek Park	Align new entrance to Purgatory Creek Park with entrance to Southwest Station	Primary

TABLE 17-3. SOUTHWEST LRT LOCALLY REQUESTED BETTERMENTS - OPENING DAY STATION AREA IMPROVEMENTS

PLAN KEY	IMPROVEMENT	PROJECT LOCATION	PROJECT NOTES
B1	Sidewalk/Trail	From station platform northeast to Prairie Center Drive	Trail connection
B2	Sidewalk/Trail	From station to Technology Drive	Trail connection
B3	Wayfinding	Station area	Signage and wayfinding (beyond SPO improvements)

FIGURE 17-11. SOUTHWEST LRT ANTICIPATED BASE PROJECT SCOPE - OPENING DAY STATION AREA IMPROVEMENTS

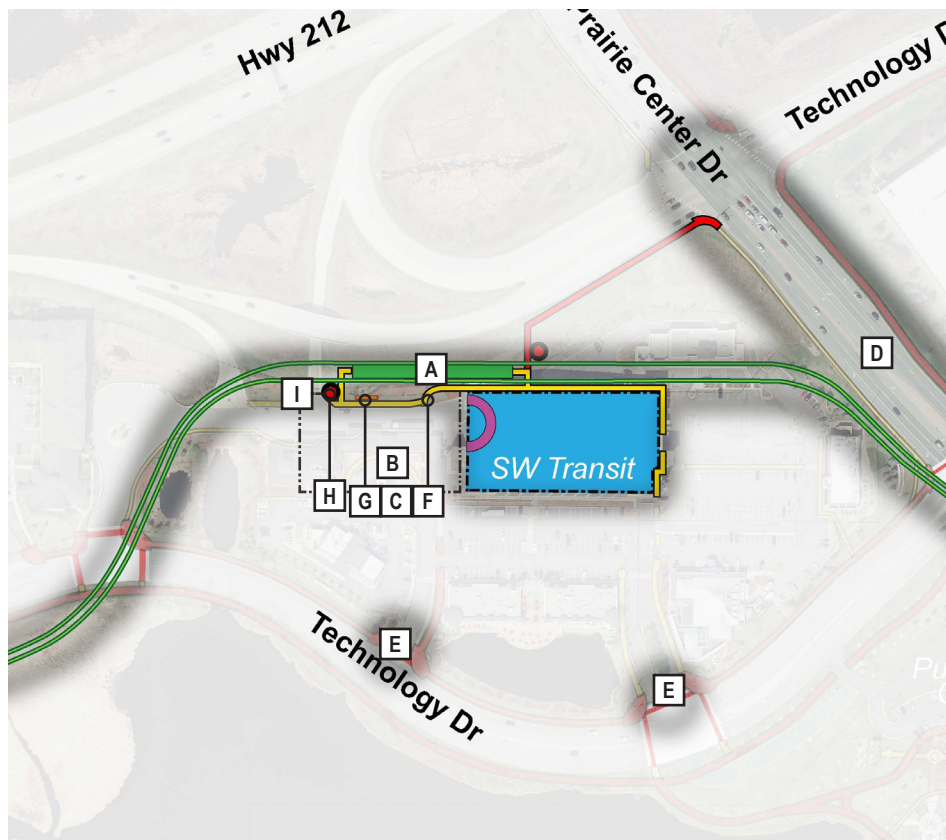
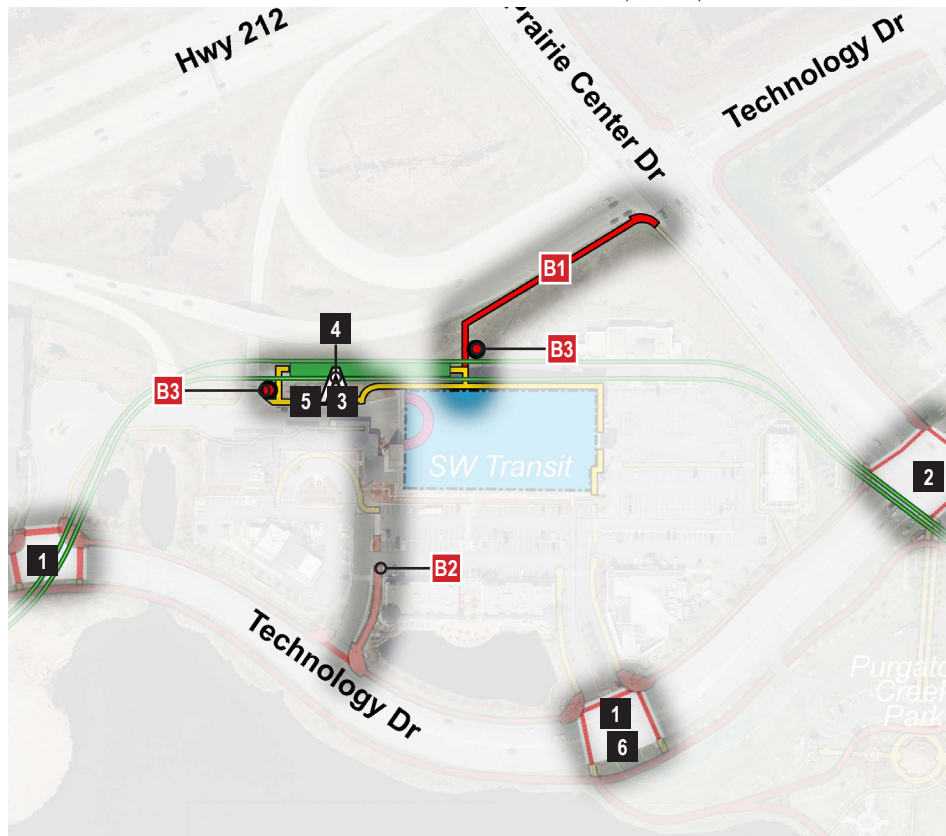


FIGURE 17-12. SW CORRIDOR INVESTMENT FRAMEWORK (TSAAP) - OPENING DAY STATION AREA IMPROVEMENTS + BETTERMENTS



PRIMARY PRIORITY # SECONDARY PRIORITY B LOCALLY REQUESTED BETTERMENT

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 17-10). Eden Prairie 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.

Eden Prairie should also consider reviewing the condition of their existing utilities in the station development area. The station construction would provide Eden Prairie an opportunity to address any utilities needing repairs. Once the larger system has been reviewed for system constraints, Eden Prairie 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 are not included in potential improvements identified for City CIPs.

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, Eden Prairie should weigh the benefits of completing more or less of these improvements as land becomes available for future development. Eden Prairie 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. Eden Prairie 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 Eden Prairie to improve the existing sanitary sewer networks, without necessarily replacing existing sanitary sewers. When recommendations for “improving” existing sanitary sewer are noted, Eden Prairie 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 Eden Prairie 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 Eden Prairie 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, Eden Prairie 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 Eden Prairie 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. Eden Prairie 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.

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 Southwest LRT Anticipated Base Project Scope (see Table 17-1). 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 Blake station (see p. 10-28). Eden Prairie should consider implementing applicable best management practices (BMPs) 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.

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