

3.0 SOCIAL EFFECTS

This chapter focuses on the social characteristics and conditions within the Southwest Transitway study area that would potentially be affected by the alternatives considered. Generally, the study area has been defined as the area within a one-half mile radius of the proposed Build Alternatives from either the Trunk Highway (TH) 5 or Mitchell Station in Eden Prairie to either the Target Field or 4th Street Station in Minneapolis and includes the area of the Freight Rail Relocation segment (Figure 1.1-1). The information in this chapter provides the legal and regulatory context, analysis methodology, potential effects, and proposed mitigation measures for short- or long-term effects resulting from construction or operation of the alternatives considered.

In this Draft EIS, the Build Alternatives are presented and analyzed by segment. For evaluation purposes the segments are then combined into the respective Build Alternative for reporting potential impacts. The alternatives and associated segments are depicted in Chapter 2 in Figure 2.3-9 and summarized here in Table 3.0-1

Table 3.0-1. Build Alternatives and Segments

Build Alternatives	Segments
LRT 1A	Segment 1, Segment 4, Segment FR, Segment A
LRT 3A (LPA)	Segment 3, Segment 4, Segment FR, Segment A
LRT 3C-1 (Nicollet Mall)	Segment 3, Segment 4, Segment FR, Segment C-1 (Nicollet Mall)
LRT 3C-2 (11 th /12 th Street)	Segment 3, Segment 4, Segment FR, Segment C-2 (11 th /12 th Streets via Nicollet Avenue Tunnel)
	Segment 3, Segment 4, Segment FR, Segment C-2A (11 th /12 th Streets via Blaisdell Avenue Tunnel)
	Segment 3, Segment 4, Segment FR, Segment C-2B (11 th /12 th Streets via 1 st Avenue Tunnel)
LRT 3A-1 (Co-location alternative) ¹	Segment 3, Segment 4, Segment A

Source: HDR, Engineering, 2012

3.1 Land Use and Socioeconomics

This section discusses the existing and potential effects to **land use, zoning**, and socioeconomic conditions in the Southwest Transitway study area. Table 3.1-7 provides a summary of land use compatibility for each Build Alternative considered. Neither the No Build Alternative nor the Enhanced Bus Alternative are included as part of this table because it is assumed that existing conditions and future changes to land use will evolve following existing plans and current or projected growth patterns under both of these alternatives.

“Land use” is the human modification of the natural environment or wilderness into built environment, such as fields, pastures, and settlements.

“Zoning” is a device of land use planning used by local governments to separate one set of land use from another.

¹ Please see Section 2.1.2.1 of this Draft EIS for why LRT 3A-1 (co-location alternative) is included in this Draft EIS.

3.1.1 Methodology

3.1.1.1 Land Use Analysis

The analysis of land use was conducted in two phases. First, an inventory of existing land uses within a one-half mile radius of the Build Alternatives was conducted using land use data provided by the Metropolitan Council. This portion of the analysis also included an examination of study area zoning information. The analysis is organized by project segments, as described in Section 2.3.3.7 and Figure 2.3-9.

In the second phase of the analysis, a review was conducted of local and regional comprehensive land use plans, transportation system plans, small area plans, and specific planning studies from the five cities through which the Build Alternatives pass, Hennepin County, and the Metropolitan Council. This analysis also included planning studies for geographic areas or specific facilities within one-half mile of the Build Alternatives and the proposed Freight Rail Relocation segment. Each Build Alternative was analyzed to determine whether it was compatible with these plans.

3.1.1.2 Socioeconomic Analysis

The analysis of socioeconomic characteristics considered current data and projections from the U. S. Census Bureau, the State of Minnesota, and the Metropolitan Council for regional and local level statistics. Socioeconomic factors considered in this analysis include the total population, number of households, population by age, race, and ethnicity, employment, household income and poverty, and vehicle availability. The census data obtained were collected at the block-group geographic level.

Census data are collected and summarized at different geographic levels: national, state, county, census tract, census block group, and census block. The census data used in this analysis were retrieved from the 2010 Census. Population, household characteristics, and employment data for 2010 when available (and 2000 data when 2010 information is not yet available) and projections for 2030 are derived from the 2010 U.S. Census and the Metropolitan Council data that was last updated in January 2012. The analysis of socioeconomic conditions of the study area was conducted using block group level data. Census block groups are the lowest geographic reporting level for which economic data are available, before the data are protected under federal law. For income and poverty information data was used from the 2000 Census (2010 income data is not yet available at the block group level). American Community Service (ACS) data was also referenced for 2005 to 2010 average numbers at the census tract level. Some cities publish neighborhood-level statistics, discussed further in Section 3.2, and this information was analyzed as available.

American Community Survey Data

The ACS is a continuous nationwide survey conducted monthly by the Census Bureau (see Appendix H). Available ACS data were obtained and used as part of the analysis contained in this section to the extent the data will currently allow. ACS currently provides single-year estimates for geographic areas with populations of more than 65,000. In the Twin Cities Metropolitan area only the cities of Minneapolis, St. Paul, Bloomington, Brooklyn Park, and Plymouth are large enough for annual ACS estimates.

3.1.2 Existing and Anticipated Land Use

This section outlines current land uses and zoning for the project study area and the Build Alternatives considered by project planning segment.

Table 3.0-1 presents a summary of existing land use for the entire study area and by each Build Alternative. Figure 3.1-1 shows the existing land uses within the study area, and Figure 3.1-2 shows future land uses for the study area based on the data for 2030 included in the approved comprehensive plans for each metropolitan community.

Single Family Residential is the predominant land use in the study area and is the predominant land use for all of the Build Alternatives except LRT 3C-1 (Nicollet Mall). The predominant land use for LRT 3C-1 (Nicollet Mall) is Industrial. The second highest land use category for LRT 1A is Open Space. LRT 3A (LPA) and LRT 3A-1 (co-location alternative) have Industrial as their second highest land use. Multi-family Residential is the second highest land use for LRT 3C-1 and Single Family Residential is the second highest land use for LRT 3C-2 (11th/12th Street).

In comparing the existing land use to planned development, the planned land uses around potential station locations shift to Multi-optional Development consistent with transit oriented development.

Figure 3.1-1 shows the existing land uses within the study area, and Figure 3.1-2 shows future land uses for the study area based on the Transportation Analysis Zone or **TAZ** data for 2030, and is included in the comprehensive plans for each metropolitan community. Because the future land uses are based on approved comprehensive plans that anticipate the construction of the Southwest Transitway Project, the No Build Alternative land uses would be the continuation of the existing suburban development pattern and there would likely not be concentrations of transit oriented development (TOD) in the vicinity of the station areas.

TAZ: Transportation Analysis Zone are subdivisions of geographical areas that are delineated for land use and travel analysis. "Land use" is the human modification of the natural environment or wilderness into built environment, such as fields, pastures, and settlements.

Table 3.1-1. Existing Land Use by Build Alternative

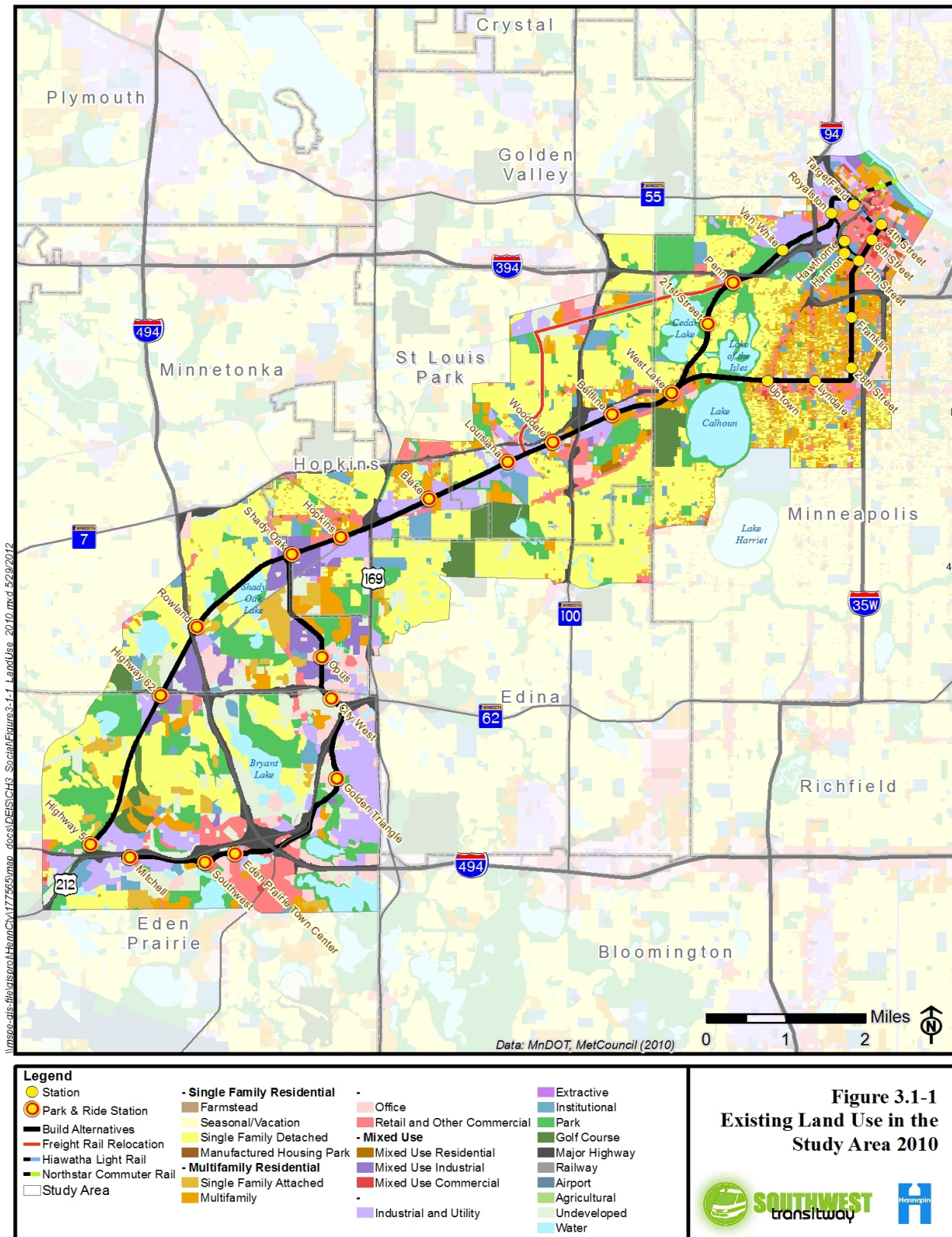
Land Use Category ^a	Study Area		LRT 1A		LRT 3A (LPA)		LRT 3A-1 (Co-location)		LRT 3C-1 (Nicollet Mall)		LRT 3C-2 (11 th /12 th Street)	
	Acreage	Percent Of Total Land	Acreage	Percent Of Total Land	Acreage	Percent Of Total Land	Acreage	Percent Of Total Land	Acreage	Percent Of Total Land	Acreage	Percent Of Total Land
Agricultural (Land and Farmsteads)	58	0.2	58	0.5	0	0	0	0	0	0	0	0
Parks and Open Space	3,745	14.3	1,572	14.2	1,370	11.2	1,146	11.1	1,396	10.4	1,385	10.1
Industrial	2,026	7.8	1,207	10.9	1,724	14.2	1,637	15.9	1,466	10.9	1,654	12.0
Office Commercial	872	3.3	222	2.0	551	4.5	476	4.6	622	4.6	610	4.4
Retail Commercial	1,706	6.5	648	5.9	1,005	8.3	892	8.6	1,353	10.0	1,327	9.6
Mixed-Use (Industrial, Commercial, Residential)	883	3.4	471	4.3	510	4.3	509	4.9	616	4.6	622	4.5
Multi-Unit Residential (Attached Housing) ^b	2,920	11.2	1,068	9.7	1,245	10.3	1,143	11.0	1,821	13.5	1,924	13.9
Single-Family Residential (Detached Housing)	7,702	29.5	3,203	28.9	2,435	20.0	1,584	15.3	2,593	19.2	2,610	18.9
Public/ Institutional	1,122	4.3	624	5.6	621	5.1	512	4.9	763	5.7	745	5.4
Transportation (Highways and Railways)	1,658	6.4	718	6.5	1,029	8.4	941	9.0	1,027	7.7	1,130	8.2
Unused Land	1,734	6.7	521	4.7	931	7.7	821	7.9	915	6.8	941	6.8
Water	1,682	6.4	552	5.0	581	4.8	553	5.3	735	5.5	689	5.0
HCRRA ROW	---	---	203	1.8	150	1.2	150	1.5	164	1.1	168	1.2
Total	26,108	100.0	11,067	100.0	12,152	100.0	10,364	100.0	13,471	100.0	13,805	100.0

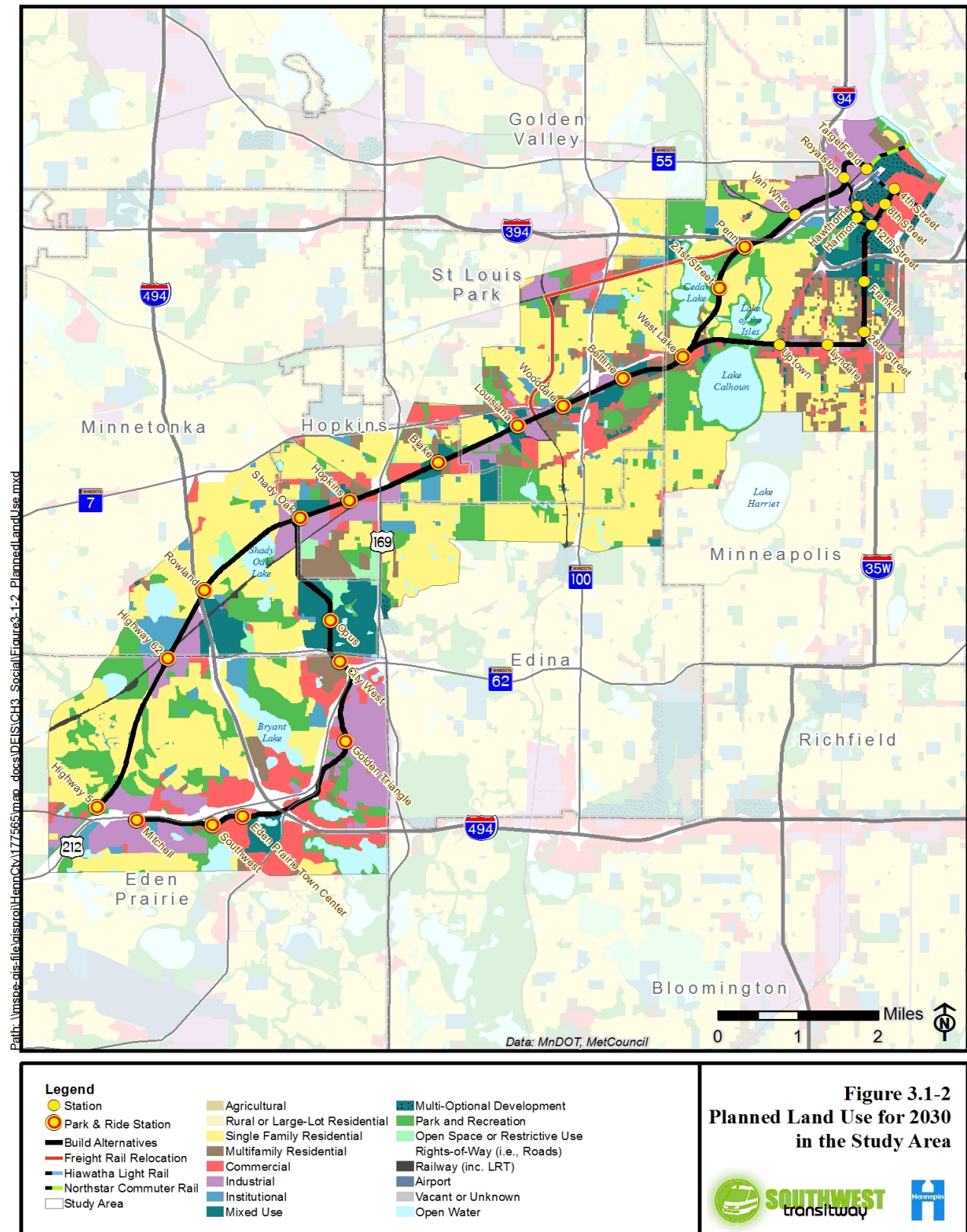
Source: Metropolitan Council, MetroGIS Datafinder, Generalized Land Use, 2010

^a All land use acreages and percentages shown are based on 2010 Metropolitan Council land use data, and are approximate values.

^b "Multi-Unit Residential" properties include single family attached and multifamily land use categories.

^c The percentages displayed are rounded to the nearest whole decimal number. Rounding error may result in a total value of land use slightly greater or less than 100 percent.





The following describes existing land use and zoning for each planning segment along the corridor. As discussed in Chapter 2, each Build Alternative is made up of different planning segments. (Refer to Table 3.0-1, above, and Figure 2.3-9 in Chapter 2 for an illustration of the segments.)

Zoning is typically based on a city's land use plan, and while it provides the legal basis for shaping future development according to adopted plans, it does not necessarily reflect the land use that are actually within a **zoning district**. Figure 3.1-3 through Figure 3.1-7 illustrates existing land use for each project alternative.

A "zoning district" is an area within the limits of a city within which uniform regulations and requirements govern the use, placement, spacing, and size of land and structures.

3.1.2.1 Segment 1 (LRT 1A)

Land Use

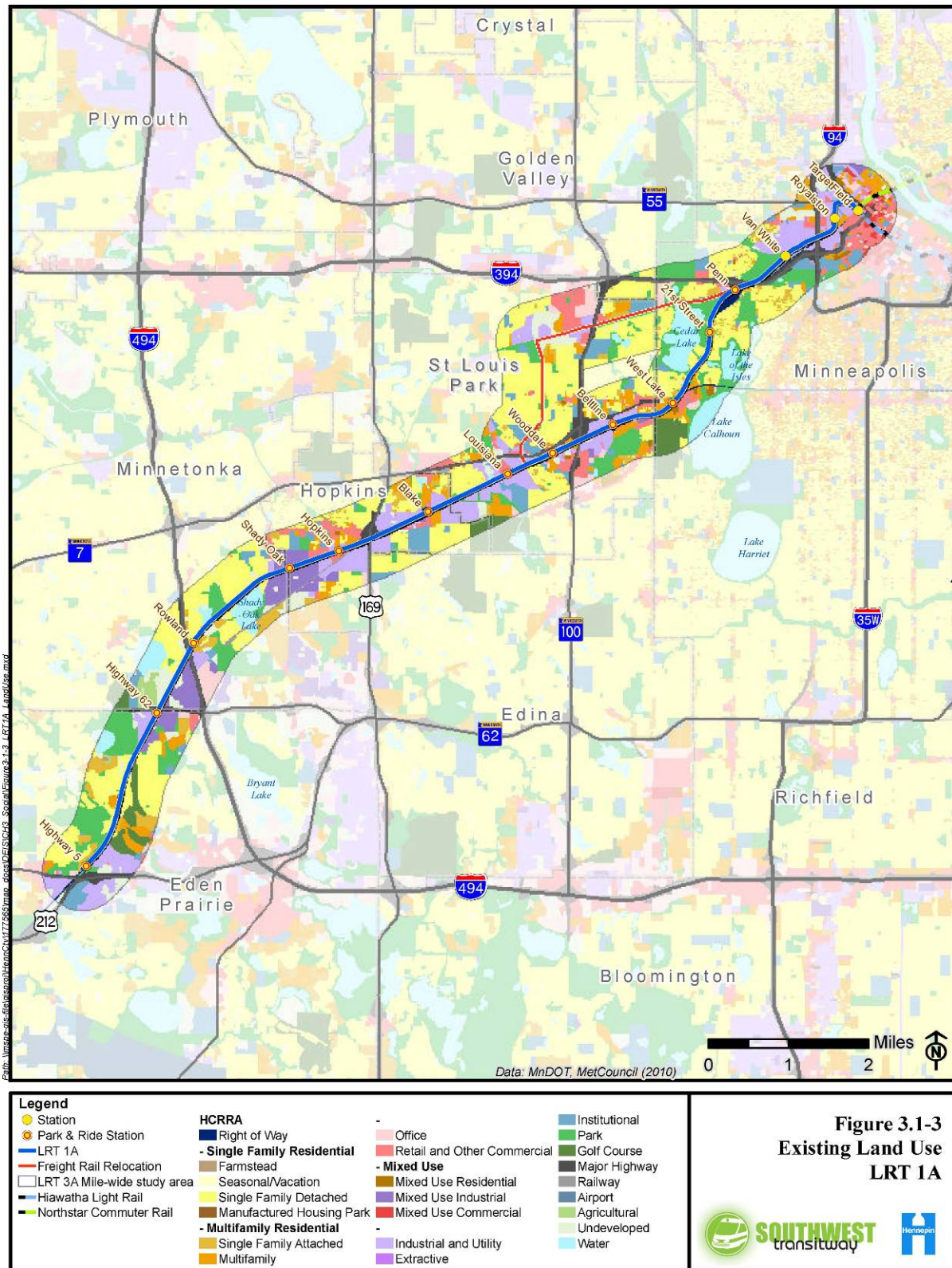
Land uses adjacent to Segment 1 are mostly single family detached housing (27 percent). Land used for industrial purposes is the second largest category at 17.5 percent, followed by parks and open space areas at 13 percent.

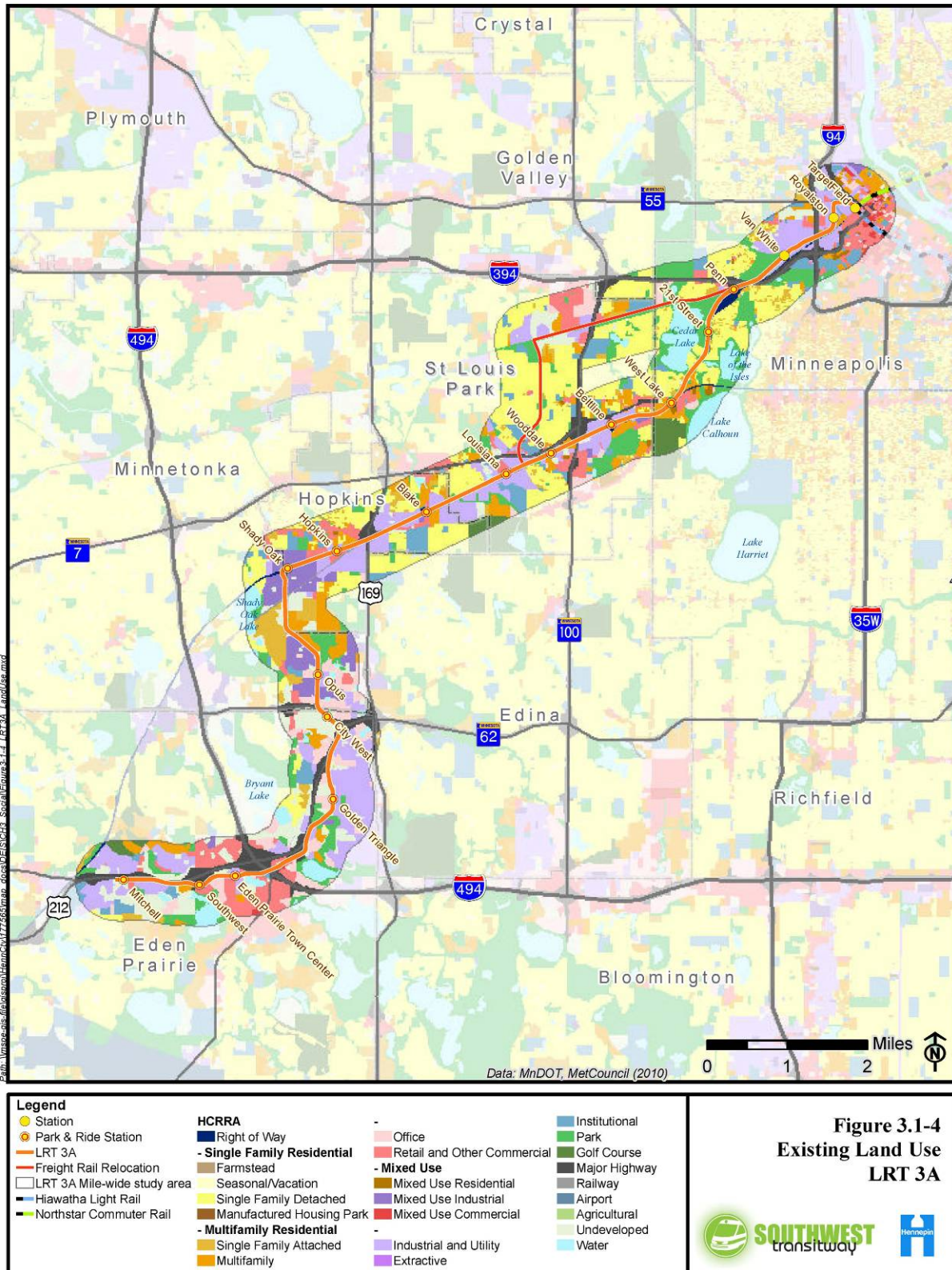
Multi-unit residential land use makes up 8.7 percent of the land use along this segment. Segment 1 is the only planning segment with any agricultural land, comprising approximately 58 acres (or 1.6 percent) of the total land area surrounding this segment.

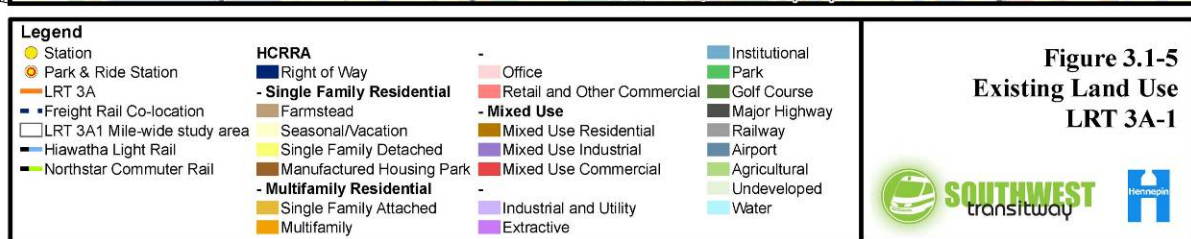
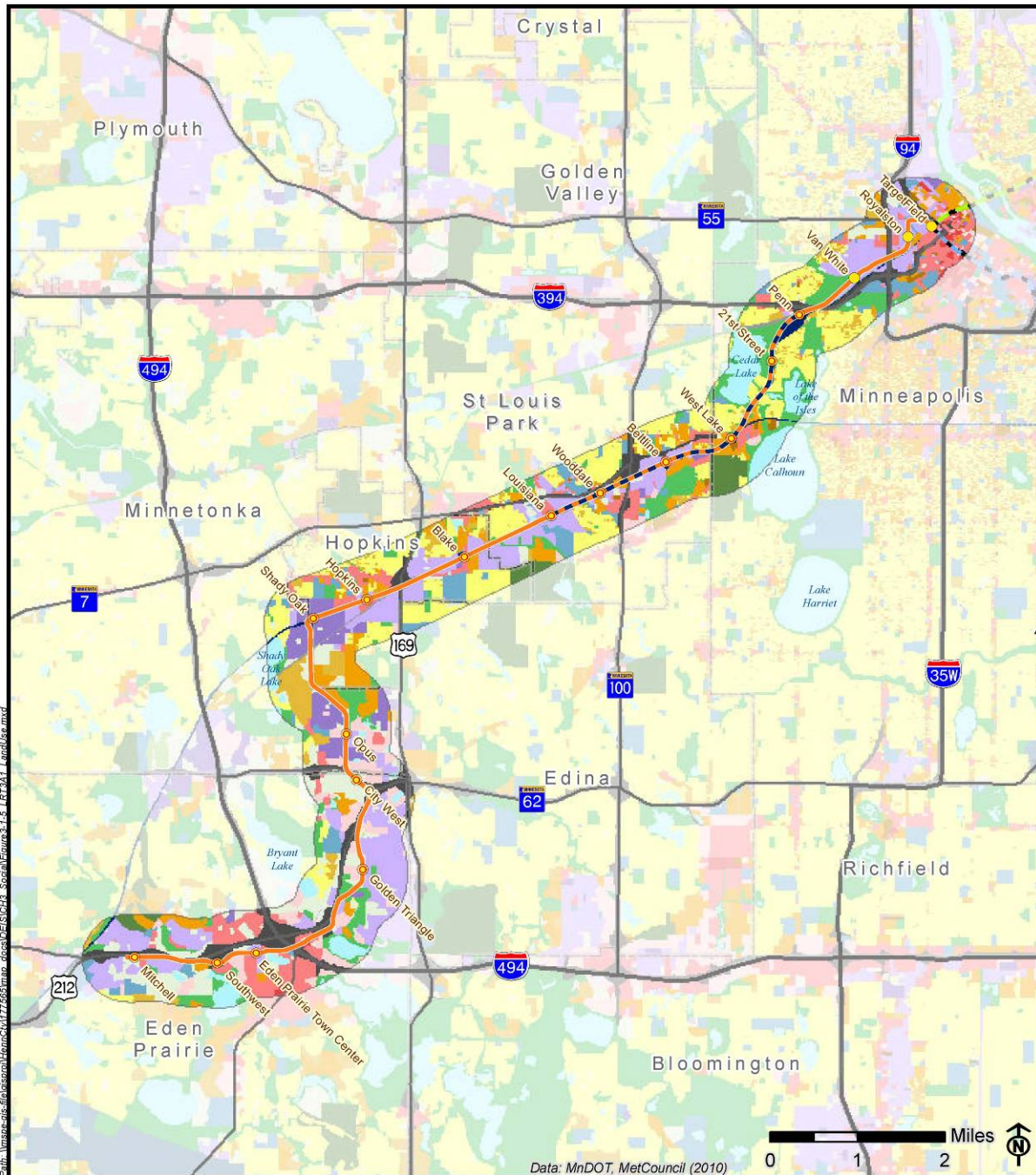
Along this segment in Eden Prairie and Minnetonka, land development from the 1960s to the 1990s, fueled in part by roadway expansion, resulted in the subdivision of former farms, open spaces, and forested areas for housing and industrial development.

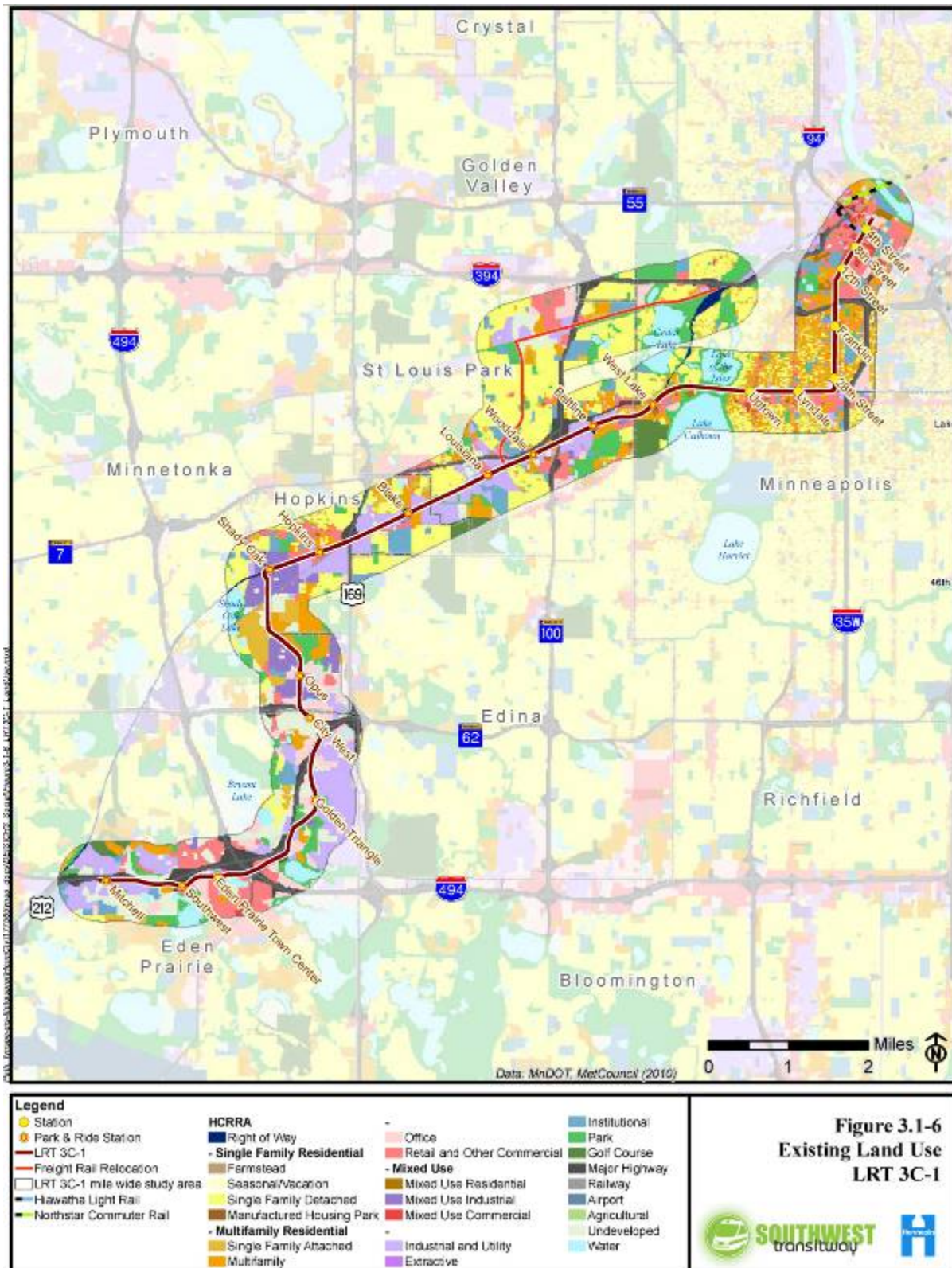
Zoning

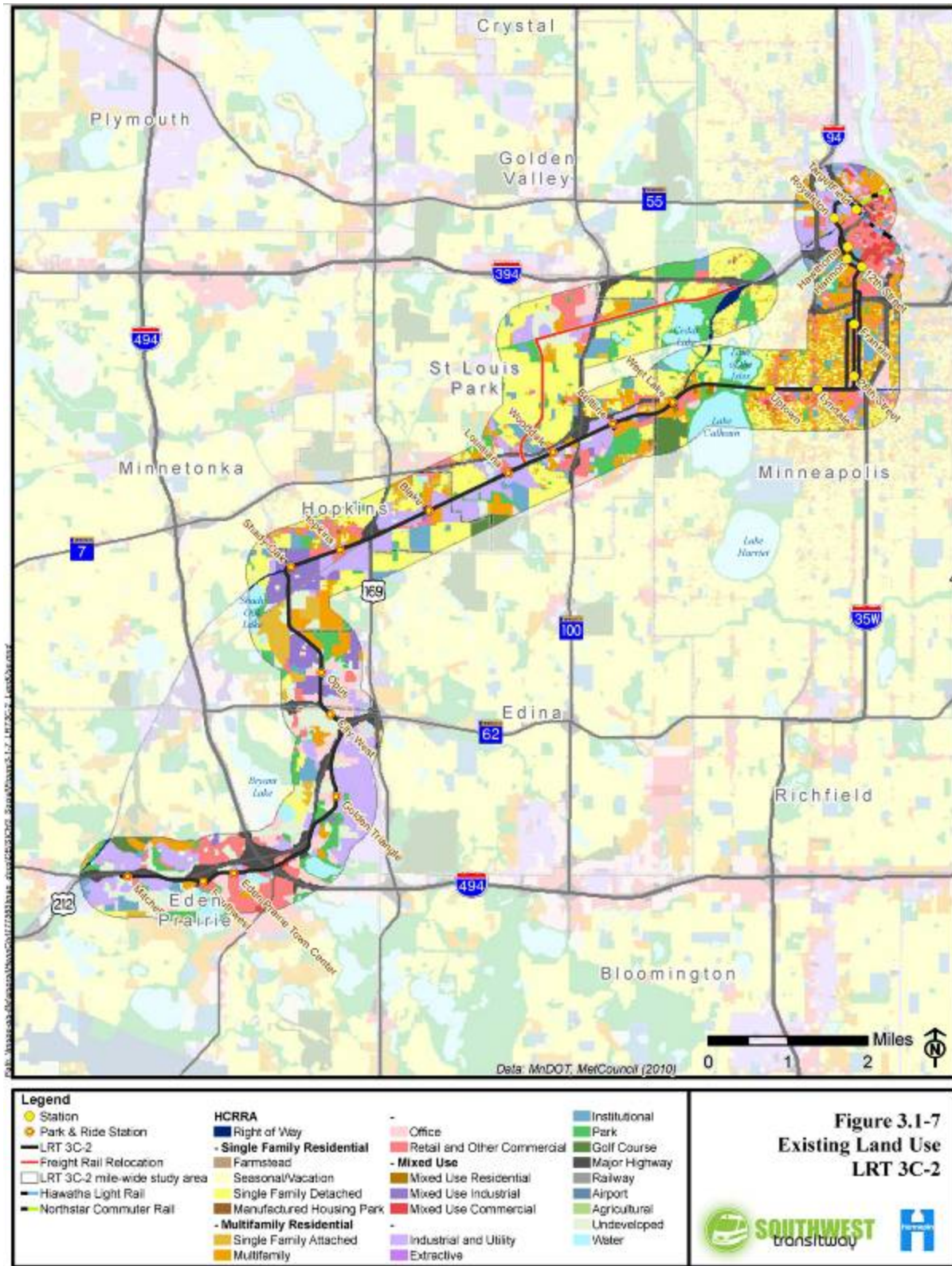
The LRT in Segment 1 would be located on land currently owned by the Hennepin County Regional Railroad Authority (HCRRA); Eden Prairie has zoned this land Right-of-Way (ROW).











Existing zoning adjacent to Segment 1 in Eden Prairie is split between multiple zoning classifications, but the land is mostly residential and industrial. Some land areas are zoned as Public Lands or Golf Course. The residential parcels (a parcel is a tract or plot of land) are zoned as either single-family detached housing or multi-unit residential.

Industrial zoning districts are split between two designations, General Industry (I-GEN) at a 5-acre lot minimum, and Industrial Park (I-2), 2-acre lot minimum.

In Minnetonka, land west of the HCRRRA ROW is zoned as Planned Unit Development (PUD), while land to the east is zoned Industrial (I-1). On the west side of I-494, parcels are zoned Low Density Residential (R-1) on the north side of the segment, and as I-1 on the south side. On the east side of I-494, there is more variety in parcel zoning, including land zoned R-1, PUD, and Low to Medium Density Residential (R-3). On the north side of Shady Oak Lake and at the border between Minnetonka and Hopkins, parcels are zoned R-1.

The implementation of LRT following Segment 1 is not anticipated to conflict with the adopted zoning districts of Eden Prairie or Minnetonka.

3.1.2.2 Segment 3 [LRT 3A (LPA), LRT 3A-1 (Co-location Alternative), LRT 3C-1 (Nicollet Mall), and LRT 3C-2 (11th/12th Street)]

Land Use

Surrounding Segment 3 are a variety of commercial and industrial land uses, with some areas of open space and undeveloped land. Industrial development covers the largest amount of land in this segment—approximately 17 percent—with an additional 8 percent in the “mixed use industrial” category for a total of 25 percent. Undeveloped land (15 percent) comprises the next largest amount, followed by multi-unit residential (attached housing) (10.7 percent), and retail commercial (9.2 percent).

Unused land accounts for a substantial portion of Segment 3. This stems from natural landscape features, such as standing waterbodies and wetland areas that may be unsuitable for development or are protected by law. Public and institutional land uses are also frequent within one-half mile of Segment 3 (approximately 8 percent).

Near the Mitchell Station, surrounding land uses are predominantly industrial, with some retail-commercial and office-industrial buildings (considered mixed-use industrial). Forested, undeveloped land is also located near the station. As the segment moves east, land uses change to a mix of retail and office commercial, with some residential and industrial sites.

Between the Southwest and Eden Prairie Town Center Stations is a mixture of big box retail and light industrial uses. As the segment continues north through the Golden Triangle area, land uses change to mostly industrial, with some office commercial land uses and areas of undeveloped land. Where the segment crosses into Minnetonka north of TH 62, a mix of multi-unit residential, office commercial, mixed-use industrial, open space, and limited undeveloped land comprise the land use types between the City West and Shady Oak Stations.

Zoning

In Eden Prairie, a substantial amount of the land adjacent to Segment 3 is zoned as industrial. Between the Mitchell and Southwest Stations, most of the land area is zoned Industrial Park (I-5), which requires industrial park building units on a minimum of 5 acres. Some parcels are zoned Community Commercial (C-COM) or Regional Service Commercial (C-REG-SER). Selected parcels on the south side of Technology Drive near the Southwest Station are zoned Office.

Between the Southwest and Eden Prairie Town Center Stations, zoning is primarily C-REG-SER with two parcels designated I-5. The Town Center Station is located in the vicinity of the **Major Center Area (MCA)** with designated zoning **Town Center (TC)**. This district allows for a mix of land uses and development intensities, and specifically identifies transit facilities as a **permitted use**.

In the Golden Triangle region, most parcels are zoned Industrial Park (I-2, requiring 2 acres). Segment 3 would run adjacent to lands zoned as C-REG-SER, Office (OFC) and RM-2.5. Three parcels along Flying Cloud Drive paralleling TH 212 are zoned Regional Commercial (C-REG). Undeveloped lands in the Golden Triangle region are zoned as Rural. Near the Segment 3 crossing of TH 212, one parcel is zoned as Highway Commercial (C-HWY).

In Minnetonka, lands adjacent to Segment 3 are zoned under a mixture of zoning districts including Industrial (I-1), PUD, and Low Density Residential (R-1). This region of Minnetonka comprises the Opus Business Park, and is zoned for higher densities of commercial, residential, and industrial land uses. A fourth zoning district, Limited Business (B-2), is also adjacent to Segment 3. At the border of Minnetonka and Hopkins, the land crossed by the proposed alignment of Segment 3 in Minnetonka is zoned as PUD.

The implementation of LRT following Segment 3 would not conflict with the adopted zoning districts of Eden Prairie or Minnetonka.

3.1.2.3 Segment 4 [LRT 1A, LRT 3A (LPA), LRT 3A-1 (Co-location), LRT 3C-1 (Nicollet Mall), and LRT 3C-2 (11th/12th Street)]

Land Use

There is greater variety of land use adjacent to Segment 4, which runs between the Shady Oak and West Lake Stations, than for Segments 1 or 3. Industrial land uses abut much of the HCRRA ROW, which can be expected given the historic and current use of the corridor as a railway. Industrial uses comprise 14 percent of the total land use within one-half mile of this segment.

Single family residential (detached housing) land uses cover the greatest amount of land along this segment, at 26.4 percent, followed by industrial lands (14.2 percent) and

"Permitted use" exceptions are built into zoning categories that permit or allow certain uses within a zoning category.

The core area of the City is known as the "Major Center Area" (MCA), establishing a mixed-use urban core and destination center.

The "Town Center" is envisioned as an active, compact, mixed-use and walkable destination for people of all ages in the community.

multi-unit residential (attached housing, 8.7 percent). Parks and open space also constitute a substantial portion (7.3 percent) of the land use adjacent to Segment 4.

Zoning

The City of Hopkins has zoned much of the land adjacent to the HCRRA ROW Industrial (I-1) and General Industrial (IG). These zoning districts reflect the historic nature of the ROW as a former railroad corridor. At the city border with Minnetonka, lands are zoned as either I-1 or I-2. Where the HCRRA ROW crosses 11th Avenue, a small set of parcels are zoned General Business (B-3) on the north side of the ROW, and land on the south side is zoned as Business Park. U.S. Highway 169 cuts through the central region of Hopkins. Parcels on either side of the LRT corridor are primarily zoned as I-1, I-2, or Business Park; however, some parcels are zoned Neighborhood Business (B-4), Limited Business (B-1), B-3 and Medium Density Multiple Family (R-3), or Medium High Density Multiple Family (R-4).

A range of zoning designations is given to parcels adjacent to Segment 4 in St. Louis Park. Between the Hopkins border and Louisiana Avenue, lands on the south side of the HCRRA ROW are zoned IG. Some land areas are zoned as Parks-Open Space. Land areas and parcels on the north side of the HCRRA ROW between the Hopkins border and Louisiana Avenue are zoned under multiple designations, including Single Family Residential (R1 and R2), IG, and Parks-Open Space. Parcels between Louisiana Avenue and Wooddale Avenue are also classified under a diverse mix of zoning districts. Parcels on the north side of the HCRRA ROW are zoned General Commercial (C2), Industrial Park (IP) and Mixed Use (MX). On the south side of the ROW, parcels are zoned as IG, Two Family Residential (R3), Parks, and Multi-family Residential (R4).

The range of zoning designations extends to the city border of Minneapolis. Between Wooddale Avenue and the city border, parcels on the north side of the ROW are zoned as IG and R4. South of the ROW and proposed alignment, parcels are zoned as C2, IP, and High Density Multi-family Residential (RC).

The implementation of LRT along Segment 4 would not conflict with the adopted zoning districts of Hopkins or St. Louis Park.

3.1.2.4 Segment A [LRT 1A, LRT 3A (LPA), and LRT 3A-1(co-location alternative)]

Land Use

Land use within one-half mile of Segment A is predominantly single family residential (detached housing, 19.8 percent), parks and open space (14.1 percent), and water features (10.7percent). Industrial land uses make up 11.3 percent of the total land use; however these uses are primarily concentrated near downtown Minneapolis. Housing adjacent to Segment A includes single-family detached, single family attached and multifamily units, which together encompass 30.1 percent of the land uses adjacent to this segment.

Zoning

The Minneapolis Zoning Code contains several designations specifying varying levels of land use intensity- for example, Low Density Residential (R1 and R2) and Medium

Density Residential (R3 and R4). This system corresponds with the commercial, industrial, and downtown zoning districts.

At the border of Minneapolis and St. Louis Park, parcels are zoned under a mixture of residential zoning districts including the R4, R5, and R6 districts, ranging in intensity from medium to high. Adjacent districts to the proposed West Lake Station include R4 and R5 residential districts, and Community Shopping Center (C3S). North of the proposed station and segment, land uses are a mixture of single-family detached and attached properties, zoned as R1. Where the LRT would parallel the Kenilworth Regional Trail between Cedar Lake and Lake of the Isles, parcels are zoned as R4 and R5, with one C1 district. Near the top of Cedar Lake, one parcel adjacent to the corridor is zoned Residential, Two-Family Low-Density development (R2B). The R1 district extends to the northern side of Interstate 394. Where the alignment of Segment A would cross below I-394, lands are zoned Light Industrial (I1) or Institutional Office Residence (OR3).

Where the alignment of Segment A would transition to operate at-grade along Royalston Avenue, parcels surrounding this street are zoned Medium Industrial (I2). Downtown Minneapolis has specific regulations under the B4 zoning classification that permit a broad mix of residential, business, service, and commercial uses. Near the Target Field Station, adjacent to the Minnesota Twins baseball stadium, the city has rezoned lands for more intensive mixed-use development consistent with the adopted land use plans for the Warehouse District and North Loop neighborhood.

In addition to the specified zoning districts for individual parcels or areas, Minneapolis has adopted several **overlay zoning districts** in which Segment A would be located. Northwest of Lake Calhoun and between Cedar Lake and Lake of the Isles the city has established the Shoreland Overlay District that specifies development guidelines within a half-mile radius around each of these lakes. Although the ordinance does not prohibit transportation uses or facilities, it does specify guidelines for controlling both **point source** and **non-point source** pollutant discharge within the Shoreland Overlay District.

LRT operation would be permitted in each of the zoning districts described above.

3.1.2.5 Segment C-1 [LRT 3C-1 (Nicollet Mall)]

Land Use

The land surrounding Segment C-1 contains a diverse mix of uses. The Uptown and Midtown regions are the most densely populated neighborhoods of the study area. Retail commercial land uses comprise the greatest amount of land (17.0 percent), followed by

An "overlay zoning district" is any of several additional districts established by the zoning regulations that may be more or less restrictive than the primary zoning district. Where a property is located within an overlay district, it is subject to the provisions of both the primary zoning district and the overlay district. Where the provisions are in conflict, the overlay district governs.

A "point source" pollutant is a single identifiable localized source of air, water, thermal, noise, light, or chemical pollution.

"Non-point pollutants" come from many different sources but are generally the result of land runoff, precipitation, and drainage. As the runoff moves, it picks up and carries away natural and human-made pollutants and deposits them into lakes, rivers, wetlands, coastal waters, and ground waters.

multi-unit residential land (15.8 percent), and single family residential (detached housing, 13.4 percent).

Circling Lake of the Isles and Lake Calhoun are multi-use trails and public open space, while the Midtown Corridor contains a heavily used multi-use trail, referred to locally as the Midtown Greenway (the Midtown Greenway trail is part of the Midtown Corridor, which includes the entire trench and the Chicago Milwaukee & St. Paul Railroad Grade Separation Historic District). Parks and open space (undeveloped) areas make up 8.8 percent of the total land use surrounding Segment C-1.

Zoning

At the border of Minneapolis and St. Louis Park, land parcels are zoned under a mixture of residential zoning, ranging in intensity from medium to high, under the classifications of R4, R5, and R6. Zoning districts adjacent to the proposed West Lake Station include R4, R5, and C3S. North of the proposed station and alignment of Segment C-1, land uses are mixed between single family detached and attached properties, zoned as R1, for Low Density Single Family Residential. Where the segment would follow the Midtown Corridor between Lake of the Isles and Lake Calhoun, adjacent lands are zoned as R1, R5, R6, C3A, for High Density Office Residence (OR2).

On the eastern side of Lake Calhoun, where the proposed alignment of Segment C-1 would be located in the Midtown Corridor, Minneapolis has zoned parcels and the lake fronts under the R3 district. From James Avenue east, the alignment of Segment C-1 would travel through, or adjacent to, land areas zoned as R2B, R5, R6, OR2, C2, C3A, C3S, or I2.

Nicollet Avenue is primarily a commercial corridor with a variety of commercial zoning districts applied to parcels fronting the street. Most parcels are zoned under the C1, C2, or C3A districts. Between 24th Street and Franklin Avenue, some parcels on the western side of Nicollet Avenue are zoned OR3. Downtown Minneapolis has specific regulations under the B4 zoning classification that permit a broad mix of residential, business, service, and commercial land uses. The Segment C-1 alignment operating on Nicollet Avenue immediately south of Grant Street and Nicollet Mall to the north of Grant Street would travel through zoning districts B4S-1, B4S-2, B4-1, and B4-2.

LRT would be capable of operating adjacent to or through each of the zoning districts described above.

In addition to the general zoning districts established adjacent to Segment C-1, zoning overlay districts have been established for specified regions. East of the West Lake Station, an alignment following Segment C-1 would cross through a Pedestrian Overlay District (PO) established by the City of Minneapolis for the Uptown region. According to the Minneapolis Zoning Code, Article II, Section 551.60, the PO District "is established to preserve and encourage the pedestrian character of commercial areas and to promote street life and activity by regulating building orientation and design and accessory parking facilities, and by prohibiting certain high impact and automobile-oriented uses." (Minneapolis Zoning Code 2010a) Given the priority of limiting automobile-oriented uses, a fixed guideway system like the LRT would be a consistent use in this area, provided that pedestrian circulation could also be accommodated.

In addition to the Uptown region's PO District, two overlay zoning districts have been established for Nicollet Avenue and Nicollet Mall. Between 29th Street and 14th Street, a PO District has been established along Nicollet Avenue to preserve the pedestrian-oriented environment with street level retail shopping opportunities.

Along with the administrative aspects of the PO District, the City of Minneapolis has prescribed additional zoning requirements for select intersections or areas of the city where the PO District has been established. Section 551.155 is for the Nicollet Franklin area, defined in the zoning code as the land area between Franklin Avenue and the Midtown Corridor/HCRRA ROW. The area designated under Section 551.155 prescribes additional building development regulations for the areas specified.

Furthermore, the Nicollet Mall Overlay District (NM) has been established along Nicollet Mall between 12th Street and Washington Avenue. According to the Minneapolis Zoning Code, Article XII, Section 551.870, "The NM Nicollet Mall Overlay District is established to preserve and encourage the pedestrian character of the Nicollet Mall area and to promote street level activity by creating a pleasant and unique pedestrian environment." (Minneapolis Zoning Code 2010b) The implementation of fixed guideway rail service would require the removal and alteration of the sidewalk area for the guideway and proposed stations, and would displace the bus service to adjacent streets and, therefore would not be compatible in this area.

3.1.2.6 Segment C-2 [LRT 3C-2 (11th/12th Street)]

Land Use

Land uses surrounding Segment C-2 are similar to those surrounding Segment C-1. The primary differences between the two segments are that Segment C-2 includes the option of LRT operating under Blaisdell or 1st Avenues, and the location where the proposed alignment of Segment C-2 would operate on 11th and 12th streets in downtown Minneapolis as a one-way pair. It should be noted that the land use acreage for this segment is substantially greater than for Segment C-1 because the buffer area measures a half-mile distance from Blaisdell and 1st Avenues, streets that parallel Nicollet Avenue to the east and west. Furthermore, the buffer area also measures a half-mile from both 11th and 12th streets in downtown. Therefore the buffer area is wider, encompassing a greater land area, resulting in greater land acreage as compared to Segment C-1.

Zoning

The LRT 3C-2 (11th/12th Street) alternative would follow the same alignment as the LRT 3C-1 (Nicollet Mall) alternative through the Midtown Corridor, and the zoning districts between the West Lake and 28th Street Stations are the same as described above. Zoning districts along Nicollet Avenue are also described above. Parcels along Blaisdell and 1st avenues are generally zoned under residential districts R4, R5, and R6. Some parcels are zoned as C1, C2, or OR2. The Minneapolis Zoning Code does not preclude LRT service or stations from any of these zones.

The proposed Segment C-2 alignment in downtown would also interact with the Nicollet Mall Overlay (NM) Zoning District. As described above for Segment C-1, LRT service and stations could be incompatible with this overlay district. On 11th and

12th streets, the LRT would pass through the Harmon Area Overlay Zoning District, however, this district is intended to preserve the existing development character of the Harmon Area, and does not prohibit transportation uses or facilities.

3.1.2.7 Freight Rail Relocation Segment [LRT 1A, LRT 3A (LPA), LRT 3C-1 (Nicollet Mall), and LRT 3C-2 (11th/12th Street)]

Land Use

This segment consists of the existing freight rail service (TC&W) operating in the HCRRA Kenilworth Corridor through St. Louis Park and Minneapolis relocating to the Canadian Pacific Railway (MN&S Spur)/BNSF Railway through St. Louis Park and Minneapolis (Figure 2.3-2). Currently the TC&W is operating on the Bass Lake Spur between approximately Louisiana Avenue in St. Louis Park and Penn Avenue in Minneapolis. More specifically, the TC&W operations would be relocated to the MN&S line, as described in more detail in Chapter 2 of this Draft EIS. The freight rail relocation will result in the cessation of freight rail service on this section of the Bass Lake Spur and the HCRRA Kenilworth Corridor.

Land use in the area of the freight rail relocation segment is comprised of single family residential (detached housing), the largest proportion of land use along this segment at over 40 percent, followed by park and undeveloped areas (over 15 percent), with institutional land use (primarily schools), industrial and retail/office evenly divided at about 7 percent each. The North Cedar Lake Trail is located adjacent to and south of the east-west segment (BNSF railway) (Appendix H Community Facilities figures).

MN&S Section (LRT Corridor crossing of Minnehaha Creek north to the intersection with BNSF Wayzata Subdivision)

As described in Chapter 2, the freight rail relocation segment would be located primarily on active railroad ROW owned and operated by the CP in St. Louis Park. The freight rail relocation section runs along the proposed LRT corridor from approximately Louisiana Avenue for a quarter mile, then travels north to the intersection with the BNSF section described below. Land use surrounding this north-south segment is predominantly single family residential with the exception of the most southerly portion of the segment (between the HCRRA ROW and TH 7) which is industrial. High school facilities are located north of TH 7 on both sides of the tracks (See Figure 3, "Schools in the Study Area" in the section "Community Facilities and Resources Data", Appendix H). There are open space areas adjacent to the tracks in the form of parkland and undeveloped areas.

BNSF Wayzata Subdivision Section (intersection with MN&S east to downtown Minneapolis—Iron Triangle area)

As described in Chapter 2, the rail line would be located within active railroad ROW owned and operated by the BNSF. Approximately half of this segment is in St. Louis Park and the east half is in Minneapolis. In both cities there is a predominance of single family residential use and open space along this track segment. Where TH 100 intersects the railway there are commercial uses adjacent to the railway corridor and there is a small area of office land use on the west border of Minneapolis along I-394.

Zoning

The primary zoning designation along the freight rail segment in St. Louis Park is Single Family Residential with pockets of Commercial or Industrial districts along major transportation corridors, e.g. west of TH 100 at the intersection with the rail corridor, as well as on the north and south sides of TH 7 at the intersection of the LRT corridor and the MN&S.

The relocation of the TC&W freight rail operations from the CP RR (Kenilworth Corridor) to the existing and currently used MN&S and the BNSF would not conflict with the adopted zoning districts of St. Louis Park. Land use for the corridor is categorized in the St. Louis Park's Comprehensive Plan as 'railroad' (RRR).

Six separate studies have been completed to determine potential impacts of expanding freight rail service on the MN&S line compared to maintaining freight rail service following the construction of the LRT. These studies concluded the best option for freight rail operations was to relocate the TC&W freight rail operations to the MN&S line.

The relocation of the TC&W freight rail operations from the CP RR (Kenilworth Corridor) to the existing and currently used MN&S and the BNSF would not conflict with the adopted zoning districts of Minneapolis.

3.1.3 Land Use Plans

This section identifies the plans and studies that relate to land use within the Southwest Transitway study area. The plans have been prepared at a regional (multi-county), county, city, and site-specific basis.

Table 3.1-2 summarizes the contents of the plans, and provides links to their internet location. For more background information about each of the plans, see Appendix H. A summary of the compatibility of the plans and studies is provided in Table 3.1-3 "Compatibility of Build Alternative with Local and Regional Comprehensive Plans and Studies".

Table 3.1-2 Summary of Local and Regional Comprehensive Plans and Studies

Plans and Studies	Available at Project Website	Date adopted	Summary
METROPOLITAN COUNCIL			
Metropolitan Council 2030 Regional Development Framework	http://www.metrocouncil.org/planning/framework/documents.htm	2004 2006 2012	Addresses regional growth in transportation, housing, and employment. Identifies Southwest Transitway as LPA.
2030 Transportation Policy Plan	http://www.metrocouncil.org/planning/transportation/TPP/2008/index.htm	2010	Specifies goals for regional transportation systems, outlines policies and priority investments to achieve these goals.

Plans and Studies	Available at Project Website	Date adopted	Summary
2030 Regional Parks Policy Plan	http://www.metrocouncil.org/planning/parks/2010/2030ParksPolicyPlan.pdf	2010	Lays out goals for the expansion and management of the Twin Cities regional park system and the strategies designed to meet those goals.
MINNESOTA DEPARTMENT OF TRANSPORTATION			
MnDOT Comprehensive Statewide Freight and Passenger Rail Plan, 2010	http://www.dot.state.mn.us/planning/railplan/finalreport/MNRRailPlanFinalReportFeb2010.pdf	February 2010	Provides plans and strategies to continue to improve the condition and capacity of Minnesota's primary railroad arterials to accommodate existing and future demand and expand intermodal service access.
HENNEPIN COUNTY			
2030 Hennepin County Transportation Systems Plan	http://www.hennepin.us/portal/site/HennepinUS/menuitem.b1ab75471750e40fa01dfb47ccf06498/?vgnextoid=3b3cac013a1e0310VgnVCM2000000a124689RCRD	2011	Provides policy guidance on future county transportation investments and strategies.
2030 Hennepin County Comprehensive Plan	http://www.hennepin.us/portal/site/HennepinUS/menuitem.b1ab75471750e40fa01dfb47ccf06498/?vgnextoid=1dea62108a2e0310VgnVCM2000000a124689RCRD	2011	Provides planning elements (wastewater and sewage systems, regional park systems, surface water management, and transportation) that have been revised and updated since 1982.
Hennepin County Sustainable Development Strategy 2011	http://www.hennepin.us/files/HennepinUS/Housing%20Community%20Works%20and%20Transit/Department/Sustainable%20Development%20Strategy%20for%20Web.pdf	2011	Integrates multi-modal transportation, economic development, housing, and community choices.
The Interchange Environmental Assessment	http://www.theinterchange.net/index.php?option=com_phocadownload&view=category&id=4&Itemid=217	2012	Discloses the environmental impacts of a proposed multimodal station (at the Target Field location) that will maximize the efficiency of existing transit operations for future system integration to better serve passengers.

Plans and Studies	Available at Project Website	Date adopted	Summary
Downtown Minneapolis Intermodal Station Siting and Feasibility Study	http://www.hennepin.us/files/HennepinUS/Housing%20Community%20Works%20and%20Transit/Transportation/Transit%20Planning/Intermodal%20Station%20Final%20Report%202006.pdf	2006	Presents plans for an intermodal station in downtown Minneapolis that would provide access to intercity commuter rail, buses serving the downtown area.
HCRRRA Staff report on Freight Rail Relocation	http://www.hennepin.us/files/HennepinUS/Housing%20Community%20Works%20and%20Transit/Regional%20Railroad%20Authority/Autonomy/Freight%20Rail%20Draft%20Staff%20Report%20August%202011.pdf	August 2011	Concludes that the most viable and therefore preferred route for freight rail is the MN&S line in St. Louis Park and that the preferred location of LRT is in the Kenilworth Corridor along with the Kenilworth Bike Trail without freight rail.
CITY OF EDEN PRAIRIE			
City of Eden Prairie Comprehensive Guide Plan	http://www.edenprairie.org/index.aspx?page=123	2009	Supports LRT in the transit corridor by planning for transit supportive uses and densities within one-half mile of the stations proposed in the Town Center and the Golden Triangle Area.
Eden Prairie Major Center Area Study	http://www.edenprairie.org/index.aspx?page=121	2006	Recommends implementation of the Southwest Transitway as a catalyst for future land use changes and private development. Guidelines:
Town Center Design Guidelines	http://www.edenprairie.org/modules/showdocument.aspx?documentid=330	2007	Supports, enables, and encourages the certain planning principles in the Town Center
Golden Triangle Land Use/Multi-Modal Transportation Study	http://www.hkgi.com/site/transit_golden_triangle.php	2005	Supports redevelopment within one-half mile of the Southwest Transitway project

Plans and Studies	Available at Project Website	Date adopted	Summary
CITY OF MINNETONKA			
City of Minnetonka Comprehensive Plan	http://www.eminnetonka.com/community_development/planning/comprehensive_guide_plan.cfm	2008	Finds that a fixed route transit system that penetrates the Golden Triangle would serve as a catalyst for redevelopment and that a balanced TOD land use pattern would extend the life of capital investments in infrastructure and potentially create a catalyst for future redevelopment.
CITY OF HOPKINS			
City of Hopkins Comprehensive Plan	http://www.hopkinsmn.com/development/plan/index.php	2009	Provides a vision for the city's future that includes enhancing downtown Hopkins, redeveloping transportation corridors, protecting open spaces, and making informed decisions regarding transportation infrastructure investments.
Hopkins Station Area Plan	http://www.hopkinsmn.com/transportation/pdf/station-area-report.pdf	2007	The Study developed Station Area Plans for the Shady Oak, Hopkins and Blake LRT stations and provides the first elements of a "road map" to guide future integrated transportation and land use planning initiatives within the City of Hopkins.
East Hopkins Land Use and Market Study	http://www.hopkinsmn.com/development/current/eastend/pdf/east-end-report.pdf	2003	Takes a proactive look at future land use and market opportunities on the east side of the city and discusses the future development potential resulting from implementation of the Southwest Transitway, station locations, and impacts to land use.
Blake Road Corridor Small Area Plan	http://www.hopkinsmn.com/development/current/blake/index.php	2009	Serves as a policy document for the Blake Road Corridor within which an LRT station for the Southwest Transitway is proposed.

Plans and Studies	Available at Project Website	Date adopted	Summary
CITY OF ST. LOUIS PARK			
City of St. Louis Park Comprehensive Plan	http://www.stlouispark.org/comprehensive-plan.html	2009	Focuses future land use planning efforts around the three stations proposed in St. Louis Park. References study of the MN&S alignment and Impacts to traffic circulation and neighborhoods. Including goals to minimize impacts of railroad operations in St. Louis Park and addressing the potential rerouting of freight rail in St. Louis Park.
Elmwood Area Land Use, Transit and Transportation Study	http://www.stlouispark.org/pdf/ElmwoodReport.pdf	2003	Guides decisions on land use redevelopment, infill development, and infrastructure changes in the Elmwood neighborhood. Results were incorporated into the St. Louis Park Comprehensive Plan.
CITY OF MINNEAPOLIS			
Minneapolis Plan for Sustainable Growth (update of Minneapolis Comprehensive Plan)	http://www.minneapolismn.gov/cped/planning/plans/cped_comp_plan_2030	2009	Updates <i>The Minneapolis Plan</i> of 2000 as the new comprehensive plan for the city including an outline for the creation of Transit Station Areas (TSAs); a land use policy feature intended to promote growth specifically around transit stations along fixed-route transitways.
Minneapolis Parks and Recreation Board Comprehensive Plan	http://www.minneapolispaarks.org/documents/about/compplan/ComprehensivePlan.pdf	2007	Includes criteria for parcels that are considered for "disposition" (disposal) meet certain criteria such as not diminishing a parcel's recreation function.
Station Area Strategic Planning (Minneapolis and HCRA)	http://www.southwesttransitway.org/station-area-planning.html	2010	Forms the basis for opening day and long-range station concepts, as well as land use and implementation plans for the Royalston, Van White, Penn, 21 st Street, and West Lake Street stations along the Minneapolis portion of the proposed Southwest LRT line. Informs future rail design and land use

Plans and Studies	Available at Project Website	Date adopted	Summary
Access Minneapolis	http://www.minneapolismn.gov/publicworks/transplan/	2005-2011	Identifies specific actions that the city and its partner agencies (Metro Transit, Metropolitan Council, Hennepin County, Minnesota Department of Transportation) need to take within the next ten years to implement the transportation policies.
Bassett Creek Valley Master Plan	http://www.minneapolismn.gov/cped/planning/plans/cped_basset-creek	2007	Envisions a system of existing and proposed parks and open space integrated with a revitalized mixed-use urban village immediately west of downtown Minneapolis.
Bryn Mawr Neighborhood Land Use Plan	http://www.minneapolismn.gov/www/groups/public/@cped/documents/webcontent/wcms1p-085291.pdf	2005	Identifies the area around the proposed Penn Avenue Station for additional neighborhood residential and commercial space.
Nicollet Avenue Task Force Report: The Revitalization of Minneapolis' Main Street	http://www.minneapolismn.gov/www/groups/public/@cped/documents/webcontent/convert_267751.pdf	2000	Recommends investments in well-defined commercial nodes and corridors, redevelopment of under-utilized commercial areas, and encourages quality urban design and pedestrian-friendly environments.
Downtown East/North Loop Neighborhood Plan	http://www.minneapolismn.gov/cped/planning/plans/master-plans_downtown-east-north-loop_index	2003	Develops a vision and a framework for how new growth should occur in the underdeveloped districts of Downtown Minneapolis, particularly in areas surrounding proposed rail transit stations
Warehouse District Heritage Street Plan	http://www.minneapolismn.gov/cped/projects/cped_heritage_street_plan	2011	Provides clear direction on the issue of how to protect the historic infrastructure of the District while promoting an accessible and pedestrian friendly environment.
Lyn-Lake Small Area Plan	http://www.minneapolismn.gov/www/groups/public/@cped/documents/webcontent/convert_273408.pdf	2009	Contains recommendations designed to strengthen the business core, and provides design considerations in the case that rail service is implemented within the Midtown Greenway.
Midtown Minneapolis Land Use and Development Plan	http://www.minneapolismn.gov/www/groups/public/@cped/documents/webcontent/wcms1p-	2005	Sets out guidelines for future development and infrastructure improvements along Lake Street in Minneapolis.

Plans and Studies	Available at Project Website	Date adopted	Summary
	085287.pdf		
Midtown Greenway Land Use and Development Plan	http://www.minneapolismn.gov/www/groups/public/@cped/documents/webcontent/convert_266361.pdf	2007	Provides policy guidance and recommendations for future land use development along the Midtown Corridor (referred to as the Midtown Greenway), evaluates the long-term viability of adjacent land uses, and provides guidance for future land uses.
Uptown Small Area Plan	http://www.minneapolismn.gov/www/groups/public/@cped/documents/webcontent/convert_267686.pdf	2008	Promotes higher residential and employment densities, urban design specifications, and enhanced connections between the Midtown Corridor, the surrounding lakes area, and urban core. Includes East Isles, Lowry Hill East, East Calhoun, and Calhoun Area Residents Action Group (CARAG).
Midtown Corridor Historic Bridge Study	http://www.minneapolismn.gov/www/groups/public/@council/documents/webcontent/convert_255440.pdf	2007	Assesses potential repair and rehabilitation limitations, presents the original construction methods, and identifies potential effects of bridge removal on the corridor's status as a historic district. Includes twenty-six historic bridges in the Midtown Corridor between Hennepin Avenue and Cedar Avenue.

3.1.3.1 Land Use and Comprehensive Planning: Conclusions

Based on the analysis of local and regional plans and studies, it has been determined that LRT 3A (LPA) alternative is the most compatible with local and regional planning (Table 3.1-4). This alternative, which includes relocating the freight rail activity from the Kenilworth Corridor to the previously planned and existing CP Rail corridor through St. Louis Park (Figure 2.3-2), is identified most frequently by the plans as being the desired alternative for the Southwest Transitway.

The findings in Table 3.1-3 were arrived at based on a review and qualitative assessment of each planning document identified. The review only considered the local and regional plans of the project partner cities that were required under the Metropolitan Land Planning Act, and adopted plans and studies by local jurisdictions that contributed to land planning and development policy of the jurisdiction. As one of several reporting criterion, the Federal Transit Administration (FTA) establishes three measures of transit-supportive land use that include existing land use conditions, transit-supportive plans and policies, and performance and impacts of these policies. Each plan was considered independently. Based on the review and evaluation of each plan's discussion of the Southwest Transitway project, the matrix table was created to

summarize the results. In completing the matrix, checkmarks were given to those plans that were deemed to be supportive of the project or that specified an alignment preference.

- Cells **with checkmarks** signify that the specified Build Alternative is compatible with the identified plan or study.
- Cells **without checkmarks** indicate plans that did not contain information about the specified Build Alternative. In these plans or studies the Build Alternative was determined neither compatible nor incompatible.
- Cells **with the label INC** indicate that the Build Alternative is incompatible with the plan or study.

Additional effects on land use surrounding the Build Alternatives considered are discussed in Chapters 5, 6, and 9.

All the plans listed in Table 3.1-2 are included in the table below. All the plans or studies listed have been adopted or approved by the corresponding agency. This table indicates that the LRT 3A (LPA) is cumulatively the most compatible alternative with the most plans.

Table 3.1-3. Compatibility of Build Alternatives with Local and Regional Comprehensive Plans and Studies

Plans & Studies	Build Alternatives				
	LRT 1A	LRT 3A (LPA)	LRT 3A-1 (Co-location)	LRT 3C-1 (Nicollet Mall)	LRT 3C-2 (11 th /12 th Street)
Metropolitan Council 2030 Regional Development Framework	-	-	-	-	-
Metropolitan Council 2030 Regional Parks Policy Plan	✓	✓	-	✓	✓
Hennepin County Transportation Systems Plan	✓	✓	INC	✓	✓
Interchange EA	✓	✓	✓	-	-
MnDOT Comprehensive Statewide Freight and Passenger Rail Plan, 2010	✓	✓	✓	✓	✓
City of Eden Prairie Comprehensive Plan	INC	✓	✓	✓	✓
City of Minnetonka Comprehensive Plan	INC	✓	✓	✓	✓
City of Hopkins Comprehensive Plan	✓	✓	✓	✓	✓
City of St. Louis Park Comprehensive Plan	✓	✓	✓	✓	✓

Plans & Studies	Build Alternatives				
	LRT 1A	LRT 3A (LPA)	LRT 3A-1 (Co-location)	LRT 3C-1 (Nicollet Mall)	LRT 3C-2 (11 th /12 th Street)
Minneapolis Plan for Sustainable Growth (2009)(update of Mpls Comp Plan)	✓	✓	✓	✓	-
Intermodal Station Siting and Feasibility Study	✓	✓	✓	INC	✓
Eden Prairie Major Center Area Study	-	✓	✓	✓	✓
Golden Triangle Land Use/Multi-Modal Transportation Study	-	✓	✓	✓	✓
Hopkins Station Area Plan	✓	✓	✓	✓	✓
East Hopkins Land Use and Market Study	✓	✓	✓	✓	✓
Blake Road Corridor Small Area Plan	✓	✓	✓	✓	✓
Elmwood Area Land Use, Transit and Transportation Study	✓	✓	✓	✓	✓
Bassett Creek Valley Master Plan	✓	✓	✓	-	-
Bryn Mawr Neighborhood Land Use Plan	✓	✓	✓	-	-
Nicollet Avenue Task Force Report: The Revitalization of Minneapolis' Main Street	-	-	-	✓	✓
Downtown East/North Loop Neighborhood Plan	✓	✓	✓	-	-
Warehouse District Heritage Street Plan	-	-	-	-	-
Lyn-Lake Small Area Plan	-	-	-	✓	✓
Midtown Minneapolis Land Use and Development Plan	-	-	-	✓	✓
Midtown Greenway Land Use and Development Plan	-	-	-	✓	✓
Midtown Corridor Historic Bridge Study	-	-	-	✓	✓
Uptown Small Area Plan	-	-	-	✓	✓
Minneapolis Parks and Recreation Board Comprehensive Plan	✓	✓	INC	✓	✓
Hennepin County Sustainable Development Strategy 2011	-	✓	INC	-	-

3.1.4 Socioeconomics

This section discusses the socioeconomic characteristics of the Southwest Transitway study area. The section also discusses characteristics of the neighborhoods within the study area, Hennepin County as a whole, as well as the seven-county metropolitan region. Socioeconomic factors evaluated include the study area population and number of households, population by age, race and ethnicity, employment, household income and poverty, and vehicle availability. Population, household characteristics, and employment data for 2010 when available (and 2000 data when 2010 information is not yet available) and projections for 2030 are derived from the 2010 U.S. Census and the Metropolitan Council data that was last updated in January 2012. The socioeconomic characteristics considered here are summarized at the census block-group geographic level. Census block-groups are the lowest geographic reporting level for which economic data are available, before the data are protected under federal law. An enhanced analysis and discussion of project impacts to minority and low-income populations is provided in Chapter 10 "Environmental Justice."

3.1.4.1 Total Population and Households

According to the 2010 decennial census, the study area has a population of 189,634 persons and 93,539 households, with an average household size of 2.0. The average household size in Hennepin County and the seven-county metropolitan region was 2.37 and 2.55 respectively. The 2010 study area population comprised approximately 16.5 percent of the residents in Hennepin County and 6.7 percent of residents of the seven-county metropolitan region's total population (2,849,567).

3.1.4.2 Population by Age

Table 3.1-4 identifies the number and percentage of the total population in the study area by age group. The data indicate that the majority of residents were between the ages of 18 and 64.

Table 3.1-4. Study Area Population by Age

Age Cohort	Number of Persons	Percentage of Total
Under 18 Years	32,611	17
18 to 64 Years	137,810	73
65 Years and Over	19,213	10
Total	189,634	100

Source: U.S. Census Bureau, Census 2010, Population by Race and Ethnicity

The study area is composed of a variety of racial and ethnic groups. Race was a self-identification data item on the 2010 Census, i.e., where respondents selected the race(s) with which they most closely identified themselves. Ethnicity is defined as the classification of a population that shares common characteristics such as religion, cultural traditions, language, tribal heritage, or national origin.

Table 3.1-5 provides an overview of the population by race and ethnicity for the study area and for Hennepin County. The White/Caucasian population (75 percent) comprised the largest racial or ethnic group in the study area, followed by Black or

African American (12 percent). All "Others", and Hispanic or Latino populations, comprised the third and fourth largest racial or ethnic groups within the study area, respectively (8 and 7 percent). It should be noted that the Hispanic or Latino population is a subset of all the different race categories and can include persons of any race. The race and ethnicity characteristics of the study area are generally in line with those of Hennepin County as a whole. Additional information on race information in the study area and ethnicity based on 2005-2010 ACS can be found in Appendix H.

Table 3.1-5. Population by Race and Ethnicity

Race/Ethnicity	Study Area		Hennepin County	
	Number of Persons	Percentage of Total	Number of Persons	Percentage of Total
White ^a	142,095	75	856,834	74
Black or African-American ^a	22,673	12	136,262	12
Asian ^a	9,816	5	71,905	6
Hispanic or Latino ^c	13,253	7	70,931	6
All Others ^b	15,050	8	87,424	8
Total	189,634	100	1,152,425	100

Source:

Source: U.S. Census Bureau, 2010 Census.

^a The totals for this category are people who identified as a single race alone.

^b The category "All Others" includes American Indian and Alaska Native, Native Hawaiian and other Pacific Islander, "some other race," and persons who identified themselves as being of two or more races.

^c By Census Bureau definition, the ethnic category "Hispanic or Latino" includes persons of any race, and are a subset of the overall population (the numbers do not contribute to the total population since those persons are already counted in other categories).

3.1.4.3 Income and Poverty

The study area median household income was calculated to be \$51,171, based on 1999 dollars, using income data from the 2000 Census (2010 income data is not yet available at the block group level). ACS data was also referenced for 2005–2010 average numbers at the census tract level. The study area median household income was calculated to be \$57,410 in 2010 at the census tract level. These median household income figures represent a weighted average of the median incomes for the census block groups located within the Southwest Transitway study area. A weighted average was used to determine the study area median household income because median household incomes varied for within the corridor. Median household income in 2000 ranged from \$10,833 to \$176,246 for the block groups considered; in 2010, median household income at the census tract level ranged from \$15,227 to \$186,364. Generally the median household income for the study area in 2000 was substantially higher than the median household income of Hennepin County, while it was lower than the median income of Hennepin County (\$65,683) in 2010. Overall, the study area median household income has increased between 2000 and 2010, but not at the same rate as for Hennepin County.

The 2000 Census data indicate that 11.2 percent of the census block group population within the study area (20,122 persons) had incomes at or below the poverty level. The

2005–2010 ACS data indicate that approximately 15.4 percent of the population within the census tracts within the study area (33,617 persons) had incomes at or below the poverty level. While varied income levels are found throughout the study area, poverty rates were greatest among the study area census block groups and census tracts in the midtown region and in portions of downtown Minneapolis. Thematic mapping suggests that income variability is greater in areas with higher concentrations of rental housing and where a higher volume of multi-unit residences are located. Within the study area, the Uptown and midtown regions of Minneapolis have the highest concentrations of rental properties per acre and the highest concentration of multi-unit residential buildings. Figure 10.3-6 to Figure 10.3-10 in Chapter 10 provides graphic representation of the median household incomes within the project study area.

3.1.4.4 Housing

The number of housing units in the study area in year 2010 totaled 102,089. The number of renter-occupied units (52,667) is greater than the number of owner-occupied units (40,872), a difference of 11,795 occupied housing units. An estimated 8,550 units, or approximately 8.4 percent of all housing units within the study area, were vacant. Table 3.1-6 displays the housing characteristics for the study area as compared with Hennepin County and the greater metropolitan region.

Table 3.1-6. Housing by Occupancy and Tenure

Occupancy/Tenure	Study Area		Hennepin County		Metropolitan Region	
	Number of Units	Percentage of Total	Number of Units	Percentage of Total	Number of Units	Percentage of Total
Owner-Occupied	40,872	40.0	306,121	60.1	782,475	66.0
Renter-Occupied	52,667	51.6	169,792	33.3	335,274	28.2
Vacant	8,550	8.4	33,556	10.6	69,237	5.8
Total	102,089	100.0	509,469	100.0	1,186,986	100.0

Source: U.S. Census Bureau, Census 2010 Summary File 1 (SF 1), 2001

3.1.4.5 Employment

According to the 2000 census, approximately 110,884 workers 16 year of age or older lived in the study area. Based on 2005 to 2010 ACS data, 180,962 workers 16 year of age or older lived in the study area. According to the Metropolitan Council's data, approximately 318,174 jobs were located in the study area in 2010 and approximately 347,445 jobs were forecast for year 2020. Approximately 143,181 jobs were listed for 2010 numbers in the Metropolitan Council's data within downtown Minneapolis. The trend between 2000 census data and the 2010 Metropolitan Council's data shows that both working-age populations and jobs available have been increasing in the study area.

While approximately 110,884 workers were living in the census block groups contained in the study area in 2000, total employment for each community is substantially higher. Four of the five communities the proposed project would operate through receive more employees from the Twin Cities metropolitan region than the number of workers that live in each community. This means that workers from outside of the communities must

commute into these cities for their jobs. The City of Hopkins was the only community in 2000 with greater **population-based employment** than **location-based employment**.

Employment characteristics of the study area communities show that many of the communities receive (or import) more jobs from the surrounding metropolitan region than they send (or export). The data indicate that while Minneapolis continues to be the primary employment center within the study area, employment opportunities are substantial in many of the cities the proposed project would serve, further illustrating the importance of reverse commute travel options.

“Population-based employment” refers to workers 16 years and older who are eligible to participate in the workforce.

“Location-based employment” refers to jobs occurring within a certain location.

Using Metropolitan Council TAZ projections, employment in the study area is expected to grow by approximately 16 percent, to nearly 368,550 jobs, in 2030, compared to 2010 numbers. Downtown Minneapolis is expected to absorb the majority of this job growth, but areas such as Golden Triangle, Opus, Eden Prairie Town Center, and the area along major commercial roads such as Excelsior Boulevard in St. Louis Park, are also anticipating substantial employment growth. The current and projected employment numbers by Build Alternative, along with additional economic information based on ACS data can be found in Appendix H.

3.1.5 Long-Term Effects

Projected long-term effects on land use conditions and socioeconomics are discussed in this section. This discussion takes place within the context of anticipated population and employment growth in the Twin Cities metropolitan region and steady growth within the study area. Population and employment growth projections are discussed in Chapter 1.

3.1.5.1 Effects to Land Use and Socioeconomics

No Build Alternative

The No Build Alternative assumes that existing conditions and future changes to land use will evolve following existing, approved comprehensive plans and current or projected growth patterns. This alternative would not be supportive of the plans adopted by local and regional governments, which support implementation of the project.

Enhanced Bus Alternative

The Enhanced Bus Alternative represents a minimal change to the existing transportation system and transit service in the project study area. This alternative would include the addition of bus stops at locations described in Chapter 2. Bus shelters may be constructed at some of these bus stops, but land use impacts should be minimal. This alternative would not be supportive of the plans for future land use and transportation systems adopted by local and regional governments.

Build Alternatives

Implementation of any Build Alternative is anticipated to have regional economic effects, as presented in Chapter 5, but land use changes in the study area are

expected to be concentrated around the selected Build Alternative alignment and proposed station areas. Accessibility is an important consideration when making development decisions for various types of land use, including residential, office and retail commercial, health and community services, and recreation facilities. Improved accessibility will help the study area become more attractive to business and residential development opportunities, especially when linking major employment centers with rapid transit.

Each Build Alternative could attract transit-supportive development to the study area influence growth patterns on adjacent lands, especially around station areas. Station area planning has been conducted for seventeen of the 29 stations under consideration. The Build Alternatives would most likely make undeveloped parcels in the study area more attractive to developers, and lead to higher density residential development, enhanced employment opportunities, and enhanced connections to new or existing services, activity centers, or social amenities (parks and open spaces) in the study area.

Segment 1

Segment 1 is surrounded by the greatest amount of available undeveloped land and the stations in this segment are primarily located in low-density residential areas. Higher density development in these areas would likely prove to be incompatible with existing land use. Additionally, the construction of park-and-ride facilities at the proposed stations along Segment 1 would produce different kinds of impacts due to the automobile traffic associated with the park-and-ride facilities compared to station locations that would be accessed mainly by pedestrians or via transfers from other transit routes. Finally, the land area surrounding Segment 1 is a region that displays neither the residential density nor the demographic characteristics that currently warrant high-frequency transit service.

Segment 3

A greater mixture of land use types and development patterns is found adjacent to Segment 3 as compared to Segment 1. Land use changes resulting from implementation of the LRT 3A (LPA), LRT 3A-1 (co-location alternative), LRT 3C-1 (Nicollet Mall) and LRT 3C-2 (11th/12th Street) Build Alternatives are anticipated, and the future development potential is greater in Eden Prairie and Minnetonka along Segment 3 compared to Segment 1, based on existing access, land use patterns, and densities. Both cities have engaged in station area planning for the proposed stations, and the comprehensive plans of both communities support the implementation of rail transit service along this segment.

Segment 4

Land uses within a half mile of Segment 4 in Hopkins and St. Louis Park are a diversified mix including residential, commercial, and industrial lands. The historic use of the corridor for freight railroad operations has shaped the land uses surrounding the HCRRA ROW that would be used for the Southwest Transitway by each Build Alternative. Changes to land uses adjoining Segment 4 could be in the form of adaptive reuse of existing structures or complete reuse of land. Undeveloped or underutilized parcels are available adjacent to the corridor, and recent development trends suggest that higher density residential and employment development is anticipated. The cities of Hopkins

and St. Louis Park have focused substantial planning efforts for future development surrounding the corridor, particularly around the proposed station areas.

Segment A

In Minneapolis, land use changes are anticipated along each of the planning segments. Residential land uses surrounding the Segment A alignment are mainly low- to medium-density, single-family detached housing near Cedar Lake and Lake of the Isles. Closer to downtown Minneapolis, land uses change to areas of undeveloped or underutilized land and industrial or industrial-commercial uses closest to the downtown core. The land uses closest to downtown are reflective of the industrial development patterns at the turn of the 20th Century. Implementation of LRT service and stations along the Segment A alignment would likely result in some land use changes surrounding the stations, particularly north of the lakes where tracts of undeveloped land are being considered for development. Implementation of LRT 3A-1 (co-location alternative) in the Kenilworth Corridor could influence a number of land use changes in the area. In order to achieve adequate ROW for placement of the three facilities, up to 57 townhomes would be removed in the area north of the West Lake Station on the west side of the corridor and 3 single-family houses would be removed north of Cedar Lark Parkway along Burnham Road. Additionally, there would be disturbance to Minneapolis Park Board properties on the east side of Cedar Lake in order to create adequate clearance.

Segments C-1 and C-2

In contrast to Segment A, Segment C-1 and Segment C-2 of the LRT 3C-1 (Nicollet Mall) and LRT 3C-2 (11th/12th Street) Build Alternatives would operate through densely populated areas of Minneapolis. Recent development activities along the Midtown Corridor, coupled with the extensive planning efforts of the City of Minneapolis supporting higher population and employment densities suggest that the Uptown and Midtown regions of Minneapolis will continue to be major growth centers of the city. Developers in the Minneapolis region continue to show interest in the Midtown region, and are interested in creating transit- and pedestrian-oriented mixed-use developments.

Freight Rail Relocation

In St. Louis Park one business (industrial use) would be relocated to accommodate new track (elevated track and associated retaining walls) on the south end of the Freight Rail Relocation Segment (MN&S Section) but the area would remain industrial in character. The design of the direct northerly connection from the CP Bass Lake Spur to the CP MN&S Spur was developed to minimize ROW impacts in this area, and hence provide optimal developable land. Land use is not anticipated to change along the primarily residential areas of the north-south section, because improvements are within the existing rail corridor. The proposed track leading into the BNSF Wayzata Subdivision on the north end of the Freight Rail Relocation segment would be constructed on unused rail ROW. While the track would be constructed within that existing ROW, the use of that land would change from inactive to active railroad use. Along the BNSF Section of the Freight Rail Relocation segment, planned improvements are within the existing rail ROW (north side), and no changes in land use are anticipated as a result of the changes to the BNSF Wayzata Subdivision.

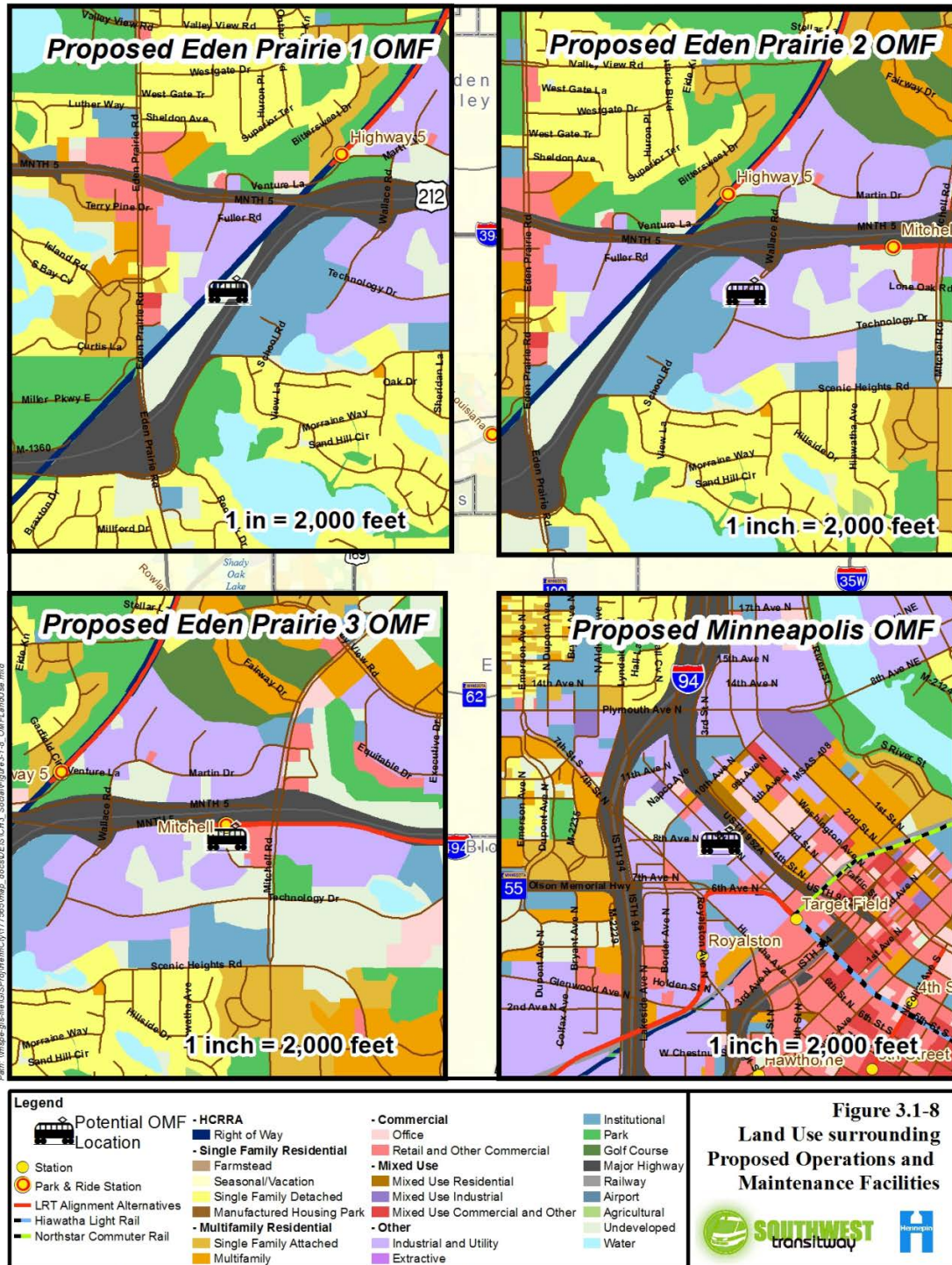
In sum, land use changes are anticipated to occur adjacent to each Build Alternative. Of the five alternatives considered, land use changes adjacent to LRT 1A are anticipated, but these changes could have negative effects on existing land uses because they are incompatible with the development goals and objectives outlined in the land use plans of Eden Prairie and Minnetonka. The potential for land use intensification and changes is greater along the LRT 3A (LPA), LRT 3A-1 (co-location alternative), LRT 3C-1 (Nicollet Mall) and LRT 3C-2 (11th/12th Street) Build Alternatives as compared to the LRT 1A alternative. Land use development changes can have social and economic effects on adjacent populations and communities at-large. Social effects from transit improvements can include enhanced mobility and accessibility, an affordable transportation option, and reduced household transportation costs, in addition to quality-of-life effects. The infrastructure improvements associated with the Build Alternatives, include pedestrian and vehicle facilities, as well as the anticipated development around the station areas may affect the land use in the study area. Construction of these facilities and developments may have short term adverse effects for the nearby residents and commuters. However, the long-term effects are anticipated to be beneficial and are planned for.

Proper planning for the implementation of rail transit service and associated facilities can provide nearby residents and communities with the opportunity to aid in facility design. Active community planning can lead to the creation of land use control policies which can help to stem natural market forces for such elements as housing costs or building footprints. The adoption of station area plans as part of city comprehensive plans or as land use control policies surrounding station areas can help guide future land use changes and growth around stations, and stabilize market forces. Chapter 5 discusses the economic effects of the Build Alternatives.

3.1.5.2 Operations and Maintenance Facility

Four potential locations for the operation and maintenance facility (OMF) have been identified. Land uses surrounding each of the potential sites are predominantly light industrial or service commercial (Figure 3.1-8). Land use and zoning information adjacent to each site are summarized below. More detail can also be found in the OMF site evaluation in Appendix H.

- Eden Prairie 1 – This parcel is currently undeveloped and is used as the HCRRRA interim trail. Land uses adjacent to the site are predominantly industrial and also include undeveloped parcels and the Resurrection Life Church. The site is currently zoned ROW for the TH 212 roadway corridor. This OMF site would work for LRT 3A (LPA), LRT 3A-1 (co-location alternative), LRT 3C-1 (Nicollet Mall) and LRT 3C-2 (11th/12th Street), and could work with modifications for LRT 1A.
- Eden Prairie 2 – Land uses of the site and adjacent property are industrial and institutional (Eden Prairie Independent School District). The OMF would be located on land zoned as Industrial Park and may impact a small portion of land zoned public where school recreational fields are present. The extension track from the Mitchell Station to the site would be located on lands zoned as I-5 Industrial Park. This OMF site would work for LRT 3A (LPA), LRT 3A-1 (co-location alternative), LRT 3C-1 (Nicollet Mall) and LRT 3C-2 (11th/12th Street).



- Eden Prairie 3 – The OMF would be located on land zoned as Industrial Park. Adjacent land uses are industrial and office, with a small commercial development east of the site. Minnesota TH 5 is north of the site, and there is a pond between the site and the commercial development on Mitchell Road, a zoning classification that would include the OMF. This OMF site would work for LRT 3A (LPA), LRT 3A-1 (co-location alternative), LRT 3C-1 (Nicollet Mall) and LRT 3C-2 (11th/12th Street).
- Minneapolis 4 – The site would be located on the western side of downtown Minneapolis. The site area and adjacent land uses are industrial. The 3rd and 4th Street viaducts separate the site from medium rise residential parcels immediately north. The site would close 5th Street between 6th Avenue and 10th Avenue. Currently, the City of Minneapolis has zoned the parcels and area surrounding the site as for medium industrial district. The facility would be permitted by the city zoning ordinance. This OMF site would work for LRT 1A, LRT 3A (LPA), LRT 3A-1 (co-location alternative), and LRT 3C-1 (Nicollet Mall).

3.1.6 Short-Term Construction Effects

3.1.6.1 No Build Alternative.

No short-term construction effects would occur under the No Build Alternative.

3.1.6.2 Enhanced Bus Alternative

Short-term construction effects would be limited to the installation of new bus stops or bus shelters along the Enhanced Bus Alternative alignment. These stops would typically be located in existing public rights-of-way, and are not anticipated to substantially affect study area land use or socioeconomic conditions.

3.1.6.3 Build Alternatives

Traffic impacts are anticipated to occur around construction staging areas, or where roads may be temporarily closed for construction at grade crossing locations. Access to buildings may also be temporarily affected, depending on the location of entrance points. In general, these effects will not change the land use of the area during construction, but may affect the number of people using area businesses directly affected by access or construction traffic issues. Section 3.1.7 discusses the measures that will be taken to avoid and minimize these effects.

It is assumed that lane closures will be required on Louisiana Avenue to facilitate construction of the proposed MN&S connecting track bridge over Louisiana Avenue for the Freight Rail Relocation segment. This work will be closely coordinated with St. Louis Park and Hennepin County. Nighttime lane closures would be required on TH 7 to facilitate construction of the proposed MN&S bridge over TH 7. This work will be closely coordinated and scheduled with MnDOT. All closures would also be coordinated with Methodist Hospital to ensure continued availability of emergency vehicle routes and/or suitable detours.

Temporary trail closures (eight to 12 hours long) are anticipated for portions of the Cedar Lake LRT Trail along the CP Bass Lake Spur, due to bridge demolition and

construction. The proposed overpass of the North Cedar Lake Trail along the BNSF alignment would require temporary re-routing and potential 48-hour trail closures.

Other short-term construction effects may include noise and vibration, visual quality effects, short-term shut-offs of public utilities as necessary and temporary impacts to air quality due to construction activities associated with grading, excavation, and filling that can disturb the soil and generate dust. Additional information on short-term construction effects and potential mitigation measures is available in other applicable sections of Chapters 3, Chapter 4, and Chapter 5 Economic Effects, and Section 3.1.7, Mitigation.

3.1.7 Mitigation

Short-term construction effects can be mitigated by using standard construction best management practices (BMPs) such as the use of construction staging, dust and erosion control, proper mufflers on equipment, restricted construction times, optimum traffic re-routing measures, minimization of lane, sidewalk, or trail closures during construction, and maintenance and timely removal of temporary traffic control devices. Although specific plans for maintaining access and construction BMPs are not yet established, it is expected that a BMP construction plan will be developed prior to construction. This plan will specify construction staging and treatments to minimize impacts. The BMPs could include working with residents and merchants to provide alternative access to their neighborhoods, properties, and businesses, providing advance notice of construction plans and phasing, maintaining access to bus stops and school routes, and alerting the public to road, sidewalk, and trail closures and detour routes.

Contractors will be required to comply with applicable state and federal laws regarding proper use of construction equipment, on-site construction and public safety standards applicable to Americans with Disabilities (ADA) access requirements, and keeping construction equipment outfitted with appropriate environmental protection features such as noise mufflers and air filters to minimize exhaust.

The mitigation measures required by the respective cities, Hennepin County, or the State of Minnesota for roadway access and traffic control will also apply. Contractors will be required to obtain permits from appropriate governmental agencies for roadway disruptions and blockages. Notification of roadway disruptions will be provided to neighboring property owners/operators.

Temporary traffic lanes, sidewalks, driveways, bus stops, or paths could be used to help maintain pedestrian and vehicle traffic. Construction sequencing plans will be developed at a later time and specified in the Final EIS.

Businesses and residences may experience difficulties with accessibility at certain times of day during the construction of the project, and minor detours for through traffic might be required. In general, these effects will not change the land use of the area during construction, but may affect the number of people using area businesses directly affected by access or construction traffic issues.

In most cases, construction will be conducted during daylight hours and contractors will be required to comply with applicable state and local limits on construction times. Roadway and driveway closures and other impacts to adjacent properties will be

minimized to maintain accessibility to businesses and other locations during construction. Appropriate notification and signage will be used to alert residents, businesses, and travelers to temporary closures or route detours. These mitigation measures would serve to minimize any disruption to businesses or commercial land use during construction.

Because the LRT is anticipated to result in long term benefits to land use and is planned for, no mitigation is necessary or proposed.

3.1.8 Summary

Table 3.1-7 summarizes how compatible the proposed alternatives are with existing and proposed land uses and land use plans.

Table 3.1-7. Summary of Land Use Compatibility

Environmental Metric	Build Alternatives				
	LRT 1A	LRT 3A (LPA)	LRT 3A-1 (Co-location)	LRT 3C-1 (Nicollet Mall)	LRT 3C-2 (11 th /12 th Street)
Compatible with existing land use	No- Stations would be in low density areas	Yes	No	Yes	Yes
Compatible with zoning	Yes	Yes	Yes	Yes	Yes
Compatible with planned development	No- Low/slow transit oriented development (TOD) potential	Yes	No	Yes	Yes

Environmental Metric	Build Alternatives				
	LRT 1A	LRT 3A (LPA)	LRT 3A-1 (Co-location)	LRT 3C-1 (Nicollet Mall)	LRT 3C-2 (11 th /12 th Street)
Consistent with adopted regional and local plans	No – Inconsistent with adopted plans for Eden Prairie and Minnetonka	Yes	No – Inconsistent with the Metropolitan Council's Transportation Policy Plan, Minneapolis' Access Minneapolis Plan, and three of Hennepin County's plans - Sustainable Development Strategy, Bicycle Transportation Plan and Transportation Systems Plan.	No – Inconsistent with the Metropolitan Council's Transportation Policy Plan and Minneapolis' Access Minneapolis Plan	No – Inconsistent with the Metropolitan Council's Transportation Policy Plan and Minneapolis' Access Minneapolis Plan
Serve high growth areas	Yes	Yes	Yes	Yes	Yes
Serve minority populations	Yes	Yes	Yes	Yes	Yes

3.2 Neighborhood, Community Services and Community Cohesion Impacts

This section includes an assessment of neighborhood characteristics and community facilities and resources within the Southwest Transitway study area, and an evaluation of project effects on community cohesion.

3.2.1 Methodology

Descriptions and designated boundaries of neighborhoods within the study area vary widely. The term neighborhood can refer to a specifically defined geographic area within a larger urban environment, or it can denote a social community. The study area includes five cities: Eden Prairie, Minnetonka, Hopkins, St. Louis Park, and Minneapolis (Figure 1.1-1), each of which has different means of identifying neighborhoods. In Minneapolis and St. Louis Park, specific neighborhoods with geographically defined boundaries are identified, whereas in Eden Prairie, Minnetonka, and Hopkins, neighborhoods are not defined by geographic boundaries, but rather may only refer to a specific residential development. The other project cities, Eden Prairie, Minnetonka, and Hopkins, through which the Build Alternatives pass identify neighborhood areas based on housing clusters.

The identification of neighborhoods within the study area involved several steps. Neighborhoods defined by a geographic boundary are discussed using data and information supplied by the cities. In the cases of Eden Prairie, Minnetonka, and Hopkins, available data, such as housing data at the block group level from the U.S. 2010 Census were collected and reviewed for residential areas. All publicly available data pertaining to identified neighborhoods from the five cities through which the Build Alternatives pass were obtained and included in the analysis.

For the analysis of community services and facilities, a public facilities resource inventory was created for specific buildings or sites within the project study area. Data pertaining to community services were collected from the five cities through which the Build Alternatives pass. Locations of facilities were verified through field observation. The analysis considered all community facilities and resources within a half-mile radius of the project segments comprising each Build Alternative, including the Freight Rail Relocation segment. This distance is based on the Metropolitan Council assumption contained in the 2030 TPP that people are willing to walk up to half-mile to access rail transit.

Community services and resources contained in this analysis include municipal administrative buildings, police and fire stations, hospitals and medical clinics, places of worship, public and private schools, libraries, notable theaters, recreation facilities, parks and public open spaces, community resource centers, and public or publicly-subsidized housing facilities. Descriptions of potential impacts to affected buildings or specific sites are provided as they pertain to each Build Alternative.

Community services are defined in this analysis as physical community facilities or amenities providing a service such as a recreation center or library, and do not include services such as emergency response, water/wastewater services, or other public utility services. While the analysis identifies the location of public safety and emergency response facilities, the services provided are discussed in Section 3.7 Safety and Security, and a description of public utility services is provided in Section 4.9 Electromagnetic Fields and Utilities. Additionally, data on places of worship and school facilities are limited to identifiable buildings used regularly by community members, and do not include locations of home-based practicing faiths or other religious study groups, or home-schooling facilities. For this analysis, trail systems and potential impacts are described in detail in Chapter 6, Section 6.3, Other Transportation Facilities.

The analysis of project impacts to neighborhoods and community cohesion was conducted both qualitatively and quantitatively, using observational analysis and available longitudinal data (studies of data over longer periods of time such as the U.S. Census).

To determine project effects on neighborhoods and community cohesion applicable social, cultural, and economic data from the U.S. Census Bureau and the Home Mortgage Disclosure Act (HMDA) were analyzed. The data included current and historical demographic and housing records, and were used to consider longitudinal changes in neighborhood and community characteristics in order to identify geographic areas where gentrification may have occurred previously or has the potential to occur in the future.

While it is difficult to quantify project effects with respect to gentrification (the displacement of poorer economic populations by wealthier residents), consideration of past demographic trends in the study area can provide some guidance on potential future migration patterns or economic changes. The analysis of neighborhood and community cohesion contained in this section considers quantitative elements of neighborhood characteristics. The analysis does not quantify nor qualify potential future changes to neighborhoods, community cohesion, social or cultural networks, or economic conditions.

3.2.2 Existing Conditions

This section contains a discussion of neighborhoods and community facilities and resources, in the study area.

3.2.2.1 Neighborhoods

Organized and defined neighborhoods (Figure 3.2-1) in the study area are found in Minneapolis and St. Louis Park. Neighborhoods in both cities are defined geographically by transportation features, such as major collector roads, highways, or railways. In Minneapolis, neighborhoods typically have organized representative boards made up of neighborhood citizens. These boards conduct monthly meetings, serve as a neighborhood voice to the city council, work with city departments on infrastructure or service improvements, participate in neighborhood planning, and organize neighborhood social activities. In St. Louis Park, some neighborhoods have organized neighborhood associations, but many neighborhoods do not have organized or recognized boards. In Hopkins, Minnetonka, and Eden Prairie, residential areas have developed over time through the subdivision of land. While residential areas would constitute a neighborhood, the cities do not identify neighborhoods with geographic boundaries. As development has stretched westward from Minneapolis, older neighborhoods and residential areas have traditionally been denser than more recent subdivision developments that have reflected modern suburban development patterns. Most of the changes to defined neighborhoods and communities at-large have taken place since World War II. Prior to 1939, housing and neighborhood development was greatest in Minneapolis and St. Louis Park, while post-1949 saw substantial housing unit construction extend westward. This growth trend is further affirmed by Eden Prairie's rapid expansion of housing, population, and employment in the 1980s and 1990s.

The following is a description of neighborhoods within a half-mile of each Build Alternative considered, listed by project partner city.

Segment 1(LRT 1A)

Eden Prairie

The City of Eden Prairie does not have geographically defined or named neighborhoods.

Between 2000 and 2009, housing units increased by 1,712 in the study area census block groups within Eden Prairie.

On either side of Segment 1 (Figure 2.3-9) of the LRT 1A Build Alternative in Eden Prairie are two residential areas. The neighborhoods are primarily made up of single-family detached housing units, with some multi-unit townhome housing. Located along Howard Lane, Edenvale Road, and Woodland Drive, these neighborhoods connect with major collector and arterial roads including Valley View Road and County Road 62. These residential areas also include parks, open spaces, schools, and trail systems.

Minnetonka

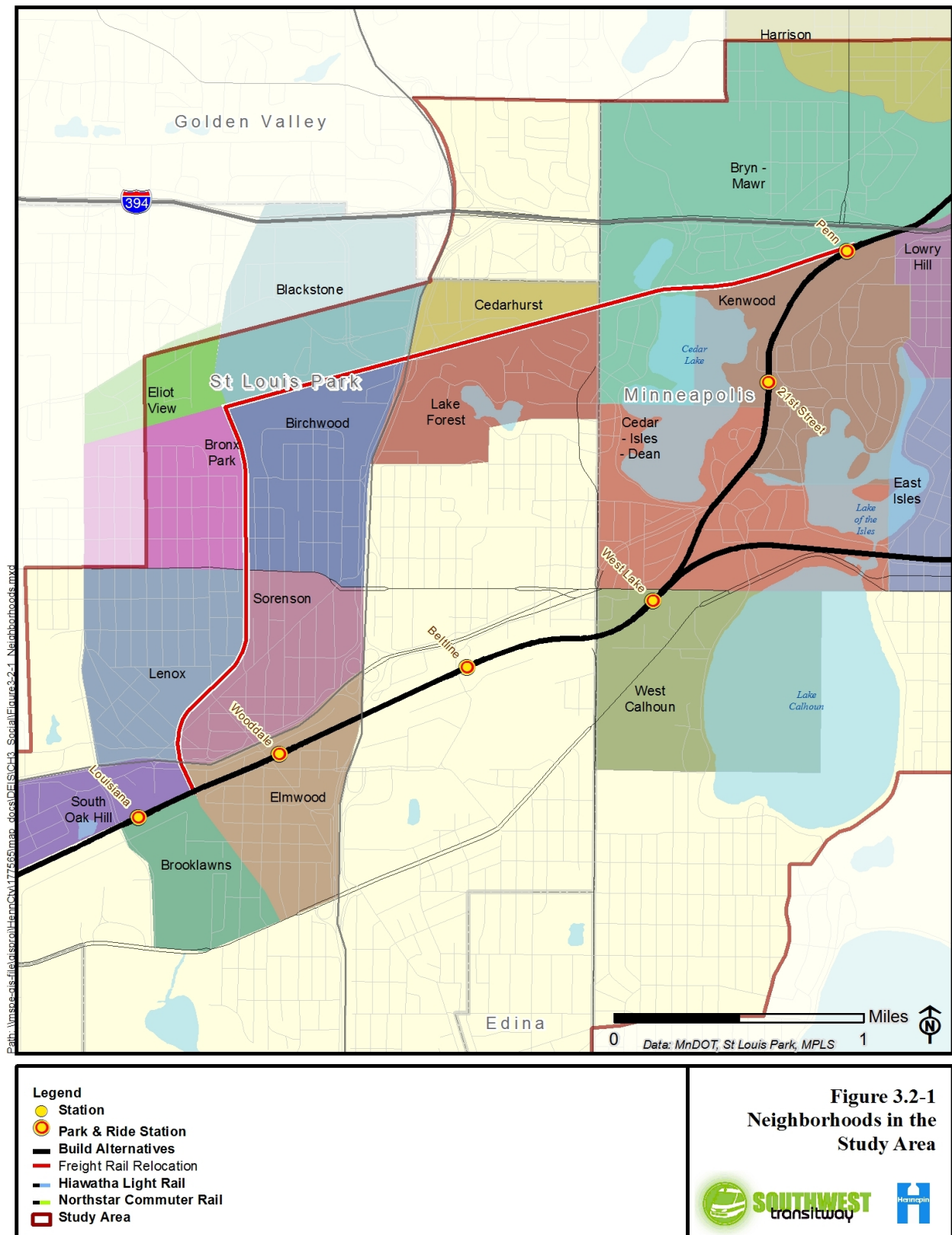
Similar to Eden Prairie, the City of Minnetonka does not have geographically defined or named neighborhoods.

Land development in the City of Minnetonka has been affected by natural landscape and topographic features determining where development is suitable. Areas with substantial slopes, elevation changes, and hydrologic features have long served as natural guides for the type and intensity of land development. This has led to housing, commercial, and industrial activity land use clusters, circuitous street networks, and natural buffers between land uses where development is not permissible.

As a result of the spatial development patterns, Minnetonka's 2030 Comprehensive Guide Plan states, "Large scale residential development began in the mid to late 1950s along the eastern portion of Minnetonka adjacent to the cities of St. Louis Park and Hopkins."

The housing within a half-mile of the Build Alternatives represents a mixture of single-family detached units, attached condominium townhome units, and multi-unit apartment complexes. In 2010, a total of 3,188 housing units were located in the census block groups the LRT alignments would operate through in Minnetonka; 1,535 housing units along the LRT 1A Build Alternative.

Land uses adjacent to the LRT 1A Build Alternative are primarily dispersed single-family detached housing available on cul-de-sac streets or dead-end roads. In many cases, the residential areas that have developed are largely a function of the buildable land in this region, which includes several areas of standing water and wetlands.



Segment 3 [LRT 3A (LPA), and LRT 3A-1 (Co-location alternative), LRT 3C-1 (Nicollet Mall), LRT 3C-2 (11th/12th Street)]

Eden Prairie

Land uses adjacent to Segment 3 (Figure 2.3-9) of the LRT 3A (LPA), LRT 3C-1 (Nicollet Mall), and LRT 3C-2 (11th/12th Street) Build Alternatives are predominantly office commercial, retail commercial, and light industrial. Some housing is located near Segment 3 and associated stations primarily in the form of multi-unit apartment and condominium complexes, with single-family detached housing immediately northeast of the intersection of I-494 and Hwy 212. Despite this housing, this region is the primary job and activity center of Eden Prairie, known as the Major Center Area, also as the Town Center. The majority of the population within the study area in Eden Prairie currently resides north of TH 5 and U.S. 212.

Minnetonka

In 2010, a total of 3,188 housing units were located in the census block groups the LRT alignments would operate through in Minnetonka with 2,040 of those housing units along the LRT 3A, 3A-1, LRT 3C-1 (Nicollet Mall), and LRT 3C-2 (11th/12th Street) Build Alternatives (there is an overlap where census blocks are crossed by both Segment 1 and Segment 3).

In contrast to the largely residential character adjacent to Segment 1, land uses adjacent to the LRT 3A (LPA), LRT 3A-1 (co-location alternative), LRT 3C-1 (Nicollet Mall), and LRT 3C-2 (11th/12th Street) Build Alternatives are a mixture of densely packed single family detached housing, attached townhome, condominium, and apartment rental housing built among high- and medium-rise office commercial towers, or low-rise office commercial and light industrial buildings.

Segment 4 [LRT 1A, LRT 3A (LPA), and LRT 3A-1 (Co-location alternative), LRT 3C-1 (Nicollet Mall), LRT 3C-2 (11th/12th Street)]

Hopkins

Similar to Eden Prairie and Minnetonka, the City of Hopkins does not have geographically organized or named neighborhoods. Neighborhood associations exist for specific housing developments, but do not serve in a citywide civic capacity.

All Build Alternatives use the ROW owned by HCRRA in Hopkins. Land uses adjacent to Segment 4 are primarily industrial and commercial land uses, but intermittent pockets of residential housing exist. Single family detached housing is available in downtown Hopkins on the alignment's north side, and on Excelsior Boulevard south of the alignment. The neighborhood south of Excelsior Boulevard is mostly single-family detached housing on the traditional city grid configuration, with interconnected neighborhood streets. There is a private school campus, learning center, and park along Segment 4 in Hopkins, contributing a recreational and open space feel for this portion of the segment.

St. Louis Park

The City of St. Louis Park has geographically defined and named neighborhoods, several of which are bounded on one side by the HCRRA ROW where all of the proposed Build Alternatives would operate. The neighborhoods bordering Segment 4

include South Oak Hill, Sorenson, and Triangle on the north side, and Meadowbrook, Brooklawns, Elmwood, and Wolfe Park on the south side. Other neighborhoods within a half-mile of Segment 4 include Aquila, Oak Hill, Lenox, Birchwood, and Fern Hill on the north side, and Minikahda Vista, and Minikahda Oaks on the south side. The Cedarhurst and Lake Forest neighborhoods, while located in St. Louis Park, are within a half-mile of the LRT 1A and LRT 3A (LPA) Build Alternative alignments in Minneapolis.

There are a total of 15,976 housing units in the census block groups of the study area in St. Louis Park, according to the 2010 U.S. Census. Historic housing data indicate that St. Louis Park has experienced relatively steady housing growth since 1940. Between 1940 and 1949, 2,980 housing units were built, and an additional 2,823 units were constructed from 1950 to 1959. While housing unit growth has slowed since the in the 1960s (4,737 housing units constructed between 1960 and 1999), the number of housing units constructed between the decades is relatively consistent, with the biggest drop in housing development occurring during the 1990s, when 509 new units were constructed in the census block groups contained in the project study area within St. Louis Park. Between 2000 and 2009, housing units increased by 949 in the study area census block groups within St. Louis Park.

The neighborhood bisected by the proposed LRT alignment is Elmwood. The LRT would run through the northern side of the neighborhood, an area currently used by the freight railroads and the HCRRA Cedar Lake LRT Regional Trail.

The following are brief descriptions of each St. Louis Park neighborhood within the study area. These descriptions were derived from the city's website descriptions of each neighborhood.

- **South Oak Hill:** South Oak Hill occupies a total of 194.7 acres, with 12 blocks used for residential land uses, which account for most of the land area within the neighborhood. Most of the 300 housing units are single-family detached homes (288); 12 homes are duplex units. Commercial and industrial land uses account for approximately 27.8 percent of the total neighborhood acreage. Parks and open space account for 8 percent of the neighborhood's land area, and include Edgebrook Park.
- **Triangle:** The Triangle neighborhood is bordered on the south side by the HCRRA ROW. The neighborhood is approximately 190.3 acres, and contains a mixture of land uses including residential, commercial, industrial, public, and institutional buildings, and parks and open space. The neighborhood dates back to 1887, and was one of St. Louis Park's earliest subdivisions. A variety of housing styles and types are available, including single-family detached, apartments, duplexes, and townhomes. Civic land uses include City Hall, the city police station, and Carpenter Park.
- **Meadowbrook:** The Meadowbrook neighborhood contains a mixture of land uses and comprises 172.8 acres. Commercial and industrial lands account for more than 50 percent of the total neighborhood land area, with housing and parks or open spaces contributing much of the remaining land area. Minnehaha Creek flows through the neighborhood, and public or institutional spaces include the Municipal Service Center and Isaac Walton League/Creekside Park.

- **Brooklawns:** The signature feature of the Brooklawns neighborhood is Methodist Hospital, a large regional hospital serving the central and southwest metropolitan region. The neighborhood occupies 150.4 acres of land, and, as with the Meadowbrook neighborhood, 57.8 percent of the land area is occupied by commercial or industrial land uses. The neighborhood is bordered to the north by the HCRRA ROW and the current CP Rail ROW, which has contributed to the development of industrial land uses.
- **Elmwood:** The Elmwood neighborhood is one of St. Louis Park's oldest neighborhoods, with roots dating back to the 1880s, when housing development was influenced by the railroad. Many of the city's original homes are located in this neighborhood. Elmwood occupies 231.9 acres of land and includes 518 housing units, according to 2000 data. The housing stock is split between single family detached units (272), apartments (168), and duplex units (78). Two neighborhood parks, Jorvig Park and Justad Park, are located in the neighborhood, and St. Louis Park Fire Station #1 is also located in the neighborhood on Wooddale Drive. This is the only neighborhood bisected by the HCRRA ROW, where other neighborhoods are bordered by the ROW.
- **Wolfe Park:** The Wolfe Park neighborhood is bordered to the north by the CP Rail and HCRRA ROW and to the east by Minneapolis. On the south side, the neighborhood is bordered by Excelsior Boulevard, one of St. Louis Park's primary commercial activity centers. The neighborhood has several amenities, including the Excelsior and Grand Commons mixed-use development, Wolfe Park, the St. Louis Park Recreation Center, and Bass Lake. Wolfe Park is approximately 385.6 acres, and is the largest neighborhood in St. Louis Park. The land uses in the neighborhood are a mixture of high density housing, commercial and industrial land uses, and parks and open spaces.
- **Oak Hill:** The Oak Hill neighborhood is in the geographic center of St. Louis Park, and occupies 277 acres with 26 residential blocks, which account for most of the neighborhood's land use. Parks and open space account for 25.8 percent of the land use, with commercial/industrial uses accounting for less than one percent. The 1,182 residential housing units are divided between 636 single family homes, 128 condominiums, two town homes, 388 apartment units and 28 duplexes. The largest park in St. Louis Park, Oak Hill Park, is within this neighborhood.
- **Fern Hill:** The Fern Hill neighborhood occupies 385 acres with 51 residential blocks, the largest St. Louis Park neighborhood in terms of residential use. Parks and open space account for 9.8 percent of the land use, with commercial/industrial uses accounting for one percent. The 1,338 residential housing units are divided between 958 single family homes, 27 condominiums, 59 town homes, 268 apartment units and 26 duplexes. There are two parks in this neighborhood, Fern Hill Park and Twin Lakes Park.
- **Minikahda Vista:** The Minikahda Vista neighborhood occupies 244 acres with 34 residential blocks, the largest land use in the neighborhood. Parks and open space account for 4.1 percent of the land use, with commercial/industrial uses accounting for 8.3 percent. The 829 residential housing units are divided between

796 single family homes, 5 apartment units and 28 duplexes. There is one park (Minikahda Vista Park) and one school in this neighborhood.

- **Minikahda Oaks:** The Minikahda Oaks neighborhood is a very small residential neighborhood, occupying 29.5 acres with 4 residential blocks. Parks and open space account for 22.3 percent of the land use, with commercial uses accounting for 2.3 percent. The 77 residential housing units are all single family homes. There is one park (Bass Lake Park) in this neighborhood.

Segment FRR (Freight Rail Relocation)[LRT 1A, LRT 3A (LPA), LRT 3C-1 (Nicollet Mall), LRT 3C-2 (11th/12th Street)]

St. Louis Park

The Freight Rail Relocation Segment runs along the edge of eight neighborhoods: Lenox and Bronx Park to the west of the MN&S Segment, Sorenson and Birchwood to the east of the MN&S Segment, Eliot View to the northwest of the Iron Triangle area, Blackstone and Cedarhurst to the north of the BNSF Segment, and Lake Forest to the south of the BNSF Segment (Figure 3.2-1).

- **Lenox:** The Lenox neighborhood was subdivided by 1892 with Minnetonka Boulevard on the north, TH 7 and Lake Street on the south, CP Railroad (east of Brunswick Avenue) on the east, and Louisiana Avenue to the west. The average year of residential construction is 1945; the residential mix is 825 single-family homes, 13 apartment units, and 30 duplex units. The Lenox Community Center, the Senior Highway School, the St. Louis Park Public Library, Roxbury Park, Freedom Park, and Parkview Park are located in the 285.3-acre Lenox neighborhood.
- **Bronx Park:** The 241.6-acre Bronx Park neighborhood is bordered to the north by the BNSF, to the south by Minnetonka Boulevard, to the east by CP Railroad, and to the west by Louisiana Avenue. Established between 1911 and 1913, this neighborhood is exclusively single-family homes (997 residences), with a few commercial establishments are located along Minnetonka Boulevard and Louisiana Avenue. Three parks are located in the neighborhood: Bronx Park, Dakota Park, and Nelson Park, which hosts a community vegetable garden. Most of the residential stock was built between 1947 and 1953.
- **Sorenson:** The Sorenson neighborhood is 207.5 acres, much of which is used for residential land uses. Commercial, industrial, and parks and open spaces contribute a small percentage of the land use in the neighborhood. Civic facilities include the Central Community Center, Keystone Park, and Webster Park. The neighborhood was served by one of the original streetcar routes operating through St. Louis Park. The St. Louis Park Trolley, connecting Minneapolis and Hopkins, traveled through the Sorenson neighborhood until 1907.
- **Birchwood:** This neighborhood covers about 26 residential blocks with BNSF Railway Company to the north, Minnetonka Boulevard to the south, TH 100 to the east and CP Railroad to the west. Many of Birchwood's homes were built during the early 1900s along streetcar lines, and the neighborhood continued to grow to its present mix of 629 single-family homes, 159 townhouses, 249 multifamily units, and two

neighborhood parks (Sunshine Park and Birchwood Park). The northwest portion of this neighborhood is a designated wetland and floodplain.

- **Eliot View:** The Eliot View neighborhood occupies 97.9 acres bordered by Cedar Lake Road on the north, BNSF to the south, CP railroad to the east and Louisiana Avenue to the west. The residential section of Eliot View is in its northeast corner and contains 204 housing units: 167 single-family homes, 16 apartments, and 8 duplex units. The average year of construction is 1953. Thirty-five percent of the neighborhood is commercial/industrial, which are located in the southeast section of the neighborhood. Westwood Shopping Center is located in the northwest corner.
- **Blackstone:** This neighborhood is bordered on the north by the City of Golden Valley, on the south by BNSF, by TH 100 on the east, and by CP Railroad on the west. Of the 332.2 acres comprising the Blackstone neighborhood, 61.6 percent is used by commercial and retail businesses. Most of the neighborhood's 451 housing units and Blackstone Park are located on its west side, and the average year of residential construction is 1955.
- **Cedarhurst:** The Cedarhurst neighborhood is located in the northeastern corner of St. Louis Park. This neighborhood comprises 96.2 acres bordered by the City of Golden Valley to the north, BNSF, the City of Minneapolis to the east, and TH 100 to the west. The residential area consists of four blocks with 49 single-family homes, 321 condominiums, 72 townhouses, and 25 apartments; businesses are located along Cedar Lake Road and TH 100. Cedarhurst is home to Cedarhurst Park, the Minneapolis Jewish Day School, and the Jewish community Center. A pedestrian bridge connects the neighborhood to the regional North Cedar Lake Trail.
- **Lake Forest:** The Lake Forest neighborhood is bounded by BNSF to the north, 25^{1/2} Street, Twin Lake, and Cedarwood Road to the south, France Avenue to the east, and TH 100 to the west. Although Lake Forest was subdivided in 1930s, the average construction year for residences in the neighborhood is 1951. The neighborhood contains 196 single-family homes on 12 residential blocks. Parks and open space use 22 percent of the neighborhood's 197.6 acres: Twin Lakes and wetlands, and Twin Lakes Park, and the Benilde-St. Margaret's School.

Segment A [LRT 1A, LRT 3A (LPA), and LRT 3A-1 (co-location alternative)]

Minneapolis

Each Build Alternative would operate through several geographically defined neighborhoods in the City of Minneapolis. Fourteen of Minneapolis' 87 neighborhoods are located within a half-mile of the Build Alternatives considered. These are discussed below.

The LRT 1A, LRT 3A (LPA), and LRT 3A-1 (co-location alternative), Build Alternatives would operate through or run adjacent to the following neighborhoods: Bryn-Mawr, Cedar-Isles-Dean, Downtown West, Harrison, Kenwood, Lowry Hill, North Loop, Sumner-Glenwood, and West Calhoun.

Downtown West comprises the majority of Minneapolis' Central Business District (CBD), with several signature high-rise office buildings including the IDS Tower, the Wells Fargo Center, the Capella Tower, U.S. Bank Plaza, and the Foshay Tower (Minneapolis' first signature skyscraper building). The other neighborhoods are predominantly residential

with neighborhood commercial services along major roads such as Hennepin Avenue, Glenwood Avenue, Penn Avenue, and West Lake Street.

The circuitous street network through several neighborhoods weaves around the Chain of Lakes region, with connections to parks, trails, the lakes, and community amenities and attractions. Housing around the proposed West Lake Station is a mixture of higher density multi-unit apartments and condominiums, surrounded by lower density single-family detached residential units. North of the West Lake Station, housing units are predominantly detached single-family residences. In recent years, the west side of downtown Minneapolis has seen substantial housing unit development, partially through the construction of new condominium and townhome developments, but also through the conversion and adaptive reuse of former warehouse buildings for residential space.

For the census block groups Segment A would operate through in Minneapolis, housing development in the neighborhoods surrounding Segment A was most robust prior to 1939. Several of these neighborhoods trace their roots to the late 1800s, and are some of Minneapolis' original housing subdivisions. Prior to 1939, 4,426 housing units were built in these neighborhoods. Housing unit development slowed between 1940 and 1959, when 1,340 new housing units were constructed. In the 1960s, the development of new housing units picked up pace again, with 1,371 units constructed between 1960 and 1969. The trend in new housing unit construction continued in the 1970s (1,686 new units) and the 1980s (2,149 new units). 812 new housing units were constructed between 1990 and 1999. Between 2000 and 2009, housing units increased by 371 in the census block groups within Minneapolis that are crossed by Segment A.

Many of the neighborhoods adjacent to Segment A reflect the building styles of early 20th century architects and developers. Several neighborhoods have winding streets, which in part may be attributable to the neighborhood's subdivision design, along with the natural landscape features such as Lake Calhoun, Lake of the Isles, and areas with ridgelines overlooking valleys. The traditional street grid has been maintained in portions of these neighborhoods, but other built environment patterns have also altered the street grid pattern. An example of this would be Hennepin Avenue as a diagonal street which has resulted in changes to the street grid.

The following are brief descriptions of each neighborhood adjacent to Segment A. These descriptions were derived from the City of Minneapolis' website.

- **Bryn Mawr:** Immediately west of downtown, the Bryn Mawr neighborhood is encircled by parklands including Theodore Wirth Park, Bassett Creek, Bryn Mawr Meadows, and Cedar Lake Park. Interstate 394 bisects the neighborhood on the south side, and the Penn Avenue exit ramp provides access from the interstate. The BNSF Railroad operates a rail line along the southern, northern, and east sides of the neighborhood. The neighborhood includes residential and neighborhood-scale commercial land uses.
- **Cedar-Isles-Dean:** The Cedar-Isles-Dean neighborhood is located on the western side of Minneapolis bordering St. Louis Park. Lake of the Isles and Cedar Lake are two natural amenities that contribute to the character of the neighborhood and define its borders. Other identifying features and amenities include the Midtown Corridor

(referred to as the Midtown Greenway), a popular non-motorized commuter, multi-use trail, and a portion of the Minneapolis Chain of Lakes Regional Park.

- **Kenwood:** The Kenwood neighborhood was constructed on 95 acres on Minneapolis' west side, and shares portions of Lake of the Isles and Cedar Lake with the Cedar-Isles-Dean neighborhood. The neighborhood is noted for large homes in the Mediterranean and colonial building styles, along with eclectic home designs. Homes are built on the shores of Cedar Lake, while Lake of the Isles homes are set back from the lake on the Parkway, with low-speed parkway roads and paved or dirt trail systems running through the neighborhood and encircling the lakes, including a portion of the Minneapolis Chain of Lakes Regional Park. These trail systems are used year round. A channel (or lagoon) connects Cedar Lake and Lake of the Isles and is used for boaters to travel between the lakes, and skiers in the winter.
- **Downtown West:** The Downtown West neighborhood is the intensely developed urban core and central business district of downtown Minneapolis, with many high-rise office commercial towers, shopping centers, and entertainment facilities. Residential land uses are concentrated along the Mississippi River and some high- and medium-rise housing is available. Large-scale physical features of this neighborhood include the IDS Tower, the Wells Fargo Center, the Capella Tower, the Foshay Tower, U.S. Bank Plaza, Target Center, the Minneapolis Convention center, and Target Field. The Minneapolis City Hall, with its clock tower, is located between the Hennepin County Government Center and the U.S. Federal Courthouse.
- **Harrison:** The Harrison neighborhood is located northwest of downtown Minneapolis, and contains a mixture of land uses including residential, commercial, and industrial parcels. The neighborhood is bordered by Theodore Wirth Park and physical features include Bassett Creek Park along Bassett Creek. Minnesota TH 55 (Olson Memorial Highway) and Interstate 94 are two primary transportation routes that provide access to the neighborhood, and define its borders.
- **Lowry Hill:** The Lowry Hill neighborhood is located immediately southwest of downtown Minneapolis, and contains several city attractions including the Walker Art Center, the Minneapolis Sculpture Garden, Dunwoody Institute, and Thomas Lowry Park. The neighborhood has a mix of land uses, but is primarily a retail commercial and residential neighborhood, with some multi-unit apartment buildings, brownstone walkups, condominiums, and single family detached housing.
- **North Loop:** The North Loop neighborhood is a rapidly redeveloping neighborhood of Minneapolis, immediately northwest of downtown along Washington Avenue. The neighborhood is traditionally known for its aging warehouse buildings, which have been converted in recent years to apartments, condominiums, lofts, offices, and artist studio spaces. The neighborhood has witnessed substantial population growth, and new medium-rise condominium buildings have also developed. The addition of Target Field is seen as a future catalyst for development. Large parking lots and unused buildings adjacent to the stadium are planned to be converted to higher intensity uses.
- **Sumner-Glenwood:** Sumner-Glenwood is a small neighborhood situated between the Harrison and North Loop neighborhoods. TH 55 (Olson Memorial Highway) bisects the neighborhood, with Interstate 94 serving as the eastern boundary. North of

TH 55, the neighborhood is made up of predominantly single family detached and low-rise apartment buildings, although several public school and other institutional buildings have been developed in the neighborhood. The International Market Square building is one of Minneapolis' leading examples of a successful adaptive reuse building, including home design and some retail commercial stores converted from a former factory building.

- West Calhoun: The West Calhoun neighborhood sits between Minneapolis' border with St. Louis Park and Lake Calhoun. The neighborhood is principally residential, although the commercial region of West Lake Street has developed into a thriving shopping area. The Grand Rounds Scenic Byway, encircling Lake Calhoun, is a heavily used parkway road system that includes the off-street trails of a portion of the Minneapolis Chain of Lakes Regional Park. In addition to Lake Calhoun and the interim use trails and park space, the neighborhood is also home to the Bakken Museum and the Minikahda Club golf course.

Segments C-1 and C-2 [LRT 3C-1 (Nicollet Mall) and LRT 3C-2 (11th/12th Street)]

Both Segments C-1 and C-2 would operate in the Midtown Corridor, before turning north on Nicollet Avenue, Blaisdell Avenue or 1st Avenue. The LRT 3C-1 (Nicollet Mall) alternative would operate through or adjacent to the following neighborhoods: West Calhoun, Cedar-Isles-Dean, Kenwood, East Isles, Lowry Hill East, Whittier, Steven's Square-Loring Heights, Loring Park, and Downtown West. The LRT 3C-2 (11th/12th Street) alternative would operate through these same neighborhoods, but turn at 11th Street in Downtown West, wrapping around the western side of downtown Minneapolis and then operating through a short portion of the North Loop neighborhood.

The midtown region of Minneapolis contains several neighborhoods with the highest population densities of the city. Housing development in this region of Minneapolis was most robust prior to 1939, when more than 20,000 housing units were constructed. In many cases, housing construction occurred prior to 1900, with neighborhoods tracing their roots back to the mid and late 1800s. Overall, housing unit construction has remained relatively robust over the decades. In several cases, housing unit construction also includes the reconstruction of older single housing units to multi-unit buildings. According to the census, between 1940 and 1949, 2,600 new housing units were constructed, followed by 3,649 new units between 1950 and 1959. Housing unit development continued steadily between 1960 and 1980, with over 11,000 new units constructed. In recent years, construction of new housing units has slowed, with just over 5,600 new units constructed between 1980 and 1999. Between 2000 and 2009, housing units increased by 2,132 in the census block groups within Minneapolis that are crossed by Segments C-1 and C-2. The development of the midtown region largely followed construction of public transportation systems including horse-drawn streetcars and electric streetcar networks along Hennepin, Lyndale, and Nicollet Avenues and Lake Street.

Both Segments 3C-1 and 3C-2 would operate through some of the neighborhoods previously discussed for Segment A: West Calhoun, Cedar-Isles-Dean, and Kenwood. Descriptions of these neighborhoods are provided under the discussion of neighborhoods for Segment A. The following are brief descriptions of the other neighborhoods for Segments 3C-1 and 3C-2.

- **Calhoun Area Residents Action Group (CARAG):** The CARAG neighborhood is located south of Lake Street and is bordered by 36th Street on the south side, Hennepin Avenue to the west, and Lyndale Avenue to the east. According to the city, three-fourths of the neighborhood's homes were constructed prior to 1920, and housing includes single-family detached dwelling units and low- to medium-rise apartment buildings. Lake Street, Hennepin Avenue, and Lyndale Avenue are primary commercial corridors within the city, encircling the neighborhood with a variety of shops, services, and entertainment establishments. Within the neighborhood, avenues such as Bryant Avenue also include small retail commercial services such as neighborhood grocery stores or coffee shops. Bryant Square Park includes a recreation center and open park space with basketball courts and softball/baseball diamonds, open field areas for soccer or Frisbee games, a public swimming pool, and other park amenities. As a neighborhood contributing to the Uptown region of Minneapolis, a popular entertainment and shopping district, residents have access to a variety of shopping and entertainment services.
- **East Calhoun (ECCO):** The ECCO neighborhood is bordered by Lake Street to the north, 36th Street to the south, and Hennepin Avenue to the east. West Calhoun Parkway and Lake Calhoun complete the neighborhood boundary to the west. The neighborhood is a densely packed area with a variety of housing styles from single-family detached to medium-rise brownstone walkups and modern apartment buildings; however, most of the housing was built in the early 20th century. The neighborhood includes some of Minneapolis' most popular public amenities and attractions including Lake Calhoun, a portion of the Minneapolis Chain of Lakes Regional Park multi-use trail system, and the Lake Calhoun Boat House. The neighborhood also contributes to the Uptown region.
- **East Isles:** Located between Lake of the Isles and Hennepin Avenue, the East Isles neighborhood contains a mixture of single-family detached housing, apartments, and condominiums, along with thriving commercial activities along Hennepin Avenue. As with other neighborhoods abutting the lakes region, a multi-use path, a portion of the Minneapolis Chain of Lakes Regional Park, rings the lakes and runs through the neighborhood. The Midtown Corridor cuts across the bottom of the neighborhood's southern boundary of Lake Street.
- **Loring Park:** Located immediately southwest of downtown Minneapolis, the Loring Park neighborhood is enclosed by Interstate 94, Hennepin Avenue, 12th Street North and South, and Interstate 35W. Loring Park, the physical park area around which the neighborhood is built, is a substantial area of open space for the downtown urban core of Minneapolis, and includes Loring Lake, a bandstand, flower gardens, and walking trails. The park area also connects to the Minneapolis Sculpture Garden and the Walker Art Center via a grade separated pedestrian and bicycle bridge over Hennepin Avenue and Interstate 94. The neighborhood is known for its old brownstone walkup apartment buildings surrounding the park, and neighborhood amenities also include the Basilica of St. Mary, the Hennepin Avenue United Methodist Church, the Minneapolis Community and Technical College, the Westminster Presbyterian Church, and the Minneapolis Convention Center. Several streets also include neighborhood-scaled retail shops at the ground level with housing above.

- **Lowry Hill East:** The Lowry Hill East neighborhood is locally referred to as “the Wedge” neighborhood because of its approximate 90 degree triangular shape between Hennepin Avenue, Lyndale Avenue, and Lake Street. Following the horse-drawn streetcar public transportation system, the neighborhood was originally developed in the 1880s, and includes a range of housing types including single-family detached homes, brownstone walk-up apartment buildings, and modern apartment buildings. In several cases, large homes have been subdivided into multi-unit housing. The neighborhood is densely packed, with property build lines abutting one another, small front yard spaces, and alleyways for off-street parking and city services. The residential portion of the neighborhood is also encircled by the thriving commercial corridors along Hennepin Avenue, Lyndale Avenue, and Lake Street.
- **Lyndale:** Located in south-central Minneapolis, the Lyndale neighborhood is predominantly residential and is defined as the land area between Lake Street to the north, I-35W and Stevens Avenue to the east, 36th Street to the south, and Lyndale Avenue to the west. Commercial land uses are found along Lake Street, and the neighborhood contains the Lyndale Elementary School. The neighborhood contains a high percentage of multifamily residential housing in the form of small apartment buildings and duplex units, but includes single-family detached units as well.
- **Stevens Square-Loring Heights:** Bordered by Interstates 35W and 94 to the north and Franklin Avenue to the south, the Stevens Square-Loring Heights neighborhood has the highest population density of any neighborhood in Minneapolis. The neighborhood’s proximity and access to downtown Minneapolis for jobs and attractions contributes to the high population density. The neighborhood originally developed at the turn of the 20th century, and included single family homes along with three-story apartment buildings to house downtown workers. Following World War II many parcels were redeveloped as multi-unit housing. In recent years, new mixed-use developments have taken the place of older buildings helping to spur additional development and retail commercial activity. Many of the original three-story brownstone walk-up apartment buildings remain, and some are designated as historic structures or are contributing elements to the historic district of the Stevens Square-Loring Heights neighborhood.
- **Whittier:** The Whittier Neighborhood is bounded by I-35W to the east, Franklin Avenue to the north, Lyndale Avenue to the west, and Lake Street to the south. As one of Minneapolis’ older neighborhoods, Whittier contains some of Minneapolis’ oldest houses and apartment buildings. The neighborhood contains a healthy mix of housing and commercial activity, and includes the Minneapolis Institute of Arts and the Minneapolis College of Art and Design. The name “Eat Street” has been given to Nicollet Avenue between 29th Street and Grant Street because of the range of ethnic restaurants located there, which serve as regional destinations.

3.2.2.2 Public Housing

Several public housing developments are located in the study area. In Eden Prairie, one public housing complex is located near the LRT 3A (LPA), LRT 3A-1 (co-location alternative), LRT 3C-1 (Nicollet Mall) and LRT 3C-2 (11th/12th Street) alternatives, and contains 186 housing units. In Hopkins, a total of 338 public housing units are within a half-mile of the proposed alignment for all of the Build Alternatives considered. Public

housing in St. Louis Park is predominantly in the form of single family homes scattered along the proposed alignment for all Build Alternatives. There are no public housing units within a half-mile distance of the proposed alignments in Minnetonka.

3.2.2.3 Community Facilities and Resources

Eighty-six community facilities and resources have been identified as being located within one-half mile of the alignment, including libraries, police and fire stations, parks, recreation centers, theatres, ice rinks, post offices, and a court house. Some of these facilities serve the study area neighborhoods in which they are located, but many serve the greater metropolitan area. The Community Facility table and figures in Appendix H list and illustrate the community facilities and resources within the study area and their location. See Table 3.2-1 for numbers of facilities per LRT segment.

3.2.2.4 Community Cohesion

In Minneapolis, intra-regional migration patterns along with the arrival of recent immigrant populations has resulted in changes to the fabric of the original neighborhoods, creating dynamic urban neighborhoods with a mixture of cultural ethnicities, income levels, and ages. Large, single-family houses have been converted to multiple unit housing. Medium-rise apartment buildings have taken the place of older structures. The migration in the mid 20th century of the urban core populations to suburban communities also changed the **demographics** of urban neighborhoods. As a result, the availability of housing and commercial space in urban neighborhoods has been filled over time by new residents and businesses.

"Demographics" are the characteristics of a human population, such as, gender, race, age, income, disabilities, mobility, employment status, etc.

Over time, Eden Prairie, Minnetonka, Hopkins, and St. Louis Park have continued to grow in population, as a result regional employment centers grew. Large office complexes, industrial manufacturing, warehousing and shipping facilities, service commercial oriented businesses, and retail shopping centers developed to serve growing populations. These job centers did not replace existing neighborhoods, but rather were new developments primarily resulting from enhanced access by major transportation capital investments including the recent completion of TH 212. As a result, neighborhoods and residential areas in these communities have not experienced the type of change that neighborhoods in Minneapolis have witnessed, but each community has experienced substantial change in terms of population and employment growth. Details about race and ethnicity are provided in Appendix H.

3.2.2.5 Operation and Maintenance Facility

Potential locations for the OMF have been identified, and are described in Chapter 2. Three of the four sites, Eden Prairie 1, Eden Prairie 2, and Eden Prairie 3, are located in areas predominantly surrounded by industrial land uses, or in areas with unused land. In these cases, no neighborhoods or residential areas surround the potential sites. The Minneapolis 4 site would be located near residential areas with multiple-unit residential complexes, apartment, or condominium buildings. Long-Term Effects

This section discusses the potential long-term effects to neighborhoods, community services, and community cohesion in the Southwest Transitway study area. Additional

information regarding changes in racial and ethnic demographics for Hennepin County can be found in Appendix H.

3.2.2.6 Neighborhoods and Community Cohesion

No Build Alternative

The No Build Alternative would have no immediate adverse effects on neighborhoods or community cohesion in the study area. However, this alternative would not provide a new option for mobility nor would it alleviate traffic congestion. The primary mode of travel in the study area would continue to be the private automobile. This continued reliance on the car could result in increased air pollution and reduced pedestrian safety, and could discourage community cohesion in the study area and limit accessibility with the greater metropolitan region. The No Build Alternative would be inconsistent with the metropolitan area's goal of creating of dense, multi-modal communities in the Southwest Transitway corridor.

Enhanced Bus Alternative

The Enhanced Bus Alternative would provide a new bus service to the study area, thereby creating a new link between adjacent communities and a new mobility option for area residents. This transit service improvement would enable new or improved connections between neighborhoods and job centers, allowing for greater community mobility and interaction. This alternative would not require major alterations to the existing public ROW, which would not alter connectivity between neighborhoods or communities. This alternative is not anticipated to adversely impact neighborhoods in the Southwest Transitway study area.

Build Alternatives

Potential impacts of the Build Alternatives to neighborhoods are discussed by project planning segment.

Segment 1 (LRT 1A)

Implementation of LRT service along Segment 1 is not anticipated to affect connections between surrounding neighborhoods. Many of the residential areas surrounding Segment 1 in Eden Prairie were developed after HCRA purchased the ROW. Access to the current trail system is generally controlled, and limited grade crossings occur along the segment.

The proposed park-and-ride facilities may require the acquisition of adjacent parcels. Protective fencing may be installed to prevent pedestrians, bicyclists, and passengers from accessing the LRT guideway, but this fencing would not preclude movement between neighborhoods.

The construction of park-and-ride facilities planned for each Segment 1 station would require sufficient space to meet projected parking demand. In turn, this could result in a greater number of vehicle trips through or around each neighborhood on collector roads. Because the stations along this segment are located near major arterial roadways, and all stations are planned to include park-and-ride facilities, some traffic impacts to surrounding neighborhoods on local roads could occur, but are anticipated to be relatively limited. Additionally, the implementation of high-frequency LRT service

would require equally responsive bus transit to provide service to the stations. Additional information on indirect effects and cumulative impacts may be found in Chapter 9.

Segment 3 [LRT 3A (LPA), LRT 3A-1 (Co-location alternative), LRT 3C-1 (Nicollet Mall), and LRT 3C-2 (11th/12th Street)]

The construction and operation of LRT service along Segment 3 is not anticipated to affect connections between surrounding residential or commercial areas. Although the LRT would cross existing roads in this segment, the pedestrian and roadway infrastructure would not be affected. Some intersections may require partial or full redesign, but community connectivity would be maintained.

Much of the ROW required for the alignment of Segment 3, the stations, and proposed park-and-ride lots would need to be acquired. However, the alignment as proposed would not block crossing streets. The alignment may require the realignment of some intersections, and driveway access to businesses may need to be re-routed to alternate streets.

Segment 4 [LRT 1A, LRT 3A (LPA), LRT 3C-1 (Nicollet Mall), and LRT 3C-2 (11th/12th Street)]

Implementation of the LRT along Segment 4 is not anticipated to adversely affect adjacent neighborhoods. In Hopkins and St. Louis Park, the historic use of the corridor for freight rail movement has resulted in industrial land uses adjacent to most of the proposed alignment. Residential areas are located behind these commercial or industrial properties. Freight rail service currently operates on trackway adjacent to a portion of Segment 4. East of the proposed Louisiana Avenue LRT station, however, the freight rail tracks would be relocated if Alternatives LRT 1A, LRT 3A (LPA), LRT 3C-1 (Nicollet Mall), or LRT 3C-2 (11th/12th Street) are implemented. Because of the previous and current freight rail movement in the corridor, the addition of LRT service is not anticipated to affect community cohesion or connectivity between neighborhoods on either side of the existing trackway.

Furthermore, the presence of major roads such as Excelsior Boulevard offer pedestrian facilities, transit, and vehicle mobility, and the existing trail within the HCRRA ROW would continue to provide access to adjacent city neighborhoods. It is possible however, that relocation of the freight rail from the HCRRA ROW east of Louisiana Avenue could result in increased community cohesion among the adjacent neighborhoods as a result of the removal of the freight operations and the introduction of transit oriented development.

Segment 4 [LRT 3A-1 (Co-location alternative)]

Segment 4 for LRT 3A-1 (co-location alternative) would be the same as LRT 3A (LPA) until just east of the proposed Louisiana Avenue LRT station. From that point to the proposed Penn Avenue Station, the Southwest Transitway, freight rail, and commuter bike trail would be co-located in the HCRRA ROW.

As with the other alternatives using Segment 4, the MN& S freight rail service currently operates on trackway adjacent to a portion of the proposed LRT alignment, and land uses have been shaped around the use of the corridor for freight rail traffic. Because of the previous and current freight rail movement in the corridor, the co-location of LRT service with the freight rail and commuter bike trail is not anticipated to increase community cohesion or connectivity between neighborhoods on either side of the

existing trackway. The combination of freight rail operations with LRT would be unlikely to bring neighborhoods more together, but would rather maintain the industrial character of the adjacent parcels.

Segment A [LRT1A and LRT 3A (LPA)] and Freight Rail Relocation

The implementation of LRT along the proposed Segment A alignment is expected to affect at least two adjacent communities in Minneapolis, Cedar-Isles-Dean and Kenwood by providing transit connections to neighborhoods with previously limited access; and removing freight rail operations from residential neighborhoods. Existing transit service through these neighborhoods is relatively limited, with Metro Transit's Route 25 bus making only peak period weekday trips with no weekend service. On the south side of the Cedar-Isles-Dean neighborhood, West Lake Street is served by several transit routes, but these routes do not provide service through either neighborhood.

However, the operation of LRT service along Segment A is not anticipated to adversely affect community cohesion because Segment A is currently bisected by a freight rail line and adding LRT service does not alter the existing barrier. LRT service would assist in providing a new rapid transit service enabling a more direct connection to downtown Minneapolis and the regional transit network. The connecting capabilities of Segment A with the existing LRT trackway on 5th Street in downtown Minneapolis would enable enhanced rapid transit connections to destinations beyond the study area. The Royalston Station has also been identified by neighborhood groups northwest of downtown Minneapolis as enabling a strategic connection to the regional transit system providing a reliable reverse commute transit option to residents of north Minneapolis.

The implementation of LRT service would not sever roadway or driveway connections or remove the existing multiple-use trail adjacent to the proposed guideway alignment of Segment A, and significant impacts to traffic are not anticipated. The operation of LRT service along Segment A is not anticipated to adversely affect community cohesion.

Segment A [LRT 3A-1 (Co-location alternative)]

The neighborhoods affected by Segment A for would be the same for LRT 3A-1 (co-location alternative) as for LRT 3A (LPA), as described in the previous section. The effects, however, would be slightly different because the Southwest Transitway, freight rail, and commuter bike trail would be co-located between Louisiana and Penn Avenues if the co-location alternative is implemented.

With the co-location alternative, the largest disruption in community cohesion would be the acquisition of 60 housing units (see Section 3.3). The replacement of freight tracks combined with the placement of the LRT and the commuter bicycle trail relocation would require removal of the townhouse community which lies between Lake Street and Cedar Lake Parkway on the west side of the Kenilworth Corridor. Disruption to the community's character is the introduction of additional rail facilities, i.e. LRT would be added to existing freight rail operations. With the additional tracks using a wider portion of the HCRRA corridor, the potential to alter historic properties and characteristics of the neighborhood, including the bridges over the channel between Cedar Lake and Lake of the Isles is introduced. The wider corridor with rail operations closer to residences and recreation areas decreases the opportunities for community cohesion.

Maintaining freight train movement in the area would conflict with the five stations and their operations creating a number of issues e.g. redesign of the stations to ensure safe passage, lengthy freight trains blocking rider's access to the stations, and general safety considerations such as people crossing the track in undesignated locations.

The co-location of LRT service with freight rail service and a commuter bike trail along Segment A between Louisiana Avenue and Penn Avenue has the potential to produce certain adverse effects to community cohesion, though with thoughtful mitigation efforts it could assist in providing a new rapid transit service enabling a more direct connection to downtown Minneapolis and the regional transit network.

Segment C-1 [LRT 3C-1 (Nicollet Mall)]

The implementation of LRT service along Segment C-1 could have potential effects to community cohesion. The proposed alignment would operate below street level in the Midtown Corridor trench, and also operate in a short tunnel, before returning to an at-grade alignment on Nicollet Avenue, and eventually running at-grade on Nicollet Mall. While street level connectivity would be maintained once the line is operational, the tunnel portal immediately south of the proposed 28th Street Station would require alterations to the Midtown Greenway multi-use trail. This trail connects trail systems along the Mississippi River and the eastern side of Minneapolis with the Uptown region and western side of Minneapolis. In order to reconnect the trail, a ramp would be constructed on the eastern side of Nicollet Avenue to allow bicycles and pedestrians to travel over the tunnel portal. According to the "Report on Bicycle Counts for the Midtown Greenway" published by the City of Minneapolis in August 2009, data suggest that on average, approximately 4,000 bicyclists used this trail during the weekdays and weekends in July 2009, when counts were conducted. The Midtown Greenway is a popular bicycle commuting route used throughout the year, and the City of Minneapolis has a policy to plow and maintain the trail during the winter months to allow for access and use as a commuting route. Construction of the tunnel portal for Segment C-1 would separate the trail and require reconfiguration of the trail above the tunnel to maintain trail connectivity. In turn, this could diminish the functionality of the trail, even if the trail were re-routed above the portal. Re-routing the trail would also cause bicyclists and pedestrians to interact with vehicular traffic, especially if the Kmart shopping plaza is removed to reconnect Nicollet Avenue. This separation could disrupt community cohesion.

Segment C-2 [LRT 3C-2 (11th/12th Street)]

Long-term effects to neighborhoods adjacent to the proposed Segment C-2 alignment are similar to those described for Segment C-1 between the Hennepin and 12th Street Stations. Where the alignment would turn and operate as a one-way pair on 11th and 12th streets, the implementation of LRT may result in changes to land uses surrounding the station areas. Similar to Segment C-1, Segment C-2 involves the operation of LRT in a tunnel beneath Blaisdell, Nicollet, or 1st Avenues, and would require modifications to the Midtown Greenway multiple-use trail. This could affect community cohesion by creating a barrier between adjacent sides of the tunnel portal, even if the trail is reconnected above the portal.

Freight Rail Relocation Segment [LRT 1A, LRT 3A (LPA), LRT 3C-1 (Nicollet Mall, and LRT 3C-2 (11th/12th Street)]

The freight line relocation would involve moving TCW operations from the Kenilworth Corridor to the MN&S line in St. Louis Park and west Minneapolis. The level of freight rail service through St. Louis Park is not anticipated to change, but would be redistributed to the MN&S Line (Figure 2.3-2). Since the MN&S is an active freight rail corridor and the relocation of the TC&W traffic to the MN&S would add only a small increase in freight rail traffic, significant impacts to community cohesion along the MN&S would not be anticipated.

Moving freight rail service to the MN&S line will also remove the at-grade crossing of freight rail and the Southwest LRT Commuter bike trail between Beltline Boulevard and West Lake Street. Removal of this at-grade crossing will improve the safety and connectivity of the Southwest LRT Commuter bike trail. The ability of pedestrians and cyclists to more easily and safely travel between neighborhoods on either side of the tracks would affect neighborhood cohesiveness positively. In addition, the removal of freight rail operations from the Wooddale Avenue, Beltline Boulevard, West Lake Street, Cedar Lake Parkway, and 21st Street intersections will also improve safety for bicyclists and pedestrians using the trail for commuting as well as for recreation. Moving Freight rail service to the MN&S line will benefit the bus transit system by eliminating delays caused by freight rail operations. The removal of freight rail service from the Wooddale Avenue and Beltline Boulevard areas of St. Louis Park and the West Lake Street area of Minneapolis will make these areas more attractive for development/redevelopment, especially for housing.

Improvements would take place within an active, existing rail ROW; the north-south segment is owned and operated by the CP, and the east-west segment is owned and operated by the BNSF. For additional information regarding the daily train operations refer to Chapter 6 in the Transportation chapter.

A new bridge structure would be constructed to bring the new rail up over the existing tracks and into the existing rail overpass of TH 7 which will remove barriers for pedestrians and cyclists crossing in this area. Access will be improved to station areas providing transit oriented development along the LRT and the station areas which will could attract commercial business and the community. Mobility and pedestrian movement across the tracks will be improved with the removal of the freight rail operations. The stations areas, in particular, would be designed with safe and easy access for pedestrians to both sides of the tracks which would create expanded connections between neighborhoods.

3.2.2.7 Summary of Potential Impacts by Build Alternative

A summary of potential impacts is documented in Table 3.2-2.

The LRT 1A alternative not anticipated to have significant impacts to adjacent neighborhoods or community cohesion. Similarly, the LRT 3A (LPA) alternative is not anticipated to have significant impacts to neighborhoods or community cohesion. The LRT 3C-1 (Nicollet Mall) alternative may result in an impact to community cohesion through the construction of the tunnel portal requiring separation and reconfiguration of the Midtown Greenway bicycle trail over the portal. This could constitute a barrier to

adjacent neighborhoods, even with the construction of a ramp above the portal. This same impact is also possible for the LRT 3C-2 (11th/12th Street) alternative, using the option tunneling beneath Blaisdell Avenue, Nicollet Avenue, or 1st Avenue. However, implementation of rail transit service in the Midtown Corridor or below street grade under any of the aforementioned streets would not restrict crossing traffic or parking following the construction period, enabling neighborhood connectivity to remain largely intact.

The addition of the Freight Rail Relocation to all of the alternatives above would have a positive impact to adjacent neighborhoods or community cohesion because removal of freight operations along Segment 4 would eliminate a barrier to community linkages. Associated impacts with relocating the TC&W trains include improved safety by separating the freight rail from the light rail and bicyclists within the HCRRA corridor. LRT 3A-1 (co-location alternative) has the potential for adverse community impacts because of the conflicts that could result from having an excess of activity confined to an area not originally intended for such an intense level of transportation. In this scenario a relatively narrow ROW corridor would be forced to accommodate a freight rail line, LRT, and a multi-use trail creating an even greater barrier to community cohesion in Segment A.

Operations and Maintenance Facility

In general, construction of the OMF would not result in the creation of a barrier between neighborhoods, and the operation of the facility at the locations identified is not anticipated to adversely affect community cohesion. Potential impacts to neighborhoods, community facilities, and community cohesion related to the OMF are generally limited to the reuse of publicly-owned space and facilities. The use of the identified locations for the OMF would not result in the creation of a barrier between neighborhoods, and the operation of the facility at the locations identified is not anticipated to adversely affect community cohesion. Construction of the Eden Prairie 2 OMF may require the use of publicly owned land currently used as athletic fields at Central Middle School. The use of this space for the OMF would reduce the total amount of public open space and recreational fields in Eden Prairie, constituting an impact to a community facility. While the OMF at the Minneapolis 4 site would not interfere with the community, its operation could affect noise levels and lighting to adjacent properties.

As a part of Preliminary Engineering, detailed site analysis and development of design specification will be conducted on the candidate OMF sites. These activities will provide the basis for selecting a preferred OMF location. Once selected, further analysis of preferred OMF site and design will be conducted to determine impacts to adjacent neighborhoods or residential areas. Those impacts that cannot be avoided or minimized will be mitigated as appropriate and will be discussed in the Final EIS.

3.2.2.8 Community Facilities and Resources: Places of Worship, Schools, and Public Housing

An inventory of community facilities and their general location, organized by LRT segment, is provided in Appendix H.

No Build Alternative

The No Build Alternative would have no immediate adverse effects on community facilities and resources in the study area. Facilities will continue to be added and expanded as the populations grows and the economy recovers. However, this alternative would not provide a new option for mobility beyond what is currently incorporated in the 2030 TPP. The No Build Alternative would be inconsistent with the metropolitan area's goal of creating of dense, multi-modal communities in the Southwest Transitway corridor and facility development would reflect that lack of transportation options. Station oriented development would not be implemented which could reduce the initiative to add new or improve existing community facilities.

Enhanced Bus Alternative

The Enhanced Bus Alternative represents improved bus service, which would improve access to community facilities and resources, places of worship, schools, and public housing in the study area. Implementation of the Enhanced Bus Alternative is not anticipated to have any impacts to community facilities or resources. With traffic levels projected to increase in the study area over the next 20 years, more vehicles could result in additional pressures on community facilities and resources such as increased demands for parking, traffic noise levels, or air quality impacts. The construction of bus stops would be largely in the public ROW on the edges of current transportation facilities and transportation ROW easements. The bus route would not require the acquisition of property. Bus stops would be located in existing public ROW, and in the unlikely event a bus stop is required to be located on private property, all necessary ROW acquisition steps would be taken.

Build Alternatives

Table 3.2-1 provides a summary of community facilities and resources, places of worship, schools, and public housing within a half-mile of proposed stations, by project planning segment. Because the half-mile radiuses of some stations overlap, some community facilities are located within a half-mile of two stations, but are listed only once for each segment, according to the station they are closest to. In downtown Minneapolis, several stations would provide access to many of the same community facilities. For the full listing of community facilities see Appendix H.

Table 3.2-1. Number of Community Facilities Inventory

Segment	Law Enforcement	Fire Station	Public Health	Education	Recreation	Library	Post Office	Community facility	Religious Institution	Alternatives
Segment 1	0	1	0	1	0	0	0	0	1	LRT 1A
Segment 3	1	1	1	0	0	0	0	1	2	LRT 3A (LPA) LRT 3A-1 (Co-Location Alternative)
Segment 4	3	3	2	2	12	1	0	1	2	LRT 1A LRT 3A (LPA) LRT 3A-1 (Co-Location Alternative) LRT 3C-1 (Nicollet Mall) LRT 3C-2 (11 th /12 th Street)
Segment A	1	0	0	3	3	1	0	4	9	LRT 1A LRT 3A (LPA) LRT 3A-1 (Co-Location Alternative)
Segment C1	1	3	4	8	6	2	3	19	26	LRT 3C-1 (Nicollet Mall)
Segment C2	1	0	1	2	1	0	1	8	5	LRT 3C-2 (11 th /12 th Street)
Segment FRR	0	1	1	4	8	0	0	0	9	LRT 1A LRT 3A (LPA) LRT 3C-1 (Nicollet Mall) LRT 3C-2 (11 th /12 th Street)

Summary of Potential Impacts to Community Facilities by Build Alternative

The study area contains several community facilities and neighborhood amenities that provide public services (see Summary Table of Potential Impacts). These facilities include law enforcement, fire stations, public health, education, recreation, libraries, post offices, community facilities, and religious institutions. Implementation of any of the Build Alternatives considered would improve access to community facilities and resources, places of worship, schools, and public housing in the study area. Connections among these resources would also be improved under the Build Alternatives, and access to services that support neighborhood revitalization and economic empowerment would also be improved.

When considered by LRT alternative, the LRT 1A alternative would provide access to the least number of community facilities. The LRT 3A (LPA) and LRT 3A-1 (co-location) alternatives would provide more access to identified community resources in Eden Prairie and Minnetonka.

The LRT 3C-1 (Nicollet Mall) alternative would provide access to the greatest number of identified community facilities and resources of all the Build Alternatives considered. The LRT 3C-2 (11th/12th Street) alternative would provide access to many of the same resources as the LRT 3C-1 (Nicollet Mall) alternative, but where the alignment turns on 11th and 12th Streets in downtown Minneapolis, passengers would be required to exit the train to reach destinations along Nicollet Mall.

However, the ability of the LRT 1A, LRT 3A (LPA), LRT 3A-1 (co-location alternative), and LRT 3C-2 (11th/12th Street) alternatives to interline with the existing LRT trackway of the Hiawatha and future Central Corridor LRT lines would permit Southwest Transitway trains to access destinations beyond the southwest metropolitan region, such as the University of Minnesota campus or downtown St. Paul (assuming the Southwest Transitway interlines with the Central Corridor LRT). The interlining capability of these alternatives would also permit these alternatives to serve several of the same destinations the LRT 3C-1 (Nicollet Mall) alternative would serve on an alignment operating along Nicollet Mall through the core of downtown. The LRT 3C-1 (Nicollet Mall) alternative would be incapable of interlining efficiently with the existing trackway, limiting the operational flexibility of the line to serve destinations on the east side of downtown and points beyond.

For the Freight Rail Relocation segment, no impacts to community facilities are anticipated in the BNSF section.

Operation and Maintenance Facility

Construction and operation of the OMF at any of the four potential locations identified is not anticipated to have significant effects to neighborhoods, community facilities, or community cohesion. Potential impacts to neighborhoods, community facilities, and community cohesion related to the OMF are generally limited to the reuse of publicly-owned space and facilities. The use of the identified locations for the OMF would not result in the creation of a barrier between neighborhoods, and the operation of the facility at the locations identified is not anticipated to adversely affect community cohesion. In Eden Prairie, construction of the OMF at the Eden Prairie 2 location may require the use of some publicly owned land currently used as athletic fields at Central

Middle School. The use of this space for the OMF would reduce the total amount of public open space and recreational fields in Eden Prairie, constituting an impact to a community facility. Further analysis of these potential sites and the design specifications of the OMF are required to determine impacts to adjacent neighborhoods or residential areas, and will be discussed in the Final EIS.

3.2.3 Short-Term Construction Effects

3.2.3.1 No Build Alternative

The No Build Alternative would have no short-term construction effects on neighborhoods, community facilities and resources, or community cohesion in the study area.

3.2.3.2 Enhanced Bus Alternative

The Enhanced Bus Alternative would provide new bus service between neighborhoods, with connections to activity centers, helping to increase regional mobility. The installation of bus stops would have a minimal effect on neighborhoods, community facilities and resources, or community cohesion.

3.2.3.3 Build Alternatives

Short-term effects from construction of the project are anticipated, but are primarily related to mobility within the study area. These include temporary inconveniences such as street, sidewalk, and trail closures, as well as temporary rerouting of traffic and disruption to access for homes, businesses, and services.

Implementation of the LRT along Segments 1, 4, A, and C may require minor modifications to the existing trail, and temporary trail closure during construction would likely be required, but this would be a short-term construction effect.

It is likely that users and administrators of community facilities would experience temporary or minor impacts as a result of construction of the freight rail connections; overpass and new railroad tracks. These impacts are not expected to be substantial.

3.2.4 Mitigation

Short-term construction effects may be mitigated by the use of deliberative construction staging or phasing, signage, and signal control requirements during construction for roads, trails, and sidewalks to maintain access to neighborhoods and community facilities throughout the construction period. The Midtown Greenway would be temporarily relocated out of the trench to allow for construction of the tunnel under Nicollet Avenue for Alternatives 3C-1 (Nicollet Avenue) and 3C-2 (11th/12th Street). Appropriate detour signs and trail access would be provided for trail users. Although specific mitigation plans have not yet been developed, BMPs would include working with residents and community facilities to provide alternative access, giving residents and community facilities, such as fire stations, hospitals, emergency vehicles, day care centers, schools, and community centers, adequate notice about construction plans and phasing, keeping access to bus stops and school routes open, and alerting the public to detours.

3.2.5 Summary

Table 3.2-2 lists the concerns of neighborhoods as presented above in Section 3.2. Each Build Alternative is then compared to assess its relative adverse or beneficial effect on these concerns; neighborhood character and connectivity, maintenance of community cohesion, and access to community services.

Other neighborhood concerns are presented and discussed in other sections of this Draft EIS such as property acquisition, displacement, and relocation (Section 3.3), noise (Section 4.7), vibration (Section 4.8), air quality (Section 4.6), aesthetics (Section 3.6), effects to parks (Section 3.5), effects to low income and minority populations (Chapter 10), and effects to business and the local economy (Chapter 5).

Table 3.2-2. Summary of Neighborhood, Community Services, and Community Cohesion Impacts by Build Alternative

Environmental Metric	Build Alternative				
	LRT 1A	LRT 3A (LPA)	LRT 3A-1 (Co-location)	LRT 3C-1 (Nicollet Mall)	LRT 3C-2 (11 th /12 th Street)
Connections or movement between land uses maintained	Yes	Yes	Yes	Yes	Yes
Neighborhood character maintained	Yes: Segment 4 follows HCRRA ROW. No: Segment 1 High intensity, high density station areas and park-and-ride lots in residential areas of Segment 1 could change character.	Yes: Segment 3 is mostly commercial and industrial. Yes: Segment 4 follows HCRRA ROW. No: Segment A May have aesthetic and traffic impacts in historic areas.	Yes: Segment 3 is mostly commercial and industrial. Yes: Segment 4 follows HCRRA ROW. No: Segment A May have aesthetic and traffic impacts in historic areas.	Yes: Segment 3 is mostly commercial and industrial. Yes: Segment 4 follows HCRRA ROW. Yes: Segment C: High density land uses are compatible along this segment.	Yes: Segment 3 is mostly commercial and industrial. Yes: Segment 4 follows HCRRA ROW. Yes: Segment C: High density land uses are compatible along this segment.

Environmental Metric	Build Alternative				
	LRT 1A	LRT 3A (LPA)	LRT 3A-1 (Co-location)	LRT 3C-1 (Nicollet Mall)	LRT 3C-2 (11 th /12 th Street)
Stations would improve economic development	<p>Yes: Stations along Segments 4, and A would complement existing uses and stimulate development and redevelopment.</p> <p>No: Segment 1 Demographic characteristics of residential areas of Segment 1 do not support TOD development.</p>	<p>Yes: Segment 3 and Segment 4 stations would complement existing uses and stimulate development and redevelopment. Segment A supports additional development desired around Target Field.</p>	<p>No: The presence of freight rail in Segment 4 and in Segment A may limit land use change to TOD. The acquisition of 57 multi-family housing units for placement of the freight rail line near the West Lake Street Station will diminish TOD potential for the West Lake Station area and is inconsistent with local and regional plans which promote TOD including multi-family residential in proximity to LRT stations.</p>	<p>Yes: Segment 3 and Segment 4 stations would complement existing uses and stimulate development and redevelopment. Stations along Segment C would induce development along Midtown Corridor and Lake Street.</p>	<p>Yes: Segment 3 and Segment 4 stations would complement existing uses and stimulate development and redevelopment. Stations along Segment C would induce development in Loring Park and North Loop neighborhoods</p>
Access to community services maintained	<p>Yes: Connectivity would be maintained.</p>	<p>Yes: Connectivity would be maintained.</p>	<p>Yes: Connectivity would be maintained.</p>	<p>Yes: After construction of tunnel, connectivity will be restored along Segment C, but center running LRT would limit left turns into some businesses.</p>	<p>Yes: After construction of tunnel, connectivity will be restored along Segment c</p>
Community cohesion maintained	<p>Yes</p>	<p>Yes</p>	<p>No: Some neighborhoods are concerned about keeping freight rail and some neighborhoods about additional freight rail traffic.</p>	<p>No Construction of the tunnel section separates the Midtown Greenway from the adjacent neighborhoods</p>	<p>No Construction of the tunnel section separates the Midtown Greenway from the adjacent neighborhoods</p>

3.3 Acquisitions and Displacements/Relocations

Further detail regarding the extent of acquisition and displacements/relocations will be addressed during Preliminary Engineering, as a part of the Final EIS. Therefore, ROW impacts are preliminary and subject to change as the design of the project proceeds.

3.3.1 Legal and Regulatory Overview

Federal and state laws require that property owners be paid fair market value for their land and buildings, and that they be assisted in finding replacement business sites or dwellings. For displaced residents, the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, (42 U.S.C. 4601 et seq.), or Uniform Act, requires that replacement housing must be "decent, safe, and sanitary," and be functionally equivalent to the housing to be replaced in number of rooms and area of living space, location, and general improvements. Replacement dwellings must meet all minimum federal housing requirements and conform to state and local occupancy codes. Relocation assistance for this project will be in accordance with Title 49, Part 24 of the Code of Federal Regulations (49 C.F.R. Part 24 and FTA Circular 5010.1C dated October 1, 1998, as amended). Relocation benefits may be available to displaced businesses and non-profit organizations. Payments may be made for:

- Moving costs
- Tangible personal property loss as a result of relocation or discontinuance of operations
- Reestablishment expenses
- Costs incurred in finding a replacement site

3.3.2 Methodology

Where the Build Alternatives are located outside of existing HCRRA property, conceptual engineering construction limits were used to determine potential impacts. These conceptual engineering construction limits are not the same as the final project ROW. Construction limits (see Appendix F for construction engineering) are greater than the required ROW, because the construction limits include temporary easements, construction access roads, and storage yards that would be removed once construction is complete. Because the project is at the conceptual engineering stage, setting the project ROW equal to the construction limits is conservative and appropriate. Once the environmentally preferred alternative has been selected and the project enters Preliminary Engineering, the ROW needs can be defined in more detail and discussed in the FEIS.

The project construction limits were then compared with March 2010 property parcel data provided by the Hennepin County Assessor's office and aerial photographs in GIS. This comparison enabled a determination to be made of the potential impacts to various property types: commercial/industrial, residential, government, religious, and vacant. The number of parcels of each property type and the approximate potential acreage needed for construction were then calculated. This information will be revised and updated using more detailed design that will be completed as part of the development of the Final EIS.

3.3.3 Long-Term Effects

3.3.3.1 No Build Alternative

The No Build Alternative would require no acquisition of property or relocation of households or businesses. Therefore, there would be no impacts due to acquisition or relocation.

3.3.3.2 Enhanced Bus Alternative

The Enhanced Bus Alternative would require minimal or no acquisition of property for potential bus stops.

3.3.3.3 Build Alternatives

The type and amount of property that must be acquired for project construction would vary by Build Alternative, as shown in Table 3.3-1. Note that these property acquisitions include both partial and full acquisition of parcels of property.

Table 3.3-1. Summary of Property Acquisitions by Build Alternative and Property Type

Environmental metric	Build Alternative (parcels affected)						
	LRT 1A	LRT 3A (LPA)	LRT 3A-1 (Co-location)	LRT 3C-1 (Nicollet Mall)	LRT 3C-2 (11 th /12 th Street)	LRT 3C-2A (Blaisdell Ave Tunnel)	LRT 3C-2B (1 st Ave Tunnel)
Acquisition of all or part of the following property types for ROW:							
<i>Commercial-industrial</i>	26	79	72	237	219	151	166
<i>Residential</i>	7	11	67	71	75	164	130
<i>Government</i>	0	0	3	2	2	5	3
<i>Religious</i>	0	0	0	0	0	0	0
<i>Vacant</i>	32	35	33	74	74	64	65
Total number of affected properties	65	125	175	384	370	384	364

Note: Acquisitions are based on conceptual engineering and may be refined during Preliminary Design. Acquisition of some properties may require relocation/displacement of residences, businesses, or organizations. These would be conducted in compliance with applicable federal and state laws as described in Section 3.3.

Acquisitions include both partial and full parcels. Information about which acquisitions would be full or partial will be provided after Preliminary Engineering and in the Final EIS.

Residential numbers for the Freight Rail Relocation segment [all alternatives except LRT 3A-1 (co-location alternative)] include two residential properties.

LRT 1A, would require minimal acquisition and displacement of homes and businesses since it is located primarily in existing ROW for the majority of the alignment.

LRT 3A (LPA) is located on new ROW to be acquired on Segment 3, but it would require comparatively less acquisition and displacement of homes and businesses than the LRT 3C alternatives since the remainder of the alignment is primarily in existing ROW.

LRT 3A-1 (co-location alternative) would require the acquisition of 57 townhome parcels along the Kenilworth Corridor / Trail between West Lake Street and Cedar Lake Avenue / Parkway with the addition of 3 single family homes.

LRT 3C-1 (Nicollet Mall) is located on new ROW on Segment 3 but has been developed to minimize acquisition and displacement of homes and businesses by proposing the fixed guideway in existing HCRRRA ROW in the central portion of the alignment and predominantly along existing roadway ROW on the eastern end of the alignment.

LRT 3C-2 (11th/12th Street) is located on new ROW on Segment 3 but has been developed to minimize acquisition and displacement of homes and businesses by proposing the fixed guideway in existing HCRRRA ROW in the central portion of the alignment and along existing roadway ROW on the eastern end of the alignment.

LRT 1A has would require the least number of parcels of all of the Build Alternatives. LRT 3A (LPA) would require almost twice the number of parcels as LRT 1A. LRT 3A-1 (co-location alternative) would require almost three times the number of parcels as LRT 1A. The LRT 3C alternatives would require approximately six times the number of parcels as LRT 1A.

The Freight Rail Relocation Segment would require one full parcel take and eight permanent partial property takes, totaling 126,913 square feet or 2.91 acres of permanent ROW acquisition. All of these parcels are located along the CP Bass Lake Spur (Figure 2.3-2), generally located between the tracks and Oxford Street, in addition to the electrical substation property along the TH 7 frontage road. All are designated as industrial uses. Some are in use and some are vacant buildings. While not directly impacted by the construction of the rail realignment or improvements, there would be unique challenges experienced by two residential parcels along the alignment. These two parcels are very close to the existing MN&S ROW. Any additional freight traffic would exacerbate the existing safety concerns for these properties. The potential acquisition of these parcels is therefore identified as a mitigation measure to address potential safety concerns. If the purchase of the two additional residences is elected as mitigation for safety concerns, the additional permanent acquisition would be 10,480 square feet or 0.24 acre. Temporary easements are needed for twelve parcels (eight of which are previously mentioned above), and would total 199,183 square feet or 4.57 acres. In total, fifteen parcels would be impacted on a permanent and/or temporary basis. Details of these acquisitions can be found in the *MN&S Freight Rail Report*, Appendix H.

Potential ROW impacts, including those for freight rail relocation, are shown on the conceptual engineering drawings in Appendix F.

3.3.3.4 Traction Power Substations

Sites for 15 to 19 traction power substations (TPSSs), depending on the Build Alternative, would be required at approximately one-mile intervals along the Build Alternatives to supply electrical power to the traction power networks. TPSSs do not generate electricity; the substations change the electrical current to an appropriate level to power LRT vehicles. Each TPSS requires approximately 0.03 acre of land. TPSSs not located within the project construction limits would require additional ROW, as shown in Table 3.3-2 and on the Conceptual Engineering drawings in Appendix F. These substations have been sited to minimize impacts to surrounding properties and only represent minimal property acquisition. If significant changes to locations of the proposed TPSSs occur, the impacts will be addressed through supplemental environmental review and documentation.

Table 3.3-2. Potential Additional Acquisition for TPSSs by Build Alternative

Build Alternative	Impacted Properties – TPSSs						Potential Acreage Needed
	Commercial/Industrial (includes RR)	Residential	Government	Religious	Vacant	Number of Properties Impacted	
LRT 1A	1	1	0	0	4	6	0.18
LRT 3A (LPA)	1	1	0	0	3	5	0.15
LRT 3A-1 (Co-location)	1	1	0	0	3	5	0.15
LRT 3C-1 (Nicollet Mall)	1	1	0	0	3	5	0.15
LRT 3C-2 (11 th /12 th Street)	1	1	0	0	3	5	0.15
LRT 3C-2A (Blaisdell Ave Tunnel)	1	1	0	0	3	5	0.15
LRT 3C-2B (1 st Ave Tunnel)	1	1	0	0	3	5	0.15

3.3.3.5 OMFs

Four locations are under consideration for the OMF, ranging from approximately 10 to 24 acres in size. OMF sites not accommodated within the construction limits for the LRT Guideway and park-and-ride facilities would require additional ROW, as shown in Table 3.3-3. The proposed OMF locations have been sited to minimize impacts to surrounding properties; however, the locations are subject to change as design advances. A single OMF will be selected during Preliminary Engineering and included in the Final EIS. If significant changes to locations of the proposed OMF would result, the impacts would be addressed through the appropriate level of supplemental NEPA review and documentation, as determined by FTA.

Table 3.3-3. Potential Additional Acquisition for OMFs

Site	Impacted Properties – OMFs						Potential Acreage Needed
	Commercial/Industrial (includes Railroad)	Residential	Government	Religious	Vacant	Number of Properties Impacted	
Eden Prairie 1 (West of TH 212)	1 ^b	0	0	0	1 ^a	2	1.30
Eden Prairie 2 (South of TH 5 on Wallace Road)	7	0	0	0	1 ^a	8	18.7
Eden Prairie 3 (by the Mitchell Road Station)	3	0	0	0	1	4	3.76
Minneapolis 4 (centering on 5th street – which would be vacated)	10	0	0	0	17	27	10.45

^a Vacant land is owned by the Eden Prairie Independent School District.

^b Parcel impacted due to track extension from Mitchell Station to site. See Chapter 2 and Appendix H.

3.3.4 Short-Term Construction Effects

Short-term effects are primarily related to construction activities that involve temporary easements. Project construction would also require the modification or closure of some existing property accesses, elimination of some on-street parking, and possibly rerouting or closure of selected intersecting streets; these topics are discussed in Chapters 4 and 6 of this Draft EIS.

Identification of the specific construction limits will be refined during Preliminary Engineering and would be required to determine the area of temporary impacts. Temporary construction effects would be refined as the design of the project proceeds, and discussed further in the Final EIS.

3.3.5 Mitigation

Although an agreement on the process for acquiring ROW has not been finalized, it is likely that the Minnesota Department of Transportation (MnDOT), acting for the Metropolitan Council would acquire all lands, easements, and ROW required for the Southwest Transitway. Although some lands would be acquired through fee purchase, other property would be acquired through temporary or permanent easements. All property acquired by MnDOT would be transferred to the Metropolitan Council upon completion of the project. Where public property is to be acquired, the Metropolitan Council would arrange for transfer of the property from the affected government unit to the Council. Where private property would need to be acquired, the Metropolitan Council, with the assistance of MnDOT, would acquire that property in full compliance

with the Uniform Act. There will be on going coordination with the owners of the two residential properties located along the MN&S line to determine the most feasible mitigation measures to address their safety concerns, given the unique location of their homes relative to the railroad ROW. Mitigation could include the acquisition and relocation of up to two residential properties in close proximity to the MN&S ROW. These parcels would not be acquired solely due to the footprint of the project, however, the extent of potential impacts from other actions could be significant enough to allow for a hardship acquisition.

Any businesses or persons displaced from property by the Southwest Transitway would be compensated in accordance with provisions of the Uniform Act. Currently, the cities in the study area have commercial and residential properties available for sale or rent, such that displaced businesses or persons would be expected to have local relocation opportunities.

Relocation benefits may be available to displaced businesses and non-profit organizations. Payments may be made for:

- Moving costs
- Tangible personal property loss as a result of relocation or discontinuance of operations
- Reestablishment expenses
- Costs incurred in finding a replacement site

3.3.6 Summary

It will be necessary to purchase ROW for any of the proposed Build Alternatives. Table 3.3-2 and Table 3.3-3 summarize the number and types of properties— to be acquired for each proposed alternative. Land purchased from some properties may amount to only a few square feet or fraction of an acre that would not preclude continued use of the property (partial acquisition). In other cases, an entire parcel may be needed (full acquisition), and that could mean that the business or residence would be displaced temporarily or permanently. All property acquisitions will be conducted in full compliance with the Uniform Act.

3.4 Cultural Resources

This section describes and evaluates the existing conditions regarding cultural resources and discusses potential impacts to these resources that would result from implementation of the proposed project. For this project, cultural resources are defined as the buildings, structures, districts, objects and sites that are listed on or eligible for listing on the **National Register of Historic Places** (NRHP or National Register).

The Southwest Transitway LRT project is sponsored by HCRRRA and is seeking funding from FTA. The Minnesota Department of Transportation Cultural Resources Unit (MnDOT CRU) is acting on behalf of FTA to carry out many aspects of the Section 106 review process.

Authorized by the National Historic Preservation Act of 1966, the National Park Service's "National Register of Historic Places" is part of a national program to coordinate and support public and private efforts to identify, evaluate, and protect America's historic and archeological resources.

Generally, the Southwest Transitway LRT project would have few direct effects because the alignment, with the exception of Segment 3, largely follows existing or former railroad corridors. The project would not include substantive street widening or the demolition of numerous buildings, but the construction of Segment C would require tunnel construction. In several areas, visual effects are anticipated to several properties along the alternative segments. There may be other indirect effects as well, such as noise and vibration.

3.4.1 Legal and Regulatory Context

The Southwest Transitway LRT project is applying to receive FTA funding and therefore must comply with Section 106 of the National Historic Preservation Act (Section 106) of 1966 and with other applicable federal mandates. The Minnesota Field Archaeology Act, the Minnesota Historic Sites Act, and the Minnesota Private Cemeteries Act must also be addressed, as applicable.

Section 106 requires federal agencies to consider the effects of their actions on historic properties before undertaking a project. For the purposes of this document, historic properties and cultural resources are synonymous.

FTA's Section 106 compliance is achieved through consultation with the State Historic Preservation Officer (SHPO), Indian tribes, local governments, and other interested parties such as local Heritage Preservation Commissions. In accordance with the Section 106 process the responsible federal agency shall:

- Identify the project's **Area of Potential Effect (APE)** and the properties within the APE that are listed, or eligible for listing, in the National Register, in consultation with the Minnesota SHPO.
- Assess the effects of the project on those properties, in consultation with SHPO.
- Resolve adverse effects by exploring alternatives that avoid, minimize, or mitigate for the adverse effects through consultation with the Advisory Council on Historic Preservation (ACHP), SHPO, affected tribes, and other interested parties, as appropriate.

According to 36 CFR § 800.16(d), the "Area of Potential Effect (APE)" is the geographic area within which an undertaking may directly or indirectly cause changes in the character or use of historic properties, if such properties exist.

3.4.2 Consultation

FTA initiated Section 106 consultation for the Southwest Transitway project with Minnesota SHPO and Native American tribes. FTA sent coordination letters to Native American tribes that may have an interest in the Southwest Transitway Project. The letters requested that tribes identify any concerns regarding the potential impacts of the project. Letters were sent to the following tribes:

- Prairie Island Indian Community
- Lower Sioux Indian Community
- Shakopee Mdewakanton Sioux Community
- Upper Sioux Indian Community
- Fort Peck Tribes
- Santee Sioux Nation
- Sisseton-Wahpeton Oyate

A copy of each of these letters can be found in Appendix E.

The following governments, agencies, and organizations are participating in the Section 106 review as consulting parties under the provisions of 36 C.F.R. § 800.2: City of Eden Prairie (including its Heritage Preservation Commission), City of Minnetonka, City of Hopkins, City of St. Louis Park, City of Minneapolis (including its Heritage Preservation Commission), Minneapolis Park and Recreation Board, and the Kenwood Isles Area Association. Presentations have been made to Southwest Transit's Policy, Technical and Community Advisory Committees. A consulting party meeting was held on April 12, 2012 to provide a briefing on the status of the project. All the consulting parties were in attendance, and the cultural resources surveys and assessment of effect were discussed. Consultation and outreach will continue throughout the Section 106 process.

3.4.3 Area of Potential Effect

Two APEs have been defined for this project. The first addresses the potential for effects on National Register-listed/eligible buildings, structures, and landscapes. The second addresses the potential for effects on **National Register-eligible archaeological sites** and is termed "Archaeological APE."

"National Register-eligible archaeological sites" are places where important evidence of past human activity is found. Archaeological sites can be prehistoric or historic and can range in size from small locations of artifacts to entire villages or cities.

3.4.3.1 Architectural APE

Generally, the Architectural APE extends 300 feet on either side of the centerline of the alignment of each Build Alternative and the Freight Rail Relocation segment. Around each station, the Architectural APE includes property within a quarter-mile radius, including the end of line at the "Downtown Minneapolis Transit Hub." This area is large enough to account for anticipated project-related infrastructure work and reasonably foreseeable development.

The Architectural APE is illustrated on Figures 3.4-1 through 3.4-3 (beginning in Section 3.4.5.3) showing the six project segments. Exceptions to these parameters include:

- The Architectural APE for the 4th Street, 8th Street, 12th Street, Hennepin at 11th and 12th streets, Lyndale, and Uptown stations (in Segment C) includes the adjacent blocks in all directions from the station. These stations are in a more densely-built urban area, and therefore the APE was confined to a smaller radius in comparison to the quarter-mile radius for the stations in outlying areas.
- The Architectural APE for the proposed tunnel area under Blaisdell, Nicollet, or First avenues, including the 28th Street and Franklin stations (in segment C), extends from one-half block west of Blaisdell Avenue to one-half block east of First Avenue. If this

alternative is selected, the APE may need to be expanded depending on the design and construction methods for the tunnel.

- Along some portions of the corridor, the 300-foot Architectural APE is extended to take into account visual effects or previously unevaluated districts that may extend outside of the Architectural APE. For example, in downtown Hopkins, the Architectural APE was extended to address the potential presence of a previously unevaluated historic district.

The Freight Rail Relocation segment's architectural APE follows the same parameters as used for the other segments of the project.

As project planning proceeds, additional factors would be assessed to determine if there are other effects (direct, visual, auditory, atmospheric, and/or changes in use) which could require expansion of the Architectural APE.

The specific locations of project elements, including operations/maintenance facilities, park-and-ride facilities, and other infrastructure will also be taken into account.

3.4.3.2 Archaeological APE

For the Southwest LRT Project, the anticipated construction limits, as defined in the conceptual engineering drawings used to prepare the Draft EIS were considered as a baseline in defining the Archaeological APE. To capture the broadest extent of the eventual construction limits, the Archaeological APE is currently:

- The full width of existing railroad ROW corridors proposed for utilization by the project,
- The area within 100 feet of the margins of current engineering alignments, and
- Any undeveloped and/or vacant property within 500 feet of station areas that could potentially be used for construction/development activities. (Depending on the station location, these may include open, green spaces, and paved parking lots.)
- The Archaeological APE can be reviewed and modified as necessary. The Freight Rail Relocation segment's APE for archaeological resources follows the same parameters outlined above.

3.4.4 Methodology

This section discusses the methodology of archaeological and architectural resource evaluation for the Southwest Transitway LRT project.

3.4.4.1 Architectural Resources

To identify NRHP-eligible architectural resources in the Architectural APE, a survey has been completed of all five segments of the project's Build Alternatives as well as the Freight Rail Relocation Segment. Architectural history surveys focus on above-ground resources, including buildings, structures, districts, and landscapes. Information has been compiled on properties already listed on the National Register or previously evaluated for eligibility. Surveyors conducted field investigations to identify previously unevaluated above-ground resources that may merit listing on the National Register. Architectural properties identified in the surveys and determined listed or eligible in consultation with the State Historic Preservation Office, along with a few properties still under evaluation, are found in the tables in the Section 106 Consultation Package in Appendix H. Note that some of the final determinations of eligibility as shown in the

tables are different from the earlier consultant recommendations in the individual survey reports.

3.4.4.2 Archaeological Resources

The Section 106 review has also considered areas of archaeological resources along each of the corridors. A three-phase approach addresses identification and evaluation of archaeological historic properties (see the Phase 1A archaeological investigation report and its supplement in Appendix H). In summary, the approach specifies three tasks:

Task 1: Preparation of an Archaeological Phase IA Investigator report (Harrison and Madson 2010), including the results of a literature for archaeological properties, supplemented with limited field observations of the corridor from public rights-of-way, and recommendations for a field survey strategy. A supplement to the 2010 overview report, covering the Freight Rail Relocation Segment, has also been completed.

Task 2: Completion of an archaeological inventory report, including site evaluations, along the preferred alternative.

Task 3: Assessment of adverse effects to specify preparation of avoidance engineering strategies, BMPs, and/or treatment plans

Tasks 2 and 3 of the Section 106 review process will be completed as the project advances.

The results of the Archaeological Phase 1A investigation are summarized below. This overview contains a comparison of the areas, landforms, parcels, and other property that might hold archaeological deposits. The overview was developed through a review of existing archaeological site and survey documents on file at SHPO and the Office of the State Archaeologist (OSA).

Field observations were combined with the data gathered during the archival review to propose archaeological site probability along the five segments.

3.4.4.3 Assessment and Resolution of Effects

This section includes the assessment of potential project effects on cultural resources through March 2012. Detailed information is provided in the tables in the Section 106 Consultation Package in Appendix H. Because the engineering plans for the project are in the conceptual stage, the effect assessments will be refined and updated as planning efforts and the Section 106 process continue. Eligible archaeological sites identified during the archaeological field investigation will also be added.

In seeking to avoid, reduce, or mitigate adverse effects on historic properties, the Section 106 process would focus on the development of a Section 106 Agreement, with stipulations on how effects would be addressed. Such measures can include:

- Consultation on the design of the project, when historic properties are located nearby. This consultation is often focused on avoiding archaeological properties or achieving design compatibility between new project elements and adjacent historic buildings or landscapes.

- Educational efforts and incentives aimed at the rehabilitation of historic properties in areas that may experience project-related redevelopment
- Development of a plan to address potential vibration or noise effects on historic properties
- Public education and interpretation about historic properties in the project area, often as a part of the project itself

The Section 106 Agreement for the selected alternative will be developed in consultation with the State Historic Preservation Office and other consulting and interested parties. The Advisory Council on Historic Preservation has been notified of this process and has indicated that they do not intend to join the consultation at this time, as documented in Appendix E. The executed agreement would be included in the Final EIS.

3.4.5 Long-Term Effects

3.4.5.1 No Build Alternative

There are no anticipated effects to the identified cultural resources under the No Build Alternative.

3.4.5.2 Enhanced Bus Alternative

There are no anticipated effects to the identified cultural resources under the Enhanced Bus Alternative.

3.4.5.3 Build Alternatives

The results of the Phase Ia archaeological investigation and the architectural history evaluations have identified architectural resources and areas with archaeological probability within the respective APEs. The resources identified along each segment are identified in the tables in the Section 106 Consultation Package in Appendix H.

Three historic railroad bridges (over Dean Parkway, the Calhoun Isles Channel, and Lake Calhoun Parkway/Knox Avenue) would be demolished for the "C" alternatives, and one historic property (the Regan Brother Bakery) would be demolished for one of the alternative locations for the Operations and Maintenance Facility. No other demolitions of historic properties are proposed for the various alternatives.

Identified archaeological resources will be evaluated against the National Register criteria for eligibility during the archaeological survey, and avoidance, reduction, and mitigation of adverse effects to eligible sites will be addressed as part of the Section 106 consultation process.

Segment 1 (LRT 1A)

No National Register listed or eligible architectural resources have been identified within Segment 1. See the summary table and location map for Segment 1 in Appendix H.

Six Areas with archaeological probability, comprising 18 acres, were identified in the Archaeological Phase 1A along Segment 1 in areas that could experience impacts from construction.

Segment 3 [LRT 3A (LPA), LRT 3A-1 (Co-location), LRT 3C-1 (Nicollet Mall), and LRT 3C-2 (11th/12th Street)]

No National Register listed or eligible architectural resources have been identified within Segment 3. See the summary table and location map for Segment 3 in Appendix H.

Twenty one Areas with archaeological probability, comprising 88 acres, were identified in the Archaeological Phase 1A along Segment 3 in areas that could experience impacts from construction.

Segment 4 [LRT 1A, LRT 3A (LPA), LRT 3A-1 (Co-location), LRT 3C-1(Nicollet Mall), and LRT 3C-2 (11th/12th Street)]

The Architectural properties in Segment 4 which are listed in or eligible for the National Register include six individual properties and two historic districts. See the summary table and location map for Segment 4 in Appendix H.

Potential long-term effects may occur at the following properties:

- Minneapolis and St. Louis RR Depot, Hopkins (potential effects of the Excelsior Boulevard LRT overpass on the depot's setting and access)
- Chicago Milwaukee and St. Paul RR Depot, St. Louis Park (potential effects of the rearrangement of the tracks, and, under the co-location alternative, effects of the LRT overpass on the depot's setting)

Other potential effects to historic properties in Segment 4 relate to station area development in the Hopkins, Wooddale, and West Lake Station areas, access issues, and potential vibration issues.

Ten Areas with archaeological probability, comprising approximately 38 acres, were identified in the Archaeological Phase 1A of Segment 4 in areas that could experience impacts from construction.

Segment A [LRT 1A, LRT 3A (LPA), and LRT 3A-1 (Co-location)]

Architectural properties in Segment A which are listed in or eligible for the National Register include seven individual properties and five historic districts. The segment also includes three individual architectural properties and one historic district which are under evaluation for eligibility. See the summary table and location map for Segment A in the tables in the Section 106 Consultation Package in Appendix H.

Potential long-term effects may occur at the following properties:

- Cedar Lake Parkway, Grand Rounds (potential effects of the changes to the intersection of the LRT corridor with the historic parkway, including the LRT overpass bridge, and, under the co-location alternative, the effects of widening the trail/rail corridor; these changes may affect the parkway itself and may alter its setting)
- Kenilworth Lagoon/ Channel, Grand Rounds (potential effects of the construction of new bridge structures within the historic district; the design and footprint of these structures may affect the banks of the historic channel and may affect the district's overall feeling and setting)

Other potential effects to historic properties in Segment A relate to station area development in the West Lake, 21st Street, Penn, and Van White Station areas, traffic issues, and potential noise and vibration issues.

Ten Areas with archaeological potential, comprising 42 acres, were identified in the Archaeological Phase 1A along Segment A in areas that could experience impacts from construction.

Segment C [LRT 3C-1 (Nicollet Mall) and LRT 3C-2 (11th/12th Street)]

Architectural properties in Segment C (all variations) which are listed in or eligible for the National Register include thirty-three individual properties and ten historic districts. See the summary table and location map for Segment C in the tables in the Section 106 Consultation Package in Appendix H.

Potential long-term effects may occur at the following properties in all Segment C alternatives:

- Three railroad bridges over Grand Rounds features, at Dean Parkway, the Calhoun-Isles Channel, and Lake Calhoun Parkway (effects of the proposed demolition of these historic bridges, and the potential effects of adding new bridges, in the Grand Rounds Historic District; the design and footprint of the new bridges may affect the historic parkways and channel and may affect the district's overall feeling and setting)
- The Mall, Grand Rounds (potential effects of the Uptown Station on the historic park's features and setting)
- Chicago Milwaukee & St. Paul Railroad Grade Separation Historic District (potential effects of building the Uptown and Lyndale Stations and adding guideway, retaining walls, and other infrastructure within the historic district on the features and setting of the district; rehabilitation of ten historic concrete bridges and re-installing tracks could be a positive visual effect for the historic district)

For Segment C-1, potential long-term effects may occur at the following properties:

- East 25th Street Rowhouses, Washburn Fair Oaks Historic District, Franklin Nicollet Liquors, and Plymouth Church (potential effects of building a tunnel, access points, and station along Nicollet Avenue on the features and settings of the historic properties)
- Loring Greenway, Westminster Presbyterian Church, Young-Quinlan Building, Dayton's Department Store, IDS Center, Northern States Power Company, and Northwestern National Life Building (potential effects of building the LRT line and stations along the Nicollet Mall on the features and settings of the historic properties)

For Segment C-2, potential long-term effects may occur at the following properties:

- East 25th Street Rowhouses, Washburn Fair Oaks Historic District, Franklin Nicollet Liquors, and Plymouth Church (potential effects of building a tunnel, access points, and station along Nicollet Avenue on the features and settings of the historic properties)
- Loring Greenway, Westminster Presbyterian Church, Ogden Apartment Hotel, MacPhail School of Music, and First Baptist Church and Jackson Hall (potential effects of building the LRT line and stations in the 11th/12th Street corridor on the features and settings of the historic properties)

For Segment C-2A, potential long-term effects may occur at the following properties:

- Calvary Baptist Church, Semple House, Van Dusen House, and Plymouth Congregational Church (potential effects of building a tunnel, access points, and station and the line along Blaisdell Avenue on the features and settings of the historic properties)
- Loring Greenway, Westminster Presbyterian Church, Ogden Apartment Hotel, MacPhail School of Music, and First Baptist Church and Jackson Hall (potential effects of building the LRT line and stations in the 11th/12th Street corridor on the features and settings of the historic properties)

For Segment C-2B, potential long-term effects may occur at the following properties:

- The Carlton, Despatch Laundry Building, Washburn Fair Oaks Historic District, Washburn Fair Oaks Mansion District, First Christian Church, Stevens Square Historic District, and Abbott Hospital (potential effects of building a tunnel, access points, station, and the line along First Street on the features and settings of the historic properties)
- Loring Greenway, Westminster Presbyterian Church, Ogden Apartment Hotel, MacPhail School of Music, and First Baptist Church and Jackson Hall (potential effects of building the LRT line and stations in the 11th/12th Street corridor on the features and settings of the historic properties)

Other potential effects to historic properties in Segment C relate to station area development in the West Lake, Uptown, Franklin, 12th Street, 8th Street, 4th Street, 13th Street, Harmon, and Hawthorne Station areas, traffic and access issues, and potential noise and vibration issues.

Three areas with archaeological potential, comprising 8 acres, were identified in the Archaeological Phase 1A along Segment C. Any of these that are found eligible could experience impacts from construction.

Freight Rail Relocation Segment

Architectural properties in Segment FRR which are listed in or eligible for the National Register include two historic districts and two individual properties. See the summary table and map for Segment FRR in the tables in the Section 106 Consultation Package in Appendix H.

Potential long-term effects may occur at the following properties:

- Brownie and Cedar Lakes, including the connecting channel, part of the Grand Rounds historic district (potential effects of new track construction on the features and settings of lakes and channel)

Other potential effects to historic properties in Segment FRR relate to potential noise issues.

Three areas with archaeological potential, comprising 3 acres, were identified in the Supplemental Archaeological Phase 1A along Segment FRR. Any of these that are found eligible could experience impacts from construction.

3.4.5.4 Comparison of Alternatives

Table 3.4-1 summarizes the number of listed and eligible historic properties, including historic districts by alternative. It also lists the number of areas requiring archaeological

survey by alternative. Details and maps are provided in the tables in the Section 106 Consultation Package in Appendix H.

Table 3.4-1. Cultural Resources Affected (by Build Alternative)

Environmental Metric	Alternative						
	LRT 1A	LRT 3A (LPA)	LRT 3A-1 (Co-location)	LRT 3C-1 (Nicollet Mall)	LRT 3C-2	LRT 3C-2A	LRT 3C-2B
					(11 th /12 th Street)		
Architecture/History individual properties	16	16	14	26	23	25	26
Architecture/History historic districts	7	7	7	6	8	8	11
Archaeology survey areas*	29	44	41	36	37	37	37

Notes:

Potential effects are based on conceptual engineering and may be modified or refined as planning and the Section 106 process continue.

Items that could be affected by more than one segment within one alternative were only counted once per alternative, to avoid double counting

Three properties and one district currently being evaluated for National Register eligibility are included in the above table. If any of these properties are determined ineligible, some of the above totals could be reduced.

*Archaeology survey areas were defined during the Phase Ia evaluation as having high probability of containing archaeological resources

3.4.5.5 Operation and Maintenance Facilities

Potential impacts to cultural resources were considered at OMF locations. The Eden Prairie locations (1, 2, and 3) do not contain any structures older than 45 years of age. Commercial land use and modern highway construction activities at these locations suggest that there is little potential for intact and significant archaeological sites. The Minneapolis OMF location is the site of the Regan Brothers Bakery, which is eligible for the National Register; selection of this OMF site may result in the demolition of this structure. In addition, any post-1965 undeveloped, open, or asphalt-capped parcels at the Minneapolis 4 location have the potential to contain intact archaeological deposits. The potential significance of these deposits will be addressed should Minneapolis 4 be selected for the project.

Once the final selection of the OMF site has occurred, further cultural resource review will be needed.

3.4.6 Short-Term Construction Effects

3.4.6.1 No Build Alternative

There would be no construction effects to the identified cultural resources under the No Build Alternative.

3.4.6.2 Enhanced Bus Alternative

There would be no construction effects to the identified cultural resources under the Enhanced Bus Alternative.

3.4.6.3 Build Alternatives

Noise, vibration, visual, and traffic impacts would be experienced during construction throughout all segments. These impacts would be short term and temporary. Concerns have been expressed by the public regarding the effects of noise and vibration on historic buildings and resources along the alignment. Noise and vibration impacts and mitigation measures are discussed in Sections 4.6, and 4.7, and will be addressed as part of Section 106 consultation. Short-term visual impacts and mitigation are discussed in Section 3.6. Short-term access impacts and mitigation are discussed in Chapter 6.

3.4.7 Mitigation

Methods for avoidance, minimization, or mitigation of impacts to historic and archaeological property would be developed and coordinated under the Section 106 consultation process as the project advances, and included in the Section 106 Agreement. The agreement for the selected alternative will be developed in consultation with the SHPO and other consulting and interested parties. As described in Section 3.4.4.3, potential mitigation measures may include:

- Consultation on the design of the project, when historic properties are located nearby;
- Educational efforts and incentives aimed at the rehabilitation of historic properties in areas that may experience project-related redevelopment
- Development of a plan to address potential vibration or noise effects on historic properties
- Public education and interpretation about historic properties in the project area, often as a part of the project itself

3.4.8 Summary

summarizes the cultural resources that may be affected by each alternative. Descriptions of the cause of the impacts and the resources can be found above in Section 3.4 and in the tables in the Section 106 Consultation Package in Appendix H.

Table 3.4-2. Summary of Cultural Resources with Potential to Be Affected

Environmental metric	Alternative						
	LRT 1A	LRT 3A (LPA)	LRT 3A-1 (Co-location)	LRT 3C-1 (Nicollet Mall)	LRT 3C-2 (11 th /12 th Street)	LRT 3C-2A (11 th /12 th Street)	LRT 3C-2B (11 th /12 th Street)
Historic resources (structures and districts) with potential visual Impacts	5	5	4	19	18	18	21
Historic properties in station areas with potential effects	12 7 districts	12 7 districts	12 7 districts	17 4 districts	13 5 districts	14 5 districts	12 8 districts
Historic properties to be demolished	0	0	0	3 bridges	3 bridges	3 bridges	3 bridges

Note: Potential effects are based on conceptual engineering and may be modified or refined as planning and the Section 106 process continue.

Effects on archaeological sites will be addressed when the archaeological field survey/evaluation of the selected alternative is complete.

3.5 Parklands and Recreation Areas

This section discusses the existing publicly owned parks and recreation areas that are located near the Southwest Transitway and Freight Rail Relocation segment. This section considers publicly owned **conservation areas** as well when they also serve a public park or public recreation function, such as public trails, in addition to their conservation function. This section does not make a determination of whether these areas meet the federal definition as a park under Section 4(f). Rather, this section evaluates the potential direct and indirect impacts to public properties that are generally used as parks by the public. The Section 4(f) discussion is included in Chapter 7 of this Draft EIS. It should also be noted that some of the parkland resources

A "conservation area" is a tract of land that has protected status to ensure that natural features, cultural heritage, or biota are safeguarded. A conservation area may be a nature reserve, a park, or a land reclamation project.

discussed below are also historic resources subject to Section 106 review; Section 3.4 discusses these resources in more detail.

It is important to note that at this stage of the project, estimates of direct park impacts are based on conceptual engineering drawings. Therefore, sufficient engineering detail is not available to fully eliminate all potential impacts. It is anticipated that during Preliminary Engineering, reasonable and prudent efforts will be made to adjust engineering designs in order to avoid or minimize direct impacts.

3.5.1 Legal and Regulatory Requirements

Parklands are regulated under United States Department of Transportation (USDOT) Act of 1966, Section 4(f) as amended (49 U.S.C. § 303) and Land and Water Conservation Fund Act: Section 6(f) (16 U.S.C. § 460). The detailed Section 4(f) discussion is provided in Chapter 7 Section 4(f) Evaluation.

3.5.2 Methodology

For this analysis, the study area was identified as a 350-foot-wide area centered on each of the proposed Southwest Transitway alignments and the Freight Rail Relocation segment. The purpose of the 350-foot corridor was to identify park and recreation resources near the proposed transitway. The specific distance is used because 350 feet is the unobstructed screening distance for FTA noise impact assessments and would allow identification of potential noise impacts to parkland resources. Identification of the parks and recreation areas was based on a review of electronic data from the cities of Minneapolis, St. Louis Park, Hopkins, Eden Prairie, and Minnetonka.

This evaluation included consideration of both direct and indirect impacts based on field observations and the current layouts of these properties. Direct impacts are those which involve acquisition of land for permanent use or for temporary construction easements. Direct impacts that are permanent or result in a temporary occupancy that is considered adverse require additional evaluation under Section 4(f) of the Department of Transportation Act of 1966 (see Section 7.1). Indirect impacts are those caused by the proximity of the project to the parkland that substantially impair or diminish the features, attributes, or activities that qualify a park for protection under Section 4(f). Noise impacts are a typical proximity impact that can substantially impair park and recreational land without directly impacting it.

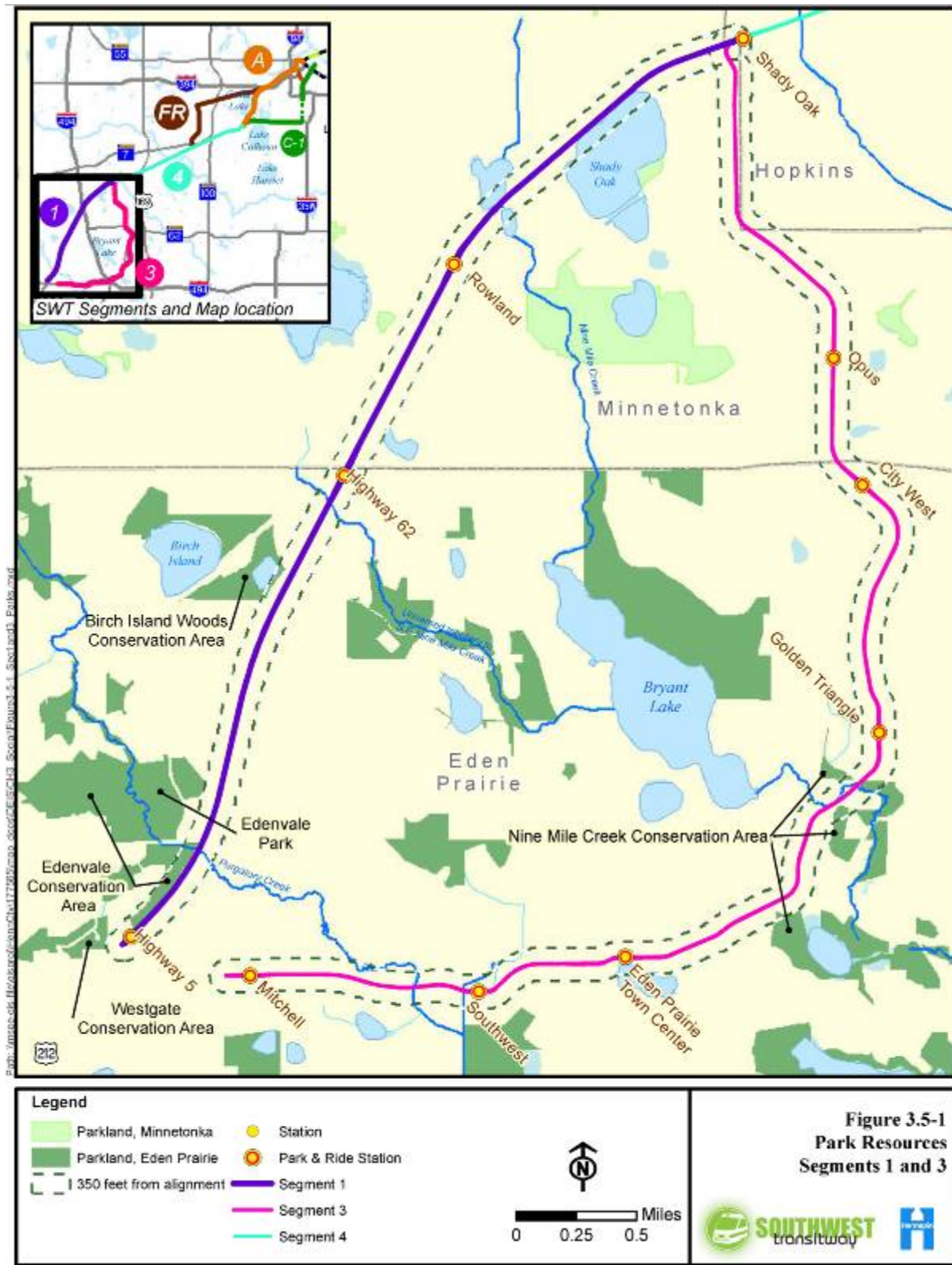
For this Draft EIS analysis, long-term direct impacts are those that would result in a physical modification to the existing conditions or areas where excavation, fill, and LRT facilities are required. Temporary direct impacts are those that occur in areas within the construction limits identified in the conceptual design, but outside the area to be physically modified. These might include areas required to maneuver construction equipment or store building materials outside the long-term impact limits.

3.5.3 Existing Conditions

Public parks, conservation areas, and recreation areas are owned and maintained by the municipalities in which they are located. In the City of Minneapolis, these properties are owned and maintained by the independent Minneapolis Park and Recreation Board. In the cities of St. Louis Park, Hopkins, Eden Prairie, and Minnetonka, these properties are maintained by a parks department that is part of the city government. It

should be noted that land ownership along the segment from downtown Minneapolis to Cedar Lake Park is complicated and may need additional survey or a detailed title search to determine ownership of the underlying land (see the HCRRRA Property Ownership Technical Memorandum in Appendix H).

An inventory of facilities within 350 feet of the project alignment in each jurisdiction is shown in Figure 3.5-1 through Figure 3.5-3 and summarized in Table 3.5-1. This is the unobstructed screening distance for FTA noise impact assessments (Table 4-1, Page 4-3, FTA Transit Noise and Vibration Impact Assessment, May 2006). It is important to note that the presence of a park or recreation resource within the 350-foot study area does not necessarily indicate a direct or indirect impact.



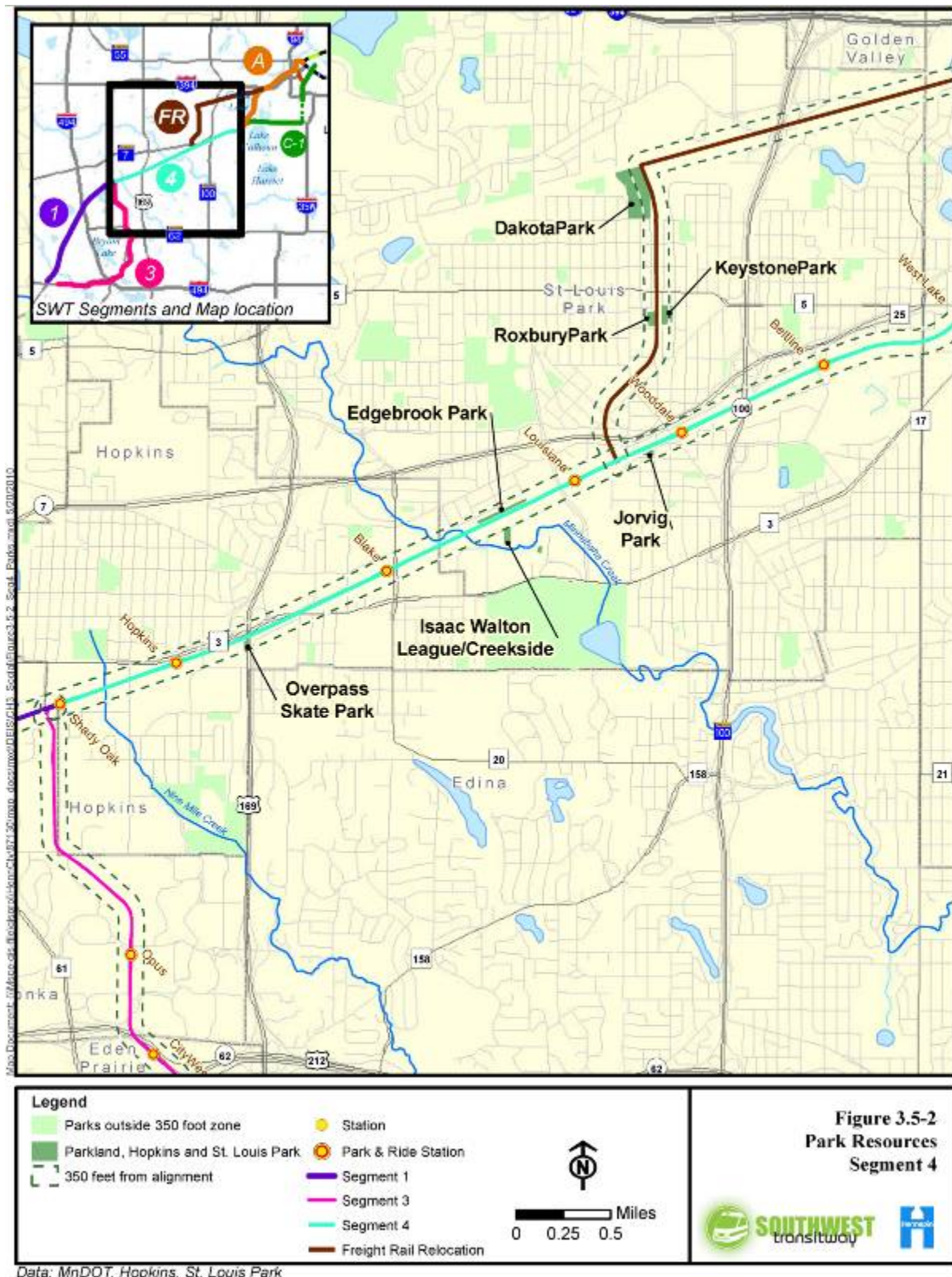




Table 3.5-1. Public Parks, Recreation Areas, and Conservation Areas within the Study Area by Segment

Park Name	Jurisdiction or Ownership	Segment	Park Resources
Westgate Conservation Area	City of Eden Prairie	1	24-acre conservation area
Edenvale Conservation Area	City of Eden Prairie	1	181-acre conservation area, walking trails, parking
Edenvale Park	City of Eden Prairie	1	Ball field, play structure with swings, hockey rink with warming house and skating area, picnic shelter and picnic area. Edenvale conservation area is adjacent to the park.
Birch Island Woods Conservation Area	City of Eden Prairie	1	A 36-acre sanctuary of trees and wetlands. Amenities include lakes, wetlands, woods, wildlife and bird habitats, Glen Lake Golf Center, Picha Heritage Farm, archeological and historic sites, bike, nature and ski trails, Eden Wood's camp for special needs children and a conference center
Nine Mile Creek Conservation Area	City of Eden Prairie	3	89.7-acre conservation area with walking trails on Nine Mile Creek and a fenced off-leash dog exercise area along Flying Cloud Drive.
Overpass Skate Park	City of Hopkins	4	Located under the U.S. Highway 169 bypass, 18,000-square-foot skate park. Provides piano banks, fun boxes, kinked rails, staircases, and equipment (protective helmets and pads).
Edgebrook Park	City of St. Louis Park	4	City park with playground, basketball, and skating area
Isaac Walton League/Creekside	City of St. Louis Park	4	Canoe landing
Jorvig Park	City of St. Louis Park	4	Historic depot, horseshoes, play structure, rest shelter
Roxbury Park	City of St. Louis Park	FRR	City park with playground, basketball, picnic shelter
Keystone Park	City of St. Louis Park	FRR	City park with soccer field

Park Name	Jurisdiction or Ownership	Segment	Park Resources
Dakota Park	City of St. Louis Park	FRR	City park with playground, lighted baseball & softball fields, dog park, sun shelter, picnic shelter
Alcot Triangle	Minneapolis Park and Recreation Board	A and C	Open space
Park Siding	Minneapolis Park and Recreation Board	A and C	Open space
Cedar Lake segment of the Minneapolis Chain of Lakes Regional Park	Minneapolis Park and Recreation Board	A and FRR	Three supervised beaches, biking path, cross country skiing, fishing dock, picnic area, walking path
Lake of the Isles segment of the Minneapolis Chain of Lakes Regional Park	Minneapolis Park and Recreation Board	A and C	Lake with 2.86 miles of shoreline, bike path, display fountain, fishing dock, hockey rink, ice rink, , soccer field, walking path, wells, off-leash recreation area
Kenwood Parkway	Minneapolis Park and Recreation Board	A	Parkway, open space
Bryn Mawr Park	Minneapolis Park and Recreation Board	A	50.84-acre park; 2 baseball fields, biking path, 2 broomball rinks, cricket field, ice rink, 10-table picnic area, restroom facilities, soccer field, 11 softball fields, sports facility, tennis court, tot lot/playground, wading pool, and walking path
Dean Parkway segment of the Minneapolis Chain of Lakes Regional Park	Minneapolis Park and Recreation Board	C	Parkway with 17.5 acres of parkland, 0.6 mile of bicycle and walking paths
Lake Calhoun Parkway segment of the Minneapolis Chain of Lakes Regional Park	Minneapolis Park and Recreation Board	C	Parkway; scenic drive that circles Lake Calhoun; beach, boat dock, eatery/concessions, fishing dock, picnic area, restroom facilities, soccer field, walking path

Park Name	Jurisdiction or Ownership	Segment	Park Resources
Lake Calhoun segment of the Minneapolis Chain of Lakes Regional Park	Minneapolis Park and Recreation Board	C	3.2-mile bike/skate path, 3.1-mile walking path, three supervised beaches, archery, boat dock, eatery/concessions, fishing dock, parkway, picnic area, restroom facilities, soccer field, softball field, volleyball court, wells
The Mall	Minneapolis Park and Recreation Board	C	Parkway and open space
28th Street Totlot	Minneapolis Park and Recreation Board	C	Urban park, playground
Washburn Fair Oaks	Minneapolis Park and Recreation Board	C	Green space, vista
Stevens Square Park	Minneapolis Park and Recreation Board	C	2.51-acre park, basketball court, restroom facilities, tennis court, tot lot/playground, walking path, wells
Gateway Park	Minneapolis Park and Recreation Board	C	Display fountain, sculpture

3.5.4 Temporary and Long-Term Effects

The following sections summarize the temporary and long-term effects anticipated by alternative.

3.5.4.1 No Build Alternative

The No Build Alternative would result in no significant changes to the parks and recreation areas that would not otherwise happen due to urbanization in general and population densification in particular. As the urban and suburban areas continue to develop and increase in population, it is expected that increased use of the parks and recreation areas within them would take place regardless of the alternative selected. This is especially likely in fully developed urban areas because they typically have reduced opportunity for the creation of new parks and recreation areas.

3.5.4.2 Enhanced Bus Alternative

Impacts to parks under the Enhanced Bus Alternative would be similar to the No Build Alternative.

3.5.4.3 Build Alternatives

The potential direct temporary and long-term impacts to parklands based upon the conceptual engineering are summarized in Table 3.5-2 and discussed in the following subsections by project segment. The only indirect long-term effects anticipated are due to noise changes, such as increased noise levels resulting from modifications to traffic and pedestrian flows. It should also be noted that because interim use trail corridors have been acquired for future transportation needs, they are not considered parkland. Compatibility of the alternatives with park and recreation plans is discussed in Section 3.1. Potential transportation effects, such as pedestrian and bicycle safety and disruption are discussed in Chapter 6.

Although Table 3.5-2 indicates that there may be small portions of certain parks that would be within the current construction limits, it is not anticipated that the recreational function and value of any parks or recreation areas would experience significant long-term direct or indirect effects due to the project. Furthermore, it is anticipated that additional avoidance and minimization options will be identified as the project progresses into Preliminary Engineering.

Table 3.5-2: Potential Direct Impacts to Parkland by Segment

Segment	Acres of Long-Term Parkland Impacts	Acres of Temporary Parkland Impacts	Type of Parkland Impacted
1	0.002	0.06	Conservation area land No developed recreational features impacted
3	0.23	0.00	Conservation area land No developed recreational features impacted
4	0.00	0.00	No parkland impacted No developed recreational features impacted
A	0.00	0.00	Construction anticipated to occur within HCCRA ROW adjacent to parkland; no temporary or permanent impacts anticipated
A Co-location	0.88	0.016 (note that no temporary construction effects calculated for co-location alternative)	Parkland consisting of passive use open space and land used for transportation purposes No developed recreational features impacted

Segment	Acres of Long-Term Parkland Impacts	Acres of Temporary Parkland Impacts	Type of Parkland Impacted
C	0.09	0.45	Parkway land consisting of passive use open space and land used for transportation purposes No developed recreational features impacted
FRR	0.00	Not calculated	No permanent impacts anticipated

Segment 1 (LRT 1A)

Temporary direct impacts

Conceptual engineering indicates that Segment 1 would have a temporary impact on approximately 0.06 acre of conservation land from the Edenvale Conservation Area where it abuts the existing railroad corridor along a portion of the segment.

Long-term direct impacts

Conceptual engineering indicates that Segment 1 would have a long term impact on approximately 0.002 acre of conservation land from the Edenvale Conservation Area. No developed recreation features would be directly impacted in this segment of the proposed project.

Segment 3 [LRT 3A (LPA), LRT 3A-1 (Co-location alternative), LRT 3C-1 (Nicollet Mall), and LRT 3C-2 (11th/12th Street)]

Temporary direct impacts

No additional temporary impacts beyond the footprint of the permanent impacts detailed below are anticipated for Segment 3.

Long-term direct impacts

Conceptual engineering indicates that Segment 3 would have a long-term impact on approximately 0.23 acre of conservation area from the Nine Mile Creek Conservation Area. Specifically, the LRT tracks and associated ROW would cross a small portion of the conservation area. No developed recreation features would be directly impacted in this segment of the proposed project.

Segment 4 [LRT 1A, LRT 3A (LPA), LRT 3A-1 (Co-location alternative), LRT 3C-1 (Nicollet Mall), and LRT 3C-2 (11th/12th Street)]

Conceptual engineering indicates that Segment 4 would not directly impact land from any public park or conservation area either temporarily or long-term.

Segment A [LRT 1A and, LRT 3A (LPA)]

Temporary direct impacts

The conceptual engineering completed for the project identifies approximately 0.016 acre of potential temporary impact to land from Park Siding for grading associated with future trail reconstruction. However, this is not directly associated with

the project, as HCRRA would not conduct the grading unless requested to do so by the Minneapolis Park and Recreation Board (MPRB) to allow the reconstruction of the interim use trail. Completion of the trail would be conducted by MPRB or others. Should MPRB choose not to accept HCRRA's offer of grading for trail reconstruction, there would be no impact to Park Siding.

Long-term direct impacts

In Segment A, the reconstruction of existing bridges and construction of new LRT tracks along existing freight rail alignment is anticipated to occur on HCRRA ROW. Construction of this Segment will occur adjacent to Cedar Lake Park, Cedar Lake Parkway, and Lake of the Isles portions of the Minneapolis Chain of Lakes Regional Park; at this time no permanent or temporary uses of parkland are anticipated.

Segment A [LRT 3A-1 (Co-location)]

Temporary direct impacts

The conceptual engineering completed for the project identifies approximately 0.016 acre of potential temporary impact to land from Park Siding for grading associated with future trail reconstruction.

Temporary impacts have not been finalized for the co-location segment. It is likely that temporary impacts would occur to Cedar Lake Park, Cedar Lake Parkway and Lake of the Isles, for widening the corridor to accommodate the freight rail line.

Long-term direct impacts

Conceptual engineering indicates that Segment A (co-location) would have a long term impact on approximately 0.88 acre. This includes a long term impact on approximately 0.81 acre in Cedar Lake Park, approximately 0.07 acre in Cedar Lake Parkway and approximately 0.01 acre in Lake of the Isles for widening the corridor to accommodate the freight rail line.

The parkland that would be impacted is a combination of **passive use open space** and transportation land use. No developed recreation features would be directly impacted in this segment of the proposed project. Park Siding is open space. The Lake of the Isles park property that would be impacted is a combination of parkway and open space. The Cedar Lake park property that would be impacted is wooded open space.

"Passive use open space" is that portion of a park that has minimal development such as picnic areas, trails, and green spaces that are not otherwise developed for activities such as ball fields or playgrounds.

Segment C [LRT 3C-1 (Nicollet Mall) and LRT 3C-2 (11th/12th Street)]

Temporary direct impacts

Conceptual engineering indicates that Segment C would have a temporary impact on approximately 0.45 acre of parkland. This includes a temporary impact on approximately 0.035 acre from Dean Parkway for construction of a crossing over Dean Parkway, a temporary impact on approximately 0.16 acre from Lake of the Isles Park (a segment of the Minneapolis Chain of Lakes Regional Park) for a crossing over Lake of the Isles, and a temporary impact on approximately 0.26 acre of The Mall for construction of at-grade crossings (Figure 3.5-3).

Long-term direct impacts

Conceptual engineering indicates that Segment C would have a long term impact on approximately 0.09 acre of parkland. This includes a long term impact on approximately 0.035 acre from Dean Parkway for construction of a crossing over Dean Parkway, and a long term impact on approximately 0.053 acre on Lake of the Isles Park for a crossing over Lake of the Isles.

The parkland that would be impacted is a combination of passive use open space and transportation land use. No developed recreation features would be directly impacted in this segment of the proposed project. Dean Parkway is a combination of open space and transportation land use. The Lake of the Isles park property is passive use open space. The Mall is a combination of parkway and open space.

Freight Rail Relocation Segment

Construction footprints for the Freight Rail Relocation segment have not been developed, so acreage of temporary and long-term impacts have not been developed. General potential for impacts is discussed below, and the Final EIS will discuss any potential impacts in more detail.

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- Temporary trail closure would be anticipated for portions of the Cedar Lake LRT Trail along the CP Bass Lake Spur, due to bridge demolition and construction. Duration would be 8 to 12 hours. The proposed overpass of the North Cedar Lake Trail along the BNSF alignment would require temporary re-routing and potential 48-hour trail closures.
- Implementation of new track in the Iron Triangle area, connecting into the BNSF Wayzata sub, would require a new crossing of North Cedar Lake Trail. Trail use would be temporarily impacted while the grade-separated crossing is being constructed.
- Part of the area designated as Keystone Park, and the trail within Keystone Park, lies within railroad ROW. According to the City of St. Louis Park this trail has been in place within the ROW for more than 20 years. No formal easement is known to exist, but the city has been maintaining this area within the railroad ROW. Trail users may be temporarily impacted while construction is taking place. No other trail impacts are anticipated.
- Roxbury and Keystone parks are directly across from each other, separated by the railroad tracks. Each has paved trails but there is no formal trail connection to cross the tracks. Park and trail users may trespass across the tracks to access both parks. An increased number of trains could increase the safety risk for trail users.

BNSF Section

- There are no impacts anticipated to trails or parks within the BNSF section, because construction is anticipated to occur within existing railroad ROW.

Comparison of Build Alternatives

Table 3.5-3 presents a comparison of the potential direct parkland impacts by Build Alternative.

Table 3.5-3. Potential Direct Impacts to Parkland by Build Alternative

Build Alternative	Long-Term Parkland Impacts (acres)	Temporary Parkland Impacts* (acres)
LRT 1A (including FRR)	0.002	0.076
LRT 3A (LPA) (including FRR)	0.227	0.016
LRT 3A-1 (Co-location)	1.12	0.016
LRT 3C-1 (Nicollet Mall) (including FRR)	0.32	0.45
LRT 3C-2 (11 th /12 th Street) (including FRR)	0.32	0.45

* note that temporary construction effects calculations are not available for the Freight Rail Relocation Segment or the Co-location alternative of Segment A.

3.5.5 Short-Term Construction Effects

Short-term direct construction impacts to the footprint of parkland areas are discussed above. Construction effects may also result in temporary air, noise, vibration, water quality, visual, and access impacts to parks and recreation resources that are nearby the proposed Southwest Transitway. Other temporary impacts could include temporary detours or short-term closure of some park access points during construction. These impacts would not be significant and would last only as long as construction is taking place in the area.

3.5.6 Mitigation

Use of public park property and recreation areas and the mitigation of long-term effects to these properties will be evaluated in accordance with the Section 4(f) process and the Metropolitan Council's *2030 Regional Parks Policy Plan*. Details on Section 4(f) impacts are provided in Chapter 7.

Once avoidance and minimization measures for public park property and recreation areas have been exhausted, the dimensions and location of any regional parkland that needs to be used by the Southwest LRT project will be forwarded to the Minneapolis Park and Recreation Board, Metropolitan Council staff and other appropriate park agencies for affected properties so appropriate mitigation and equally valuable land or facility exchanges can be discussed and evaluated. In addition, if any of the parkland to be used has a restrictive covenant in place between the Metropolitan Council and the Minneapolis Park and Recreation Board, approval to remove this covenant would need to be obtained. As noted in Chapter 7 of this Draft EIS, this information will be discussed in detail in the Final Section 4(f) Evaluation. Avoidance alternatives and minimization measures developed during preliminary engineering will be discussed in detail in the Final Section 4(f) Evaluation.

Short-term effects will be minimized by using standard construction BMPs such as dust control, erosion control, and proper mufflers.

Impacts related to temporary changes to parking and access could be mitigated by development of a Construction Outreach Coordination Plan during Final Design. Such a plan would detail planned activities during construction, partnerships, specific programs to assist local businesses and residents affected by construction, and methods to minimize adverse impacts during construction of the project such as maintaining access, proper signage, etc.

3.5.7 Summary

Table 3.5-4 presents a summary of the types of long-term effects (environmental metric) that the proposed alternatives might have on parks and conservation areas. In this table, the potential impacts are expressed in the number of acres or fraction of an acre for easy comparison.

Other potential impacts on park and conservation areas are presented and discussed in other sections of this Draft EIS: noise is in Section 4.7, vibration is in Section 4.8, and the potential for an alternative's visual impact can be found in Section 3.6.

Table 3.5-4. Summary of Potential Park and Conservation Area Impacts

Environmental Metric	Alternative (acres of impact)				
	LRT 1A	LRT 3A (LPA)	LRT 3A-1 (Co-location)	LRT 3C-1 (Nicollet Mall)	LRT 3C-2 (11 th /12 th Street)
Long-term effects to conservation land in acres	0.002	0.23	0.23	0.23	0.23
Long-term effects to trails in acres	0	0	0	0	0
Long-term effects to recreation space in acres	0	0	0	0	0
Long-term effects to open space in acres	0.002	0.002	0.89	0.088	0.088
Total acres of temporary impacts	0.076	0.016	0.016	0.45	0.45
Total acres of long-term effects	0.30	0.23	1.12	0.32	0.32

Note: Impacts are based on Conceptual Engineering and may be refined during Preliminary Design. Temporary impacts have not been calculated for the Freight Rail Relocation segment or Segment A (co-location)

3.6 Visual Quality and Aesthetics

This section describes the visual characteristics and aesthetic resources along the project corridor, the potential project impacts on the visual quality of the study area, and proposed means to mitigate such impacts. Refer to Section 3.1, Figure 3.1-1 through Figure 3.1-7; for maps of the existing land use in the project area. Visual or aesthetic resources are defined as the natural and built features of the visible landscape. This landscape is a combination of natural features and buildings, roads, and other human or cultural modifications to the natural environment. Visual resource or aesthetic impacts are defined in terms of the physical characteristics of a project, its potential visibility, and the extent to which the project could affect the quality of the existing scene or environment.

Legal and Regulatory Overview

Federal regulations require visual impacts to be addressed for Section 106 (see Section 3.4 and Appendix H for further discussion of visual effects on historic properties) and Section 4(f) properties. There is no specific federal or state visual regulatory requirement that applies to properties that are not listed or eligible for listing on the National Register, or parkland. The interim use trails located on HCRRRA property are not considered Section 4(f) properties.

3.6.1 Methodology

Visual and aesthetic resources within the study area were identified through a review of aerial photographs and land use maps, supplemented by field observations. Generally, visual and aesthetic resources within the area include historic structures, parklands, and undeveloped open space/natural areas. Potential **sensitive visual receptors** are areas or users affected by changes to the visual and aesthetic character of the study area. Existing conditions and long-term effects are discussed by segment. (See Table 3.0-1 and Figure 2.3-9 in Chapter 2, Alternatives Considered, for a description of each segment.) Table 3.6-1 summarizes the visual assessment evaluation and criteria applied during the aesthetic analysis. Visual quality is rated by the criteria "low," "moderate," or "high" (as defined in Table 3.6-1). Visual sensitivity identifies how the primary viewers experience proposed project elements such as bridges, fixed guideways, etc.

"Sensitive receptors" (visual) are people whose view of a project area may be changed by the project. These include trail users, residents of nearby homes, or users of adjacent open spaces.

Table 3.6-1: Visual Assessment Evaluation and Criteria

Primary Viewers	Visual Quality	Visual Sensitivity
A = Trail Users B = Occupants of Single-Family Residences (detached and attached) C = Occupants of Multi-Family Residences D = Recreational Users (parks and open spaces) E = Commercial/Office Tenants F = Industrial Tenants G = Pedestrians H = Motorists I = Others	<p>High = Assessment unit¹, or portions thereof, is of substantial visual and/or aesthetic quality to the primary viewers.</p> <p>Moderate = Assessment unit, or portions thereof, is of average visual and/or aesthetic quality to the primary viewers.</p> <p>Low = Assessment unit is of little or no visual and/or aesthetic quality to primary viewers.</p>	<p>High: Introduction of new elements that could substantially impact the quality of the visual/aesthetic resources as observed by primary viewers.</p> <p>Moderate: Introduction of new elements that may have an impact on the quality of the visual/aesthetic resources as observed by primary viewers.</p> <p>Minimal: Introduction of new elements that is not likely to have an impact on any visual/aesthetic resources as observed by primary viewers.</p>

Source: HDR, February, 2010.

¹ A visual assessment unit has its own visual character and visual quality. It is typically defined by the limits of a particular viewshed or is an area of similar visual character.

Visual impacts are discussed in terms of the effect new physical elements associated with the project would have on the following:

- Visual Resources – The physical resources, including native vegetation, introduced landscaping, and the built environment, that make up the character of the area
- Visual Intrusion/Privacy – The creation of direct views from LRT vehicles into previously private spaces

The study area for this analysis includes the following project elements :

- Fixed guideway: track, catenary poles and wires
- LRT trains
- Facilities such as stations, parking areas, and vehicle maintenance and storage facility site
- TPSS
- Relocated freight rail
- Construction staging areas and other temporary visual elements

To assess the visual and aesthetic impacts, the study area was divided into six visual assessment segments based on LRT segments and Freight Rail Relocation segment. The visual quality and visual sensitivities were defined along each segment. Then the potential impact of each of the project elements (fixed guideway, LRT trains, facilities, and TPSS) was rated as substantial, possibly substantial, or generally not substantial, as described in more detail in Section 3.6.3.

3.6.2 Existing Conditions

Visual and aesthetic resources are described by Segment from west to east starting in Eden Prairie and ending in Minneapolis.

3.6.2.1 Segment 1 (LRT 1A)

The corridor area surrounding Segment 1 may be characterized as a suburban environment, generally distinguished by dispersed, low-density residential land uses and single-story light-industry or service-oriented commercial establishments. Most of the buildable landscape has been developed, although intermittent areas of open space, woodlands, and standing water or wetlands also contribute to the landscape surrounding the segment. The existing Minnesota River Bluffs LRT Regional Trail and Cedar Lake LRT Regional Trail occupy the HCRRA ROW where the Segment 1 alignment would be located, serving as an interim use trail linking Eden Prairie and Minnetonka with downtown Minneapolis.

Segment 1 is located on a former railroad corridor owned by HCRRA that is currently used as a pedestrian and bike trail in the suburban areas of Eden Prairie and Minnetonka (see Photo 3.6-1). Land uses adjacent to the corridor are primarily residential and industrial. Density in the vicinity of the corridor is low and there is a lot of natural vegetation throughout the area. The majority of the Segment 1 corridor is partially to fully screened from view by adjacent land uses by mature vegetation growing in the HCRRA property. In residential areas, landscape vegetation buffers are common outside the HCRRA ROW between the corridor and residences. The majority of the vegetation located along the segment is deciduous, so the ability to screen views is diminished during seasonal leaf-off conditions (the dormant period where deciduous trees have no leaves and therefore do not screen views as effectively).

Where the segment travels next to Shady Oak Lake, the vegetation buffer is thinner because the corridor is less than 50 feet from the water's edge. The corridor would be visible to recreational users on the lake, especially during leaf-off conditions.

**Photo 3.6-1. Existing Minnesota River Bluffs
LRT Regional (South) Trail in Segment 1**



Source: HDR, March 2010

3.6.2.2 Segment 3 [LRT 3A (LPA), LRT 3A-1 (Co-location), LRT 3C-1 (Nicollet Mall, and LRT 3C-2 (11th/12th Street)]

Segment 3 is located on new ROW in a suburban area and travels through developed portions of Eden Prairie, more urbanized than Segment 1. Adjacent land uses primarily include the transportation corridor for TH 5, and industrial, utility, retail/commercial, office, and multi-family residential land uses in a developed suburban setting. The segment begins near the Eden Prairie City Hall and municipal campus—a parcel that includes stands of mature deciduous vegetation with scattered low growing evergreen conifers. Landscape vegetation can be found along the corridor where retail/commercial, industrial, and residential land uses exist. Segment 3 crosses major transportation areas for I-494, U.S. 212, and TH 62. The segment crosses Nine Mile Creek—an area with dense vegetation stands along Flying Cloud Drive near Eagle Ridge Academy Charter High School, which is screened from the segment by vegetation except at two entrance/egress driveways. The segment travels between large parcels in the Nine Mile Creek Conservation Area. All of the undeveloped parcels crossed by the segment include large stands of mature deciduous vegetation with an occasional cluster of mature evergreens in areas surrounded by industrial and retail/commercial land uses. Photo 3.6-2 shows the existing overhead infrastructure in Segment 3, such as transmission line poles and substations that are already in the **viewshed**.

A “viewshed” is the natural and/or built environment that can be seen from a reference point.

Photo 3.6-2. Typical Overhead Infrastructure along TH 5 in Segment 3



Source: HDR, March 2010

3.6.2.3 Segment 4 [LRT 1A, LRT 3A (LPA), LRT 3A-1 (Co-location alternative), LRT 3C-1 (Nicollet Mall), and LRT 3C-2 (11th/12th Street)]

Segment 4 is located on existing rail ROW owned by HCRRA that is currently used as the Cedar Lake LRT Regional Trail an interim use corridor (Photo 3.6-3). Most of the segment parallels a freight rail line running through urban areas in the communities of Hopkins and St. Louis Park. Land uses adjacent to the segment are primarily industrial, retail/commercial, and office with some multi-family and single-family residential land uses. Both the past and present use of the corridor for freight traffic is reflected by the concentration of industrial uses that parallel it, with adjacent service and storage facilities. The visual setting is a built environment with industrial and utility uses typical in a freight corridor.

Mature vegetation buffers portions of the HCRRA property between Shady Oak Road and 5th Avenue North in Hopkins, which partially screens the views to/from surrounding industrial land uses. Between U.S. Highway 169 and Excelsior Boulevard, vegetation adjacent to the segment is primarily groundcover. Near U.S. Highway 169, the CP begins to parallel the segment on the south, and there is no vegetation screen between the two corridors until they cross Excelsior Boulevard. From this point east, mature vegetation exists between the two corridors for the majority of the segment traveling to West Lake Street, especially along residential land uses where additional landscape plantings are found. The majority of the vegetation located along the segment is deciduous, so the ability to screen views is diminished during seasonal leaf-off conditions.

Photo 3.6-3. Existing Cedar Lake Trail Paralleling Freight Tracks in Segment 4



Source: HDR, March 2010

3.6.2.4 Segment A [LRT 1A, LRT 3A (LPA), and LRT 3A-1 (co-location alternative)]

Segment A is located on existing rail ROW owned by HCRRRA that is currently used as a pedestrian and bike trail and parallels existing freight lines (Photo 3.6-4). The corridor travels through the Cedar-Isles-Dean and Kenwood neighborhoods, the Minnesota Chain of Lakes Regional Park, and travels between a pair of lakes (Cedar Lake and Lake of the Isles) in Minneapolis. Land uses adjacent to the segment between West Lake Street and I-394 include transportation uses for freight, parkland, and single- and multi-family residential land uses. North of I-394, land use adjacent to Segment A includes some parkland, but is mostly industrial.

Mature vegetation buffers the corridor for the length of the segment, screening views to/from residential areas and parklands. Mature vegetation exists between the parkland north of I-394 and the segment. The majority of the vegetation located along the segment is deciduous, so screening is diminished during seasonal leaf-off conditions. Freight trains of varying lengths travel in the corridor during the daytime and at night. Where the segment enters downtown Minneapolis, north of I-394, the area is predominantly mixed-use industrial.

**Photo 3.6-4. Existing Minnesota River Bluffs LRT Regional Trail
Paralleling Freight Tracks in Segment A**



Source: HDR, March 2010

3.6.2.5 C Segments

The C segments travel through the developed urban area of Uptown and Minneapolis. A portion of the C segments follow the Midtown Corridor, a former sub-grade rail corridor that was converted into a popular interim use pedestrian and bike trail, the Midtown Greenway Trail (Photo 3.6-5). Segment C-1 terminates in the city's CBD and Segment C-2 terminates in the same urbanized industrial area as Segment A, by Target Field.

Photo 3.6-5. Midtown Greenway Trail in Segment C-1 and C-2



Source: HDR, March 2010

Segment C-1 [LRT 3C-1 (Nicollet Mall)]

This segment is located on a former railroad corridor owned by HCRRA and travels through the Minneapolis Chain of Lakes Regional Park and between a pair of lakes (Lake Calhoun and Lake of the Isles) as it passes through Minneapolis' Uptown and Whittier neighborhoods. Adjacent land uses along the western portion of the segment are predominantly parkland, multi- and single-family residential, and some retail/commercial.

A portion of the segment travels down the Midtown Corridor, a portion of which is listed in the NRHP. A popular amenity in this area, the Midtown Corridor is an off-street bicycle and pedestrian trail that allows users to travel from east to west across much of Minneapolis in a grade-separated gorge passing under street bridges. The trail is paved, with access ramps connecting to city streets crossing over the trail, and is heavily used throughout the year. Primary land uses on street level next to the Midtown Corridor are retail/commercial and industrial, with some multi-family residential.

In the vicinity of Nicollet Avenue, where the segment turns north, it travels toward the Minneapolis CBD within existing roadway ROW in a tunnel and at grade. In downtown Minneapolis the segment travels on existing roadway ROW and through Nicollet Mall, which is a pedestrian and transit mall (buses). The entrance to the Loring Greenway is on the west side of Nicollet Mall south of 12th Street, and Peavey Plaza is located east of the 12th Street Station location for the segment on Nicollet Mall. The Loring Greenway is a pedestrian corridor connecting Peavey Plaza to the Berger Fountain in Loring Park.

Segment C-2 [LRT 3C-2 (11th/12th Street)]

This segment follows the same route as Segment C-1 (Nicollet Mall) until it reaches the intersection of Nicollet Avenue and 11th and 12th streets, where the segments diverge. Similar to Segment C-1, the entrance to the Loring Greenway is on the west side of Nicollet Mall near the 12th Street Station location for the segment, and Peavey Plaza is located east of segment on Nicollet Mall before the segment turns off of Nicollet Mall onto 12th Street.

The segment is located in existing roadway ROW as it travels northbound on 12th Street until it reaches the 12th Street Bridge that crosses over I-394. At this location the segment would travel on a new structure over I-394 east of the existing bridge and then continue to travels on new ROW through an industrial parcel. At this point the segment would cross over the BNSF rail line on a new bridge located on the east side of the existing Royalston Avenue Bridge. The segment is located on new ROW along Royalston Avenue where existing land use is predominantly industrial with one multi-family residential building and one office building.

After the segment crosses under 7th Street, it travels on county industrial property (the Hennepin Energy Recovery Facility, (HERC) before connecting with Hiawatha or Central Corridor LRT.

Segment C-2A (Blaisdell Avenue)

This is an option for the C-2 segment to tunnel under Blaisdell Avenue instead of Nicollet Avenue. It would be located within the existing roadway ROW except where it emerges from the tunnel near Franklin Avenue and turns east onto new ROW to connect with Nicollet Avenue. Land uses adjacent to the roadway under which the segment would

tunnel are primarily multi-family and single-family residential. Where the segment exits the tunnel and connects with Nicollet Avenue the land uses are retail/commercial and institutional (Plymouth Congregational Church).

Segment C-2B 1st Avenue Tunnel

This is an option for the C-2 segment to tunnel under 1st Avenue instead of Nicollet Avenue. The segment would be located within the existing roadway ROW except north of W. 16th Street, where it would need new ROW to connect with Nicollet Avenue. Land uses adjacent to the roadway under which the segment would tunnel are primarily multi-family and single-family residential. Where the segment exits the tunnel, the adjacent land uses are multi-family residential and retail/commercial with two single-family residential parcels and one institutional parcel (Gateway Commons). North of West 16th Street, where the segment turns west to connect with Nicollet Avenue, the land use is retail/commercial.

Freight Rail Relocation Segment

MN&S Section

The proposed track alignment, south of TH 7, which would connect the CP Bass Lake Spur to the MN&S Spur, would be on an embankment set approximately 25 to 30 feet above the existing top of rail, and would require retaining walls and bridge structure. The retaining wall would be constructed on the south side of the Bass Lake Spur track, and possibly also on the west side. A new bridge would be constructed to bring the new rail up over the existing tracks and into the existing rail overpass of TH 7. This would be a visual change at the south end of the corridor, and views from buildings adjacent to the existing railway would be obstructed.

Under LRT 1A, LRT 3A (LPA), LRT 3C-1 (Nicollet Mall), or LRT 3C-2 (11th/12th Street), there would be an increase in the number of trains traveling through the area. Because Freight Rail Relocation Segment would be located within BNSF's existing Wayzata Subdivision, the overall visual character of the area would not change under LRT 1A, LRT 3A (LPA), LRT 3C-1 (Nicollet Mall), or LRT 3C-2 (11th/12th Street). Residents, businesses, and trail users along the alignment would see trains more frequently, but the character of the visual impact would be similar to what is seen with the existing train activity.

BNSF Section

As the Freight Rail Relocation Segment would be located within BNSF's existing Wayzata Subdivision, the overall visual character of the area would not change under LRT 1A, LRT 3A (LPA), LRT 3C-1 Nicollet Mall), or LRT 3C-2(11th/12th Street). Residents, businesses, and trail users along the alignment would see trains more frequently, but the character of the visual impact would be similar to what is seen with the existing train activity.

The rail improvements would not obstruct views of any designated scenic areas, and rail use is compatible with the surrounding commercial and industrial land uses. However, as noted above, the general view from existing commercial/industrial buildings in the area south of TH 7 would be changed.

Summary of Existing Visual Resources

Table 3.6-2 summarizes the primary viewers and visual quality and sensitivity by segment.

Table 3.6-2. Visual Assessment by Segment

Segment	Primary Viewers	Visual Quality	Visual Sensitivity
1	A B, C, D, F, G, H, I	High Moderate Low	High Moderate Minimal
3	C, D, E, F, G, H	Moderate Low	Moderate Minimal
4	A B, C, D, E, F, G, H, I	High Moderate Low	High Moderate Minimal
A	A B, C, D E, F, G, H	High Moderate Low	High Moderate Minimal
C-1	A, D B, G* E, F, H	High Moderate Low	High Moderate Minimal
C-2	A, D B E, F, G, H	High Moderate Low	High Moderate Minimal
FRR	A, B, C, D, E, F	Moderate	Moderate

* Pedestrian mall dedication (existing bus use along Nicollet Mall)

Primary Viewers

A = Trail Users B = Single-Family Residents C = Multi-Family Residents

D = Recreational Users (parks and open spaces) E = Commercial/Office Tenants

F = Industrial Tenants G = Pedestrians H = Motorists I = Freight Operators

Source: HDR, February, 2010, MN&S Freight Rail Report, 2012.

3.6.3 Long-Term Effects

With few exceptions, the proposed project elements would have low visual effects on Southwest Transitway Corridor areas. Exceptions include:

- Moderate to high effects of project elements on trail users in the existing HCRRA property where trails exist.
- Moderate to high effects of project elements on trail users in the Midtown Corridor
- Moderate to high effects of the elevated structure adjacent to residential land uses in Segments 1, 3, and A.
- Minimal to moderate effects of the proposed stations in areas adjacent to residential land uses in Segment 1 and A.

The proposed track alignment for the Freight Rail Relocation segment, south of TH 7, which would connect the CP Bass Lake Spur to the MN&S Spur, would be on an

embankment set approximately 25 to 30 feet above the existing top of rail, and would require retaining walls and bridge structure. A retaining wall would be constructed on the south side of the Bass Lake Spur track, and possibly also on the west side. A new bridge structure would be constructed to bring the new rail up over the existing tracks and into the existing rail overpass of TH 7. This would be a visual change at the south end of the corridor, and views from buildings adjacent to the existing railway would be obstructed.

The potential impact of each of the project elements (fixed guideway, LRT trains, facilities, and TPSS) was rated as substantial, possibly substantial, or generally not substantial.

- Substantial – The alternative has unacceptable effects on measure compared to other alternatives.
- Possibly substantial – The alternative has possible negative effects on measure compared to other alternatives.
- Generally not substantial – The alternative has no adverse effects upon the measure as compared to the other alternatives.

The following discussion summarizes the visual effects of each alternative or segment.

3.6.3.1 No Build Alternative

The No Build Alternative would have no effect on the visual and aesthetic quality of the area.

3.6.3.2 Enhanced Bus Alternative

The Enhanced Bus Alternative would have a minimal visual and aesthetic impact on the study area. The alternative would involve adding bus stops along existing transportation corridors at locations described in Section 2.2.2. Bus shelters could be constructed at some of the bus stops, but their visual impact would be minimal. Primary viewers include motorists, pedestrians, occupants of single-family and multi-family residences, recreational users, commercial/office tenants, and industrial tenants. Build Alternatives

3.6.3.3 Build Alternatives

The Build Alternatives and Freight Rail Relocation would have visual and aesthetic impacts on the study area.

Table 3.6-3 details the effects by segment. Primary viewers, including sensitive receptors, would include trail users, occupants of single-family and multi-family residences, recreational users, commercial/office tenants, industrial tenants, motorists, pedestrians, and freight operators. Refer to Section 3.1 for a discussion of land use in the project area.

For visual effects on specific buildings and sites, see in Section 3.4, Cultural Resources and more detailed tables in Appendix H. In addition to the impacts that could be created by project elements, potentially substantial long-term adverse impacts could result from the removal of existing vegetation that screens the roadway ROW from adjacent land. The following section describes visual effects by segment.

Table 3.6-3. Visual Effects by Segment

Segment	Sensitive Receptors	Guideway	Station Areas	Elevated Structures/Bridges
1	HCRRRA Trail Users	X	X	X
1	Residential Areas	+	o	+
1	Recreational Users (Edenvale Park, & Shady Oak Lake)	+	N/A	N/A
3	Residential Areas	o	o	X
4	HCRRRA Trail Users	X	X	N/A
4	Residential Areas	+	N/A	+
4	Recreational Users (Jorvig Park)	o	N/A	N/A
A	HCRRRA Trail Users	X	X	X
A	Residential Areas	X	o	X
A	Recreational Users (Channel between Cedar Lake and Kenilworth Lagoon, which is part of the Minneapolis Chain of Lakes Regional Park)	X	N/A	X
C-1	Midtown Greenway Corridor Trail Users	X	X	N/A
C-1	Residential Areas	o	o	N/A
C-1	Recreational Users (Channel between Lake of the Isles and Lake Calhoun, which is part of the Minneapolis Chain of Lakes Regional Park)	X	N/A	X
C-1	Recreational Users (Loring Greenway & Peavey Plaza)	+	+	N/A
C-2*	Residential Areas	X	N/A	o
FRR	Trail Users Residential Areas Commercial/Industrial Tenants	N/A	N/A	+

* Visual effects associated with C-2 are the same as C-1 with the addition of those listed in the table For C-2.

Primary Viewers

A = Trail Users B = Single-Family Residents C = Multi-Family Residents
D = Recreational Users (parks and open spaces) E = Commercial/Office Tenants
F = Industrial Tenants G = Pedestrians H = Motorists I = Freight Operators

Impact

X = Substantial (at least one substantial effect by segment)
+ = Possibly Substantial (at least one possibly substantial effect by segment)
o = Not Substantial
N/A = Not Applicable

Source: HDR, February, 2010. MN&S Freight Rail Report, 2012

Segment 1 (LRT 1A)

The project elements in the Segment 1 corridor are located on HCRRRA property. Although the segment is located in an existing transportation corridor (Minnesota River Bluffs LRT Regional Trail and Cedar Lake LRT Regional Trail), the project fixed guideway would introduce new visual elements—track, catenary poles, and wires—into the area.

Catenary poles and wires could have substantial visual impacts on trail users who would share the corridor with the fixed guideway. Additionally, the catenary poles and wires could have possibly substantial visual impacts on adjacent sensitive receptors (residents) where existing vegetation does not adequately screen the project from view or at locations where leaf-off conditions substantially diminish the ability of the vegetation to screen views to/from the corridor. At the western end of the segment, the Edenvale Park Conservation area is located on the west side of the corridor. The station, catenary poles, and wires could have possibly substantial visual impacts on this 4(f) property. Further, where the segment travels near Shady Oak Lake the project could have possibly substantial visual impacts on those using the lake for recreation during leaf-off conditions when the proposed project would be more visible.

One elevated structure would be located along the segment. An existing pedestrian and bicycle bridge over Valley View Road would be used for the LRT alignment and could have possibly substantial visual impacts on three multi-family residential parcels on the south approach to the bridge. The outdoor living space for these parcels does not face the segment, so privacy impacts on residents' outdoor living space are not anticipated. The north approach to the bridge could provide views from the segment into the back yards of parcels not screened by landscape vegetation, may affect the privacy of residents' outdoor living spaces, and could have possibly substantial effects on visual quality.

Three at-grade center-track platforms are proposed for each station. The TH 5 Station and Rowland Road Station are adjacent to residential land uses, but impacts would generally not be substantial because these stations would be screened by existing vegetation.

Segment 3 [LRT 3A (LPA), LRT 3A-1 (Co-location alternative), LRT 3C-1 (Nicollet Mall), and LRT 3C-2 (11th/12th Street)]

Segment 3 is located on new ROW in developed areas of Eden Prairie. Where Segment 3 parallels TH 5, catenary poles and wires would generally not have visual impacts on sensitive receptors in adjacent residential land use areas because there is already a substantial amount of transportation infrastructure paralleling Segment 3. Visual intrusion and privacy impacts from the project elements on the residential properties would generally not be substantial because residential windows are located one floor above grade.

The segment is on a bridge to cross over I-494 and Flying Cloud Drive. Sensitive receptors in the vicinity include residents in a multi-family development. Visual impacts on these receptors would generally not be substantial because there is existing transportation infrastructure in the corridor and the residential outdoor living spaces do not face the corridor. Visual intrusion and privacy impacts of the project elements on

the residential properties would generally not be substantial because views to the structure would be screened by existing mature vegetation.

The segment travels between two large parcels in the Nine Mile Creek Conservation Area. Visual impacts on the area would generally not be substantial because the segment parallels an existing roadway corridor at this location, which is bordered by mature vegetation.

South of Smetana Road, catenary poles and wires would generally not have substantial visual impacts on residents of the multi-family development on the east side of the corridor because existing vegetation could serve as a screen between the corridor and the adjacent land uses.

North of Smetana Road the alignment is on a bridge to cross over ponds and existing freight rail lines. The proposed structure, along with catenary poles and wires, could have substantial visual impacts on sensitive receptors in the multi-family residential development on the east side of the corridor. The proposed structure is adjacent to the development's recreational facilities including a tennis court and basketball court. Visual intrusion and privacy impacts of the project elements on recreational space users and outdoor private living spaces (decks) for the three-story development could be substantial.

Two additional bridges located on Segment 3 cross over U.S. 212 and TH 62 which are not located near sensitive receptors and would generally not have substantial visual impacts on surrounding land uses.

Six at-grade center-track platforms are proposed for each station on the segment. No sensitive receptors are identified at the station sites; therefore, the proposed stations would generally not have substantial visual impacts on surrounding land uses.

Segment 4 [LRT 1A, LRT 3A (LPA), LRT 3C-1 (Nicollet Mall), and LRT 3C-2 (11th/12th Street)]

The project elements in the Segment 4 corridor are located on HCRRRA property. Although the segment is located in an existing transportation corridor (Minnesota River Bluffs LRT Regional Trail and Cedar Lake LRT Regional Trail), the fixed guideway (track, catenary poles, and wires) would introduce new visual elements into the area. Catenary poles and wires could have substantial visual impacts on trail users who would share the corridor with the new fixed guideway.

A bridge over Excelsior Boulevard is proposed for the guideway in Hopkins, and an underpass is proposed for the existing trail. Although there is a substantial amount of transportation infrastructure at an existing roadway intersection, possibly substantial impacts could affect the single-family residential parcels adjacent to Excelsior Boulevard between Monroe Avenue and Jackson Avenue because of the introduction of views of an elevated structure. Visual intrusion and privacy impacts of the structure on the residents' outdoor living spaces would generally not be substantial because existing fencing and landscaping would screen views to Excelsior Boulevard. The residents' windows are at street level while views of LRT passengers would be elevated.

The guideway bridge over Excelsior Boulevard in Hopkins would have a substantial impact on the setting of the Minneapolis and St. Louis Railroad Depot, which is eligible for the National Register. Any need to change the location of the adjacent trail and

parking area could contribute to this effect. This issue will be addressed during Section 106 consultation.

Catenary poles and wires could have possibly substantial visual impacts on adjacent sensitive receptors in the multi-family residential parcel located on the south side of the corridor on the east side of Blake Road. Visual intrusion and privacy impacts of the project elements on the second- and third-story units facing the corridor are generally not substantial because of distance from the corridor and the relatively small size of the windows.

Between Blake Station and Louisiana Station, visual impacts of the project elements are generally not substantial on sensitive receptors located in single-family residential parcels north of the segment because of mature vegetation buffers and the presence of an existing freight rail corridor.

The proposed project would require the relocation of an existing freight railroad, which would introduce a new freight rail flyover (bridge-by others) over the segment east of Louisiana Avenue (see Freight Rail Relocation Segment, below). However, no sensitive receptors are located in the vicinity of this flyover, therefore, no visual impacts are anticipated.

Jorvig Park is located on the south side of the segment on West 37th Street in St. Louis Park, which is next to an existing freight rail corridor. A mature vegetation buffer exists between the park and the segment; therefore, visual impacts on park users would generally not be substantial. Jorvig Park is the location of the Chicago Milwaukee and St. Paul Railroad Depot, which is listed on the National Register. The depot was moved from a nearby location to this site at the time it was nominated to the Register. The relocation site preserved the orientation of the building to the rail corridor, which is the key component of its historic setting (now partially obscured by the vegetative buffer). Constructed elements of the project, including track rearrangement, could affect this setting. This issue will be addressed during Section 106 consultation.

Visual impacts of the project would generally not be substantial on sensitive receptors located on the north side of the corridor in the multi-family residential development east of the Wooddale Station, because of mature vegetation buffers and the presence of an existing freight rail corridor.

The segment crosses over TH 100 where there is an existing bridge. The LRT existing bridge will be replaced but not as a part of this project. No sensitive receptors are located next to the bridge; therefore no visual impacts are anticipated.

The Peavy-Haglin Experimental Concrete Grain Elevator, on the north side of the corridor, is listed on the National Register and has been designated as a National Historic Landmark. Visual impacts on the resource would generally not be substantial because it is presently located next to an existing freight rail corridor in an industrial complex.

Visual impacts on sensitive receptors located in the multi-family residential development east of the Beltline Station on the south side of the corridor would generally not be substantial because of the presence of an existing freight rail corridor. However, visual intrusion and privacy impacts of the project on residents in units with windows facing the corridor could possibly be substantial.

Visual impacts on sensitive receptors located in the multi-family residential development areas on both sides of the corridor as it approaches the West Lake Station would generally not be substantial because of mature vegetation buffers and the presence of an existing freight rail corridor.

Seven at-grade center-track platforms are proposed for each station in the segment, but no sensitive receptors (in addition to the trail users aforementioned) are located adjacent to the station sites; therefore no visual impacts are anticipated except at West Lake Station, where sensitive receptors in a multi-family residential tower would have views from upper floors to the station. However visual impacts would not be substantial because this is a built urban environment and the proposed station would fit the current urban context.

Segment 4 [LRT 3A-1 (Co-location alternative)]

Segment 4 for LRT 3A-1 (co-location alternative) would be the same as LRT 3A (LPA) until just east of the proposed Louisiana Avenue LRT station. From that point to the proposed Penn Avenue Station, the Southwest Transitway LRT, freight rail, and commuter bike trails would be co-located.

Jorvig Park is located on the south side of the segment on West 37th Street in St. Louis Park, which is next to an existing freight rail corridor. A mature vegetation buffer exists between the park and the segment; therefore, visual impacts of the three co-located transportation facilities on park users would generally not be substantial. Jorvig Park is the location of the Chicago Milwaukee and St. Paul Railroad Depot, which is listed on the National Register. The depot was moved from a nearby location to this site at the time it was nominated to the Register. The relocation site preserved the orientation of the building to the rail corridor, which is the key component of its historic setting (now partially obscured by the vegetative buffer). Constructed elements of the project, especially the guideway overpass bridge, would affect this setting. This issue will be addressed during Section 106 consultation.

Visual impacts of the project would generally not be substantial on sensitive receptors located on the north side of the corridor in the multi-family residential development east of the Wooddale Station, because of mature vegetation buffers and the presence of an existing freight rail corridor where the LRT, freight rail, and trail would be co-located.

A new bridge structure would be constructed to bring the new rail up over the existing tracks and into the existing rail overpass of TH 7. This would be a visual change at the south end of the corridor, and views from buildings adjacent to the existing railway would be obstructed.

The segment crosses over TH 100 where there is an existing bridge. The LRT existing bridge will be replaced but not as a part of this project. No sensitive receptors are located next to the bridge; therefore no visual impacts are anticipated.

The Peavy-Haglin Experimental Concrete Grain Elevator, on the north side of the corridor, is listed on the National Register and has been designated as a National Historic Landmark. Visual impacts on the resource would generally not be substantial because it is presently located next to an existing freight rail corridor in an industrial complex.

Visual impacts on sensitive receptors located in the multi-family residential development east of the Beltline Station on the south side of the corridor would generally not be substantial because of the presence of an existing freight rail corridor where the LRT, freight rail, and trail would be co-located. However, visual intrusion and privacy impacts of the project on residents in units with windows facing the corridor could possibly be substantial.

Visual impacts on sensitive receptors located in the multi-family residential development areas on both sides of the corridor as it approaches the West Lake Station would generally not be substantial because of mature vegetation buffers and the presence of an existing freight rail corridor where the LRT, freight rail, and trail would be co-located.

Seven at-grade center-track platforms are proposed for each station in the segment, but no sensitive receptors (in addition to the trail users aforementioned) are located adjacent to the station sites; therefore no visual impacts are anticipated except at West Lake Station, where sensitive receptors in a multi-family residential tower would have views from upper floors to the station. However visual impacts would not be substantial because the proposed station would fit the current urban context.

Segment A [LRT 1A and LRT 3A (LPA)]

The project elements in Segment A corridor would be located on HCRRRA property. Although the segment is located in an existing transportation corridor (Kenilworth Regional Trail), the project would introduce new visual elements—the fixed guideway, including track, catenary poles, and wires—into the area. Catenary poles and wires could have substantial visual impacts on trail users who would share the corridor with the fixed guideway.

Visual impacts on sensitive receptors located at single-family and multi-family parcels throughout the corridor would generally not be substantial because of mature vegetation buffers and the presence of an existing freight rail corridor. Visual impacts may be substantial where the alignment is not screened by vegetation. Visual intrusion and privacy impacts of the project elements on the sensitive receptors may be substantial where views from the alignment into previously private spaces are created. Visual intrusion and privacy impacts on the outdoor living areas of residential properties could be substantial where vegetation or landscape buffers do not exist.

Visual impacts on sensitive receptors at Park Siding, located on the east side of the corridor, would generally not be substantial because of mature vegetation buffers and an existing freight rail corridor.

The proposed alignment is on a bridge over Cedar Lake Parkway. Visual impacts on sensitive receptors adjacent to the corridor in the multi-family residential parcel and Cedar Lake Parkway could be substantial. Visual intrusion and privacy impacts of the project elements on the residents in units with windows facing the alignment where it is bridged structure could be substantial. Photo 3.6-6 shows an example of the structure type that could be used in this location.

Photo 3.6-6. Example Bridge Type



Cedar Lake Parkway is a contributing element of the National Register eligible Grand Rounds Historic District. Constructed elements of the project, including the proposed bridge and the guideway, would have a substantial impact on this historic landscape. This issue will be addressed during Section 106 consultation.

The impact of replacing an existing bridge over the channel that connects Cedar Lake and Kenilworth Lagoon could be substantial because of sensitive receptors traveling in the lagoon. The existing bridge and the Kenilworth Lagoon and Channel are historic, located in the eligible Grand Rounds Historic District. The existing bridges are non-contributing elements of the historic district, and are not eligible individually for the National Register. Therefore, the removal of one or both of the bridges would not constitute an adverse visual effect. However, the bridge design, bank treatment, and aesthetics for the new facility and the potential replacement or modification of the existing pedestrian bridge would have a substantial effect on this historic landscape. This issue will be addressed during Section 106 consultation.

A BNSF flyover bridge proposed in the conceptual engineering plans would not have impacts on any sensitive receptors.

The segment travels under Burnham Road Bridge. The segment is located next to an existing freight rail corridor and no visual impacts on the bridge are anticipated.

Visual impacts to sensitive receptors located on the west side of the segment north of I-394 at Bryn Mawr Meadows Park would generally not be substantial because of mature vegetation buffers and an existing freight rail corridor.

Visual impacts on sensitive receptors in the multi-family residential property on Glenwood Avenue next to I-94 would generally not be substantial because of the presence of an existing freight rail corridor. Visual intrusion and privacy impacts of the project elements on residents in units with windows facing the corridor could be substantial because no screen exists.

Four at-grade center-track platforms are proposed for each station in the segment. No sensitive receptors, with the exception of the aforementioned trail users, are located adjacent to the station sites; therefore no additional visual impacts are anticipated.

Segment A [3A-1 (co-location alternative)]

As discussed above, the segment is located in an existing transportation corridor (Kenilworth Regional Trail), and the project would introduce new visual elements—the fixed guideway, including track, catenary poles, and wires—into the area. For LRT 3A-1 (co-location alternative), the freight rail would remain. Catenary poles and wires could have substantial visual impacts on trail users who would share the corridor with the fixed guideway and freight rail.

As with the other alternatives that would be located in Segment A, visual impacts on sensitive receptors located at single-family and multi-family parcels throughout the corridor would generally not be substantial because of mature vegetation buffers and the presence of an existing freight rail corridor. Visual impacts may be substantial where the alignment is not screened by vegetation. Visual intrusion and privacy impacts of the project elements on the sensitive receptors may be substantial where views from the alignment into previously private spaces are created. Visual intrusion and privacy impacts on the outdoor living areas of residential properties could be substantial where vegetation or landscape buffers do not exist.

Visual impacts on sensitive receptors at Park Siding, located on the east side of the corridor, would generally not be substantial because of mature vegetation buffers and an existing freight rail corridor.

The proposed alignment is on a bridge over Cedar Lake Parkway. Visual impacts on sensitive receptors adjacent to the corridor in the multi-family residential parcel and Cedar Lake Parkway could be substantial. Visual intrusion and privacy impacts of the project elements on the residents in units with windows facing the alignment where it is bridged structure could be substantial.

Cedar Lake Parkway is a contributing element of the National Register eligible Grand Rounds Historic District. Constructed components of the project, including the overall dimensions of the guideway, freight rail, and trail, would have an effect on this historic landscape. This issue will be addressed during Section 106 consultation.

The impact of replacing an existing bridge over the channel that connects Cedar Lake and Kenilworth Lagoon could be substantial because of sensitive receptors traveling in the lagoon. The existing bridges and the Kenilworth Lagoon and Channel are located in the eligible Grand Rounds Historic District. The existing bridges are non-contributing elements of the historic district, and are not eligible individually for the National Register. Therefore, the removal of one or both of the bridges would not constitute an adverse visual effect. However, the bridge design, bank treatment, and aesthetics for the new facility would have a substantial effect on this historic landscape. The visual impacts to

this historic Kenilworth channel would be anticipated to be greater for the LRT 3A-1 (co-location alternative) than LRT 3A (LPA) since the co-location alternative would involve an additional bridge over the channel. This issue will be addressed during Section 106 consultation.

A BNSF flyover bridge proposed in the conceptual engineering plans would not have impacts on any sensitive receptors.

The segment travels under Burnham Road Bridge. The segment is located next to an existing freight rail corridor and no visual impacts on the bridge are anticipated.

Visual impacts to sensitive receptors located on the west side of the segment north of I-394 at Bryn Mawr Meadows Park would generally not be substantial because of mature vegetation buffers and an existing freight rail corridor.

Visual impacts on the remainder of this segment would be the same as other alternatives in Segment A, because the co-location with freight rail does not continue past the proposed Penn LRT Station.

Segment C-1 [LRT 3C-1 (Nicollet Mall)]

The project elements in the Segment C-1 corridor are located on HCRRRA property which extends from the West Lake Station where the LRT turns north at Nicollet Avenue. Catenary poles and wires could have substantial visual impacts on trail users who would share the corridor with the fixed guideway and project elements.

Visual impacts on sensitive receptors located in adjacent single-family and multi-family residential properties and the Lake of the Isles portion of the Minneapolis Chain of Lakes Regional Park would generally not be substantial because of mature vegetation buffers located along the corridor. Visual intrusion and privacy impacts on the outdoor living areas of residential properties would generally not be substantial because of the presence of privacy fencing, vegetation, and landscape buffers.

Visual impacts of existing railroad bridge replacements over Dean Parkway, over the Lake Calhoun/Lake of the Isles channel, and over East Calhoun Parkway/Knox Avenue could be substantial. These bridges, as well as the parkways and channel which they span, are all contributing elements of the Grand Rounds Historic District. The removal of the bridges would constitute an adverse visual effect, and, if removed, the design of the new bridges would have a visual effect on the parkways and channel as well as other adjacent elements of the Grand Rounds Historic District. The addition of catenary poles and wires could have substantial visual impacts on the historic district. This issue will be addressed during the Section 106 consultation process.

The segment travels in the Midtown Corridor through Uptown to the vicinity of Nicollet Avenue. Although the segment is located in an existing transportation corridor, the proposed project would introduce new visual elements into the area. A portion of the corridor is listed on the National Register as the Chicago Milwaukee & St. Paul Railroad Grade Separation Historic District. Removal of walls and slopes and construction of stations, guideway, and other project components would have a visual effect on the district. This issue would be addressed during Section 106 consultation.

Catenary poles and wires could have substantial visual impacts on the Midtown Greenway trail users who would share the Midtown Corridor with the new fixed

guideway and project elements such as platforms at the Uptown and Lyndale Avenue Stations.

Because the Midtown Corridor is located in a former rail corridor that is generally one story below street-level, visual impacts on surrounding land uses would generally not be substantial. Sensitive receptors are located in residential developments adjacent to the corridor, and catenary poles and wires could have substantial visual impacts where vegetation screens do not exist. Visual intrusion and privacy impacts would not occur, however, because the alignment is below street grade.

From 28th Street north, where the alignment travels in a tunnel, no sensitive receptors would experience visual impacts from the project.

North of the Franklin Avenue Station, where the alignment is at grade within the roadway corridor, visual impacts on sensitive receptors adjacent to the segment in single-family and multi-family residential properties would generally not be substantial because of the presence of the existing roadway infrastructure.

Historic buildings located on Nicollet Avenue, including the East 25th Street Rowhouses, the Washburn-Fair Oaks Historic District, Franklin Nicollet Liquors, and Plymouth Congregational Church, would experience visual effects as a result of the tunnel, access points, guideway, and station. This issue would be addressed during Section 106 consultation.

Possibly substantial visual impacts are anticipated near the at-grade 12th Street station within the roadway because sensitive receptors are located at Peavey Plaza and visual connectivity between the plaza and the Loring Greenway would be impacted by the project. The introduction of project elements, including a station adjacent to the plaza, could substantially impact the quality of the visual/aesthetic resources as observed by the park and greenway users.

Where the segment is located on Nicollet Mall, a pedestrian and transit mall in Downtown Minneapolis, no visual impacts are anticipated near the at-grade station within the roadway corridor at Franklin Avenue, because no sensitive receptors are adjacent to the corridor.

Historic buildings located on the Nicollet Mall, including Loring Greenway, Westminster Presbyterian Church, Young-Quinlan Building, Dayton's Department Store, IDS Center, Northern States Power Company, and Northwestern National Life Building, would experience visual effects as a result of station construction and the guideway. This issue would be addressed during Section 106 consultation.

Side-track platforms are proposed for Uptown Station, 12th Street Station, 8th Street Station and the 4th Street Station. Center-track platforms are proposed for Lyndale Station, 28th Street Station, and Franklin Avenue Station. No sensitive receptors, with the exception of the aforementioned trail users, are located adjacent to the station sites; therefore no additional visual impacts are anticipated.

Segment C-2 [LRT 3C-2 (11th/12th Street), C-2A and C-2B]

The visual impacts for Segment C-2 are the same as Segment C-1 until the 12th Street Station where Segment C-2 diverges to travel north on a one-way pair on 11th Street toward the Segment A alignment.

Visual impacts on sensitive receptors located in multi-family residential properties along 12th Street—where the one-way pair returns to Nicollet Avenue to travel south—would be substantial because the alignment crosses the corner of the property and would change the area from a pedestrian-oriented, landscaped street to a fixed guideway corridor. Visual intrusion and privacy impacts of the project elements on the residents in units with outdoor private living spaces (decks) facing the corridor would generally not be substantial because they are located on an existing urban street.

Visual impacts on sensitive receptors located in a multi-family residential property at the corners of 12th Street and La Salle Street, 12th Street and Harmon Avenue, and along 12th Street between Hennepin Avenue and I-394 would generally not be substantial because the project elements would be located in the existing roadway corridor. Visual intrusion and privacy impacts of the project elements on the residents in units with outdoor private living spaces (decks) facing the corridor would generally not be substantial because they are located on an existing urban street.

Possibly substantial visual impacts are anticipated near the at-grade 12th Street station within the roadway because sensitive receptors are located at the Loring Greenway and visual connectivity between the greenway and Peavey Plaza would be impacted by the project. The introduction of project elements, including a station adjacent to the greenway, could substantially impact the quality of the visual/aesthetic resources as observed by the park and greenway users.

Where the segment crosses I-394 the segment would be located on a new bridge structure to the north of the existing 12th Street Bridge. No visual impacts from the new bridge are anticipated; however, where it parallels 12th Street for one block there is a multi-family residential parcel on the west side of the street. Visual impacts to sensitive receptors at this property would generally not be substantial because the project elements are located next to the existing roadway corridor. Visual intrusion and privacy impacts on the residents in units with windows facing the corridor would generally not be substantial because the segment is located next to an existing urban street.

Where the segment crosses Royalston Avenue to the east of the existing bridge, it would be located on a new bridge. A multi-family residential parcel is located on the east side of the street. Visual impacts to sensitive receptors at this property would generally not be substantial because there are no units with windows facing the corridor. Visual intrusion and privacy impacts are not anticipated because, again, no windows face the corridor. In addition, the outdoor activity space is blocked by the building.

Historic buildings located on the C-2 route, including Loring Greenway, Westminster Presbyterian Church, Ogden Apartment Hotel, MacPhail School of Music, and First Baptist Church and Jackson Hall, would experience visual effects as a result of station construction and the guideway. This issue would be addressed during Section 106 consultation.

For the C-2A route, the following properties will have visual effects as a result of the tunnel, access points, guideway, and station: Calvary Baptist Church, Semple House, Van Dusen House, and Plymouth Congregational Church. This issue would be addressed during Section 106 consultation.

For the C-2B route, the following properties will have visual effects as a result of the tunnel, access points, guideway, and station: The Carlton, Despatch Laundry Building, Washburn Fair Oaks Historic District, Washburn Fair Oaks Mansion Historic District, First Christian Church, and Stevens Square Historic District. This issue would be addressed during Section 106 consultation.

Side-track platforms are proposed for Uptown Station, 12th/Hennepin and 11th/Hennepin Street Station, and the 4th Street Station. Center track platforms are proposed for Lyndale Station, 28th Street Station, Franklin Avenue Station, 12th Street Station, and Royalston Avenue Station. No sensitive receptors, with the exception of the aforementioned trail users, are located adjacent to the station sites; therefore no visual impacts are anticipated.

Freight Rail Relocation [LRT 1A, LRT 3A (LPA), LRT 3C-1 (Nicollet Mall), LRT 3C-2 (11th/12th Street)]

Visual impacts on sensitive receptors at the parks adjacent to the corridor (Keystone, Roxbury, Dakota, and the Chain of Lakes parks) would generally not be substantial because of mature vegetation buffers and the fact that the proposed changes would occur within existing freight rail corridor next to these features.

Visual impacts on sensitive receptors along the regional Cedar Lake LRT Trail where the proposed overpass is located are possibly substantial as this would be a new visual feature for trail users.

Visual impacts on sensitive receptors located in the single and multi-family residential development areas on both sides of the segment would generally not be substantial because of mature vegetation buffers.

Depending on final design, the impact of changes to an existing crossing over the channel that connects Cedar Lake and Brownie Lake could be substantial because of sensitive receptors traveling the lakes. The channel (and associated culvert) is a contributing element of the Grand Rounds Historic District. Aesthetics for the new facility and the potential replacement or modification of the existing channel/culvert will be addressed during Section 106 consultation.

Visual impacts on the commercial and industrial space due to the proposed embankment south of TH 7 would be substantial as the existing viewshed from the adjacent properties would be obstructed by the high embankment. However, the receptors at these commercial and industrial properties are generally not considered to be sensitive because the activity is generally confined to indoors.

Traction Power Substations

The Build Alternatives would require TPSSs. Table 3.6-4 shows the total number of TPSSs anticipated for each Build Alternative. TPSSs would be located within the HCRRRA ROW, in parking lots, in existing roadway ROW, and on vacant parcels.

Table 3.6-4. TPSSs for Build Alternatives

Build Alternative	TPSSs
LRT 1A	15
LRT 3A (LPA)	17
LRT 3A-1 (Co-location)	17
LRT 3C-1 (Nicollet Mall)	19
LRT 3C-2 (11 th /12 th Street)	19

The proposed general locations for TPSSs are shown in the conceptual engineering drawings in Appendix F. The TPSSs would be located at approximately one mile intervals along the corridor. Each would consist of a single story building constructed on an approximately 80 foot wide by 120 foot long site. Contact lines would connect the TPSS to the catenary system. Each substation building site would be secured by fences or walls around the perimeter. A photo of a TPSS can be found in Figure 2.3-18.

The proposed TPSSs would be sited to minimize impacts to surrounding properties; however, the locations are subject to change during Final Design. If significant changes to locations occur, the impacts would be addressed in the Final EIS.

Operation and Maintenance Facility

The four proposed OMF sites under consideration are:

- Eden Prairie 1 (West of TH 212)
- Eden Prairie 2 (South of TH 5 on Wallace Road)
- Eden Prairie 3 (by the Mitchell Road Station)
- Minneapolis 4 (centering on 5th street, which would be vacated)

The Eden Prairie 1 site is located west of TH 212 on an undeveloped area of land along the TH 212 transportation corridor and on HCRRRA owned property. Conversion of the undeveloped land into an OMF site would introduce a new visual feature to the area. However, the change would not be expected to be substantial, as the adjacent use is transportation corridor.

The Eden Prairie 2 site is located south of the TH 5 transportation corridor in an existing industrial business park located along Wallace Road. Conversion of the existing industrial properties to the OMF facility would not be a substantial change in aesthetics. Transit use of the western end of the site would result in the permanent replacement of the Eden Prairie School District's recreational playfields, which would be a noticeable change to the viewshed.

The Eden Prairie 3 site would be located on parcels that are currently vacant and developed commercial land. Conversion of the parcels to an OMF facility would not be a substantial change in aesthetics.

The Minneapolis 4 site would be located on parcels that are currently mixed-use industrial and retail land uses. Directly north of the site is the North Loop Neighborhood which is a former industrial warehouse district redeveloped into residential land uses. South of the site is the new Target Field. Conversion of these existing land uses to an OMF facility would result in some change in the visual setting, although the fact that the area is already developed as described above would likely minimize the visual impact

resulting from the change in building type. It should be noted that the Regan Brothers Bakery, which is eligible to the National Register, is located on the Minneapolis 4 site, and its demolition would result in a visual effect.

3.6.4 Short-Term Construction Effects

Potential construction-related visual impacts may occur because of the placement of construction staging areas and equipment/materials storage in areas visible to sensitive users such as residences and recreational areas abutting the alignment.

The contractor would comply with appropriate federal, state, and local regulations concerning the removal of existing vegetation. Prior to construction, a plan for protecting existing trees and vegetation that could be injured during construction activities would be developed.

Construction abutting historic resources would be carried out to avoid obscuring the primary architectural façade of these structures to the greatest extent possible. Construction activities and equipment may cause a temporary alteration of the visual setting of these resources, but this would be temporary; therefore, no adverse effect on these properties is anticipated.

3.6.5 Mitigation

3.6.5.1 No Build Alternative

The No Build Alternative would have no effect on the visual and aesthetic quality of the area; therefore, no mitigation would be required.

3.6.5.2 Enhanced Bus Alternative

The Enhanced Bus Alternative would minimally affect the visual and aesthetic quality of the study area; therefore, no mitigation would be required.

3.6.5.3 Build Alternatives

Methods for avoidance, minimization, or mitigation of impacts to historic properties are addressed during the Section 106 consultation process. Use of public park property and recreation areas, and the mitigation of long-term effects to these properties, will be evaluated in accordance with the Section 4(f) process and the Metropolitan Council's *2030 Regional Parks Policy Plan*. Mitigation for the historic districts and historic properties is described in Section 3.4.7.

The need for additional landscaping to mitigate potential visual intrusion/privacy impacts following clearing and grubbing activities during construction will be addressed in the Final EIS. Station design and aesthetics will be addressed during Preliminary Engineering and Final Design. Mitigation treatments for visual impacts would be developed during the Final Design process through discussion with affected communities, resource agencies, and stakeholders. Measures would be taken to ensure the design and construction of the Build Alternative considers the context of the corridor and that sensitive receptors receive adequate mitigation. Possible mitigation measures could include:

- Landscaping vegetation such as shrubs and bushes to supplement existing vegetation buffers
- Evergreen vegetation screening to supplement deciduous vegetation buffers in leaf-off conditions
- Fencing
- Tunneling

The following paragraphs describe mitigation strategies that could be employed. To mitigate visual intrusion and privacy impacts where the LRT is located on structure, a **parapet** could be included. In addition to providing screening to block some LRT features from the view of adjacent receptors, parapets also shield the adjacent receptors from view by riders, maintaining privacy. Additional vegetation screening could be employed to mitigate visual intrusion and privacy impacts where existing screening is inadequate.

A "parapet" is a wall-like barrier at the edge of a structure. Parapets on bridges prevent users from falling off where there is a drop. They are also used to restrict views.

Traction Power Substations

The proposed, general locations for TPSSs are shown in the conceptual engineering drawings in Appendix F. TPSS locations, which are subject to change during Final Design, would be selected to minimize impacts to residential areas and other sensitive receptors. Efforts would be made to select sites that are on underutilized land, such as surface parking lots.

Where TPSS placement would impact sensitive receptors, such as residential neighborhoods suitable screening or other mitigation measures will be developed.

Operation and Maintenance Facility

To minimize visual/aesthetic impacts of the OMF on surrounding residential areas and other sensitive receptors, mitigation measures, such as façade treatments and landscaping, will be addressed during Preliminary Engineering and Final Design.

Freight Rail Relocation

The rail improvements would not obstruct views of any designated scenic areas, and rail use is compatible with the surrounding commercial and industrial land uses. However, as noted above, the general view from existing commercial/industrial buildings in the area south of TH 7 would be changed.

New track and associated retaining walls would be the property of the railroad, and subject to its requirements or preferences for mitigation. Coordination with the community and the railroad will continue through final design to investigate ways to minimize the visual impact to the surrounding area.

Mitigation to be further evaluated includes decorative wall treatments and landscaping at selected locations. Specific landscaping measures will require close coordination with the owner.

3.6.6 Summary

Portions of Segments 1, 4, A, C-1, and C-2 are located within HCRRA property, and all of the Build Alternatives include at least one segment located within existing interim use trail corridors. Trail users are considered sensitive receptors; visual impacts on trail users could be substantial. Currently, there are four trails where users may be affected by a Southwest LRT line. They are the Minnesota River Bluffs LRT Regional Trail and Cedar Lake LRT Regional Trail, the Kenilworth Regional Trail, the Cedar Lake Regional Trail, and the Midtown Greenway Trail. There is sufficient space for light rail and existing trails to coexist on HCRRA property. The Build Alternatives would introduce the fixed guideway. Because these existing trail corridors serve pedestrians and bicyclists and the Build Alternatives propose a shared corridor with the proposed project, project elements would have the highest visual impacts on these primary viewers.

LRT 1A would have the highest effects on visual quality in the project area because of substantial impacts on sensitive receptors located on trails, which are present in four (1, 4, A, FRR) of the alignment's segments. Further, LRT 1A would have possibly substantial effects on the visual quality of two of its three segments, which include sensitive receptors in residential land uses adjacent to the segments (1 and A) where the alignment is on a bridge structure.

LRT 3A (LPA) would have the second highest effects on visual quality in the project area because of substantial impacts on sensitive receptors located on trails, which are present in three (4, A, and FRR) of the alignment's segments. Further, LRT 3A (LPA) would have possibly substantial effects on the visual quality of one of its three segments, which includes sensitive receptors in residential land uses adjacent to the segment (A) where the alignment is on a bridge.

LRT 3A-1 (co-location alternative), would be similar to LRT 3A (LPA). It would have the second highest effects on visual quality in the project area because of substantial impacts on sensitive receptors located on trails that would be co-located with the LRT and freight rail, which are present in two (4 and A) of the alignment's segments. Further, LRT 3A-1 (co-location alternative) would have possibly substantial effects on the visual quality of one of its three segments, which includes sensitive receptors in residential land uses adjacent to the segment (A) where the alignment is on a bridge. It should also be noted that the visual impacts to the historic Kenilworth channel between Cedar Lake and Lake of the Isles would be anticipated to be greater for the LRT 3A-1 (co-location alternative) than LRT 3A (LPA) since the co-location alternative would involve an additional bridge over the channel.

LRT 3C-1 (Nicollet Mall) would have the same effects on visual quality in the project area as LRT 3A (LPA) because of substantial impacts on sensitive receptors located on trails which are present in three (4, C-1, and FRR) of the alignment's segments. LRT 3C-1 (Nicollet Mall) would have possibly substantial effects on the visual quality of Nicollet Mall which serves as a connection between Peavey Plaza and the Loring Greenway because park users are sensitive receptors. LRT 3C-1 (Nicollet Mall), however, would not have any possibly substantial effects on the visual quality of sensitive receptors in any residential areas.

LRT 3C-2 (11th/12th Street) would have the same effects on visual quality in the project area as LRT 3C-1 (Nicollet Mall).

Table 3.6-5 identifies and summarizes the Southwest Transitway element(s) such as the guideway, station area, structure, or similar element that may cause the potential long-term adverse effects to visual quality in the areas adjacent to the project. The descriptions and extent of the impacts and the sensitivity of users and viewers can be found in the text of Section 3.6. The environmental metrics in this table are the users (such as at park or trails), the viewers (such as at residences or businesses), or the historic buildings and districts along the alternatives. The element that could cause the impact and the segment in which it is located is shown for each alternative.

Table 3.6-5. Summary of Visual Effects by Build Alternative

Location (Planning Segment and Alternative)	Environmental Metric (affected viewer or property)	Project element with potential to impact
Segment 4 LRT 1A LRT 3A (LPA) LRT 3A-1 (co-location) LRT 3C-1 (Nicollet Mall)	1 historic property in Hopkins ^a	Structure at Excelsior Boulevard
Segment 4 LRT 1A LRT 3A (LPA) LRT 3C-1 (Nicollet Mall)	1 historic property in St. Louis Park ^a	Track rearrangement
Segment 4 LRT 3A (LPA)	1 historic property in St. Louis Park ^a	Track rearrangement and new LRT structure
Segment A LRT 1A LRT 3A (LPA) LRT 3A-1 (co-location)	Chain of Lakes and Kenilworth Lagoon/Channel (Grand Rounds) ^a	Guideway and new structures within the historic district
Segment A LRT 1A LRT 3A (LPA)	Cedar Lake Parkway (Grand Rounds) ^a	Intersection of LRT corridor with the parkway and new structure
Segment C LRT 3C-1 (Nicollet Mall) LRT 3C-2 (11 th /12 th Street)	3 historic railroad bridges in historic district ^a The Mall (Grand Rounds) ^a Chicago Milwaukee & St. Paul Railroad Grade Separation Historic District ^a 3 Nicollet Avenue properties ^a 1 historic district ^a	New structures, Uptown and Lyndale stations, guideway, retaining walls reconstruction, tunnel, access points, and station on Nicollet Avenue

Location (Planning Segment and Alternative)	Environmental Metric (affected viewer or property)	Project element with potential to impact
Segment C-1 LRT 3C-1 (Nicollet Mall)	7 historic Nicollet Mall properties ^a Chain of Lakes Loring Greenway	Guideway, stations, and structures
Segment C-2 LRT 3C-2 (11 th /12 th Street)	6 historic properties in the 11 th /12 th corridor ^a Chain of Lakes Loring Greenway	Guideway, stations, and station area
Segment C-2A LRT 3C-2 (11 th /12 th Street)	4 historic properties on Blaisdell Avenue ^a	Tunnel, access points, guideway, and station
Segment C-2B LRT 3C-2 (11 th /12 th Street)	5 historic properties on First Avenue ^a 2 historic districts ^a	Tunnel, access points, guideway, and station
Segment FRR LRT 1A LRT 3A (LPA) LRT 3C-1 (Nicollet Mall) LRT 3C-2 (11 th /12 th Street)	Commercial/ industrial tenants Brownie and Cedar Lakes, (Grand Rounds) ^a	Structures and track
Segment FRR LRT 1A LRT 3A (LPA) LRT 3C-1 (Nicollet Mall)	Chain of Lakes	Guideway and structures

Source: HDR, February, 2010. MN&S Freight Rail Report, 2012.

Note: Potential effects are based on conceptual engineering and may be modified or refined as planning and the Section 106 process continue.

More information on potential visual impacts to historic structures can be found in Section 3.5.

It is important to note that the implementation of any of the alternatives may have more than one cause of potential impacts on a sensitive viewer. For example, a viewer who is using a trail may be affected the guideway, a station area, and/or an LRT structure. The significance of the potential impacts to historic properties and districts is currently under analysis.

3.7 Safety and Security

This section of the Draft EIS discusses the public safety and security measures pertaining to the Southwest Transitway project, and identifies the safety and security mechanisms currently operating or that may be required for the safe operation of the train and stations.

3.7.1 Legal and Regulatory Overview

3.7.1.1 Light Rail Transit

The Metropolitan Council, as the owner and operator of the Southwest Transitway, follows safety and security policies that establish minimum requirements for facilities based on local, state, and federal codes or standards. These codes and standards include, but are not limited to, the applicable parts of:

- The National Fire Protection Association (NFPA) 130, *Standard for Fixed Guideway Transit or Passenger Rail Systems*
- The Uniform Building Code, 2007 Edition as amended by the cities of Minneapolis, St. Louis Park, Hopkins, Minnetonka, and Eden Prairie
- Uniform Fire Code, 1997 Edition as amended
- The 2007 Minnesota State Building Code
- The Life Safety Code as well as ISO standards
- American National Standards Institute (ANSI) and American Society for Testing and Materials (ASTM) Standards

In addition, the FTA provides safety and security oversight for major capital projects (*Safety and Security Guidance for Recipients with Major Capital Projects*, covered under 49 CFR part 633, "Project Management Oversight"). The design of the Southwest Transitway project should meet the following minimum objectives:

- Design for minimum hazard through the identification and elimination of hazards through the use of appropriate safety design concepts and/or alternative designs
- Use of fixed, automatic, or other protective safety devices to control hazards, which cannot be eliminated
- Use of warning signals and devices if neither designs or safety devices can effectively eliminate or control an identified hazard
- Provide special procedures to control hazards, which cannot be minimized by the aforementioned devices

Safety and security aspects of the Southwest Transitway would be developed in accordance with the Metropolitan Council's policies and procedures. At this time, specific safety and security policies and procedures have not been developed for the Southwest Transitway; policies, procedures, and any mitigation measures required for safety and security will be specified at an appropriate level of detail in the Final EIS.

For the Central Corridor LRT (CCLRT) project, which began construction in summer 2010 and is on schedule to be 75 percent complete by the end of 2012, the Metropolitan Council developed a Safety and Security Management Plan (SSMP) as part of entering into Preliminary Engineering and the SSMP was refined during following project phases. As was done for CCLRT, safety and security plans will be developed for the Southwest Transitway as the project moves into Preliminary Engineering and Final Design phases. Metro Transit employees and consultants are expected to fully comply with the provisions of all safety and security plans developed, and fully cooperate during planning, engineering, and construction to provide a safe Southwest Transitway.

3.7.1.2 Freight Rail Relocation

Railway safety is the primary responsibility and priority of Federal Railroad Administration (FRA) and MnDOT rail programs, and also railway operators. The FRA provides statutory rules and regulations that the railways must adhere to in the performance of their duties. Each railway operates under "Codes of Operating Rules," among other rules and regulations, and requires that its employees perform in conformance with these rules.

Safety measures, such as the sounding of whistles and the use of flashers and bells at public grade crossings, are examples of the railways' risk mitigation for public grade crossings. Track Classification and Standards are established and regulated by the FRA and inspected and maintained by the railways, which have their own rules and standards in conformance with FRA rules governing track standards. These rules and standards are measures that reduce the risk of derailments caused by track defects. Where required, railway train movement signals reduce the risk of collisions by providing separation between trains moving opposite to each other, or in the same direction. Inherent in all of the rules and regulations described above is the mitigation of safety risks, including avoidance and reduction of derailments.

There are no established standards regarding property safety based on distance from railroad tracks. Based on professional judgment, and consistent with other rail studies in the area, a distance of 50 feet has been used to assess the proximity of habitable, or dwelling, structures to the centerline of the tracks.² The St. Louis Park Zoning Code defines a dwelling as "a building or one or more parts of a building occupied or intended to be occupied exclusively for residence purposes, but not including rooms in motels, hotels, nursing homes, boardinghouses, trailers, tents, cabins or trailer coaches" (Sec. 36-4. Definitions). An assessment of parcels located within 50 feet of the centerline of the rail centerline, and identification of dwelling units, was conducted using aerial photography, Google Streetview photography, and in-person field visits.

3.7.2 Existing Conditions

Public safety and security within the study area is provided by the police departments, fire departments, and emergency response units of the cities of Eden Prairie, Minnetonka, Hopkins, St. Louis Park, and Minneapolis. Emergency medical services are located in each city.

Although public safety and security resources for the study area are primarily the responsibility of the five cities through which the Build Alternatives pass, Metro Transit Police currently provides roving security for bus transit facilities within the corridor. Transit police routinely patrol bus routes, bus stops, and transit centers, such as the Uptown Transit Center. Transit police officers currently travel along the Hiawatha LRT to provide security at LRT stations and on rail cars, and would provide similar services on the Southwest Transitway.

Primary safety concerns associated with the freight rail relocation segment of the proposed project, as expressed by the community, are derailments, chemical spills, the

² MN&S Freight Rail Study, May 2011, page 84.

accessibility and safety of pedestrians (particularly near schools), and vehicular and traffic safety at grade crossings. These issues are addressed in the discussion below.

3.7.2.1 Freight Rail Relocation

Derailments

There have been no recent derailments within the study limits. Two recent incidents in the project vicinity have occurred. The first in Wayzata along BNSF track on June 20, 2010. Although the incident caused property damage, there were no injuries reported. The second occurred in Minneapolis, near West Lake Street on October 2010. There were no reports of injuries or significant property damage (see page 85 of the MN&S Freight Rail Study located in Appendix H).

The assessment of parcels in the project area indicated that two parcels on Minnetonka Boulevard have dwelling structures located within 50 feet of the rail centerline.

Chemical Spills

There have been no rail-related releases of hazardous materials reported within the past 10 years in Hennepin County, along Class I railroads (CP and BNSF). In the event of a spill or release, the St. Louis Park Fire Department has a hazardous materials response plan, with the Fire Department as the principal response agency (see page 85 of the MN&S Freight Rail Study located in Appendix H).

Pedestrian Accessibility/Safety

There are two schools located near the MN&S alignment – St. Louis Park Senior High School (grades 9-12) and Park Spanish Immersion (PSI) School (grades K-5). In addition to bus traffic between the schools, pedestrian traffic is also generated by the high school, including open lunch for grade-12 students, high school students that leave the school during the day to do community service, and after school/evening activities at the football field, which is located across the tracks from the high school. A similar situation exists between Roxbury and Keystone parks, which are directly across from each other, separated by the railroad tracks. See page 85 and Section 25b of the MN&S Freight Rail Study located in Appendix H.

At-Grade Crossing Safety

There are seven at-grade railroad crossings in the MN&S section of the alignment, and none in the BNSF section. Each of the existing grade crossings was evaluated in terms of traffic volumes, crash history, and control/grade crossing equipment. Neither the crash history nor the current traffic volumes indicated significant traffic operations or safety issues at the existing grade crossings³ (see Figure 8 [at-grade crossings] and Table 3 Existing At-Grade Crossing Data in Section 21 of the MN&S Freight Rail Study located in Appendix H.) Some of the crossings have been identified for additional crossing enhancements in the near term based on available MnDOT funding.

3.7.3 Long-Term Effects

The following section describes the anticipated long-term effects to safety and security for each alternative considered.

³ MN&S Freight Rail Study, May 2011, page 85.

3.7.3.1 No Build Alternative

The No Build Alternative would not result in any change to safety and security.

3.7.3.2 Enhanced Bus Alternative

According to the experience of the METRO transit system in Houston, installation of shelters has been shown to increase ridership at a given bus stop by an average of 20 additional riders per day. The organization found that bus shelters provide patrons both safety and protection from the elements, particularly for the elderly and physically challenged patrons and where lighting was needed to increase safety and reduce crime (<http://www.ridemetro.org/CurrentProjects/BusShelterProgram.aspx>). The Enhanced Bus Alternative could provide increased safety and security at bus stops with the installation of bus shelters.

3.7.3.3 Build Alternatives

Implementation of the Build Alternatives would involve the installation of specific safety elements (as appropriate) which could include pedestrian and vehicle warning devices, lighting, signage, and pavement markings. On-board light rail vehicle safety features would include safety mirrors, manual car door release, sight and sound warning systems, a public address system, emergency brake capabilities, impact-resistant windows and windshields, sensitive edges on passenger doors to detect obstructions to door closure, operator control with an automatic vehicle stop feature, handrails and hand loops for standing passengers, and bicycle locking features to prevent the movement of bicycles.

With the LRT 3A-1 (co-location) build alternative there are additional safety issues such as maintaining freight train movement in tandem with the LRT and bicycle trail would conflict with the five stations and their operations creating a number of issues e.g., redesign of the stations to ensure safe passage, lengthy freight trains blocking rider's access to the stations, and general safety considerations such as people crossing the track in undesignated locations.

The project would be designed in a manner that would not compromise the access to buildings, neighborhoods, or roadways, and would not compromise access to the transitway in the event of an emergency. Where stations or other project elements are grade separated and pedestrian access is permitted, ADA-compliant access guidelines would be implemented as part of the project to provide pedestrian access and safety.

System safety and security oversight for the Southwest Transitway project would be implemented by the Metropolitan Council as the agency responsible for management and operation of the line. Specific safety and security measures for the Southwest Transitway will be developed as the project progresses into the Preliminary Engineering and Final Design phases of project development and will be outlined in the Final EIS.

3.7.3.4 Freight Railroads

Portions of the Southwest Transitway project would operate adjacent to active freight rail trackway, and one Build Alternative, LRT 3A-1 (co-location alternative), would be co-located with freight rail and a commuter bike trail from just east of the proposed Louisiana Avenue LRT station to the proposed Penn Avenue station. The presence of

active freight railroad operations in the corridor mandate additional safety measures to ensure compliance with federal and state safety requirements. Southwest Transitway LRVs would operate on a separate guideway from the freight railroads, but sufficient separation between the trackways would be required for the safe operation of both corridors.

In Hopkins and a portion of St. Louis Park, the Southwest Transitway would operate adjacent to trackway owned and operated by CP Railway. Immediately west of downtown Minneapolis adjacent to the Segment A alignment between the Penn and Royalston Stations, the BNSF owns and operates an active freight rail line.

Both the BNSF and CP railroads identified adequate separation between the freight railroad trackways and the LRT trackway as a primary issue, along with protective fencing or other barrier separation between the rail lines. Both railroad operators indicated that the project should provide adequate safeguards and refuges for railway workers to safely avoid on-coming freight trains based on site distances. One issue raised by CP was with LRT operating on an elevated structure to cross Excelsior Boulevard, and how this structure may affect site distances. This question will be addressed as the project moves forward into future phases of engineering and design.

According to both CP and BNSF, the FRA would require that all LRVs operating adjacent to active freight rail corridors achieve the maximum crash safety standards to protect passengers. Additionally, in the event of an emergency, both BNSF and CP have emergency response dispatchers and services. Both railroads also employ private security personnel to monitor activities along the trackways, and coordinate these services with local police departments.

3.7.3.5 Freight Rail Relocation

Derailments

The assessment of parcels indicated that two parcels have dwelling structures located within 50 feet of the rail centerline. These parcels are unique because they are situated parallel and not perpendicular to the railroad ROW. This situation results in dwelling structures located significantly closer than any other traditional lot that backs up to the ROW, as exists throughout the remainder of the corridor.

These two unique parcels are located directly across the tracks from one another, along Minnetonka Boulevard. At this location, the slope of the rail embankment takes up the entire side yards of the properties. In the event of a derailment or spill in this location, these structures may have a higher likelihood of being impacted than other dwelling structures along the alignment.

The curvature of the bridge structures and grade on the bridge structures would be engineered and constructed to meet stringent railway engineering requirements to ensure safe operation. The required train control signalization measures to be designed and constructed would also improve the safety of train operations in this area. Train crew members operating such trains are all trained on how to operate trains safely on grades, curves and structures.

Chemical Spills

There is potential for freight cars to transport chemicals or other hazardous materials along this alignment. A relocation of freight traffic within the city of St. Louis Park would not change the fire department's current hazardous materials response plan, as the same steps would be carried out for any train derailment or hazardous material spill. In the event of a spill or release, the St. Louis Park Fire Department has a hazardous materials response plan, with the fire department as the principal response agency.⁴

Pedestrian Accessibility/Safety

Increased trains may increase the safety risk for students/staff/pedestrians crossing the tracks to access the football field on the other side of the tracks, or to travel between Roxbury and Keystone parks, or various features of the high school complex. Likewise, there may be a greater risk to residents living adjacent to the alignment that might trespass/enter on the railway ROW and tracks.

At-Grade Crossing Safety

An increased number of trains may increase the potential for rail/vehicle or rail/pedestrian accidents.

3.7.3.6 Operation and Maintenance Facility

No specific safety or security issues have been identified in regard to this facility. Normal precautions or any special safety and security measures would be outlined at later phases of the project and if applicable in the Final EIS. For example, the OMF will be required to obtain an Air Emissions Permit from the Minnesota Pollution Control Agency for maintenance activities such as the handling of paints, an emergency generator, natural gas for heating, welding equipment, and similar activities that involve potentially toxic or flammable substances.

3.7.4 Short-Term Construction Effects

Construction worker safety will be an important concern throughout the corridor during all phases of project construction. The implementation of standard worksite and construction worker safety practices, as established by government regulations and codes, as well as standards adopted by the Metropolitan Council, would help to minimize the potential for accidents or other safety problems. A worksite safety and health plan is required and will include the possibility for worker-vehicle conflicts in restricted work spaces under traffic conditions, work in deep and confined spaces during utility relocations and construction, and the potential for exposure to potential contaminants during soil excavation and drilling work.

Public safety, particularly the proximity of pedestrians, bicyclists, and interested spectators to open excavations along the corridor will be addressed using means such as protective safety barriers, warning signs, public information efforts, portable foot bridges over sidewalk construction, pedestrian and vehicle separation barriers, and similar BMPs. Similarly, adverse safety impacts to pedestrians and bicyclists resulting from turning vehicles at congested crosswalk or trail areas during construction will be

⁴ MN&S Freight Rail Study, May 2011, page 85. (Appendix H)

addressed in project design and in development of traffic control plans. Applicable safety and security precautions would be specified in the construction plans and programs developed by the Metropolitan Council.

Table 3.7-1 summarizes the potential impacts to safety and security by alternative.

Table 3.7-1. Summary of Potential Safety and Security Impacts

Environmental Metric	Alternative				
	LRT 1A	LRT 3A (LPA)	LRT 3A-1 (Co-location)	LRT 3C-1 (Nicollet Mall)	LRT 3C-2 (11 th /12 th Street)
Dwellings within 50 feet of freight rail	2	2	4*	2	2
LRT near active freight rail lines	Segment A	Segment A	Segment A Segment 4	-	-
Parks near freight rail	2	2	1	2	2
Schools near freight rail	2	2	-	2	2
Trails near freight rail	-	-	Kenilworth Corridor	-	-
Trails near LRT	-	-		Midtown Greenway	Midtown Greenway

*The number of dwellings that would remain within 50 feet of freight rail co-located with LRT and the trail cannot be exactly determined until Preliminary Engineering is complete.

3.7.5 Mitigation

3.7.5.1 Southwest Transitway

System safety and security oversight for the project would be achieved through implementation of safety and security plans by the Metropolitan Council. The primary purpose of these plans is to consider safety and security when designing and constructing the project. These plans would cover requirements for safety and security design criteria, hazard analyses, threat and vulnerability analyses, construction safety and security, operational staff training, and emergency response measures. These plans and programs would also specify actions and requirements of the Metropolitan Council and Metro Transit Police to maintain continuation of safety and security during Southwest Transitway operations. Safety and security plan development for the project would be closely coordinated with city and county law enforcement agencies.

Safety and security notification and outreach to the affected communities could include mass media public service announcements, signage of roadway or trail closures, and during community meetings or public events. The Metropolitan Council will be the responsible agency for communicating safety and security measures during construction and operations of the Southwest Transitway.

Based on previous transit project practice, it is anticipated that safety and security for the Southwest Transitway project would be facilitated by a Metro Transit Fire Life Safety Committee (FLSC). Should the Metropolitan Council follow past practices, the FLSC for the Southwest Corridor Transit project would be tasked with facilitating exchange of information on safety and security to minimize fire and life safety hazards to rail patrons, and to project employees and the public. The FLSC would be responsible for reviewing design specifications, drawings, and other related documents for Metro Transit facilities and systems for compliance with established federal, state, and local regulations, codes, and standards relating to fire/life safety.

3.7.5.2 Freight Rail and Freight Rail Relocation

Chemical Spills

The St. Louis Park Fire Department and the State Chemical Assessment Teams within the Hopkins Fire Department and the St. Paul Fire Department have a protocol to respond to a spill of hazardous materials in the St. Louis Park Fire Department's hazardous materials response plan. The St. Louis Park Fire Department would handle any evacuations that might be necessary.

Derailments

Because of their location in very close proximity to the existing MN&S line, the two additional residential parcels along the alignment would be at increased risk of damage associated with a derailment. There will be on going coordination with the owners of the two residential properties to determine the most feasible mitigation measures to address their safety concerns, given the unique location of their homes relative to the railroad ROW. Mitigation could include the acquisition and relocation of up to two residential properties. The property acquisition would total 10,480 square feet or 0.24 acre. This is also addressed in the ROW/Relocation section.

Pedestrian Accessibility/Safety and At-Grade Crossing Safety

The Freight Rail Relocation Segment includes the closure of the existing 29th Street at-grade crossing.

With the LRT 3A-1 (co-location) build alternative safety issues such as maintaining freight train movement along with LRT and bicycle trail at stations would be part of preliminary engineering and design of the stations. Crossings and station access would include general safety considerations for pedestrians, bicyclists, and people needing ADA accommodations. As noted above, System safety and security oversight for the project would be achieved through implementation of safety and security plans by the Metropolitan Council to ensure safety and security when designing, constructing, and operating the project.

Under the Freight Rail Relocation Segment, Quiet Zone upgrades would be implemented at all remaining grade crossings between Walker and 28th Street. The

quiet zone design concept includes improved pedestrian safety at the study area grade crossings, in the form of pedestrian gates at all existing and proposed sidewalk locations. Fencing will be included at all quiet zone grade crossings to control pedestrian movements at/around crossing signal gates.

In addition to the quiet zone design, there will be consultation with the City of St. Louis Park, St. Louis Park School Board, railroads, and other stakeholders regarding additional feasible and effective safety mitigation in the vicinity of the St. Louis Park High School. Additional mitigation could include a grade separated pedestrian crossing, High Intensity Activated Crosswalk (**HAWK**) signal, or overhead flashers to improve safety of pedestrians traveling between the high school and Park Spanish Immersion or the high school and the football field.

A "**HAWK** signal" (High Intensity Activated Crosswalk) is a traffic signal that stops traffic movements only when activated by a pedestrian wishing to cross the street.

Additional fencing to address safety concerns will continue to be addressed through coordination with the City of St. Louis Park and the railroads.

Education programs, such as Operation Lifesaver will also be implemented as a safety mitigation measure. As a part of the Final EIS, a Safety Plan will be developed in cooperation with the FRA, FTA, St. Louis Park, Metropolitan Council, Hennepin County, St. Louis School Board, TC&W and CP.

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