

5.0 ECONOMIC EFFECTS

This chapter focuses on the potential economic effects of the Southwest Transitway and the project's potential effect on the local economy. It also describes the potential effects on station area development, land use, and policy decisions aimed at transit-oriented development based on the Build Alternatives. The Build Alternatives are anticipated to have direct, **indirect**, and **induced** economic benefits related to construction and long-term expenditures for operations and maintenance (O&M). These effects would be realized to varying degrees throughout the region in terms of increased economic output, earnings, and employment.

Section 5.1 provides an overview of the methodology and anticipated effects of the project on the local economy. This section summarizes the anticipated economic impacts from capital operations and maintenance expenditures.

Section 5.2 provides an overview of the potential economic effects of the project on commercial and residential development located near transit stations, and on programs and policies that have been developed to encourage development. This section provides a description of the potential development effects related to the Build Alternatives.

Section 5.3 considers the development effects associated with the implementation of the Build Alternatives.

5.1 Economic Conditions

The Southwest Transitway will contribute to regional growth by improving the mobility of residents and increasing access to businesses within the study area. New transportation capacity could create competitive advantages for businesses located in the study area, along with providing a fast, convenient, and reliable transit service transporting the public to jobs and shopping opportunities both in the corridor and beyond. The project would also effectively link several primary activity and employment centers in the region, including downtown Minneapolis, and establish a critical connection in the region's mass transit system. Additional connections include major activity and job centers beyond the study area, such as the University of Minnesota (U of M), State Capitol Complex, Minneapolis-St. Paul International Airport, and Mall of America.

Construction, continuing operation, and market reaction to improved transit service would influence economic activity in the local economy. Project construction would expand local earnings for the duration of the construction cycle. Operation of the LRT (Light Rail Transit) would influence local economic activity through increased earnings and output, particularly around station areas. The new jobs required to

"Indirect benefits" result from direct investments in capital purchases (e.g., vehicles and equipment), and direct purchases for ongoing operations (e.g., fuel, parts and other materials) that lead to sales and thus support jobs in supplier industries.

"Induced benefits" stem from the wages of construction and operations workers, as well as growth in wages at suppliers, which can all lead to further retail sales for businesses that provide consumer goods and services.

operate and maintain the project would be a long-term benefit, unlike the one-time construction jobs. The short- and long-term jobs represent the direct effects of investment in the Southwest Transitway study area. The earnings of these construction and transit workers would translate into a proportional increase in consumer demand as these workers purchase goods and services in the region. A further increase of new employment across a wide variety of industrial sectors and occupational classifications is expected as employers hire to meet this increase in local consumer demand. This type of hiring represents the project's indirect impact.

The area of economic effect used in the analysis is the Minneapolis-St. Paul-Bloomington Metropolitan Statistical Area (MSA), which comprises the counties of Anoka, Carver, Chisago, Dakota, Hennepin, Isanti, Ramsey, Scott, Sherburne, Washington, and Wright in Minnesota, and Pierce and St. Croix in Wisconsin. The economic effects associated with construction and O&M expenditures for the project are measured using regional multipliers from the U.S. Department of Commerce Bureau of Economic Analysis (BEA). Derived from the Regional Input-Output Modeling System (RIMS II), multipliers measure the total change (direct-plus indirect effects) in **output**, **earnings**, and **employment** resulting from an incremental change relative to a particular industry. The data set was constructed by the BEA to reflect the local Minneapolis-St. Paul-Bloomington MSA economy. The multipliers used in the analysis are based on the 1997 Benchmark Input-Output Table for the nation and 2005 regional accounts data.

Output – The final product based on new spending
Earnings – Income earned based on new spending
Employment – Job creation based on new spending

5.1.1 Output, Earnings, and Employment Effects from Capital Expenditures

This section describes the anticipated economic effects from capital expenditures. Capital expenditures refer to construction activities and represent a substantial capital investment in the local economy. This spending would increase the employment, earnings, and output for the duration of the construction process. Capital cost estimates/construction values for this analysis are presented in year of expenditure (YOE) dollars, providing a common reference year for expenditures.

5.1.1.1 Capital Expenditures

The capital expenditures for construction of the Build Alternatives considered for the Southwest Transitway are shown in Table 5.1-1.

Table 5.1-1. Summary of Capital Costs (in YOE dollars) by Build Alternative

Build Alternative	General Construction Costs ^a	Vehicles	ROW ^b	Professional Services ^c	Total ^d
LRT 1A	673,405,000	97,608,000	55,924,000	171,998,000	998,935,000
LRT 3A (LPA)	847,137,000	107,882,000	113,873,000	226,171,000	1,295,063,000
LRT 3A-1 (Co-location Alternative) ¹	817,784,000	107,882,000	141,709,000	221,968,000	1,289,243,000
LRT 3C-1 (Nicollet Mall)	1,204,330,000	154,118,000	123,291,000	322,756,000	1,804,495,000
LRT 3C-2 (11 th /12 th Streets)	1,273,977,000	143,843,000	123,291,000	341,511,000	1,882,622,000

Source: HDR Engineering, 2012

^a Includes unallocated contingency categories, in YOE dollars.

^b Right-of-way (ROW) estimate is based on Hennepin County market values

^c Professional Services include real estate, engineering, legal fees, and other agency costs

^d Total costs for the Build Alternatives shown are derived from the Standard Cost Category (SCC) Workbooks. When each cost category in this table is summed, the values may be slightly different.

The elements contributing to each of these categories are:

- General Construction: guideway elements (including relocated freight rail), stations, storage and inspection facilities, sitework, systems, and contingencies,
- Vehicles: vehicle manufacturing and assembly
- Right-of-Way (ROW): all rights-of-way, land (including land needed for relocated freight rail), and existing improvements
- Professional Services: real estate services, engineering and design, legal fees, and other agency costs

The economic effect of these expenditures varies substantially by activity and depends on the amount of goods and services procured locally. Construction goods and services will be purchased in the local economy. Although not every building material required for the project is produced locally, the RIMS II multipliers reflect the supplier linkages for the industry, and thus account for this leakage from the local economy. (Leakages represent purchases made by local suppliers from sources outside the region.)

The purchase and manufacturing of vehicles will not occur locally. Transit vehicles are not manufactured within the Minneapolis-St. Paul-Bloomington MSA, and because no local labor would be used to produce the vehicles, no local impact generated by their purchase is realized by the local economy. Some assembly would be required upon delivery of the vehicles, and it is possible that a component of the vehicle could be made by a local supplier; however, these possibilities

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.

represent a negligible share of the vehicles' total cost and are excluded from this analysis.

ROW expenditures shown are for real property only; the transaction costs, legal services, and required relocation assistance associated with these expenditures are included in the professional services (i.e., engineering, design, and other agency costs) cost category. Labor is not associated with ROW expenditures; therefore, there is no economic effect to the pure land costs. Professional services costs are purchased in the local economy and have a direct effect on the local economy. Only two types of capital expenditures are expected to affect the economy: construction and professional services costs.

5.1.1.2 Funding Sources

To isolate the potential economic effect of the project on the local economy, it is necessary to distinguish those resources that are new to the economy from local resources that would still be spent in the region. Table 5.1-2 describes the funding sources and expenditure percentages that are planned for the Southwest Transitway Build Alternatives considered. The table also indicates whether these funds represent new resources that are being invested in the region because of the project.

Table 5.1-2. Summary of Assumed Funding Sources and Percentages

Funding Source	Funding Share (percentage)	New or Existing Funding Source
Federal 5309 New Starts	50	New
CTIB (County Sales Tax)	30	Existing
HCRRA	10	Existing
State of Minnesota Bonding	10	New
Total	100	-

Source: Hennepin County, 2009

Federal funds originate from outside the local economies of the project partner cities and therefore represent new resources. Because Hennepin County and the County Transit Improvement Board (CTIB) funds originate within the Minneapolis-St. Paul-Bloomington MSA, they are considered existing revenue sources and do not represent new resources.

The capital costs representing expenditures that accrue to the region (e.g., construction and professional services costs) are adjusted to account only for new resources flowing into the region. Only funding levels that represent new resources flowing into the region generate effects with the Build Alternatives considered. Table 5.1-3 shows the level of funding for the capital cost elements that will generate economic effects within the state and local economy. The expenditures with substantial local labor elements (\$673 million to \$1.27 billion) that will impact the local economy are derived from the data in Table 5.1-1 and represent the general construction costs for the Build Alternatives considered. Sixty percent of the total project funding would be considered new resources to the region and would come

from Federal 5309 New Starts funding and State of Minnesota Bonding shown in Table 5.1-2.

Table 5.1-3. Capital Costs Representing New Resources (in YOE dollars)

Build Alternative	General Construction Cost ^a	New Resources – Federal/State Funding ^b
LRT 1A	673,405,000	599,361,000
LRT 3A (LPA)	847,137,000	777,038,000
LRT 3A-1 (Co-location Alternative)	817,784,000	773,605,800
LRT 3C-1 (Nicollet Mall)	1,204,330,000	1,082,697,000
LRT 3C-2 (11 th /12 th Street)	1,273,977,000	1,129,573,000

Source: Hennepin County, 2012

^a Capital cost that would impact the local economy

^b Represents federal (50 percent) and state (10 percent) share of total project cost from Table 5.1-1.

The amount of funding that represents “new funding,” 60 percent (50 percent federal share and 10 percent state share), is less than the total amount required for general construction costs; therefore, the new funding available from federal and state sources will be spent on general construction expenditures.

The BEA RIMS II multipliers are shown in Table 5.1-4 (U.S. Department of Commerce BEA Regional Input-Output Modeling System, RIMS II 2008). The BEA RIMS II provides users with five types of multipliers:

- The **final demand output** multiplier represents the total-dollar change in output that occurs in all industries for each additional dollar of output delivered to final demand by the construction industry.
- The **final demand earnings** multiplier represents the total-dollar change in earnings of households employed by all industries for each additional dollar of output delivered to final demand by the construction industry.
- The **final demand employment** multiplier represents the total change in number of jobs that occurs in all industries for each one million dollars of output delivered to final demand by the construction industry.
- The **direct effect earnings** multiplier represents the total-dollar change in earnings of households employed by all industries for each additional dollar of earnings paid directly to households employed by the construction industry.
- The **direct effect employment** multiplier represents the total change in number of jobs in all industries for each additional job in the construction industry.

Final Demand Output – The value of the final good produced through construction. Only non-local resources spent on construction will have a regional impact.

Final Demand Earnings – Construction industry earnings resulting from non-local resources spent on the project

Final Demand Employment – New construction jobs resulting from the non-local resources spent on the project

Direct Effect Earnings – The incremental increase in transit job earnings for the region based on the incremental increase in operation and maintenance cost as a result of the new project

Direct Effect Employment – The incremental increase in construction jobs in the region resulting from non-local resources spent on the project

The multipliers measure the economic impact of a change in final demand output, in earnings, or in employment on a region’s economy. For this project, the change in final demand is the federal and state participation (60 percent of project cost) in the project, which is considered new dollars that would not come to the region if not for the project.

Table 5.1-4. RIMS II Multipliers by Industry

Region	Industry	Multiplier				
		Final Demand			Direct Effects	
		Output (\$)	Earnings (\$)	Employments (Jobs)	Earnings (\$)	Employments (Jobs)
Minneapolis-St. Paul-Bloomington MSA	Construction	1.5782	0.5217	12.9736	1.4602	1.4885
	Professional, Scientific, and Technical Services	1.3448	0.5613	12.2568	1.2319	1.3298
	Real Estate	1.2951	0.1274	4.5088	2.5068	1.9328
	Transit and Ground Passenger Transportation	1.5944	0.5565	25.4989	1.4358	1.1906

Source: U.S. Department of Commerce, Bureau of Economic Analysis, RIMS II 2005

Applying the final demand multipliers to the projected capital expenditures in Table 5.1-5 provides estimates of the net output, earnings, and employment impacts generated by each alternative in the short-term (construction phase). The results are summarized in Table 5.1-5. These are one-time beneficial effects that would last for the duration of construction. One job is defined as a job for one person for one year. For example, a job for one person that lasts four years would equate to four person-year jobs. The employment multiplier estimates that 12.9736 jobs are created for every \$1 million dollars of construction spending.

The final demand output (“the project”), earnings and employment generally would be realized in the construction industry of Minneapolis-St. Paul-Bloomington MSA as new dollars for the project would be directed to general construction costs. For this project, final demand multipliers for the construction industry would apply to the construction phase of the project, whereas the direct effects multipliers for the transit and ground passenger transportation industry would apply to the operation and maintenance phase of the project.

Table 5.1-5. Net Effects of Construction (Short-Term) Activity

Build Alternative	New Capital Expenditure (YOE \$)	Multiplier Values			Final Demand Yield ^a		
		Output	Earnings	Employment (Jobs) ^b	Output	Earnings	Employment (Jobs)
LRT 1A	\$599,361,000	1.5782	0.5217	12.9736	\$945,911,530	\$312,686,634	7,776
LRT 3A (LPA)	\$777,038,000	1.5782	0.5217	12.9736	\$1,226,321,056	\$405,380,620	10,081
LRT 3A-1 (Co-location Alternative)	\$769,352,000	1.5782	0.5217	12.9736	\$1,214,191,958	\$401,371,147	9,981
LRT 3C-1 (Nicollet Mall)	\$1,082,697,000	1.5782	0.5217	12.9736	\$1,708,712,405	\$564,843,025	14,046
LRT 3C-2 (11 th /12 th Street)	\$1,129,573,000	1.5782	0.5217	12.9736	\$1,782,692,424	\$589,298,338	14,655

Sources: U.S. Department of Commerce, BEA, RIMS II 2005

^a The values displayed for Final Demand Yield under the subheadings Output, Earnings, and Employment are all rounded to the nearest whole number.

^b The multiplier of 12.9736 is the number jobs created per \$1 million spent

5.1.1.3 Long-Term Effects

There are no long-term effects associated with the economic impacts generated by capital expenditures as construction-related impacts only last for the duration of the project's construction cycle.

5.1.1.4 Short-Term Effects

No Build Alternative

The No Build conditions consist of the future economic conditions (employment, output, and earnings) that would exist under the No Build Alternative. There are no new dollars introduced into the Minneapolis-St. Paul-Bloomington MSA region under No Build Alternative. The economic analysis focused on the incremental differences between the No Build Alternative and implementation of the Build Alternatives.

Enhanced Bus Alternative

The implementation of a new bus route and stops is likely to create a few new jobs, but result in no substantial changes to the local economy. The Enhanced Bus Alternative would involve minimal construction, mostly of new bus stops, and would not bring substantial new funding resources, with capital cost expenditures largely coming from local resources.

Build Alternatives

For the Minneapolis-St. Paul-Bloomington MSA, the effect of new resources construction spending for the Build Alternatives considered would be approximately \$946 million to \$1.8 billion in output (YOE dollars). It is estimated that the alternatives will generate between \$313 million to \$589 million in net earnings and payroll

expansion and generate 7,776 to 14,655 person-year jobs in the Minneapolis-St. Paul-Bloomington MSA (See Table 5.1.5 above). The effect of federal and state spending in the local economy translates into increased spending on local goods and services as well as an increase to the tax base through local job creation.

5.1.2 Output, Earnings, and Employment Effects from O&M Expenditures

Implementation of the Build Alternatives would create jobs and additional earnings as a result of O&M expenditures. The O&M cost model is resource-build-up in structure and is based on Metro Transit's existing bus and light rail services. The analysis assumes that funding for O&M would be procured primarily from local Metropolitan Council funds and project-generated funds.

Although these expenses would originate from local sources, they represent spending that would not take place except for the implementation of this service. The expansion of transit service associated with the Build Alternatives considered creates an expansion of economic activity in the counties and the Minneapolis-St. Paul-Bloomington MSA, thus generated recurring net economic impacts (long-term).

The estimated net change in local earnings generated by the Build Alternatives considered is shown in Table 5.1-6 below. The table describes anticipated payroll expansion beyond implementation of the No Build Alternative. This analysis uses only the direct effect multipliers to generate estimates of earnings impacts attributable to O&M activities because output measures are less reliable in the context of transit service where market prices are not available. The multipliers applied in this section of the analysis are for the industry labeled "Transit and Ground Passenger Transportation." The increased earnings would result in positive economic impacts to the local economy, both through direct hiring to fill transit jobs and indirectly as these transit workers spend their earnings, thus creating additional consumer demand and jobs to meet that demand. The transit earnings are derived by multiplying the incremental O&M cost over the No Build Alternative by the transit on-site labor percentage (71.4 percent). The O&M labor component was derived from the American Public Transportation Association (APTA) analysis of allocation of operating expenditures by object class from 1985–1995. The final transit earnings do not include benefits and only the wage element impacts transit earnings.

Table 5.1-6. Net Earnings Impacts from O&M Activities (2012 dollars)

Build Alternative	Increased O&M Costs over No Build ^(a) (\$)	O&M On-site Labor Component Factor ^(b)	Transit Earnings over No Build (\$)	Earnings Multiplier ^(c)	Net Change in Local Earnings (\$)
LRT 1A	229,908,089	0.714	164,154,376	1.4358	235,692,852
LRT 3A (LPA)	233,787,531	0.714	166,924,297	1.4358	239,669,905
LRT 3A-1 (Co-location)	233,787,531	0.714	166,924,297	1.4358	239,669,905
LRT 3C-1 (Nicollet Mall)	235,945,390	0.714	168,465,008	1.4358	241,882,059
LRT 3C-2 (11 th /12 th Street)	237,159,007	0.714	169,331,531	1.4358	243,126,212

Source: HDR Engineering, 2012

- ^a The full No Build O&M cost is \$308,455,954 (systemwide bus O&M costs plus systemwide LRT O&M costs) and the Build O&M cost ranges between \$538,364,043, and \$545,614,961 (2012 dollars). The transit earnings over the No Build shown are rounded to the nearest whole dollar value. Additional information on O&M costs may be found in Chapter 8.
- ^b Transit earnings are the incremental O&M costs multiplied by estimated on-site labor component. The O&M labor component was derived from APTA analysis of allocation of operating expenditures by object class 1985-1995.
- ^c RIMS II Multiplier (Transit and Ground Passenger Transportation) Direct Effect Earnings Multiplier

5.1.2.1 Long-Term Effects

No Build Alternative

The No Build conditions consist of the future economic conditions (employment, output, and earnings) that would exist under the No Build Alternative. There are no new dollars introduced into the Minneapolis-St. Paul-Bloomington MSA region under No Build Alternative. The economic analysis focused on the incremental differences between the No Build Alternative and implementation of the Build Alternatives.

Enhanced Bus Alternative

The Enhanced Bus Alternative would have some O&M costs associated with the implementation of a new bus route, largely in the form of labor costs and vehicle maintenance. Expenditures from O&M costs would circulate in the local economy, but the employment generated from the operation of a new bus route is anticipated to be minimal.

Build Alternatives

For the Minneapolis-St. Paul-Bloomington MSA the effect of local O&M spending for the Build Alternatives considered would result in a low increase of \$538,364,043 to a high increase of \$545,614,961 among alternatives in the local annual wages and salaries (2012 dollars). With implementation of the Build Alternatives, the increased earnings would result in positive economic effects to the local economy, both through direct hiring to fill transit jobs and indirectly as these transit workers spend their earnings, thus creating additional consumer demand and jobs to meet that demand. (See Table 5.1.6 above)

5.1.2.2 Short-Term Effects

The earnings effects generated by O&M expenditures are long-term recurring benefits, are not expected to create short-term economic effects, and occur primarily after construction of the project.

5.2 Station Area Development

This section provides a description of the existing land use characteristics and the short-term and long-term effects associated with implementation of the build alternatives. Table 5.2-1 summarizes the stations by segment. The definition of the Build Alternatives by segment may be found in Table 2.3-8 and Figure 2.3-9 in Chapter 2 of this Draft EIS.

5.2.1 Land Use

5.2.1.1 Segment 1 (LRT 1A) – Trunk Highway 5 Station to Shady Oak Road Station

Land uses adjacent to Segment 1 are mostly single family detached housing, with parks and open space areas and some limited industrial use. While available data suggest that just over 10 percent of the land within one-half mile of Segment 1 is mixed-use, this category is a collection of three categories of mixed-use lands including mixed-use residential, commercial, and industrial. Of the three mixed-use categories, land classified as mixed-use industrial comprises 10.5 percent, the total amount of identified mixed-use land for this segment. When considered with the other industrial land acreages, this results in land used for industrial purposes being the third largest category of land use adjacent to Segment 1 (17.5 percent).

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

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 commercial development. The natural landscape features such as wetlands and waterbodies, along with land topography, contributed to making both cities desirable areas for development. The proposed alignment of the Southwest Transitway following Segment 1 would be within the ROW currently owned by the HCRRRA.

Table 5.2-1. Planning Segment and Stations

Segment	Stations	Planning Community	Included in LRT Build Alternative
Segment 1	TH 5, TH 62	Eden Prairie	1A
	Rowland Road	Minnetonka	
Segment 3	Mitchell Road*, Southwest Station*, Eden Prairie Town Center*, Golden Triangle*, City West*	Eden Prairie	3A (LPA) 3A-1 (Co-location)
	Opus*	Minnetonka	3C-1 (Nicollet Mall) 3C-2 (11 th /12 th Street)
Segment 4	Shady Oak*	Minnetonka/Hopkins	1A 3A (LPA)
	Downtown Hopkins*, Blake Road*	Hopkins	3A-1 (Co-location)
	Louisiana Avenue*, Wooddale Avenue*, Beltline Boulevard *	St. Louis Park	3C-1 (Nicollet Mall)
	West Lake Street	Minneapolis	3C-2 (11 th /12 th Street)
Segment A	21 st Street, Penn Avenue, Van White Boulevard, Royalston Avenue	Minneapolis	1A 3A (LPA) 3A-1 (Co-location)
Segment C-1	Hennepin Avenue (Uptown), Lyndale Avenue, 28 th Street, Franklin Avenue, 12 th Street, 8 th Street, 4 th Street	Minneapolis	3C-1 (Nicollet Mall)
Segment C-2	Hennepin Avenue (Uptown), Lyndale Avenue, 28 th Street (@ Nicollet Avenue, Blaisdell Avenue or 1 st Avenue), Franklin Avenue, 12 th Street/Nicollet Mall, 12 th Street/Hennepin, 11 th Street/Hennepin, Royalston Avenue	Minneapolis	3C-2 (11 th /12 th Street)

Source: HDR Inc, February 2010

*Indicates if Station Area Planning has occurred to date, as of Draft EIS publication

5.2.1.2 Segment 3 [LRT 3A (LPA), LRT 3A-1 (Co-location alternative), LRT 3C-1 (Nicollet Mall), and LRT 3C-2 (11th/12th Street)] – Mitchell Road Station to Shady Oak Road Station

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 17.5 percent—followed by undeveloped land (16.2 percent), multi-unit residential (attached housing) (10.5 percent), and retail commercial (10.0 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 legal authority. Public and institutional land uses are also scattered within one-half mile of Segment 3.

Near the Mitchell Station, surrounding land uses are predominantly industrial, with some retail-commercial and hybrid 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, office, and light industrial land 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 Trunk Highway 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.

5.2.1.3 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)] – Shady Oak Road Station to West Lake Street Station

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 freight railway. However, industrial uses only comprise 15 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 (14.9 percent) and multi-unit residential (attached housing, 11.9 percent). Parks and open space also constitute a substantial portion (10.4 percent) of the land use within one-half mile of Segment 4.

5.2.1.4 Segment A [LRT 1A and LRT 3A (LPA)] – West Lake Street Station to Royalston Station

Land use within one-half mile of Segment A is predominantly single family residential (detached housing, 20.0 percent), parks and open space (16.0 percent), and water features (10.7 percent). Industrial land uses make up 14.3 percent of the total land use; however these uses are primarily concentrated near downtown Minneapolis. Housing adjacent to Segment A includes single-family detached and multi-unit attached structures, which together encompass 29.6 percent of the land uses adjacent to this segment.

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

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. Multi-unit residential land uses comprise the greatest amount of land (24.2 percent), followed by retail commercial land uses (18.4 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 a portion of the Midtown Corridor, which includes the Chicago Milwaukee & St. Paul Railroad Grade Separation Historic District). Parks and open space areas make up 8.8 percent of the total land use surrounding Segment C-1. Further north along Segment C-1 are retail commercial and office land uses including the land uses along Nicollet Avenue (Eat Street) and Nicollet Mall.

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

Land uses surrounding Segment C-2 are similar to those surrounding Segment C-1 from West Lake Street to Nicollet Avenue. 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. The buffer area, therefore, is wider, encompassing a greater land area, resulting in greater land acreage as compared to Segment C-1.

Further north along Segment C-1 are retail commercial and office land uses including the land uses along Nicollet Avenue (Eat Street - contains a vast array of ethnic restaurants and shops) and Nicollet Mall including Peavey Plaza, WCCO, and outdoor dining. This segment also includes 11th/12th Street which provides access to the University of St. Thomas' downtown Minneapolis campus. Finally, along Royalston Avenue industrial land uses are found.

5.2.2 Short-term Effects

Short-term construction effects to adjacent land uses would primarily come in the form of short-term access/circulation and transportation impacts.

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. All necessary steps would be taken to ensure sufficient access to land uses and circulation is maintained during construction. Temporary traffic lanes, sidewalks, driveways, bus stops, or paths could be used to help maintain person and vehicle throughput. The magnitude of traffic disruption will depend on the nature of the street and any local constraints. Construction sequencing plans will be developed at a later time and specified in the Final EIS.

Depending on the final alignment selected, businesses and residences may experience accessibility impacts at certain times of day during the construction period, requiring minor detours for through traffic. In most cases, project construction would be conducted during daylight hours and contractors would be required to comply with applicable state and local guidelines specifying construction times. The project would seek to minimize roadway or driveway closures or other impacts to

adjacent properties to ensure the highest level of accessibility possible during construction. Appropriate notification and signage would be used to alert residents, businesses, and travelers to temporary closures or route detours.

Short-term construction effects to the social or economic characteristics of the study area are anticipated to include short- and long-term economic gains to each community resulting from the implementation of any Build Alternative. These economic gains are anticipated to be both local and regional, and would result from the direct purchase of goods and services during construction, or indirect economic gains resulting from direct expenditures. While implementation of the project would result in the creation of some permanent jobs, construction activities and professional services would mostly be temporary jobs created during the construction period.

Potential short-term construction effects are defined as access/circulation and traffic.

- Access/circulation is defined as the temporary blocking of access and/or visibility for existing businesses during construction.
- Traffic impacts are defined as traffic detours during construction that will impact traffic movement to/from existing businesses. Table 5.2-2 summarizes the short-term station area effects.

Table 5.2-2. Short-Term Station Area Effects

Environmental Metric: Access Circulation	
LRT 1A	Low Potential to impact access to businesses along Royalston Avenue during construction.
LRT 3A (LPA)	Low Potential to impact access to businesses along Technology Drive and Royalston Avenue during construction.
LRT 3A-1 (Co- location Alternative)	Medium-High Potential to impact access to businesses along Technology Drive and Royalston Avenue during construction Potential to impact freight rail operations by TC&W along the Bass Lake Spur and Cedar Lake (Kenilworth) Corridor during construction.
LRT 3C-1 (Nicollet Mall)	Medium-High Potential to impact access to businesses along Technology Drive, Nicollet Avenue (Eat Street), Nicollet Mall, and the Minneapolis Central Business District during construction.
LRT 3C-2 (11 th /12 th Streets)	Medium Potential to impact access to businesses along Technology Drive, Nicollet Avenue (Eat Street), Nicollet Mall to 11 th /12 th Streets, and Royalston Avenue during construction.
Environmental Metric: Traffic	
LRT 1A	Low During construction temporary closures or rerouting of traffic from at-grade intersections will be required. The area is well served by a mature integrated network of roadways so traffic diversions should have minimal affect upon the transportation system.
LRT 3A (LPA)	Low During construction temporary closures or rerouting of traffic from at-grade intersections will be required. The area is well served by a mature integrated network of roadways so traffic diversions should have minimal affect upon the transportation system.
LRT 3A-1 (Co- location Alternative)	Medium During construction temporary closures or rerouting of traffic from at-grade intersections will be required. The area is well served by a mature integrated network of roadways so traffic diversions should have minimal affect upon the transportation system. TC&W freight rail service may be required to use temporary trackage during LRT construction to maintain rail operations during construction. Rerouting of rail traffic may increase delays at at-grade crossings.
LRT 3C-1 (Nicollet Mall)	Medium-High During construction temporary closures or rerouting of traffic from at-grade intersections will be required. Short-term impacts to the transportation system may occur due to the closure of east/west roadways crossing Nicollet Avenue and Nicollet Mall through the Central Business District. In addition, on-street parking used by Nicollet Avenue businesses and the sidewalk dining along Nicollet Mall would be removed.
LRT 3C-2 (11 th /12 th Streets)	Medium During construction temporary closures or rerouting of traffic from at-grade intersections will be required. Short-term impacts to the transportation system may occur due to the closure of east/west roadways crossing Nicollet Avenue and Nicollet Mall through the Central Business District. In addition, on-street parking used by Nicollet Avenue businesses would be removed.

5.2.3 Mitigation

Short-term construction impacts can be mitigated by using standard construction best management practices (BMPs) such as the use of deliberative 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, a Construction Access Plan will be developed prior to the start of major construction activities, which would specify construction staging and treatments to minimize impacts. The BMPs will include working with residents and merchants to provide alternative access to their neighborhoods, properties, and businesses, providing them with 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.

The mitigation measures required by the respective cities, Hennepin County, or the State of Minnesota for roadway access and traffic control will also apply. Project contractors shall be required to obtain permits for the project from the appropriate governmental offices for roadway disruptions and blockages. Notification of roadway disruptions shall be provided to neighboring property owners/operators. Table 5.2-3 summarizes the proposed mitigation by alternative.

Table 5.2-3. Proposed Mitigation for Short-term Station Area Effects

Proposed Mitigation for Short-term Station Area Effects	
LRT 1A	Standard construction BMPs Construction Access Plan Traffic diversion and construction staging.
LRT 3A (LPA)	Standard construction BMPs Construction Access Plan Traffic diversion and construction staging.
LRT 3A-1 (Co-location alternative)	Standard construction BMPs Construction Access Plan For TC&W freight rail service temporary track construction and use of shoofly operations may allow for their continued operation during construction. An agreement with TC&W and CP would need to be developed during Final Design. CP would need to amend their trackage rights with the co-location alternative.
LRT 3C-1 (Nicollet Mall)	Standard construction BMPs Construction Access Plan Traffic diversion and construction staging.
LRT 3C-2 (11 th /12 th Streets)	Standard construction BMPs Construction Access Plan Traffic diversion and construction staging.

5.2.4 Long-Term Effects

Long-term effects are defined as consistency with land use plans, displacement of parking and access, and development potential.

Implementation of any Build Alternative is anticipated to have regional economic effects, but substantial changes to land use patterns at the Twin Cities metropolitan regional scale are unlikely. Land use changes are anticipated to be concentrated around the selected Build Alternative alignment and proposed station areas. However, the implementation of the transitway facility as part of the regional network of transitways would play an important role in expanding regional transportation choices and improving regional quality of life, image, and mobility. Implementation of any Build Alternative would enhance the potential for land use intensification by improving transit accessibility throughout the study area and by providing connections with other parts of the existing and planned transit system. 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.

Potential long-term effects are defined as consistency with land use plans, displacement of parking and access, and development potential.

- Consistency with land use plans is defined as the build alternative's compatibility with the adopted policies and plans of the state, regional and local units of government in the study area (see Table 3.1-3 in this Draft EIS).
- Displacement of Parking and Access is defined as the permanent removal of parking by the build alternative and the loss of access resulting from the build alternative (see Table 6.3-4 in this Draft EIS).
- Development potential is defined as the anticipated economic development resulting from the build alternative. Table 5.2-4 summarizes the long-term station area effects by alternative.

Table 5.2-4. Long-term Station Area Effects

Environmental Metrics	
Environmental Metric: Consistency with Land Use Plans	
LRT 1A	<p>Low</p> <p>Segment 1 is incompatible with the Eden Prairie and Minnetonka land use plans for redevelopment. The station areas located along Segment 1 are not planned for growth and redevelopment and are anticipated to remain low-density single family, park preserve, and light industrial uses even with implementation of LRT.</p>
LRT 3A (LPA)	<p>High</p> <p>Consistent with the Eden Prairie, Minnetonka, Hopkins, St. Louis Park, and Minneapolis land use plans. Consistent with the Metropolitan Council's Development Framework, Hennepin County Transportation System Plan, and the Hennepin County Community Works Program.</p> <p>Land use change to higher density, mixed use is anticipated in the station areas along this alignment with the exception of the 21st Street Station in Minneapolis.</p>
LRT 3A-1 (Co-location alternative)	<p>Low</p> <p>Co-location of LRT and freight rail is inconsistent with the Minneapolis land use plans, the Metropolitan Council's Development Framework, and the Hennepin County Community Works Program.</p> <p>While land use change is anticipated along Segment 3, the presence of freight rail in Segment 4 from Louisiana Avenue to West Lake Street and in Segment A to Penn Avenue may limit this land use change to transit oriented development (TOD). The acquisition of 57 multi-family housing units in close proximity to the West Lake Street Station for placement of the freight rail line will diminish TOD potential for the West Lake Station and is inconsistent with local and regional plans which promote TOD including multi-family residential in close proximity to LRT stations.</p>
LRT 3C-1 (Nicollet Mall)	<p>Medium</p> <p>Inconsistent with the Metropolitan Council's Transportation Policy Plan and Minneapolis' Access Minneapolis Plan.</p> <p>The area along Segment C-1 is already developed as TOD due to high frequency transit service. Implementation of LRT and the accompanying reduction in bus service may reduce TOD development potential which is inconsistent with regional and local plans.</p>
LRT 3C-2 11 th /12 th Streets)	<p>Medium</p> <p>Inconsistent with the Metropolitan Council's Transportation Policy Plan and Minneapolis' Access Minneapolis Plan.</p> <p>The area along Segment C-2 is already developed as TOD due to high frequency transit service. Implementation of LRT and the accompanying reduction in bus service may reduce TOD development potential which is inconsistent with regional and local plans.</p>
Environmental Metric: Displacement Parking/Access Regulations	
LRT 1A	<p>Low</p> <p>Parking and access to businesses along this route are unlikely to be affected. Business parking is provided off site and is not anticipated to be affected by the LRT project. Permanent access restrictions for businesses are not anticipated. 20 on-street and 11 off-street parking spaces will be eliminated.</p>

Environmental Metrics	
LRT 3A (LPA)	<p>Low</p> <p>Parking and access to businesses along this route are unlikely to be affected. Business parking is provided off site and is not anticipated to be affected by the LRT project. Permanent access restrictions for businesses are not anticipated. 20 on-street and 11 off-street parking spaces will be eliminated.</p>
LRT 3A-1 (Co-location alternative)	<p>Medium</p> <p>Parking and access to businesses along this route are unlikely to be affected. Business parking is provided off site and is not anticipated to be affected by the LRT project. Permanent access restrictions for businesses are not anticipated.</p> <p>Freight rail operating along segment 4 from Louisiana Avenue to West Lake Street and along segment A to Penn Avenue will restrict access to station area businesses by forcing customers to cross the freight rail tracks.</p> <p>20 on-street and 645 off-street parking spaces will be eliminated.</p>
LRT 3C-1 (Nicollet Mall)	<p>Medium-High</p> <p>Parking would be removed from Nicollet Avenue between Franklin Avenue and Grant. Lane access restrictions would occur on Nicollet Avenue at Franklin Avenue where the LRT is exiting the cut and cover tunnel. Cross-street access restrictions would occur on Nicollet Avenue between Franklin Avenue and Grant potentially affecting access to the business located along Nicollet Avenue. In addition, sidewalk dining would be removed for substantial portions of Nicollet Mall which may affect the restaurants and businesses located on Nicollet Mall, including the farmers market and the holiday parade.</p> <p>128 on-street and 689 off-street parking spaces will be eliminated.</p>
LRT 3C-2 (11 th /12 th Streets)	<p>Medium-High</p> <p>Parking would be removed from Nicollet Avenue between Franklin Avenue and Grant. Lane access restrictions would occur on Nicollet Avenue at Franklin Avenue where the LRT is exiting the cut and cover tunnel. Cross-street access restrictions would occur on Nicollet Avenue between Franklin Avenue and Grant potentially affecting access to the business located along Nicollet Avenue. Roadway capacity reductions may also occur along 11th and 12th Streets affecting access to downtown businesses and educational institutions, the University of St. Thomas.</p> <p>Twenty on-street parking spaces will be eliminated on Royalston Avenue.</p> <p>141 on-street and 689 off-street parking spaces will be eliminated.</p>
Environmental Metric: Developmental Potential (station development potential and transportation)	
LRT 1A	<p>Low-Medium</p> <p>Segment 4 and Segment A are likely to experience development with the implementation of LRT. Segment 1 will likely not.</p> <p>While this alternative will provide an expansion to the local and regional transportation system, due to the adjacent land uses along Segment 1 (low-density single family, park preserve, and light industrial) and the future plans for land use change it is unlikely that implementation of LRT will have an effect on redevelopment along Segment 1. For Segments 4 and A, the expansion of the transportation system and service to areas designated for growth and redevelopment will equate to a positive economic effect in terms of development around station locations.</p>

Environmental Metrics	
LRT 3A (LPA)	<p>High</p> <p>Segments 3, 4, and A all have high potential for development around station locations. The areas, with the exception of 21st Street in Minneapolis, are identified as areas for transit-oriented development consistent with the implementation of LRT.</p> <p>For Segments 3, 4 and A, the expansion of the transportation system and service to areas designated for growth and redevelopment will equate to a positive economic effect in terms of development around station locations.</p>
LRT 3A-1 (Co-location alternative)	<p>High</p> <p>Segments 3, 4, and A all have high potential for development around station locations. The areas, with the exception of 21st Street in Minneapolis, are identified as areas for transit-oriented development consistent with the implementation of LRT.</p> <p>For Segments 3, 4 and A, the expansion of the transportation system and service to areas designated for growth and redevelopment will equate to a positive economic effect in terms of development around station locations.</p>
LRT 3C-1 (Nicollet Mall)	<p>Medium</p> <p>Segments 3 and 4, have high potential for development around station locations. The station areas are identified as areas for transit-oriented development consistent with the implementation of LRT. The C-1 segment would operate through areas of high density and high transit access within Minneapolis. Implementation of LRT is not anticipated to change the current or planned land uses along the C-1 segment in Minneapolis due to current land use patterns, densities, the availability of land for development, and the grade issues at station locations including Lyndale, 28th and Franklin.</p> <p>For segments 3 and 4 the expansion of the transportation system and service to areas designated for growth and redevelopment will equate to a positive economic effect in terms of development around station locations. For Segment C-1, implementation of LRT will equate to a constriction of the transit system due to LRT's replacement of bus transit service along Nicollet Avenue and relocation of bus service and bikes from Nicollet Mall. This constriction in transportation access may have a negative effect on businesses located along Nicollet Avenue and Nicollet Mall.</p>
LRT 3C-2 11 th /12 th Streets)	<p>Medium</p> <p>Segments 3 and 4, have high potential for development around station locations. The station areas are identified as areas for transit-oriented development consistent with the implementation of LRT. The C-1 segment would operate through areas of high density and high transit access within Minneapolis. Implementation of LRT is not anticipated to change the current or planned land uses along the C-1 segment in Minneapolis due to current land use patterns, densities, the availability of land for development, and the grade issues at station locations including Lyndale, 28th and Franklin.</p> <p>For segments 3 and 4 the expansion of the transportation system and service to areas designated for growth and redevelopment will equate to a positive economic effect in terms of development around station locations. For Segment C-1, implementation of LRT will equate to a constriction of the transit system due to LRT's replacement of bus transit service along Nicollet Avenue and relocation of bus service and bikes from Nicollet Mall. This constriction in transportation access may have a negative effect on businesses located along Nicollet Avenue and Nicollet Mall.</p>

5.2.5 Mitigation

As described above, long-term effects were discussed under three categories: consistency with land use plans, displacement of parking and access, and development potential.

5.2.5.1 Mitigation for Land Use Plan Consistency

Changes in land use and denser development near stations are anticipated, consistent with existing plans and policies. Overall, positive economic effects are anticipated under all build alternatives for the local community and region. No mitigation is required.

5.2.5.2 Mitigation for Parking and Access

Parking

Build Alternatives LRT 1A, LRT 3A (LPA), and LRT 3A-1 (co-location alternative) are all anticipated to have a relatively modest impact on parking with the removal of 20 on-street parking spaces on Royalston Avenue. Mitigation of this effect may include working with staff from the City of Minneapolis to identify needs and opportunities for providing alternative parking solutions. However, based on adjacent land uses and long-term city plans for this area, the need for alternative parking solutions is believed to be low.

Build Alternatives LRT 3C-1 (Nicollet Mall) and LRT 3C-2 (11th/12th Streets) remove a greater number of on-street parking spaces, with removal of all parking on Nicollet Avenue between Franklin Avenue and Grant Street (a distance of 10 to 12 city blocks). Replacing this lost parking would be very difficult given the highly urbanized nature of the adjacent land uses. Therefore the loss of this parking would be unavoidable.

Access

Build Alternatives LRT 1A and LRT 3A (LPA) are not anticipated to have any long-term effects on business access; therefore, no mitigation is required.

Build Alternative LRT 3A-1 (co-location alternative) would have potential adverse effects by restricting access to station area businesses by requiring customers to cross the freight rail tracks. Potential mitigation could entail constructing grade-separated pedestrian crossings of the freight tracks.

LRT 3C-1 (Nicollet Mall) and LRT 3C-2 (11th/12th Streets) would have potential adverse access effects to businesses adjacent to Nicollet Avenue Mall, including the removal or reduction of on-street dining and opportunities for other street activities (such as the seasonal farmer's market). There may be opportunities to minimize these impacts during preliminary engineering; however, avoiding these impacts would not be possible.

5.2.5.3 Mitigation for Development Potential

All Build Alternatives are anticipated to have some degree of positive effect on development potential for the local community and region. No mitigation is required.