3.0 Purpose and Need

3.1 Overview

This chapter documents the purpose and need for improved transit service in the southwest metropolitan area of the Twin Cities

3.2 Background and Assumptions

The Southwest transitway is a proposed 14-mile line in the Minneapolis/St. Paul region, connecting the downtown Minneapolis to the high growth areas to the southwest. A Southwest transitway will add system capacity in an area of high demand, respond to travel demand created by existing and planned residential and employment growth, provides a competitive travel option that will attract choice riders and serve transit dependent populations. This line will also be an expansion of the region's transitway system (Hiawatha LRT line, Northstar Commuter Rail (under construction), Central LRT line (proposed)).

2. Purpose of the Project

A Southwest transitway will improve access and mobility to the jobs and activity centers both to/from the Minneapolis CBD for the traditional work trip as well as along the entire 14-mile line for reverse-commute trips to the expanding suburban employment centers, most notably the Opus/Golden Triangle area with over 50,000 jobs.

A Southwest transitway will also provide a competitive, cost-effective travel option that will attract choice riders to the transit system. The competitive travel time for the Southwest Transitway is attributed to the diagonal nature of the line compared to the north-south/east-west orientation of the roadway network and the increasing levels of congestion of the roadway network.

A Southwest transitway will be part of the region's system of transitways integrated to support regional transportation efficiency. The Southwest transitway has been identified by the Metropolitan Council since the late 1990s as warranting a high-level of transit investment to respond to increasing travel demand in a highly congested area of the region. Due to congestion levels on the roadway network, the speed/use limitations of the shoulder bus operations and capacity constraints in downtown Minneapolis, a bus option is limited in its ability to adequately serve the travel demand.

3.3 Transportation Planning Context

The Southwest Transitway has been included in various transportation plans and studies conducted by local and regional planning agencies. As described in detail in *Technical Memorandum No. 1, Purpose and Need Statement* and summarized in Chapter 1 of this report, the Hennepin County Regional Railroad Authority (HCRRA) has studied the Southwest Transitway since the mid-1980s. In addition, the Metropolitan Council, the region's Metropolitan Planning Organization (MPO), has also included the Southwest Transitway in the *Transportation Policy Plan* (TPP), 2004. Figure 3.1 illustrates the Metropolitan Council's planned 2030 Transitway System.

3.4 Existing and Future Conditions

3.4.1 Demographics

Between 1990 and 2000, the Twin Cities region experienced strong growth, which is anticipated to continue in the future. According to the 2000 US Census and the Metropolitan Council, the region

added 430,000 new residents and 290,000 new jobs between 1990 and 2000. This equates to a 17 percent increase in population and a 23 percent increase in jobs.

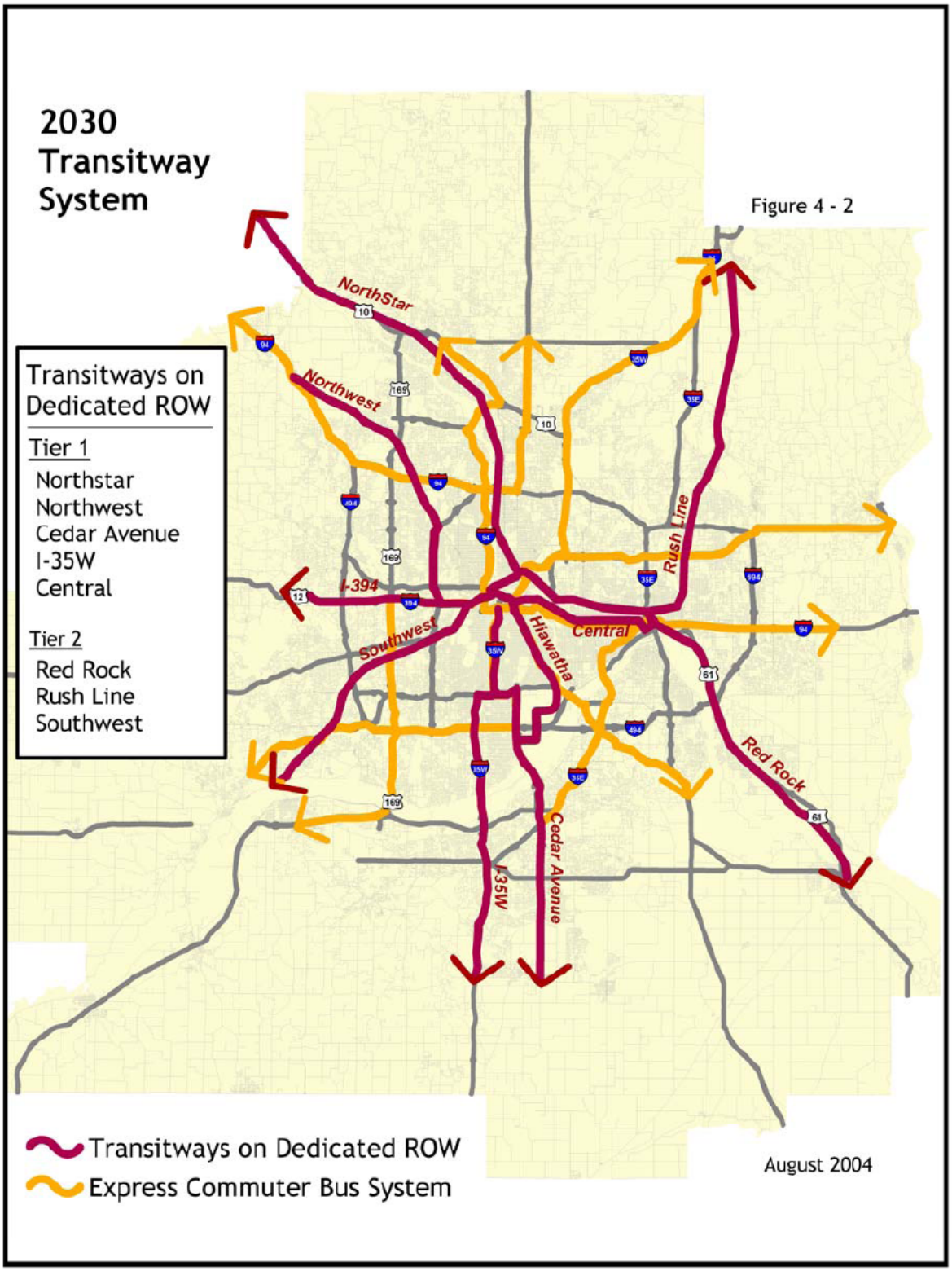
By 2030, the Metropolitan Council projects another 37 percent increase in population and 36 percent increase in jobs for the region. In raw numbers, during the 30 year period between 2000 and 2030, the region anticipates adding nearly one million people and over half a million jobs. This sustained growth will continue to have a major impact on the region's transportation system.

3.4.1.1 Study Area Population

1980-1990

With the exception of Minneapolis, all study area communities increased in population from 1980 to 1990. Eden Prairie and Minnetonka experienced the most substantial growth in percentage terms.

Figure 3.1 Metropolitan Council 2030 Transitway System



Source: Metropolitan Council, 2004

From 1980 to 1990, Eden Prairie nearly tripled its population. During that same decade, Minnetonka's population increased by 25 percent.

1990-2000
All study area communities experienced additional population growth between 1990 and 2000, as shown in Table 3.1. Eden Prairie again experienced the highest percentage gain, with a 40 percent increase in population.

2000-2030
Between 2000 and 2030, the population for all study area communities is projected to increase, as shown in Table 3.2. St. Louis Park and Eden Prairie are expected to have the largest percent growth with 17 percent and 15 percent, respectively.

Table 3.1 Study Area Population Trends (1980 – 2030)

Locality	1980	1990	Percent Change	2000	Percent Change	2030	Percent Change
Eden Prairie	16,300	39,300	141%	54,900	40%	63,000	15%
Minnetonka	38,700	48,400	25%	51,000	5%	53,500	5%
Hopkins	15,300	16,500	8%	17,000	3%	18,900	11%
St. Louis Park	42,900	43,800	2%	44,100	1%	51,500	17%
Minneapolis	371,000	368,400	-1%	383,000	4%	435,000	14%
Total	484,200	516,400	7%	550,000	7%	621,900	13%

Source: U.S. Census and Metropolitan Council

3.4.1.2 Study Area Employment

1990-2000
According to the Metropolitan Council, between 1990 and 2000 the Twin Cities Metropolitan Area added approximately 290,000 new jobs, which increased the job base by 23 percent. During this same period, the Southwest Transitway study area cities' share of the added jobs was over 43,000 new jobs, increasing their job base by 17 percent.

Nearly half of all jobs in the study area are located in downtown Minneapolis, which is currently the highest traffic generator in the region. Downtown Minneapolis is home to many corporate headquarters, including Target Corporation, American Express, Wells Fargo and Excel Energy. It is also the cultural and entertainment center of the region, with the Convention Center, Guthrie Theatre, Walker Art Center, Orchestra Hall, the HHH Metrodome, and the Target Center Arena.

The remaining study area employment is dispersed throughout the other study area cities. Concentrations are located in the Park Commons and Wooddale areas of St. Louis Park, downtown Hopkins, the Opus development in Minnetonka, and the Golden Triangle and Eden Prairie Center Mall areas of Eden Prairie.

Study area employment trends by community are shown in Table 3.3.

Table 3.2 Study Area Employment Trends (1990 – 2030)

Locality	1990	2000	Percent Change	2030	Percent Change
Eden Prairie	36,100	49,400	37%	65,000	32%
Minnetonka	35,500	50,500	42%	58,600	16%
Hopkins	12,300	11,800	-4%	16,300	38%
St. Louis Park	36,800	40,700	11%	52,500	29%
Minneapolis - CBD	128,400	139,800	9%	346,500	15%
Total	249,100	292,200	17%	538,900	19%

Source: Metropolitan Council

2000-2030
Employment growth is expected to continue. By 2030, the Metropolitan Council projects that the region will add over 500,000 jobs, which is a 36 percent increase.

All study area communities are projected to experience job growth during the next two decades. As shown in Table 3.4, a 38 percent increase is projected for Hopkins, with substantial gains projected for other study area communities as well. The City of Minneapolis estimates that downtown currently has 140,000 jobs. The Metropolitan Council estimates that downtown Minneapolis alone will add nearly 20,000 new jobs during the next two decades.

3.4.3 Community Resources

The Southwest Transitway study area encompasses many features of Minnesota's famed quality of life. Community resources in the study area include recreational features such as the lakes, parks and trails found throughout the five study area cities. The study area also includes the major medical facilities of Hennepin County Medical Center in downtown Minneapolis and Methodist Hospital in St. Louis Park, and individual community amenities including schools, libraries, service centers, and other unique features such as the student-run Hopkins Depot coffee shop.

3.4.4 Transportation System

3.4.4.1 Roadways

Growth in population and employment over the past 20 years has resulted in increased travel. Additional roadway capacity created in the 1970s to accommodate projected population growth has been depleted as people travel more than had been forecasted. The result has been increased congestion, increased delays, more pollution, and an increase in the economic costs of operating a business in the region. With constraints on transportation funding, and the social and environmental consequences of roadway expansion, congestion is anticipated to continue to grow and mobility to decline.

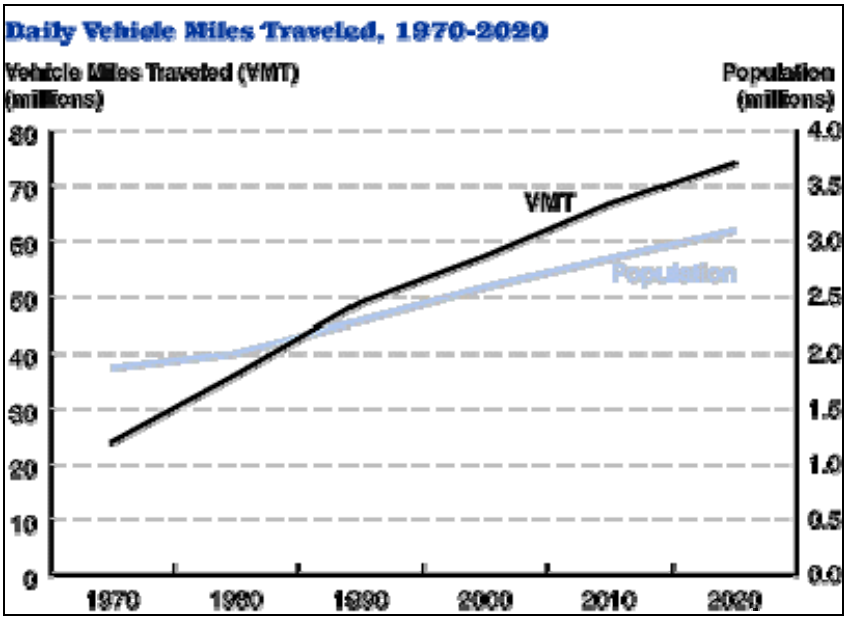
Since the mid-1980s, the number of vehicle miles of travel (VMT) has outpaced population growth in this region. In 1970, Twin Cities residents made an average of 2.7 daily trips per capita, with an average trip length of just less than 5 miles. By 2000, the average had increased to 4.2 daily trips per capita and the average trip length had increased to 6.5 miles. In 2000, the total number of trips taken ("daily person-trips") using all means of transportation ("all modes") totaled 11,670,000, of which 10,800,000 were motorized trips. This was an increase of 16% from 1990.

A number of factors explain the increase in travel demand within this region. These include increases in the number of households, average number of vehicles per household, and number of multiple-worker households; and the increased dispersion of jobs and housing throughout the region.

The Metropolitan Council projects this trend to continue through 2030, with travel increasing faster than population growth. Total VMT is expected to increase from 57 million in 2000 to 86 million in 2030, a 51% increase, while population is expected to grow by 17 percent. Daily person-trips are expected to increase to 15 million by 2030. Figures 3.3 and 3.4 illustrate these statistics.

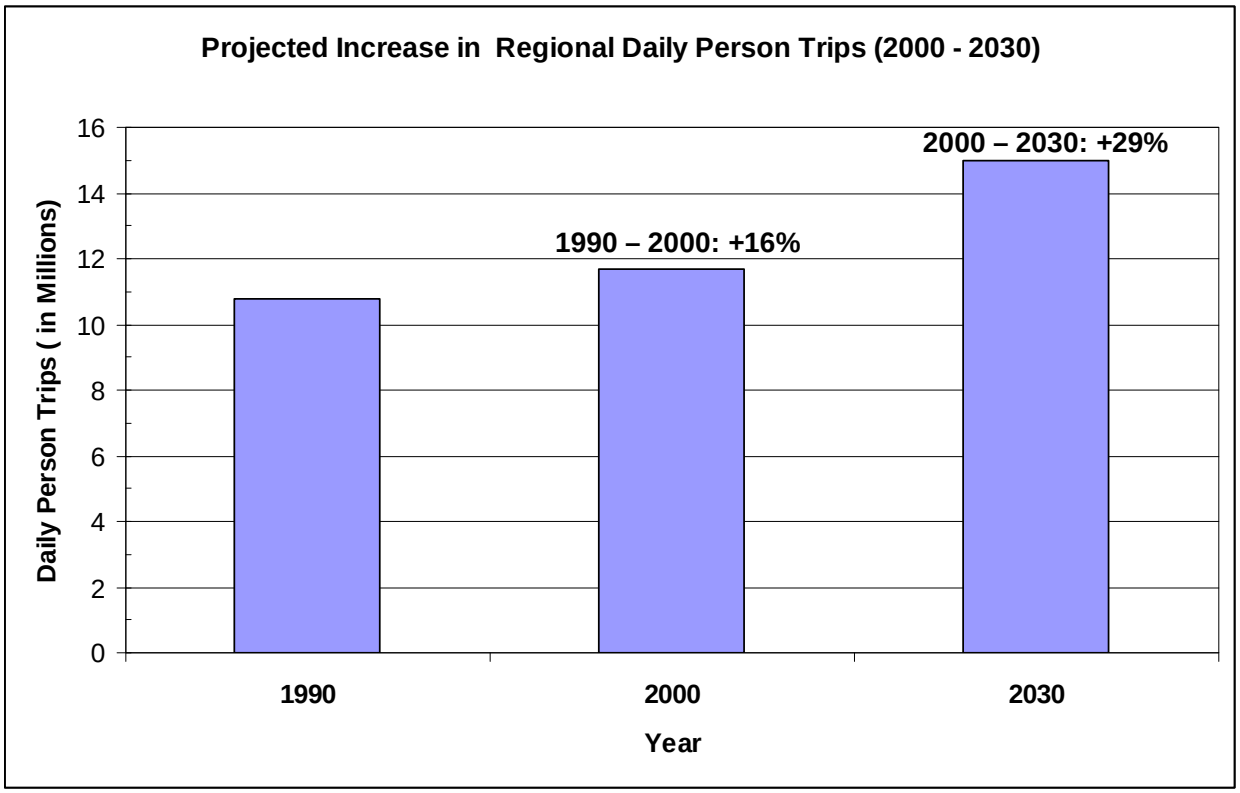
According to data from the Minnesota Department of Transportation (Mn/DOT) the demand for travel in the southwestern metropolitan area has increased substantially since the 1980s and is expected to continue increasing significantly. Specifically, between 1990 and 2000, traffic on the major interstates and highways in the southwestern metropolitan area increased by approximately 23 percent. Congestion is growing region-wide as well. In 1970, the regional road system experienced 10 congested lane miles; by 2000 that number rose to 183 congested lane miles. Mn/DOT projects that by 2025 that number will more than double, to 491 congested lane miles (Figure 3.5).

Figure 3.2 Daily Vehicle Miles Traveled



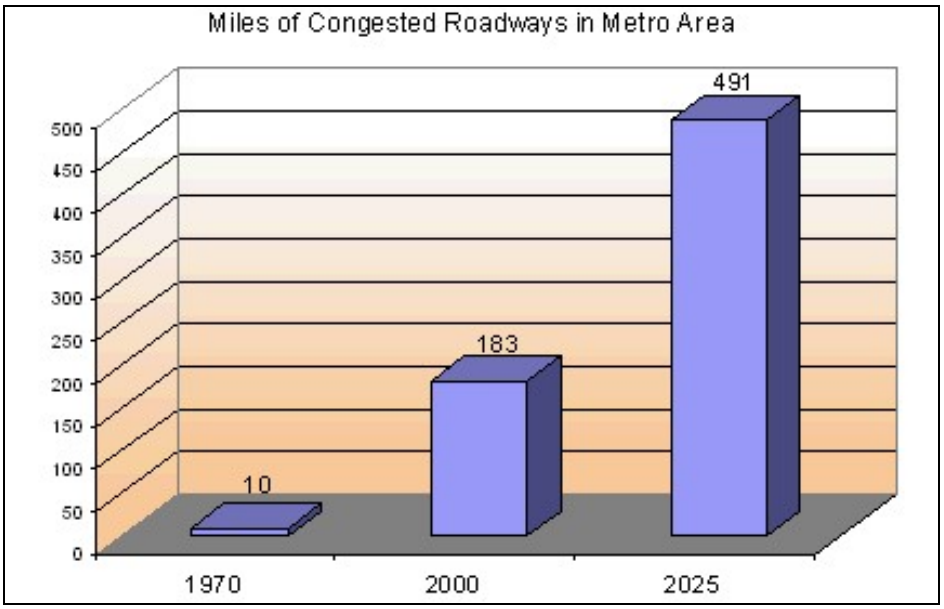
Source: Metropolitan Council

Figure 3.3 Regional Daily Person Trips (2000-2030)



Source: Metropolitan Council

Figure 3.5 Miles of Congested Roadway



Source: Minnesota Department of Transportation

The Texas Transportation Institute regularly conducts and reports research on the nation's transportation conditions. The Institute's findings are widely reported and tracked by transportation agencies throughout the country. Among the Institute's findings on increased congestion in U.S. cities, its 2004 Urban Mobility Report lists Minneapolis as experiencing a faster increase in delay than its population group average from 1982 to 2002. The Institute's finding confirms not only the region's increased congestion over that 20-year period, but also indicates congestion is increasing faster in the Twin Cities than in comparable cities. Figure 3.6 illustrates the expected increase in congestion on Twin Cities highways based on Metropolitan Council projections.

The Southwest Transitway study area experiences a major share of this increased traffic. Between 1980 and 2000, traffic on the major interstates and highways in the Southwest Transitway study area increased by 79 to 150 percent. Average annual daily traffic on these major roadway segments is forecasted to grow by 49 percent between 2000 and 2020.

3.4.4.2 Travel Time

As congestion in the region increases, the geographic area that can easily be accessed for jobs, education, shopping and recreation decreases. In 2000, travelers from study area communities could reach many destinations within the metro area within 30 to 60 minutes. By 2030, travel times greater than 60 minutes are anticipated to substantially increase. Figures 3.7 through 3.9 illustrate the projected decline in accessibility by 2030 for travel from Eden Prairie, Minneapolis and St. Louis Park.

The increase in travel demand also has economic impacts on the region's residents. According to the Metropolitan Council, Twin Cities residents spent a total of 54.6 million hours in roadway congestion in 2002, which is the equivalent of approximately 6,200 years or $740 million in lost time. When including fuel consumed for each traveler in the peak period, this amounts to an overall cost to the region of $970 million.

Figure 3.6 Congested Highways, 2000 and 2020

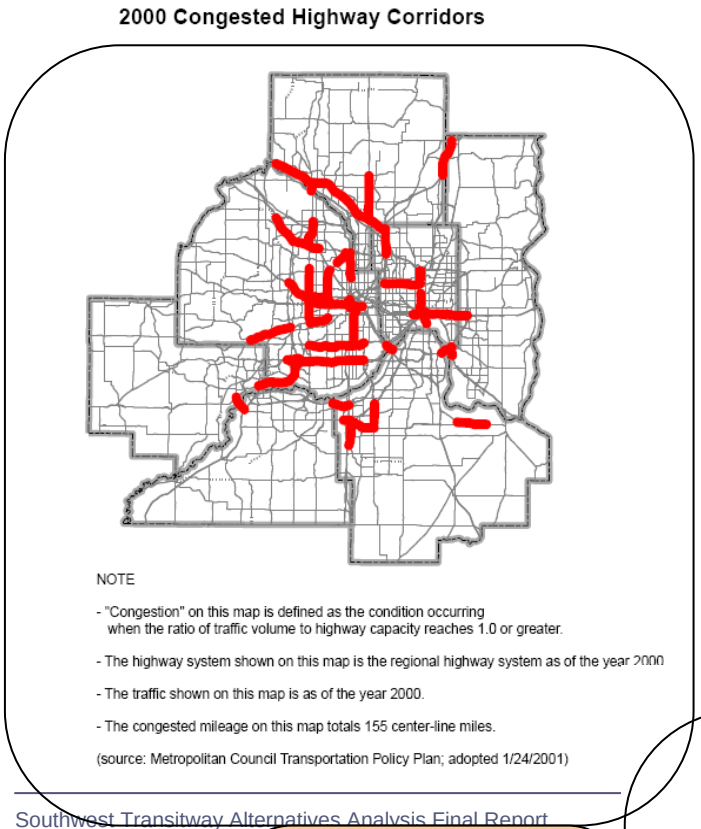


Figure 3.7 PM Peak Hour Travel Times from Eden Prairie in 2000 & 2030

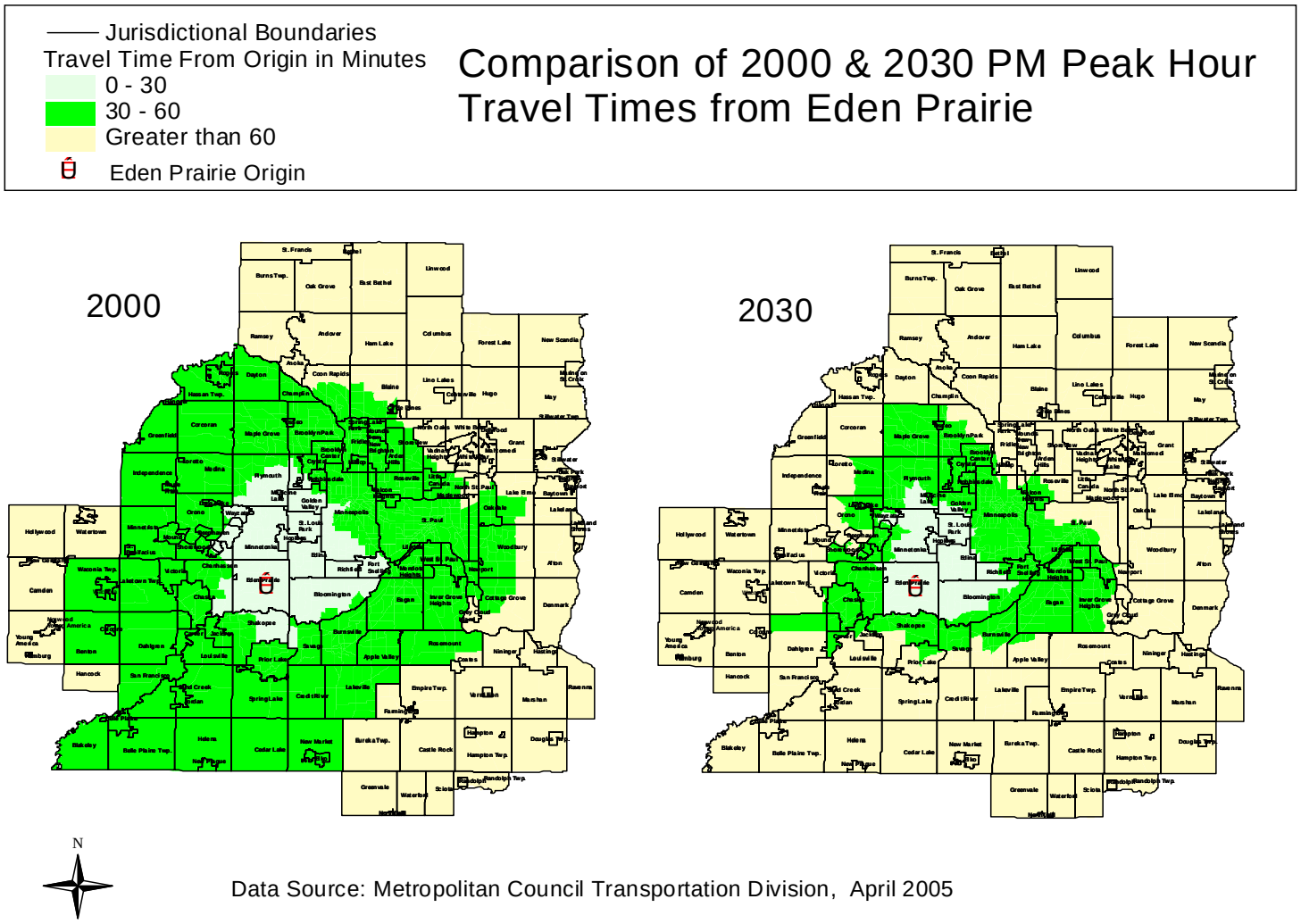


Figure 3.8 PM Peak Hour Travel Times from Minneapolis in 2000 & 2030

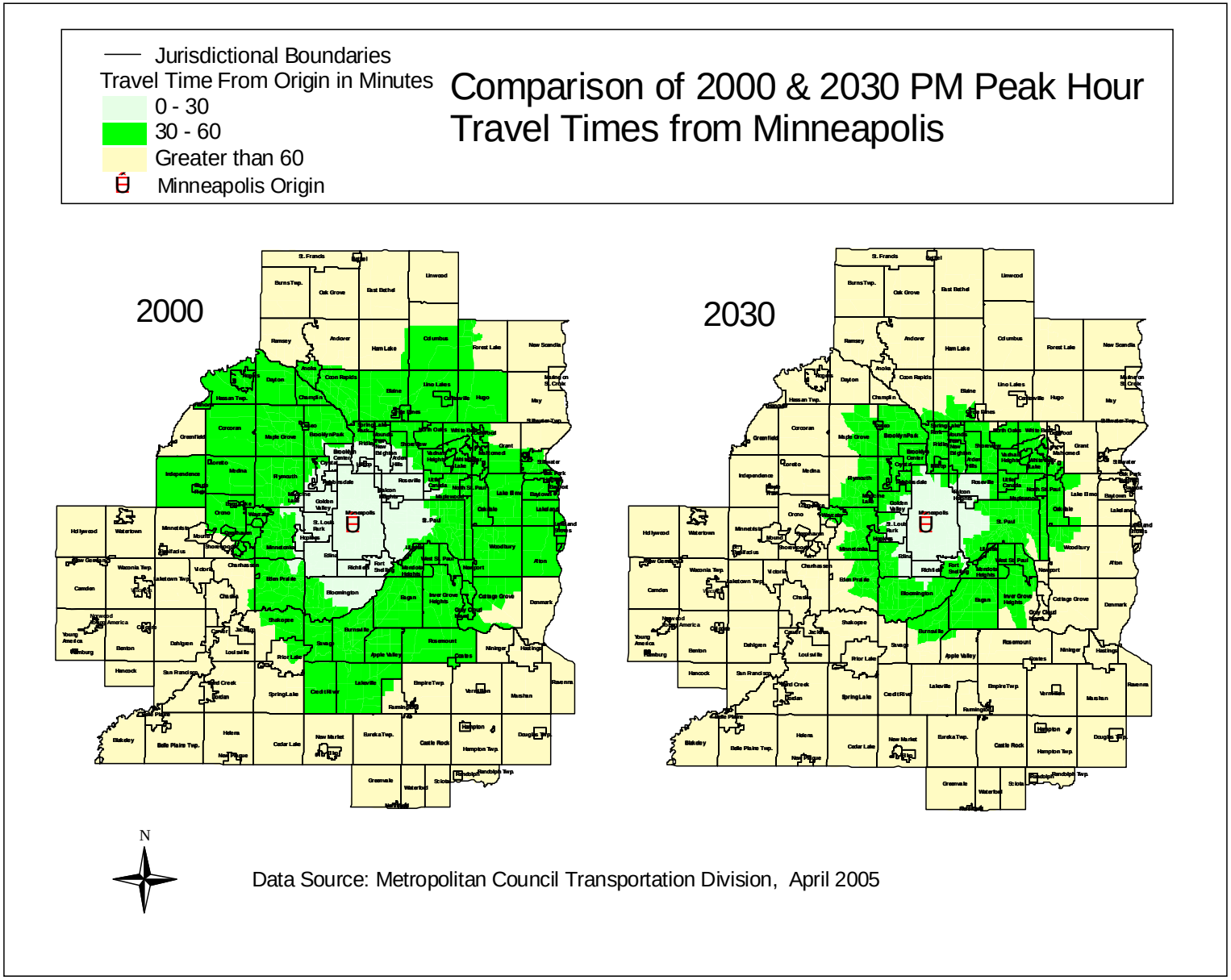
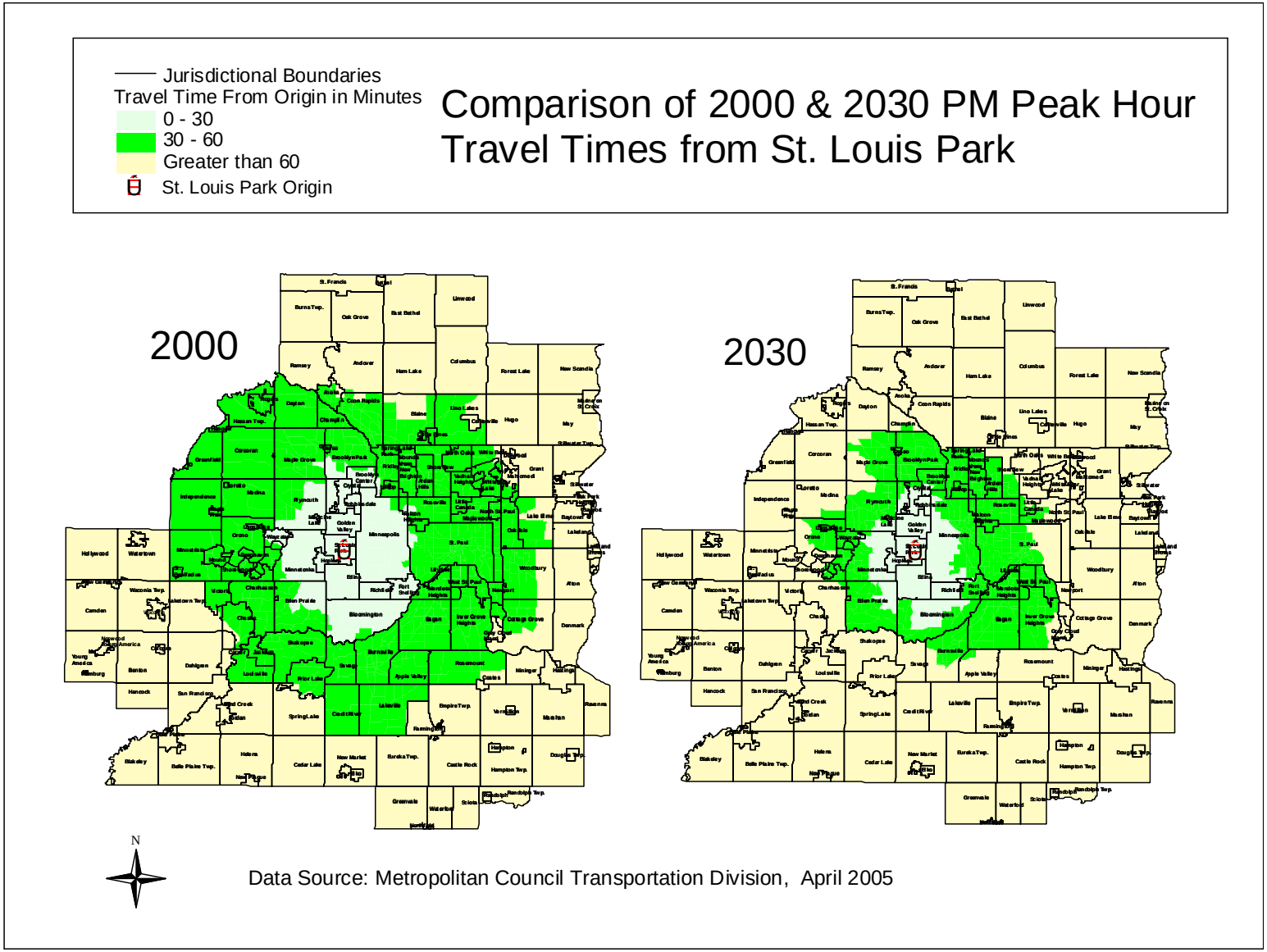


Figure 3.9 PM Peak Hour Travel Times from St. Louis Park in 2000 & 2030



3.4.4.3 Transit

Facing rapid population growth, growing congestion and limited prospects for new major freeways, the Twin Cities will need a strong transit system to ensure its continued economic vitality. The Metropolitan Council has set a goal of doubling current transit ridership by 2030, through a variety of transit programs.

Two of the area's transit providers primarily serve Southwest study area cities: Metro Transit and SouthWest Metro Transit. Metro Transit, the transit operating agency of the Metropolitan Council, provides express, limited-stop and local bus service to the study area cities of Minneapolis, St. Louis Park, Hopkins and Minnetonka. SouthWest Metro Transit provides express bus service to downtown Minneapolis from Eden Prairie, Chanhassen and Chaska as well as local circulator service throughout Eden Prairie, Chanhassen and Chaska.

A total of 49 bus routes, including 27 express, three limited stop, and 18 local routes, serve the study area. On an average weekday, nearly 28,000 commuters from the study area cities use transit to travel to downtown Minneapolis. Approximately 24,000 weekday study area commuters are carried on Metro Transit buses and 3,600 are carried on SouthWest Metro buses. While numerous park-and-ride facilities are located throughout the study area, the largest single park-and-ride facility, with over 1,000 spaces, is the SouthWest Metro Transit Station located in Eden Prairie.

3.4.5 Travel Demand Patterns

The Southwest Transitway study area accounts for a large portion of travel demand within the region. According to an analysis of the Metropolitan Council's 2005 Travel Demand Model, approximately one-quarter of all trips (one-way) in the Twin Cities metropolitan area currently begin or end within the Southwest Transitway's demand area. The demand area, illustrated in Figure 3.10, produced and attracted a combined total of 3.4 million daily trips in 2005; this represents just over 27% of the approximately 12.9 million daily trips in the 7-county Twin Cities metropolitan area. In the 2030 Metropolitan Council Travel Demand Model, the demand area continues to capture approximately a quarter of all metropolitan area trips. Roughly 24% (or 3.9 million) of the 16.3 million daily regional trips in the 2030 model either begin or end within the Southwest Transitway demand area.

This analysis also showed that more than half the trips that begin within the demand area also end in the demand area. In both the 2005 and 2030 models, 65% of all trips originating in the demand area have destinations within the corridor. In 2005, of the 2.2 million trips which begin in the demand area (trip productions), 1.45 million have attractions (endings) within the corridor. In 2030, the number of trips with both productions and attractions within the demand corridor increases to over 1.6 million.

High concentrations of work attractions form a radial pattern from downtown Minneapolis to the southwest. Much of this concentration lies within three areas which represent large centers of employment: Opus, the Golden Triangle, and downtown Minneapolis. To further distinguish trip making patterns within the corridor, the analysis examined the travel demand for these three districts, also identified in Figure 3.10.

The Downtown Minneapolis district accounts for a substantial portion of trips with both beginnings and endings within the demand area. In both the 2005 and 2030 models, roughly 40% of all Downtown Minneapolis-destined trips also originate within the demand corridor.

The majority of trips attracted to the Golden Triangle and Opus also originate within the demand area. In the 2005 and 2030 models, over half of all trips attracted to the Golden Triangle and to Opus are also produced within the demand corridor.

3.5 Needs Analysis

3.5.1 Proposed Development and Redevelopment

Land use goals supportive of transit are a significant factor in the evaluation of a prospective New Starts project by the Federal Transit Administration (FTA). The Southwest Transitway AA process was guided by FTA land use and development criteria in identifying station area concept plans that are consistent with local comprehensive plans, and that reflect local community goals regarding the environment, quality of life, and economic development.

All five study area cities recognize the need to improve mobility and access for their resident and employee populations. Recognition of the need to coordinate land use decisions with transportation access is reflected in the Comprehensive Plans of each of the cities. Each Southwest study area city's adopted Comprehensive Plan, the enforceable policy instrument that guides land use, includes transit-supportive policies.

In Minneapolis, St. Louis Park and Hopkins, redevelopment planning has been underway for several years as planning for a Southwest Transitway has progressed since the late 1980s. The cities of Minnetonka and Eden Prairie, two of the region's newer high employment growth areas, have focused recent development and redevelopment efforts on transit-supportive development at several proposed Southwest Transitway station areas. Development planning currently underway will be reflected in the next regional comprehensive plan update as Southwest study area communities along with all Twin City municipalities submit their updated plans to the Metropolitan Council in 2008.

Declining Mobility (Growth Outpacing Supply)

The Southwest area is experiencing significant declining mobility resulting from high residential and employment growth and limited infrastructure improvements. The area is home to downtown Minneapolis, the region's largest employment center with over 140,000 jobs (78 jobs/acre) and the Golden Triangle, the region's sixth largest employment with over 50,000 jobs (10 jobs/acre) The area is also home to many major employers listed above. In addition to the high employment growth, this area has also experienced high residential growth with over xx residences. An illustrative example is the city of Eden Prairie which grew from 16,000 persons in 1980 to over 50,000 persons by 2000. In terms of travel, currently 27 % of all regional trips begin or end in the corridor, and 65 % of all trips originating within the study area stay within the study area.

As a result of this strong residential and employment growth travel on area roadways has increased by 80% to 150% in the past 25 years. A number of study area roadways, TH 100, TH 169, TH 62, I-494, I-394, and TH 7, have been identified by the Mn/DOT as having a high mobility deficiency rating. According to Mn/DOT's long-range transportation plan, the Transportation System Plan (TSP) there are no plans for major expansions or improvements to roadways in the study area.

Suburban express bus ridership in the area provided by SouthWest Transit and Metro Transit has more than doubled in the past 10 years and surpassed 1 million annual riders for the first time in 2007. SouthWest Transit operates 12 express routes from Eden Prairie to downtown Minneapolis and Metro Transit operates 15 limited-stop/high frequency routes in and between Minnetonka, Hopkins, St. Louis Park and downtown Minneapolis. Transit advantages, including bus shoulder-lanes, park/ride lots, ramp meter bypasses, have been implemented throughout the area, but bus

speeds remain limited, even on shoulder-lanes, to a maximum of 35mph under congested conditions.

Due to lack of planned highway capacity additions, and transit facility capacity limitations in downtown Minneapolis, future demand increases will not be adequately met by capacity enhancements for either auto or bus. Demand increases will be fueled by increasing population within the corridor (12% increase to 2030) and by increasing job concentrations – a 16% overall increase and increases in job concentrations from 78 to 113 jobs/acre in downtown Minneapolis and from 10 to 17 jobs/acre in the Golden Triangle. Travel times from Eden Prairie for auto are expected to increase by about 10%, from 30 min in 2000 to 34 minutes in 2030 during peak periods. Current express bus time may increase, as it is already using shoulder lanes with no plans for expansion.

Lack of Competitive, Reliable Transit Options for Choice Riders and Transit Dependents
Due to congested roadways and the geography of the roadway network used by the bus system it is difficult to provide significant travel time advantages to attract choice riders to the system and to adequately serve transit dependent concentrations, especially those in and around downtown Minneapolis. The study area roadway network is oriented north-south/east-west where development patterns have radiated outward from downtown Minneapolis on a diagonal. Additional travel time is added to vehicle and transit trips due to the geography of the roadway system. The Twin Cities is a leader across the nation in the use of bus shoulder lanes. Currently, the Twin Cities has over 250 miles of operating bus shoulder lanes. These facilities provide buses with a travel time advantage over the auto during congested periods, but due to state law their use is limited to situations where the mainline is operating at 35 mph or lower and the bus cannot travel more than 15 mph above the speed of the mainline. As stated previously all major roadways in the study area are identified by Mn/DOT as experiencing mobility deficiencies during peak periods. This negatively affects the ability of the bus transit system to provide a travel time advantage to attract choice riders from suburban locations to the transit system.
The geography of the roadway network near downtown Minneapolis also makes it difficult to provide competitive transit travel times. Two neighborhoods of note are the Harrison and Bryn Mawr, neighborhoods lying just outside of the downtown core of Minneapolis. In many cases these residents live within a mile or two of downtown Minneapolis yet due to the roadway network used by the bus system their transit travel times range from 9 minutes to 13 minutes. The roadway network through these neighborhoods is circuitous with many one-way street operations.

Lack of Reverse Commute Transit Service
Transit dependent concentrations are growing in the study area, primarily in and around downtown Minneapolis. These areas include the North Loop Neighborhood, Harrison, and Bryn Mawr neighborhoods. In addition to the strong job growth in downtown Minneapolis, the other cities have experienced and area projected to continue to experience substantial job growth into the future. This is evidenced by the 65percent of the trips generated in the study area remaining within the study. Many of these trips are reverse commute trips from these near downtown neighborhoods to job centers in suburban locations. Currently these jobs are largely inaccessible by transit.

Figure 3.10 Southwest Demand Area and Attraction Districts