

## 9 COMMUTER SERVICES: DEMAND EVALUATION OF CORRIDORS

### INTRODUCTION

To assess which corridors are appropriate for the various types of services discussed in Chapter 8, the consulting team led an effort to evaluate a large number of corridors based on potential regional transit ridership. For those corridors identified to have a low likelihood of transit ridership, other factors were also considered. The outcome of this effort is to define where potential commuter transportation services are most likely to achieve performance standards and to define preferred alternatives for regional commuter services in District 3.

In Central Minnesota, potential regional transit services can include traditional over the road coaches or regular large or small transit buses. Nevertheless, much of the demand in the region for travel beyond jurisdictions, based on input from human service agencies and the rural transit agencies, is not for commute travel. Rather, there are demands for trips to medical appointments, social activities, shopping destinations, and other purposes, and much of this demand is served by existing rural providers.

Smaller buses, including cutaways, can operate between smaller cities, providing lifeline services, some of these operate between communities in District 3 (and beyond District 3), but few of these existing services meet the needs of people who would be traveling to jobs and schools. Based on an analysis of the existing services and the commute patterns in District 3, there are few opportunities to adapt the existing services to meet the needs of commuters. Transportation that is not explicitly designed as a commuter service is subject to the required provision of ADA paratransit service or must deviate to pick up riders and drop them off at their destinations.

In District 3 counties, existing services tend to deviate to pick up riders and take them to a number of different locations in destination cities, often making several stops upon arrival in town. Many of the users of these services include seniors and people with disabilities who are not traveling on a regular schedule to school or jobs. It can be difficult to comingle commuters who have generally time-sensitive trips with non-commuters who may have more flexibility in their schedules. Because the focus of this study is a commuter transportation study, the approach was to identify the commuter corridors that warrant services and then identify options for providing those services.

Using a ridership estimation tool, the consulting team considered corridors that would merit the greatest potential for any type of transportation service, with those meeting transit ridership performance standards considered for new transit services, and those not meeting the ridership standards for transit services considered for other transportation options, discussed in the toolbox in Chapter 8. Non-commuter services are acknowledged for their value as potential feeder services.

## **CORRIDORS FOR EVALUATION**

Based on the findings from the commute analysis, the consulting team, in collaboration with MnDOT staff, established a set of corridors for which a transit ridership estimation tool was developed and applied. For each of the corridors, appropriate stop locations and basic operating characteristics were defined for purposes of estimating ridership. Preliminary corridors evaluated for potential transit service included the following, which are shown in the map in Figure 9-1.

### **Intra-District Corridors**

#### **A. Corridors serving the Brainerd-Baxter Area**

- Brainerd to Onamia (Grand Casino Mille Lacs)
- Brainerd to St. Cloud (also listed below)
- Pequot Lakes to Baxter/Brainerd
- Staples to Baxter/Brainerd
- Crosby to Brainerd

#### **B. Corridors serving destinations in the St. Cloud Area**

- Brainerd to St. Cloud (also listed above)
- Cold Spring via St. Joseph to St. Cloud
- Milaca to St. Cloud
- Sauk Centre to St. Cloud
- St. Cloud to Minneapolis (also listed below)

#### **C. Corridors that link cities in District 3 and do not provide a direct connection to Brainerd or St. Cloud**

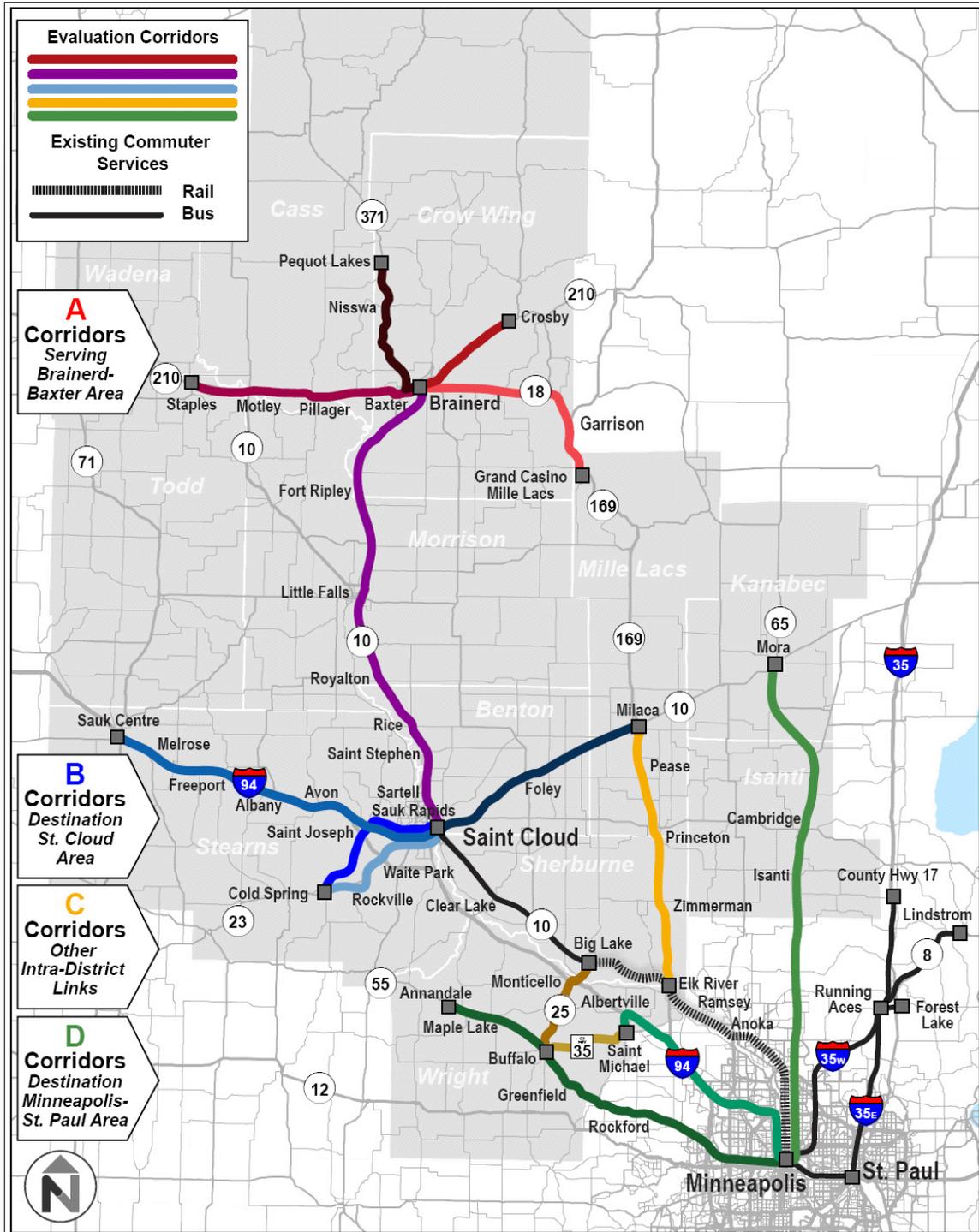
- Buffalo to St. Michael
- Buffalo via Monticello to Big Lake
- Milaca to Elk River

### **Inter-District Corridors serving Minneapolis**

#### **D. Corridors serving destinations in the Twin Cities**

- Annandale to Minneapolis
- Mora to Minneapolis
- St. Cloud to Minneapolis (also listed above)
- St. Michael to Minneapolis

Figure 9-1 Preliminary Corridors for Transit Service Ridership Evaluation



## RIDERSHIP ESTIMATION METHODOLOGY

An initial assessment of potential transit ridership on each regional corridor was developed by following a series of steps. The goal of the effort was to allow for a comparison among the various routes to better understand which corridors had the greatest potential for transit ridership and which were less likely to achieve performance standards for transit ridership. The ridership estimation process provides assumed ridership and cost numbers, but should be considered a tool to allow for comparison among corridors rather than as a definitive benchmark for operating characteristics.

For each potential origin stop along a regional route, the population was calculated within a three-mile buffer of the stop. Population was calculated for the entire set of blocks that were completely or partially within the three-mile buffer. Because of their large non-employee commuter base, St. Cloud State University and Central Lakes College students were included in the estimates as well. The three-mile distance for home-to-work trip origin area is commonly cited in planning documents and was used as an accepted distance as the catchment area for people who would drive to a park-and-ride facility.<sup>1</sup> Research from park-and-ride models has found that one-half of park-and-ride lot demand comes from within a 2.5-mile radius of the lot.<sup>2</sup>

Each origin point was then assigned two base transit mode split numbers to illustrate the potential range of transit ridership estimates for each stop and corridor. The first mode split number was based on transit mode split data by county from the U.S. Census Bureau's American Community Survey. For the St. Cloud metropolitan area, this figure was adjusted to meet the regional transit mode split of 2.1%. The second mode split number was based on the lowest transit mode split (2.6%) cited by the Metropolitan Council. This second number was then adjusted upwards (to 4.5%) for locations from Annandale to Minneapolis, and St. Michael to both Buffalo and Minneapolis based on a comparison of sample model results to the actual number of commuters who used the now inactive commuter coach route service in that area. For the potential rail corridor extending to St. Cloud and Becker, the transit mode split was calibrated based on actual current ridership figures along the corridor.

The U.S. Census Bureau's Longitudinal Employer-Household Dynamics (LEHD) data was then used to calculate how many of those residents within each three-mile area will travel to jobs within one-half mile of destination points (i.e., job locations) further along the corridor. The one-half mile distance from destination points represents a comfortable ten-minute walking distance that most commuters will find acceptable.

The number of commuters traveling to St. Cloud and the Twin Cities were factored up to account for the high proportion of people transferring to complete a bus trip in St. Cloud (nearly 50% of Metro Bus riders, and about 18% of Link riders), and the one-third of Link commuters to the Twin Cities who transfer to another public transit line when they get off Northstar rail to complete their trip. To account for this, the bus transfer adjustment factor in the Twin Cities (4.8%) reflects the percent increase in employees from a half-mile destination radius to a three-mile destination point radius factoring in both the Metropolitan Council transit rate (4.5%) and bus transfer rate (33%). For St. Cloud, since such a calculation would capture jobs well outside the city, the bus transfer adjustment

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<sup>1</sup> This distance is conservative. Based on the park-and-ride surveys, the average one-way drive to a park-and-ride lot is 6.2 miles (excluding a few outliers who travel more than 15 miles)

<sup>2</sup> *Application of Siting and Demand Estimation Models to Coordinate Park-and-Ride Facility Planning*, William E. Hurrell and Alice Sgourakis, Wilbur Smith Associates, and Steven B. Colman, Dowling Associates, 7th International HOV Facility Conference, TRB, June 5-8, 1994.

factor was set as a ratio of the city's bus transfer rate (50%) to that of the Twin Cities (33%) multiplied by the Twin Cities adjustment factor, which resulted in a final factor of 7.8%.

The ridership estimation tool then broke out the number of employees traveling to jobs within one-half mile of destination transit stops by income into three categories: jobs with earnings of \$1,250 per month or less, jobs with earnings of \$1,250 - \$3,333 per month, and jobs with earnings of \$3,334 per month or more.

Each set of income earners was then assigned an adjustment factor based on the difference in U.S. Census Bureau transit mode split for that income group compared to all transit users in Minnesota. For example, the adjustment factor for those with jobs earning \$1,250 per month or less was 1.3% since the group's mode split (4.7%) was that much higher than the state average (3.4%).

The final adjustment factor accounted for the cost and time differences between taking transit versus driving. This factor included a comparison of driving and transit times (transit time equaling driving time plus two minutes per stop) from origin to destination points (using the state's median income as a value to quantify the worth of one's time), and costs associated with gas (\$3.73/gallon), parking (\$7 daily in the Twin Cities), and transit fares (\$3.25 one-way fare for model purposes; see Chapter 13 for fare refinements). For example, a trip from Big Lake to Minneapolis results in a transit adjustment factor of 0.5% as the cost of driving moderately exceeds that of taking transit.

Finally, the total possible person trips were multiplied by the transit mode split to arrive at the estimated number of daily transit trips. This figure was multiplied by total weekdays the route would operate during the year.

## **PREFERRED TRANSIT CORRIDORS**

Once the ridership analysis was complete, the list of corridors was refined to those that are most likely to achieve performance standards. Effectively, it is assumed that in these specific corridors, more efficient and effective transportation could be provided with regularly scheduled service; in other areas, specialized transportation services are more likely to be more appropriate based on current travel demands.

Four preferred potential routes, listed in no particular order of priority, include segments of some of the routes presented in Figure 9-1. All but one of the transit services is an Intra-District corridor:

- Cold Spring via St. Joseph to St. Cloud
- Buffalo to Minneapolis
- St. Michael to Minneapolis
- St. Cloud to Minneapolis

Each of these potential regional services was conceptually defined to the following level of detail:

- Route alignment
- Conceptual service schedule and service hours
- Bus stop and park-and-ride locations
- Ridership estimates
- Costs
- Service considerations

## COLD SPRING VIA ST. JOSEPH TO ST. CLOUD

### Route Alignment

The route is proposed to start from the existing park-and-ride lot located at Greenwood Circle and Maple Hill Road in Cold Spring. From Cold Spring, the route is proposed to continue north on County Highway 2 to St. Joseph. The route would then continue east on County Highway 75 to St. Cloud. The alignment is shown in Figure 9-2.

### Conceptual Schedule and Service Hours

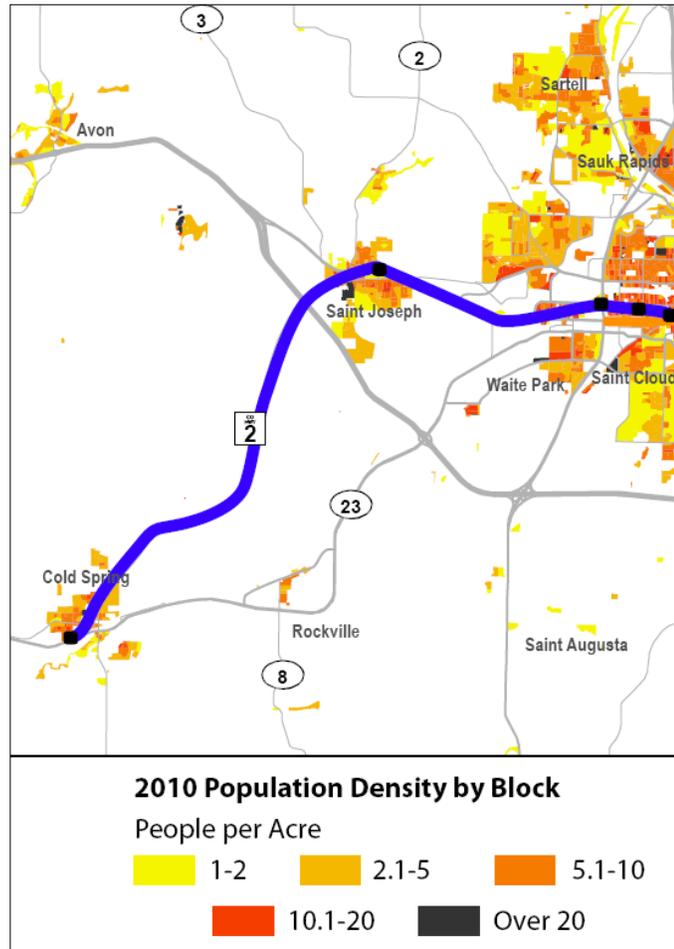
With relatively limited residential populations in Cold Spring and St. Joseph, four daily one-way trips are proposed - two AM to St. Cloud and two PM to Cold Spring (Figure 9-3). Due to the larger commuter population traveling from St. Joseph to St. Cloud, however, an additional roundtrip bus is considered on this leg. Based on the one-way distance for this route, which is about 18 miles from end-to-end, it is assumed that a one-way trip can be made in roughly 42 minutes.

### Bus Stop & Park and Ride Locations

As noted above, the route begins in Cold Spring and travels through St. Joseph to St. Cloud, with conceptual stops at several locations:

- Cold Spring - Greenwood Circle and Maple Hill Road (existing park-and-ride lot)
- St. Joseph - Planned new park-and-ride lot along County Road 2
- St. Cloud - West Division Street and Waite Avenue South
- St. Cloud - West Division Street and 25<sup>th</sup> Avenue South
- St. Cloud - West Division Street and 14<sup>th</sup> Avenue South
- St. Cloud - 5<sup>th</sup> Avenue South and 1<sup>st</sup> Street South (Metro Bus Transit Center)

Figure 9-2 Cold Spring-St. Joseph-St. Cloud Corridor



**Figure 9-3 Cold Spring via St. Joseph to St. Cloud Conceptual Schedule**

Time Period	Departure Times		Arrival Times
	(Cold Spring/St. Cloud)	(St. Joseph)	(Cold Spring/St. Cloud)
AM Peak	6:30 AM	6:54 AM	7:12 AM
	7:30 AM	7:54 AM	8:12 AM
		8:15 AM	8:35 AM
PM Peak	5:00 PM	5:20 PM	5:42 PM
	5:30 PM	5:20 PM	
	6:00 PM	6:20 PM	6:42 PM

### Ridership Estimates

Total annual ridership estimates on this route range from about 29,500 to 33,800 with St. Joseph accounting for approximately 60% of the ridership. This represents an average of about 111 to 128 weekday boardings.

### Costs

Based on the conceptual schedule presented above, it is estimated that this route would require 1,292 annual service hours. Assuming a cost per service hour of \$60, the annual cost for this route is estimated to be about \$77,500.

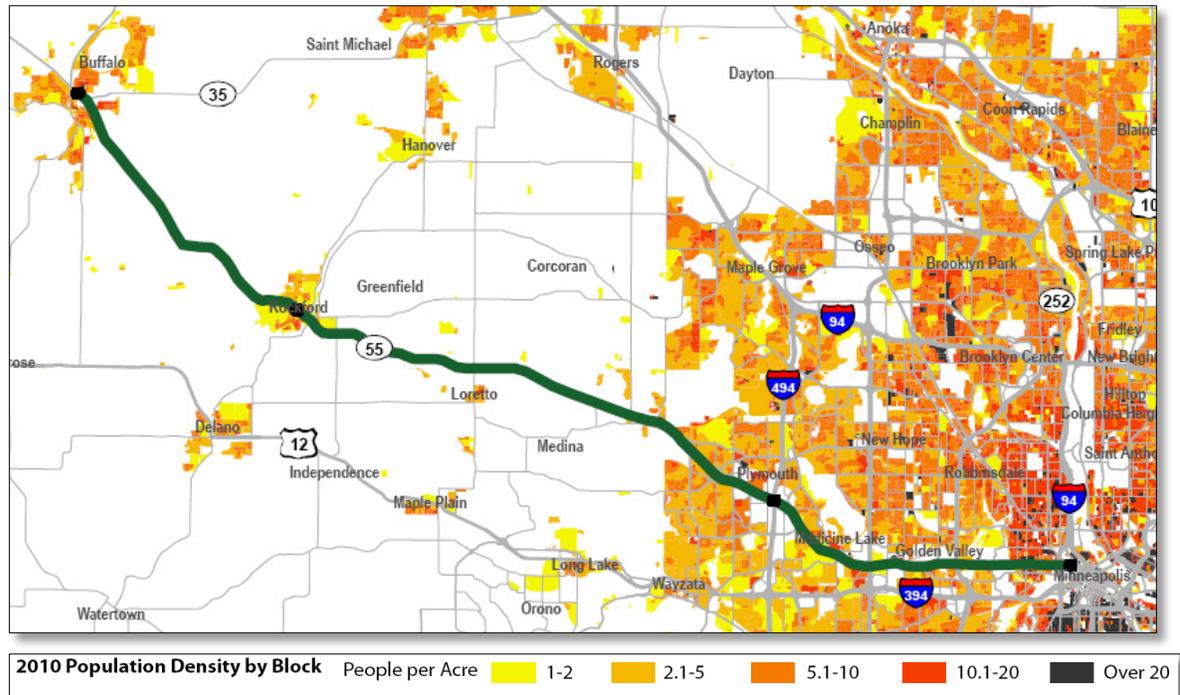
### Service Considerations

Service in this corridor could be operated by an existing provider. Tri-CAP or St. Cloud Metro Bus may be the most appropriate providers, however service could also be provided by a non-transit entity, with a regional or charter provider under contract to the cities of St. Joseph, Cold Spring, and possibly St. Cloud.

Tri-CAP's service in St. Joseph is offered only two days a week, and although service is available to St. Cloud, it does not serve commuter needs. Transit in Cold Spring and St. Joseph would not provide sufficient local circulation as a feeder for this proposed commuter service route. In St. Cloud, there are sufficient opportunities to transfer to local bus services. Efforts should be made to ensure that a regional service arriving in St. Cloud is timed to afford riders a transfer to local services with a minimal wait.

## BUFFALO TO MINNEAPOLIS

**Figure 9-4 Buffalo to Minneapolis Corridor**



### Route Alignment

The route is proposed to start from Buffalo near Highway 55 in the vicinity of 5<sup>th</sup> Street Northeast (Figure 9-4). From Buffalo, the conceptual route is proposed to continue east on Highway 55 and serve Rockford, Plymouth, and the Twin Cities.

### Conceptual Schedule and Service Hours

As the Highway 55 corridor is a major connector to the Twin Cities, four daily one-way trips are proposed - two AM to the Twin Cities and two PM to Buffalo (Figure 9-5). Based on the one-way distance for this route, which is about 41 miles, it is assumed that a one-way trip can be made in roughly 60 minutes.

**Figure 9-5 Buffalo to Minneapolis Conceptual Schedule**

Time Period	Departure Times			Arrival Times
	(Buffalo/Twin Cities)	(Rockford)	(Plymouth)	(Buffalo/Twin Cities)
AM Peak	6:30 AM	6:44 AM	7:15 AM	7:30 AM
	7:30 AM	7:44 AM	8:15 AM	8:30 AM
PM Peak	4:40 PM	5:07 PM	5:38 PM	5:50 PM
	5:50 PM	6:07 PM	6:38 PM	6:50 PM

## **Bus Stop & Park and Ride Locations**

As noted above, the route begins in Buffalo and travels through Rockford and Plymouth to the Twin Cities, with conceptual stops at:

- Buffalo - Highway 55 and 5<sup>th</sup> Street Northeast (proposed park and ride lot)
- Rockford - Highway 55 and Walnut Street
- Plymouth - Highway 55 and Vicksburg Lane North (bus transfer location only)
- Minneapolis - Downtown

## **Ridership Estimates**

Total annual ridership estimates on this route range from about 11,200 to 21,300 with Buffalo accounting for approximately 70% of the ridership. This represents an average of about 44 to 84 one-way weekday boardings, potentially meeting proposed service standards.

## **Costs**

Based on the conceptual schedule presented above, it is estimated that this route would require about 1,640 annual service hours. Assuming a cost per service hour of \$90, the annual cost for this route is estimated to be about \$150,000.

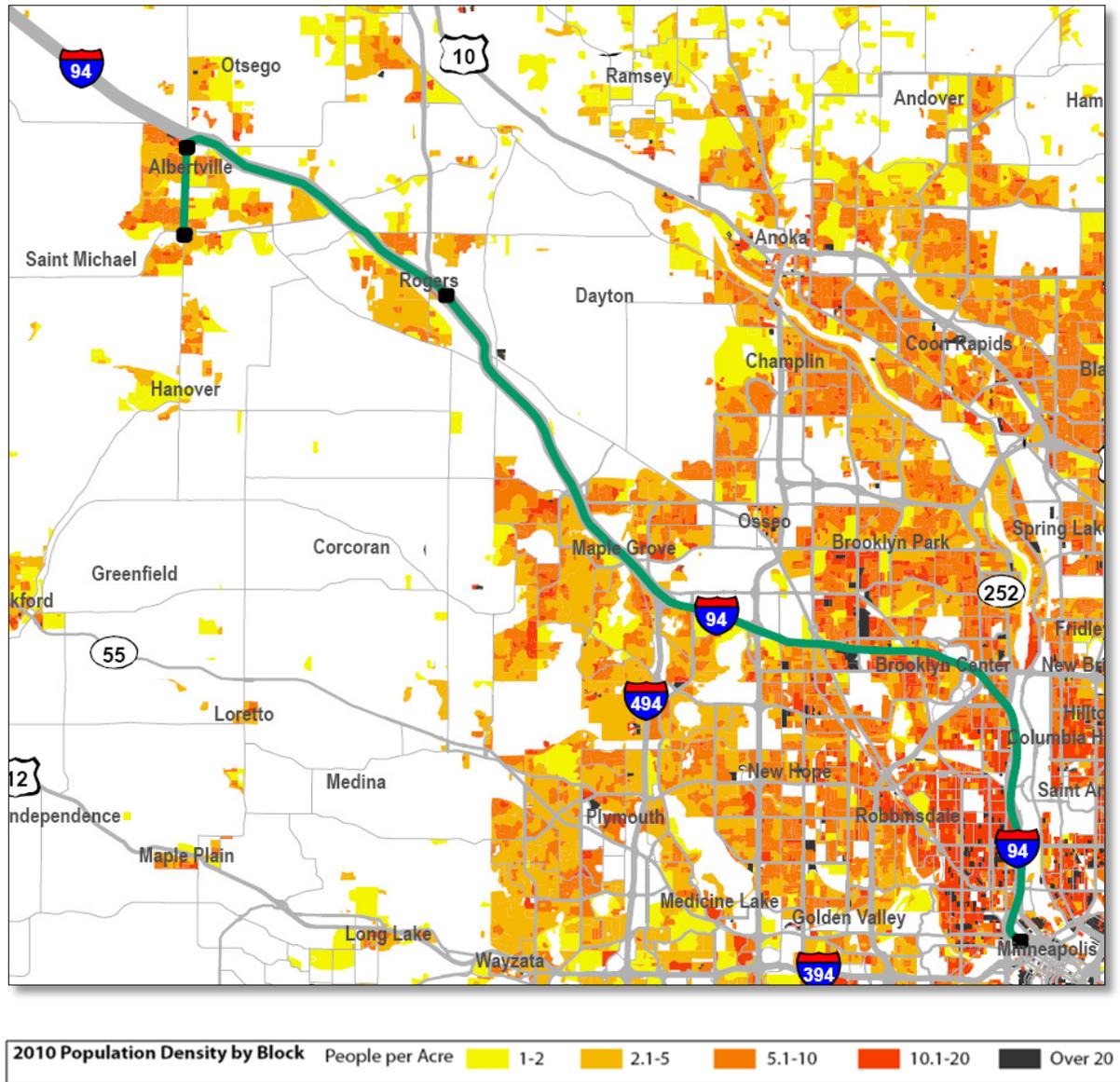
## **Service Considerations**

Service in this corridor could be operated by an existing provider. RiverRider may be the most appropriate provider. The agency currently provides a link between Buffalo and Big Lake, but is designed to allow a "reverse commute" from Big Lake to Buffalo, and does not provide service from Buffalo to Big Lake, where passengers could conceivably transfer to Northstar. This was one of the service options considered, and while it would be a much less costly option than running a bus directly from Buffalo to Minneapolis, the out-of-direction travel and need for transfers may reduce the service's utility. It could, however, be carried out as a pilot programs to test the market potential for longer-range commuter service from Buffalo. Service could also be operated by a regional or charter bus provider under contract to Wright County, Buffalo or Rockford, or could be offered by Buffalo Allied Transit.

River Rider provides local circulation in Buffalo, which affords a feeder bus link to services departing Buffalo. Local service is available beginning at 7:30 AM, but does not operate after 4:00 PM. Buffalo Allied Transit provides local evening service and could meet regional transit trips terminating in Buffalo to provide service from the park-and-ride to homes.

## ST. MICHAEL TO MINNEAPOLIS

Figure 9-6 St. Michael-Albertville-Minneapolis Corridor



### Route Alignment

The route is proposed as a bus line starting from a new park-and-ride lot in St. Michael. From St. Michael, the route is assumed to continue with stops in Albertville and Rogers and then proceed south on Interstate 94, with a drop-off in Plymouth, and then provide service directly to Minneapolis. The conceptual routing is shown in Figure 9-6.

Although the route alignment is proposed via existing highways and roads, consideration was also given to operating service on existing rail lines. In no case was ridership projected to achieve the standards that would support commuter rail service at a level greater than overall ridership on the Northstar corridor. Projections for ridership between St. Michael and Minneapolis suggest a

potential for achieving performance standards if ridership were generated south of Wright County. The BNSF line that runs between Monticello and Minneapolis (and that essentially parallels I-94 and then County Road 81 in the Metro Area) could possibly serve commuter trips via rail, but in order to justify the investment in commuter rail, ridership feasibility would need to be established primarily within Hennepin County. That demand was not assessed as part of this District 3 study, but could be considered as a future analysis.

## Conceptual Schedule and Service Hours

This proposed service provides a rapid link from two communities with considerable numbers of residents working in the Twin Cities (Figure 9-7). As such, eight daily one-way trips are proposed - four AM to the Twin Cities and four PM to St. Michael. Based on the one-way distance for this route, which is about 30 miles, it is assumed that a one-way trip can be made in roughly 50 minutes.

**Figure 9-7 St. Michael to Minneapolis Conceptual Schedule**

Time Period	Departure Times		Arrival Times
	(St. Michael-Albertville/ Twin Cities)	(Rogers)	(St. Michael-Albertville/ Twin Cities)
AM Peak	6:30 AM	6:45 AM	7:20 AM
	7:00 AM	7:15 AM	7:50 AM
	7:30 AM	7:45 AM	8:20 AM
	8:00 AM	8:15 AM	8:50 AM
PM Peak	4:30 PM	5:05 PM	5:20 PM
	5:00 PM	5:35 PM	5:50 PM
	5:30 PM	6:05 PM	6:20 PM
	6:00 PM	6:35 PM	6:50 PM

## Bus Stop & Park and Ride Locations

As noted above, the route begins in Buffalo and travels through Rockford and Plymouth to the Twin Cities, with conceptual stops at:

- St. Michael - Vicinity of Co Hwy 35/Highway 241 and Main Street (proposed park-and-ride lot)
- Albertville - I-94 and County Road 19 (Albertville park-and-ride lot)
- Rogers - I-94 and MN 101
- Minneapolis - Downtown

## Ridership Estimates

Total annual ridership estimates for stops on this route range from about 67,000 to 111,800 with St. Michael accounting for approximately two-thirds of the ridership. This represents an average of about 263 to 439 weekday boardings.

## **Costs**

Based on the conceptual schedule presented above, it is estimated that this route would require 2,720 annual service hours. Assuming a cost per service hour of \$90, the annual operating cost for this route is estimated to be about \$245,000.

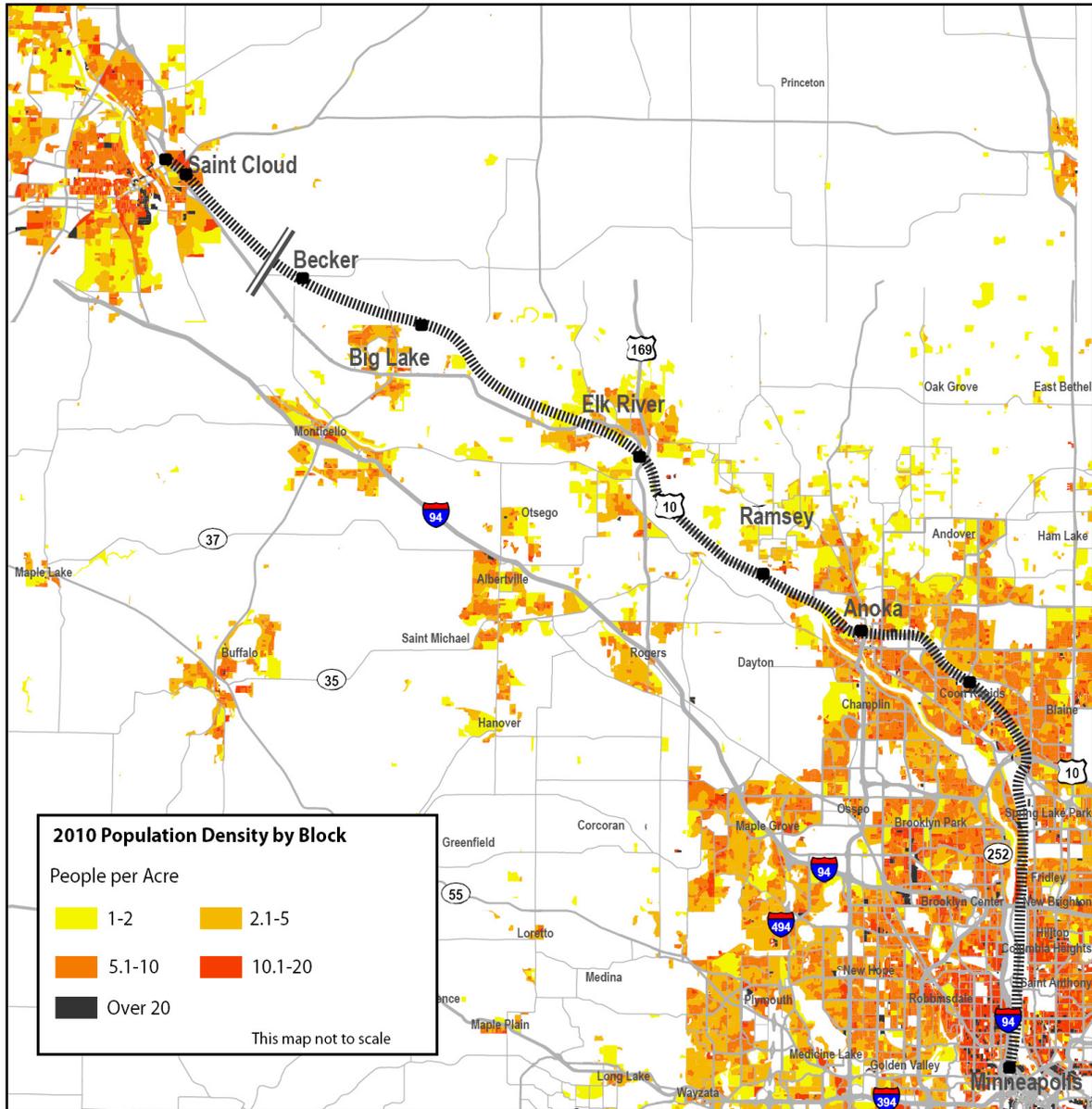
## **Service Considerations**

Of all of the services evaluated, a link from St. Michael via Albertville to Minneapolis shows among the strongest potential for ridership. Service in this corridor could be operated by RiverRider, which already serves some locations in Wright County, or could be operated by a charter bus provider under contract to Wright County, or St. Michael and Albertville. As noted above, service could potentially operate in the future via the adjacent BNSF rail line, but this would be primarily a rail link outside of District 3, in Hennepin County. Bus service in this corridor that exceeds performance standards would provide an excellent way to pilot potential rail service in this corridor. One of the key challenges with rail service in this corridor is the relatively close proximity to the existing Northstar corridor and the shared freight operations that would continue to operate in the Monticello-St. Michael corridor.

Local transit service is not provided in either St. Michael or Albertville, so a determination may need to be made regarding the need for local feeder service. Based on the demographic characteristics of these two communities, the assumption is that commuters would use the park-and-ride lots proposed, with the proposed routing allowing for some walk-on riders as the vehicle traverses County Highway 19.

## ST. CLOUD TO MINNEAPOLIS

Figure 9-8 St. Cloud-Minneapolis Rail Corridor



### Route Alignment

The analysis conducted for the St. Cloud to Minneapolis route examined the ridership potential in the case that the Northstar rail line were extended to St. Cloud. This analysis assumes new rail stations in St. Cloud and Becker. The alignment is shown in Figure 9-8.

## Conceptual Schedule and Service Hours

For the purposes of this analysis, it is assumed that there are twelve daily one-way trips - six AM to the Twin Cities and six PM to St. Cloud, based on current Northstar rail service (Figure 9-9). This may be a limited service schedule, based on potential reverse commute ridership to St. Cloud, which should be reevaluated in the future.

Based on the one-way distance for this route, which is about 65 miles, it is assumed that a one-way trip can be made in roughly 84 minutes.

**Figure 9-9 St. Cloud to Minneapolis Conceptual Schedule (Based on Existing Northstar Rail Operations)**

Time Period	Departure Times		Arrival Times
	(St. Cloud/Twin Cities)	(Becker)	(St. Cloud/Twin Cities)
AM Peak	4:26 AM	4:52 AM	5:50 AM
	5:16 AM	5:42 AM	6:40 AM
	5:46 AM	6:12 AM	7:10 AM
	6:16 AM	6:42 AM	7:40 AM
	6:46 AM	7:12 AM	8:10 AM
	4:31 PM	4:57 PM	5:55 PM
PM Peak	6:13 AM	7:13 AM	7:37 AM
	3:57 PM	4:57 PM	5:21 PM
	4:27 PM	5:27 PM	5:51 PM
	4:57 PM	5:57 PM	6:21 PM
	5:27 PM	6:27 PM	6:51 PM
	6:15 PM	7:15 PM	7:39 PM

## Bus Stop & Park and Ride Locations

In addition to the current rail stations, new conceptual stops are proposed adjacent to the rail corridor in St. Cloud (Currently the stop is at US 10 and County Road 63) and in Becker (the current stop is at US 10 and Willow Street - the existing Link park-and-ride lot).

## Ridership Estimates

On the conservative end, total annual ridership estimates for stops at St. Cloud and Becker on this route are 62,000, which is a 33% increase over the current 46,400 annual Link boardings. This represents an average of about 243 weekday boardings.

## Costs

Based on the conceptual schedule presented above, it is estimated that this route would require 3,370 annual service hours. Assuming a cost per service hour of \$950, the annual operating cost for this extension is estimated to be about \$3.2 Million. There would be significant capital costs to implement this service

Figure 9-10 presents a summary of these proposed transit routes.

**Figure 9-10 Summary of Preferred Regional Transit Routes**

Route	Route Destinations	Weekday Route Trips		Service Days	Vehicles Required	Annual Revenue Hours	Annual Ridership Estimates
		AM	PM				
Cold Spring via St. Joseph to St. Cloud	Cold Spring park-and-ride Metro Bus Transit Center	3 from St. Joseph; 2 from Cold Spring (IB only)	3 to St. Joseph; 2 to Cold Spring (OB only)	M-F	2	1,292	29,500 - 33,800
Buffalo to Minneapolis	Buffalo park-and-ride	3 (IB only)	3 (OB only)	M-F	2	1,640	11,200 - 21,300
St. Michael to Minneapolis	St. Michael park-and-ride Albertville park-and-ride	4 (IB only)	4 (OB only)	M-F	3	2,720	67,000 - 111,800
St. Cloud to Minneapolis	St. Cloud Northstar park-and-ride Becker park-and-ride	5 IB 1 OB	5 OB 1 IB	M-F	4	3,370 <sup>1</sup>	62,000 - 108,000 <sup>1</sup>

(1) Incremental revenue hours and ridership estimates are only for the St. Cloud and Becker stations.

## Service Considerations

The feasibility of extending rail service in this corridor is much more complex than initiating bus service in any of the other corridors, and will require extensive multijurisdictional coordination with the State of Minnesota and the Federal government. The potential for service implementation hinges on continued ridership increases in the existing Northstar rail corridor.

The inconvenience of transfers from the Northstar Link bus to the rail line was noted by commuters in the park-and-ride surveys and was raised as a topic in the St. Cloud focus group. Freeway commuter express bus service has never been operated between St. Cloud and the Twin Cities, and a pilot program could be initiated to better test this market by implementing direct commuter bus service along the corridor. Although this may be duplicative of the existing rail service in the corridor, it may provide a better indicator of the potential ridership between St. Cloud and Minneapolis than current usage of the Northstar Link.

## SECONDARY CORRIDORS

Secondary corridors are those that were modeled for potential transit service, but based on ridership estimates alone were found not to be appropriate for regularly scheduled commuter transit services. Each corridor is briefly described, along with some potential service alternatives in the corridor.

## **Intra-District Corridors**

### **A. Corridors serving the Brainerd-Baxter Area**

#### **Brainerd to Onamia (Grand Casino Mille Lacs)**

The connection between Brainerd and the casino in Onamia is a corridor that was expected to fare better than it did using the ridership estimation tool (between 1 and 4 individuals riding per day), based on reported demand for travel between the locations by residents who participated in the phone survey and from Grand Casino Mille Lacs staff who expressed interest initiating new transit services based on information provided by their staff and some difficulty they encounter recruiting employees, especially entry-level associates who have lower starting salaries.

An alternative to serve this corridor could be one that is either fully funded or partly funded by the Casino and could operate as a subscription bus service for employees, allowing non-employees to ride in seats as they are available. Subscription bus services are designed to serve large employment sites, like the Grand Casino Mille Lacs. Schedules are designed around the primary work shifts. Inbound and outbound routing typically serves a park-and-ride lot or is customized to provide service close to the residences of service subscribers (and, in some communities, has changed as subscribers have changed).

For a subscription service to the casino, passengers would book in advance for the service, paying an advanced fare for a seat on the bus, guaranteeing passenger ridership over a one-month period, for example. A schedule would be established for the service based on the targeted shift(s) start/finish times and the location of the subscribers' residences.

A subscription bus service would require a vehicle to operate in a very limited capacity, from origin to destination and then back at the end of the workday. To be productive, the services should be scheduled around specific shift times and limited to a maximum 60-minute one-way onboard travel time between the furthest points. Typical minimum hourly productivity standards should be at least 10 passengers, but could vary depending on the seating capacity of the vehicle used in the subscription service.

Most subscription bus services in other communities recoup a high proportion of their costs – at least 30 percent – with many services achieving 50 to 100 percent cost recovery. Thus, it is recommended that fare policy be established to achieve a minimum 30 percent cost recovery for this service. Because some subscription bus services can be funded exclusively by employers, who may be eligible for a tax benefit by sponsoring such a program, the Grand Casino Mille Lacs should be included in regional transit development and planning efforts. Likewise, standard federal and state transit dollars, and funding sources such as JARC, can be tapped to pay for subscription bus services.

Vanpools organized by the casino may also be successful but could not easily be marketed to the general public (allowing potential casino patrons to ride).

#### **Pequot Lakes to Baxter/Brainerd**

Potential transit riders are estimated at between three and 20 per day on this line, not enough to meet basic commuter transit performance standards, but possibly enough for a deviated fixed route service operating not as a commuter-only route but as a regional lifeline or general transit link. Potential ridership is greatest between Nisswa and Brainerd, and falls off dramatically north of Nisswa, although nearly 100 college students live in Pequot Lakes. Estimated ridership between 1.8

and 8.7 passengers per hour points to this corridor as a potentially strong one for carpooling, and may be suitable for vanpools as well. Carpooling has good potential here: with 80 enrolled Central Lakes College students residing in Nisswa, students could represent a reasonable proportion of carpools. A park-and-ride lot in Nisswa could facilitate this, and could be established as a shared-use lot at a privately owned facility to test its use and assess the potential for other commuter services (See Chapter 10).

### **Staples to Baxter/Brainerd**

Findings suggest limited potential for transit in this corridor, with between one and seven individuals using the service and operating costs estimated as high as \$40 per one-way trip, based on the low ridership. Data shows some commuter activity in the corridor, albeit limited, which would be most appropriate for carpooling. Data from Central Lakes College shows an equal number of Staples students (about 60) taking classes at the Brainerd campus as the number of Brainerd and Baxter residents taking classes in Staples, suggesting again that the college could play a significant role in promoting ridesharing between the two cities.

### **Crosby to Brainerd**

With between one and six passengers per hour projected on this line, transit ridership is likely to be low. Crosby is home to nearly 60 registered Central Lakes College students, which may support modest levels of carpooling. No new facilities are required in Crosby to support ridesharing.

## **B. Corridors serving destinations in the St. Cloud Area**

### **Brainerd to St. Cloud**

The long connection between Brainerd and St. Cloud was evaluated for potential regularly scheduled commuter service, also serving Camp Ripley, Little Falls, Royalton and Rice en route to St. Cloud. The current number of end-to-end commutes is very limited and would not substantiate regularly scheduled commuter services, but could be considered for lifeline or other human service transportation depending on the goals and needs of human service organizations in the corridor. Small numbers of commuters travel between Camp Ripley and Little Falls, and between Little Falls and Royalton (approximately 50 and 60 respectively, based on census data using the ridership estimation parameters), but even these numbers are unlikely to substantiate a push for ridesharing in this corridor. The ridership estimation tool shows some potential for very limited ridership between Rice and St. Cloud, but at 3.2 passengers per hour does not suggest regularly scheduled commuter services could be effective here, and that cultivating carpools in this corridor is likely to be a more cost-effective alternative. The number of potential transit riders from locations north of St. Cloud to locations south of St. Cloud is very limited.

### **Milaca to St. Cloud**

Potential transit ridership was estimated at no more than four passengers per hour on this line, with between 10 and 12 transit riders per day. Although regularly scheduled commuter transit service in this corridor is not deemed feasible based on estimated ridership, similar to the Rice-to-St. Cloud corridor, conditions exist to encourage some limited ridesharing in this corridor.

### **Sauk Centre to St. Cloud**

Nearly 700 individuals are commuting in this corridor to central St. Cloud each day, which suggests good potential for ridesharing, but more than 50% of them are commuting from St. Joseph, with the others coming from Melrose, Albany and Sauk Center. The data suggests that due to its longer distance from St. Cloud, there may be a market for vanpools from Sauk Centre, but that from St. Joseph to St. Cloud, transit service is potentially feasible based on ridership assumptions alone. This portion of this corridor was described as a preferred transit corridor on Page 9-7.

### **C. Corridors that link cities in District 3 and do not provide a direct connection to Brainerd or St. Cloud**

Three corridors were evaluated as potential intra-district connections providing access to existing rail facilities or to link population centers.

#### **Buffalo to St. Michael**

Service between Buffalo and St. Michael was evaluated based on an assumed highway/arterial route operating between the two Wright County population centers, but compared to other corridors serving these communities, projected ridership is very low, with fewer than five daily riders using a commuter bus. This evaluation does not account for the potential value of a non-commute link that could be developed within and between these cities to address social, recreational, shopping, medical and human service transportation needs. For commute services, this corridor is identified as among the lowest priority corridors.

#### **Buffalo via Monticello to Big Lake**

Although direct transit service between Buffalo and Minneapolis may be feasible based on ridership estimates, routing a feeder bus service to the Big Lake Northstar rail station via Monticello was also evaluated as an alternative. The analysis shows modest potential ridership on this corridor based on the relatively high incomes in Monticello, reflective of the current park-and-ride use, which is less than 10% of capacity. RiverRider or another organization within Wright County could consider operating new transit service that links Buffalo and Monticello with Big Lake for purposes not limited to commuting, and potential exists for it to achieve modest ridership. Nevertheless, with the Big Lake Northstar station only about four miles from the current Monticello Park-and-Ride, and data showing that many rail users are driving more than six miles to access rail, this transit link may have limited utility. One consideration is that if the Big Lake Station parking capacity ever becomes limited, the Monticello lot could be used as a satellite parking lot, with a shuttle service to the rail station.

#### **Milaca to Elk River**

With fewer than two passengers per hour and less than 20 individuals riding each day, the link between Milaca and Elk River was found to serve very few riders, including those who might transfer to the Northstar rail line. Some potential may exist for ridesharing designed to serve the rail station, but there are few constraints to driving directly to Elk River (or south to Minneapolis).

## Inter-District Corridors serving Minneapolis

### D. Corridors serving destinations in the Twin Cities

#### Annandale to Minneapolis

Ridership estimates on this corridor range from 25 to 50 individuals per day (nearly 50 to 100 one-way trips). The majority of this potential ridership is generated in Buffalo and Rockford, and does not come from Annandale or Maple Lake. Thus, the proposed Buffalo-Minneapolis transit alternative described on page 9-8 would serve most of the ridership in this corridor, and individuals from cities to the west could use a park-and-ride in Buffalo. The ridership estimation tool shows some users would come from Annandale and Maple Lake, and given the distance into Minneapolis, vanpooling would be appropriate in this corridor. Vanpools currently operate from Maple Lake and Buffalo into Minneapolis.

#### Mora to Minneapolis

This corridor was evaluated in its entirety, and is estimated to serve between eight and 15 individuals per day on round-trip transit service. Unlike many of the other corridors, this corridor has a number of people commuting from Mora and Braham into Cambridge, with only limited numbers going south to Minneapolis from these communities. This area is served by Heartland Express which could accommodate the relatively modest numbers of commuters in this corridor if it were appropriately marketed. Although the ridership estimation tool shows limited potential ridership into downtown Minneapolis, the data shows significant commute activity to the vast array of work centers in Anoka and Hennepin Counties, suggesting that this corridor would be better served by ridesharing in general, including vanpools. Heartland Express' link to Rushline service operates within 14 miles of Isanti, and an individual could conceivably travel to the North Branch stop location to access the bus, but it would require out-of-direction travel, which would be inconvenient and unappealing to most users.

## CONCLUSION

Although a purpose of this study is to identify potential services that may be appropriate for new transportation routes, there was an acknowledgement by MnDOT staff and many of the project stakeholders that the study might determine the opportunities for new regional transit services are limited, and that other regional transportation options might have limited efficacy in District 3. While the evaluation of alternatives has found that several corridors are worthy of further consideration for implementing new transportation services, some of the corridors that were suspected to be potentially operative transit corridors were found, based on the ridership estimation alone, to be unlikely for effective services. Nevertheless, a number of other factors may be determined in the selection of corridors to advance to implementation.

A summary of the corridors evaluated is shown in Figure 9-11. The ridership-based evaluation recommends considering a number of corridors for potential vanpool and/or transit service. Almost all of the corridors could potentially accommodate new rideshare initiatives to encourage carpooling, telecommuting, and employer-based commute programs. A discussion about how these elements could be brought together is presented in Chapter 11. Based on travel demand alone, only the following corridors are considered potential areas of focus:

#### A. Corridors serving the Brainerd-Baxter Area

- Pequot Lakes to Baxter/Brainerd

**B. Corridors serving destinations in the St. Cloud Area**

- Cold Spring via St. Joseph to St. Cloud
- Sauk Centre to St. Cloud

**C. Corridors that link other cities in District 3 (no direct connection to Brainerd or St. Cloud)**

- Buffalo via Monticello to Big Lake

**D. Corridors serving destinations in the Twin Cities**

- Annandale to Minneapolis
- Mora to Minneapolis
- St. Cloud to Minneapolis
- St. Michael to Minneapolis

Chapter 12 addresses other factors that may be considered in the feasibility evaluation for the implementation of services along any of these corridors.

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**Figure 9-11 Summary: Evaluation of Corridors Based on Demand/Ridership**

Corridors Description		Performance			Costs <sup>1</sup>		Appropriate for			Comments	Carry forward for further evaluation
		Annual Passengers	Annual Hours	Passengers per Hour	Annual Operating Cost	Operating Cost per Passenger	Transit	Vanpool <sup>2</sup>	Other		
A – Baxter/Brainerd Area	Pequot Lakes-Nisswa-Baxter/Brainerd	2,804 – 13,780	1,581	1.8 – 8.7 ▼	\$94,860 ▲	\$7 - \$34 ◆	NO ▼	MAYBE ◆	Park-and-Ride Rideshare	Short distance; vanpool may have potential with participation from Central Lakes College; Some potential for non-commute demand in this corridor	YES ▲
	Staples to Baxter/Brainerd	2,216 – 7,230	1,462	1.5 – 4.9 ▼	\$87,720 ▲	\$12 - \$40 ▼	NO ▼	NO ▼	Rideshare	College vanpool potential, but does not approach performance standard	NO ▼
	Crosby to Brainerd	830 – 4,225	714	1.2 – 5.9 ▼	\$42,840 ▲	\$52 - \$60 ▼	NO ▼	NO ▼	Rideshare	College vanpool potential, but does not approach performance standard	NO ▼
	Brainerd to Onamia	621 – 2,802	3,740	0.2 – 0.7 ▼	\$224,400 ▼	\$80 - \$361 ▼	NO ▼	NO ▼	Rideshare Casino shuttle/ subscription bus service	Any service in this corridor would likely require commitment from Grand Casino Mille Lacs	NO ▼
B – St. Cloud Destination	Sauk Centre to St. Cloud	29,662 – 32,731	1,836	16.2 – 17.8 ▲	\$110,160 ▲	\$3 - \$4 ▲	NO ▼	YES ▲	Park-and-Ride Transit in St. Joseph-St. Cloud Corridor		YES ▲
	Cold Spring via St. Joseph to St. Cloud	28,367 – 32,554	1,292	22.0 – 25.2 ▲	\$77,520 ▲	\$2 - \$3 ▲	YES ▲	MAYBE ◆	Park-and-Ride Rideshare	Short distance for vanpool	YES ▲
	Milaca to St. Cloud	4,784 – 6,436	1,564	3.1 – 4.1 ▼	\$93,840 ▲	\$15 - \$19 ◆	NO ▼	NO ▼	Rideshare	Potential for non-commute demand may exist in this corridor	NO ▼
	Brainerd to St. Cloud	5,867 – 9,724	4,828	1.2 – 2.0 ▼	\$434,520 ▼	\$45 - \$74 ▼	NO ▼	NO ▼	Rideshare		NO ▼
C – Other Intra- district Links	Milaca via Elk River to Minneapolis	1,983 – 10,499	6,460	0.3 – 1.6 ▼	\$581,400 ▼	\$55 - \$293 ▼	NO ▼	NO ▼	Rideshare	Existing vanpool from Milaca to Maple Grove; existing vanpool from Princeton to Richfield	NO ▼
	Buffalo to St. Michael	247 – 2,067	1,564	0.2 – 1.3 ▼	\$93,840 ▲	\$45 - \$379 ▼	NO ▼	NO ▼	Rideshare	Some potential for non-commute demand in this corridor	NO ▼
	Buffalo via Monticello (to Minneapolis)	16,483 – 30,281	3,927	4.2 – 7.7 ▼	\$353,430 ▼	\$12 - \$21 ◆	NO ▼	MAYBE ◆	Park-and-Ride Rideshare	Vanpool to Northstar may be considered; Vanpool to Mpls-St. Paul Air Reserve Station in place	YES ▲

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Corridors Description		Performance			Costs <sup>1</sup>		Appropriate for			Comments	Carry forward for further evaluation
		Annual Passengers	Annual Hours	Passengers per Hour	Annual Operating Cost	Operating Cost per Passenger	Transit	Vanpool <sup>2</sup>	Other		
D – Minneapolis/ St. Paul Destination	Annandale to Minneapolis	14,653 – 30,530	3,315	6.6-13.8 ▲	\$298,350 ▼	\$10 - \$20 ◆	NO ▼	YES ▲	Park-and-Ride Transit in Buffalo-Minneapolis Corridor	Existing vanpool from Maple Lake to Mpls.	YES ▲
	<i>Sub-corridor:</i> Buffalo to Minneapolis portion of this corridor	11,640 – 22,140	1,640	7.4-16.7 ▲	\$147,000 ▲	\$12 - \$19 ◆	YES ▲	YES ▲	Park-and-Ride Rideshare	Barely achieves service standards for transit in this corridor; may be longer term; Existing vanpool to Mpls.	YES ▲
	St. Michael to Minneapolis	66,970 – 111,820	2,720	24.6 – 41.1 ▲	\$244,800 ▼	\$2 - \$4 ▲	YES ▲	YES ▲	Park-and-Ride Rideshare	Existing vanpool to Minnetonka. Could be considered for future rail service along BNSF line, depending on trip generation in Hennepin County.	YES ▲
	Mora to Minneapolis	4,158 – 7,875	2,856	1.5 – 4.8 ▼	\$257,040 ▼	\$33 - \$62 ▼	NO ▼	MAYBE ◆	Park-and-Ride Rideshare	Vanpools may be appropriate from Cambridge/Isanti south; existing vanpool from Isanti to Mpls; potential for link to transit service in Chisago County.	YES ▲
	St. Cloud to Minneapolis <sup>3,4</sup>	62,000 – 108,000	3,370	18.4-32.0 ▲	\$3.2 Million ▼	\$30-\$52 ▼	YES ▲	YES ▲	Freeway Express bus Park-and-Ride Rideshare	Rail costs are very high; freeway express bus service between St. Cloud and Minneapolis may be a more cost-effective option.	YES ▲

Legend: ▲ Most Positive Outcome    ▲ Somewhat Positive Outcome    ◆ Fair/Neither Good nor Bad    ▼ Somewhat Negative Outcome    ▼ Most Negative Outcome

(1) Operating costs based on revenue service hours only (excludes deadhead hours). Fully allocated costs for the preferred services are presented in Chapter 13.

(2) Any corridor can be appropriate for a vanpool if there is an employer at the destination that will support it. This assessment looks at general vanpools to downtown employment locations.

(3) Figures shown are for the incremental costs for expanded service to Becker and St. Cloud.

(4) The ridership estimation tool used for this study is effective in comparing new rural and regional bus services, but the numbers may differ significantly from the potential rail ridership in existing transit corridors. Thus, the numbers generated for the St. Cloud-Minneapolis rail corridor use a different model, and illustrate potential for much greater ridership. Nevertheless, these assumptions should only be considered preliminary and are based on actual ridership numbers at existing Northstar rail stations. Implementation of Northstar rail service extending to St. Cloud would require additional analysis and modeling.