Park-and-Ride Facility Site Location Plan

FINAL

Adopted May 25, 2005

Contents

Figures

Tables

Technical Appendices

Preface

The *Park-and-Ride Facility Site Location Plan*, hereafter referred to as the *Park-and-Ride Plan*, has been prepared pursuant to the 2030 Transportation Policy Plan (TPP) adopted in December 2004. The Metropolitan Council identified the need for this plan as a work program item in Chapter 7 of the 2030 TPP (see excerpt below).

Park-and-Ride Facility Site Location Study

The study will identify potential sites for future park-and-ride facilities on a travel corridor basis in response to the estimated future need and existing supply in those corridors. Preferred locations, as well as any potential alternative locations, will be identified based on a defined set of criteria, which will include such things as land acquisition cost, site accessibility and future expansion possibility. This work will be used to help inform the 2008 Comprehensive Plan review process.

This study will be completed by May 2005 to be included in the Transportation System Statements, which will be issued to cities and counties in July 2005.

In late 2004, the Transportation Advisory Board (TAB) identified another need for this plan: to help inform the biennial regional transportation funding solicitation.

This is the first edition of the *Park-and-Ride Plan*. Revisions are anticipated at the end of every even year prior to regional transportation funding solicitation, done in odd years.

Uses of this Plan

- To guide local and regional policy development and implementation strategies;
- To provide direction to local planning on park-and-ride demand estimation methodology, unmet needs by corridor and criteria for identifying park-and-ride facility sites;
- To serve as a basis for park-and-ride system monitoring and evaluation;
- To solicit, review and select transportation projects for state and federal funding;
- To provide direction for coordination and implementation activities.

Applications of this Plan

While this *Park-and-Ride Plan* has daily applications in the planning/design, implementation and management of regional park-and-ride facilities, this plan supports three on going regional planning processes:

Local Comprehensive Land Use Planning

Counties, cities and townships within the seven-county metropolitan area are required to submit comprehensive plan updates that are in compliance with the system statements of the Metropolitan Council. The next update of these comprehensive plans in 2008 should be compatible with this Plan by acknowledging the unmet needs by travel corridor and the potential park-and-ride facility site location areas identified in it.

Transit Support Infrastructure Planning

Appropriately located and sized park-and-ride facilities are only one of three elements necessary for successful express commuter bus corridors, the other two elements being uninterrupted and continuous transit advantages and a minimum level of peak period transit service. The provision of transit advantages, particularly bus-only shoulders, increases transit travel time competitiveness between a park-and-ride facility and the major corridor destination, usually a downtown business district. As the organizations who are generally responsible for planning, design and funding transit advantages, the city and county public works departments and the state department of transportation should acknowledge in their roadway planning documents the potential park-and-ride facility site location areas identified in this plan. Upon completion of this *Park-and-Ride Plan*, the development of a long-range (Year 2030) transit advantage plan may be warranted.

Federal Transportation Funding Solicitation

Local and county governments and regional transit providers submit project applications for federal transportation dollars biennially. Federal funding has been allocated through 2008, funding the construction of several park-and-ride facilities. Elements of this *Park-and-Ride Plan*, such as the facility site location criteria and the corridor investment priority, will be used to evaluate applications for 2009 funding allocation and beyond.

Issues for Further Study

During development of this plan, several issues outside its original scope were identified. Some were addressed in this document; however, many issues deserve further discussion among regional stakeholders. These issues should be further discussed as part of ongoing planning efforts and updates to this plan.

- Service-Facility Provision Dilemma: Customer Convenience vs. Operational Efficiency (How far out should/can we go and how much should be charged?)
- Better Understanding the Transit Facility and Service Impact of Downtown Commuter Flows Originating from Outside of the Transit Taxing District
- Impact of LRT on Park–and-Ride Market and Facilities
- How to Develop Effective Joint Use Park-and-Ride Facilities
- Park-and-Pool Facilities: Understanding and Defining their Role and Future

1. Challenges

This plan is a tool for policy-makers and planners to address the challenges facing the regional park-and-ride system. Stakeholder outreach activities conducted in developing this Plan identified seven "big picture" issues as challenges to planning for growth and expansion of the regional park-and-ride system.

Understanding & Estimating Unmet Need

Lack of a standardized approach to estimating regional park-and-ride need has lead to the application of varying methodologies and differing data sources, and the heavy reliance on sub-area modeling techniques that are not calibrated at the destination end. This has made it difficult to understand the relative immediacy of need in different areas around the region. This, in turn, impeded the region's ability to prioritize capital transit facility investments on a long-term, region-wide basis.

The inclusion of the Five-Step Process in Appendix N of the 2030 Transportation Policy Plan (2030 TPP), adopted in December 2004, provides a flexible yet systematic methodology for estimating park-and-ride need. The Park-and-Ride Demand Model, which was used to develop the estimates found in this Plan, is an enhanced version of the Transit Model used to develop ridership estimates for the 2030 TPP. The Park-and-Ride Demand Model combined with the Five-Step Process and the Site Location Criteria, found in Section 6 of this Plan, establish a standardized framework for proposing and evaluating potential new or expanded park-and-ride facilities.

Long-Term Instability of Leased/Non-Permanent Facilities

As the region moves toward larger, highway-oriented park-and-ride facilities, relying on short-term leases becomes more precarious. Property owners can terminate lease or joint-use agreements with required notice, or elect not to renew upon expiration of the agreement. There are many leased facilities across the region as well as many informal agreements for small, non-highway oriented, joint-use facilities from the early days of the regional park-and-ride system.

While this strategy can be helpful to test new transit markets, it is desirable for future park-and-ride facilities to be as permanent as possible to create a stable environment to maintain and expand the regional park-and-ride system. Future facilities should either be publicly owned or have long-term (99 year) leases. Short-term leases still may be appropriate for small (under 200 spaces) joint-use facilities.

Right-of-Way Preservation

Over the next 25 years, the region's population is expected to grow by nearly one million people. This growth will result in new and intensified land development. It is important that public and private land be preserved for future transit infrastructure to support increased population and resulting travel growth. Land suitable for future transit infrastructure, such as park-and-ride facilities, transit advantages and transit stations and centers, also is land that will be in demand for commercial development and roadway expansion to support residential growth. There needs to be a mutual understanding and balance of competing interests and an awareness of the potential for symbiotic opportunities.

Prior to acquiring public right-of-way for planned future highway interchanges or roadway intersections, and before the development or update of local and county comprehensive plans, local, regional and state authorities should understand future transit infrastructure needs. The same should be done during development of public right-of-way prior to the sell-off of surplus right-of-way.

Park-and-ride facility and other transit advantage opportunities should be identified and permitted at major interchanges and intersections (current and future). It is especially important to consider transit facility needs along proposed transitway corridors and express commuter bus corridors as identified in the 2030 Transportation Policy Plan to ensure their success.

Continuous Communication & Coordination

As the region moves forward, communication of future interrelated needs and the coordination of planning efforts are critical to everyone. It is the responsibility of each organization involved in community development, transit and transportation planning to effectively communicate its needs and understand the needs of the regional system. Organizations involved in large-scale planning efforts, such as highway corridor studies or transitway studies, need to coordinate their efforts to ensure adequate cross-communication.

The Tradeoff: Service Directness vs. Operating Efficiency

How far out should we provide service? At what distance does service become inefficient? How far should we expect customers to drive to reach service? Regional transit providers have been struggling with these questions since growth began outside the beltway.

Customers desire convenient facilities and service. Work commute origins are moving farther outside the beltway. Peak period congestion is worsening. One measure of transit operating efficiency is how many peak period trips a transit vehicle can make which in turn is a function of transit travel time within a travel corridor. These potentially competing issues should be weighed against one another.

There are also the constraints of governing policies to consider. The Regional Development Framework recognizes varying transit needs across the region. 2030 TPP details the types and levels of service to be provided in different transit market areas. The transit taxing district establishes where transit service can and cannot be directly provided.

Answers are likely to differ from one transit provider to the next, and speaks to the need for application of a regional perspective.

Peak Period Throughput Capacity at the Major Destination/Origin

The addition of nearly 13,000 park-and-ride spaces to serve peak period, express commuter ridership into (a.m.) and from (p.m.) downtown Minneapolis and St. Paul will require a significant increase in peak period transit vehicles. Strategies will need to be developed to ensure adequate peak period throughput capacity for the added vehicles and transit operating funds needed to serve the new park-and-ride capacity.

Maintenance of a Growing System

The existing or programmed 19,900 park-and-ride spaces plus the nearly 13,000 proposed spaces will require an increase in funding for routine maintenance and major repairs. Costs are expected to increase on a per-space basis as a result of the shift from small, joint-use surface lots to larger, structured facilities with more passenger amenities.

2. Existing Market Areas and Facility Utilization

The Twin Cities has a long history of providing freeway express bus service in conjunction with park-and-ride facilities. Suburban/freeway buses began operating on I-35W south of downtown Minneapolis in the early 1970's as part of the I-35 Demonstration Project. The system used shared-use surface lots, often churches, along routes leading to the freeway. Routes ran along arterial streets, picking up walk-up customers as well as park-and-ride users, and then accessed the freeway. Early guidelines emphasized coverage over service frequency, shared-use facilities requiring minimal capital investment, and facilities located at least three miles inward of the Metropolitan Urban Service Area. Later, park-and-ride facilities were expanded to I-394. The surface lots were still fairly small, but were adjacent to the freeway and included "stations" for timed transfers from local buses.

As park-and-ride facilities expanded to other freeways, the philosophy of how to run an express bus system from park-and-ride facilities evolved. Larger, more freeway-oriented facilities were built, starting with Foley Boulevard in the northern suburbs. Routes with long local "tails" were eliminated in favor of frequent nonstop service from the park-and-ride lot to downtown, combined with local circulator routes with "timed transfers" at the park-and-ride facility. As freeway congestion and express bus ridership grew through the 1990's, demand for park-and-ride spaces outpaced capacity. However, the scarcely affordable land close to major freeways and the increasing cost of operating one-way express bus service over longer distances lead to the construction of several large, vertical structures integrated with complimentary land uses.

Between 1999 and 2004, regional park-and-rides experienced significant growth in capacity and utilization. Regional transit providers constructed larger, more visible facilities and provided attractive levels of express bus service while closing smaller, isolated facilities in less desirable locations with low service levels. During 2004, Metro Transit opened nearly 1,750 new park-and-ride spaces to serve the Hiawatha light rail line. By the end of 2004, nearly 12,800 of the 19,100 spaces were being used daily.

This experience shows that park-and-rides are effective in attracting customers to transit in lower density suburban communities.

System Overview

The regional park-and-ride system is made up of facilities served by transit (park-and-ride) and facilities not served by transit (park-and-pool). At the end of 2004, approximately two-thirds of the regional system's spaces were being used (see Table 2-1 below and Figure 2-1).

Table 2-1: 2004 Park-and-Ride System Overview

Service Provider	No. of Facilities	Available Capacity	Used Capacity[1]	Usage Rate
Metro Transit – Bus	79	10,100	6,788	67%
Metro Transit – Rail	7	1,752	1,206	69%
Opt-Out Providers	27	6,723	4,712	70%
MnDOT Park-and-Pool	12	536	189	35%
Total Regional System	**125**	**19,111**	**12,895**	**68%**

Source: Regional Transit Park-and-Ride Database, Metropolitan Council

[1] Utilization counts are from the 2004 Annual System Survey (October 2004) with the exception of Hiawatha LRT facilities, which is from the April 27, 2005 Weekly Survey.

Figure 2-1: Regional Park-and-Ride System

Travel Corridor Utilization

Currently, the strongest park-and-ride markets to downtown Minneapolis can be found within the I-35W South Corridor in the south metro, Highway 10/169 Corridor in the north metro, and the I-94 West Corridor and I-394/Highway 12 Corridor in the west metro (see Table 2-2). The strongest park-and-ride markets to downtown St. Paul are the I-35E South Corridor in the south metro, the I-35E North Corridor, Highways 10/169 Corridor, and Highway 65 North Corridor in the north metro, and the I-94 East Corridor in the east metro. The current park-and-ride market to downtown Minneapolis represents more than 70 percent of the total regional market.

Note that each utilization column in Table 2-2 includes a varying number of the downtown-bound transit customers using facilities that serve both central business districts, and therefore the columns are not combined to avoid double counting.

Table 2-2: Regional Park and Ride System Utilization by Travel Corridor, 2004

Minneapolis Travel Corridor	Utilization
North Metro	
Hwy 10/169 North	1,520
Hwy 65 North	365
I-35W North	817
South Metro	
Hwy 169 South	13
I-35W South	1,664
Hwy 77	851
Hwy 55/52	608
East Metro	
I-35E North/Hwy 36	796
I-94 East	491
Hwy 61 South	201
West Metro	
I-94 West	1,451
I-394/Hwy 12	1,316
Hwy 212/5	900
TOTAL	**10,993**

Source: 2004 Annual Survey.

St. Paul Travel Corridor	Utilization
North Metro	
Hwy 10/169 North	675
Hwy 65 North	606
I-35E North	705
South Metro	
I-35E South	1,244
Hwy 55/52	0
East Metro	
Hwy 36 East	245
I-94 East	516
Hwy 61 South	201
West Metro	
I-94 West	0
I-394/Hwy 12	0
Hwy 212/5	0
TOTAL	**4,192**

Source: 2004 Annual Survey.

System Growth, 1999-2004

The regional park-and-ride system doubled in capacity and usage between 1999 and 2004. Most of the new growth was concentrated in large new transit facilities and stations in prominent locations. Many small or underused facilities were closed over the six-year period, but these losses were more than offset by the opening of larger facilities. Nearly 8,900 new spaces were added, a net growth of 91 percent. Over the same time period, system-wide usage increased by nearly 6,735 users, a growth of 113 percent. The rate of capacity and utilization growth for this six-year period is roughly double the average annual rate for previous years. The whole system grew in capacity and usage, but opt-out providers saw the largest increases. Table 2-3 shows the relative growth of Metro Transit and opt-out park-and-ride growth.

Table 2-3: Metro Transit and Opt-out Park-and-Ride Growth, 1999-2004

	1999			2004			Percentage Growth		
	Facilities	Capacity	Utilization	Facilities	Capacity	Utilization[2]	Facilities	Capacity	Utilization
Metro Transit - Bus	105	6,393	3,594	80	10,100	6,788	-25	58%	89%
Metro Transit - Rail	0	0	0	7	1,752	1,206	7	N/A	N/A
Opt-out Providers	34	3,339	2,362	27	6,723	4,712	-7	101%	99%
Total System	**139**	**9,732**	**5,956**	**114**	**18,575**	**12,706**	**-25**	**91%**	**113%**

Source: Regional Transit Park-and-Ride Database, Metropolitan Council

Metro Transit Park-and-Ride Growth, 1999-2004

Metro Transit operated service to the majority of the region's park-and-ride spaces in 2004, serving nearly 7,900 users of nearly 11,900 spaces at 80 facilities. Between 1999 and 2004, MetroTransit added nearly 5,500 spaces and served nearly 4,300 more customers (see Table 2-3). This increase in capacity represents about 65 percent of regional growth in park-and-ride capacity during this time period. Much of the growth occurred with the expansion or construction of large transit facilities served by express bus service, including Foley Boulevard (doubling capacity from 600 to 1,243), 95th Avenue NE & I-35W (over 700 spaces added), United Artists Theater, Cottage Grove, and Knox Avenue. Together, these facilities account for almost 3,000 spaces in new capacity and more than 1,500 new customers.

LRT Park-and-Rides

In June 2004, Hiawatha light rail line began revenue service. The rail line operated from Fort Snelling Station in June, with 536 spaces provided in a park-and-ride lot south of the station. Upon completion of the Hiawatha Line in December 2004, a second park-and-ride lot at Fort Snelling opened with a capacity of 390 spaces, bringing total capacity at Fort Snelling to just over 926 spaces. An overflow lot later opened at Fort Snelling with 97 spaces and a new park-and-ride lot opened at 28th Avenue Station (east of the Mall of America) with 482 spaces.

To deter customers from parking in residential areas near stations, two park-and-ride lots, plus a limited number of spaces for persons with disabilities, opened at Lake Street/Midtown Station on a demonstration basis. The Anishinabe School lot provides 67 spaces, an ADA park-and-ride provides five parking spaces for persons with disabilities and a third lot provides 175 spaces.

In April 2005, over 1,200 park-and-ride customers used the seven facilities. Fort Snelling (south lot) and 28th Avenue Station were the most popular with 509 and 492 users, respectively. Table 2-4 details park-and-ride use by facility for April 27, 2005.

[2] Utilization counts are from the 2004 Annual System Survey (October 2004) with the exception of Hiawatha LRT facilities, which is from the April 27, 2005 Weekly Survey.

Table 2-4: Light Rail Park-and-Ride Capacity and Utilization, April 2005.

Park-and-Ride Lot	Capacity	Utilization
28th Avenue South	482	492
Fort Snelling – South lot	536	509
Fort Snelling – North lot	390	90
Fort Snelling – South Overflow lot	97	7
Lake & Hiawatha – Anishinabe School	67	102
Lake & Hiawatha – SE Corner lot	175	6
Lake & Hiawatha – Handicapped	5	0
Total	**1,752**	**1,206**

Source: Regional Transit Park-and-Ride Database, Metropolitan Council.

Opt-out Growth, 1999-2004

Between 1999 and 2004, the portion of park-and-ride system in opt-out service areas grew significantly. Opt-out providers include Minnesota Valley Transit Authority (MVTA), Southwest Metro Transit Commission (SMTC), Maple Grove Transit System (MGTS), Plymouth Metrolink, Prior Lake Laker Lines, and Scott County/Shakopee Area Transit (SAT). Several providers built high-capacity ramps during this period, accounting for a large proportion of opt-out growth. Four facilities - Southwest Metro Station, Eagan Transit Station expansion, Burnsville Transit Station expansion, and Maple Grove Transit Station - account for more than 2,600 of the nearly 3,400 opt-out spaces added over the six-year period.

In total, 2,350 added customers parked in opt-out park-and-ride lots between 1999 and 2004. The four transit facilities noted above were responsible for more than 1,900 of these 2,350 additional users.

Table 2-5 details the growth of capacity and use of opt-out park-and-ride facilities.

Table 2-5: Opt-out Growth by Provider, 1999-2004

	1999			2004			% Growth		
	Facilities	Capacity	Usage	Facilities	Capacity	Usage	Facilities*	Capacity	Usage
MVTA	15	2,249	1,533	8	3,743	2,730	-7	66%	78%
SMTC	8	627	532	7	1,372	994	-1	119%	87%
MGTS	9	320	212	4	1,120	674	-5	250%	218%
Plymouth	2	143	85	4	273	254	2	91%	199%
Laker Lines	0	0	0	1	65	46	1	N/A	N/A
Scott Co/SAT	0	0	0	3	120	11	3	N/A	N/A

*Facilities change in number of facilities, not in percentage terms.

Source: Regional Transit Park-and-Ride Database, Metropolitan Council

Market Area Variability

The market areas of park-and-ride facilities vary considerably based on their size, location, level of transit service, and other factors.

Facility Size/Service Level

Facility size and transit service levels can influence both the extent and concentration of a facility's market area. As shown at Foley Boulevard Park-and-Ride, Burnsville Transit Station, Southwest Transit Station and Maple Grove Transit Station, relatively large facilities (facilities greater than 200 spaces) tend to draw from geographically larger market areas than smaller, similarly located facilities. These larger facilities also tend to attract a higher concentration of downtown commuters from the area immediately surrounding the facility.

Location

Geographic location is also an important indicator of a park-and-ride facility's market area. Successful facilities are located with proximity and access to regional highways. This facilitates convenient access for both transit vehicles and customers to and from the facility. The most successful facilities are located where freeways or expressways converge with reliever roads.

Few transit customers will backtrack to a park-and-ride facility, particularly if they must cross a river or other natural feature that serves as a barrier to movement. Since these features can constrict traffic flow, successful park-and-ride facilities are usually located "upstream" from these barriers to maximize transit advantages, reduce congestion and optimally serve market areas. A similar effect can be seen with congested freeway segments, as customers are less likely to exit a freeway or expressway to use transit once they encounter congestion.

Finally, the market area will depend on a facility's position within a travel corridor and proximity to other park-and-rides. Lots located too close to one another often compete for the market and dilute the efficiency of transit service. The park-and-ride facility located at a corridor's end (the furthest from a corridor's activity center such as a CBD) will draw users from more distant locations than park-and-ride facilities located within a corridor. This effect can be described as a "tail" on the market area.

3. Demand and Unmet Need

Unmet park-and-ride need is the key indicator for park-and-ride expansion. There is gross demand and net demand (also known as unmet need) for park-and-ride spaces. Net demand accounts for current park-and-ride supply serving specific market areas.

Travel Corridors

The primary travel corridors serving the 20-county metropolitan area[3] to each of the two CBDs are distinctly different. As a result, two sets of travel corridors, one for each CBD, were delineated (see Figures 3-1 and 3-2). These two sets of travel corridor areas were used to assign demand by transportation analysis zone (TAZ) and supply to avoid double counting, and to assist in understanding and comparing need by generalized areas. While this plan identifies ridership demand by unique areas, today's experience is that customers living in one corridor may use an adjacent corridor if there is a park-and-ride facility served by frequent express service. Influences of adjacent corridors are described later in this section as they relate to each other in each of the projected growth years.

Since the travel corridors in this Plan were delineated for accurate accounting purposes and capital investment priority comparisons, proposed facility site locations should be evaluated using specific market areas and not the corridor area as a whole. In addition, since not every principal arterial was delineated into its own travel corridor and because some of the delineated travel corridors are relatively large, demand estimates for defined market areas of proposed facility site locations should be used to determined facility capacity (need).[4]

The five-step, regional methodology for estimating park-and-ride demand, found in Appendix N of the *2030 Transportation Policy Plan (TPP)*, details an accepted method for defining the market area of a proposed facility site location. Defining a customized (irregular shaped) market area for a proposed facility site location is acceptable if justified using data substantiated by a regional entity (e.g., a city, a township, a county or the Metropolitan Council).

Transit Demand Estimation Methodology

As part of the development of the *Transit System Plan* of the 2030 TPP, a transit demand model was developed to estimate future work commute transit ridership from the seven-county region to the two downtown areas. This model, hereafter referred to as the Park-and-Ride Demand Model (PRDM), is a TAZ-based, origin-destination, population, employment and travel behavior-driven model set in a geographic information system (GIS) platform. For the *Park-and-Ride Plan*, the PRDM was expanded to include the 13 surrounding counties and was updated to make use of newly released travel behavior data from the 2000 Census Transportation Planning Package (CTPP). The PRDM applies a traditional transit ridership demand estimation methodology used by many transit planning agencies and consultants in macro-level planning subarea models (see Figure 3-3).

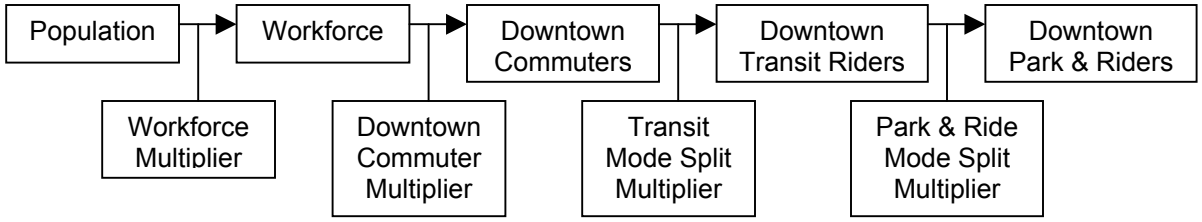
[3] 20-county metropolitan area consists of the following counties: Hennepin, Ramsey, Dakota, Anoka, Washington, Scott, Carver, Sibley, McLeod, Wright, Sherburne, Mille Lacs, Isanti, Chisago, Goodhue, Rice, Le Sueur, Polk, St. Croix, and Pierce.

[4] The new Highway 212 and Highway 5 corridors are one example.

Figure 3-1: Minneapolis Travel Corridors (8½ x11, Insert)

Figure 3-2: St. Paul Travel Corridors (8½ x11, Insert)

Figure 3-3: Park-and-Ride Demand Estimation Model Methodology



Population data from the 2000 Census was used as the baseline. For the seven-county region, Regional Development Framework population forecasts, based on local comprehensive plans, were used for 2010, 2020 and 2030. Population forecasts from other public agencies were used for the surrounding 13 county area. Regional Development Framework downtown employment forecasts were used to calibrate the model. Journey-to-work data from the 2000 CTPP was used to establish workforce multipliers, downtown commuter trip multipliers and baseline transit mode-split multipliers. Transit mode-split multipliers for 2010, 2020 and 2030 were enhanced to simulate increased ridership to achieve the goals outlined in the 2030 TPP (see next section for a more detailed discussion). A spatial comparative analysis of the current park-and-ride system vs. the local bus route system was used to establish park-and-ride mode split multipliers. Park-and-ride user home-origin data from the 2004 Park-and-Ride System Survey was used to validate the park-and-ride mode-split multipliers. The current run (February 2005) of the PRDM uses the best data available.

The PRDM was built with the flexibility to update any of the input variables. Regional users of the five-step, regional methodology are encouraged to identify, submit and use new data sources that are validated by a regional entity.[5] The output of the PRDM is only one element of the five-step, regional methodology for estimating park-and-ride demand. A complete set of the input variables, multipliers and output variables by TAZ can be found in Appendix E of this document.

The PRDM provides estimates of park-and-ride need using an enhanced transit mode-split applied as a flat percent increase equally across the region (see next section for a more detailed discussion). Construction of a new facility or expansion of an existing facility would be expected to generate an additional increase in transit mode split in the immediate area around the facility, based on the facility's planned capacity and service level. Regional users of the five-step, regional methodology are encouraged to use all available data that is validated by regional entities, such as mode-split comparisons of peer facilities, to justify additional transit mode split increases.

[5] For example, a regional transit provider could use new population forecasts validated by a county. Or a provider could use different downtown commute trip multipliers based on new travel behavior forecasts validated by the Minnesota Department of Transportation for a new principal arterial.

The PRDM is an improvement over sub-area modeling techniques typically applied in the past but is not meant as a substitute for more detailed network modeling using travel demand modeling software such as TP+/Cube. The primary difference between the PRDM and a standard sub-area model is that the PRDM is calibrated and validated at the destination end of the trip, which prevents overestimation at the origin end of the trip. The PRDM balances the estimated number of work commute trips destined for the downtown areas against the projected number of jobs (employment) in the downtown areas. The PRDM is meant to provide a common base of readily-available base demand estimates for a variety of regional transit planning activities.

Projected Ridership Demand Scenarios

The projected ridership demand scenarios model an increase in regional transit-commute mode splits (TMS) over Year 2000 to the two CBDs to achieve a certain percent increase in downtown work commute transit riders over Year 2000 (see Table 3-1 below). The 2030 TPP assumes, for example, downtown Minneapolis could experience a 50 percent increase in work-commute transit ridership over Year 2000 by 2020 through primarily forecasted employment growth and a modest increase (4 percentage points) in transit mode-split. To experience the remaining 50 percent increase in work-commute transit ridership over Year 2000 by 2030 (doubling between 2000 and 2030), a more significant increase (7 percentage points) in transit mode-split is required. The same is true for St. Paul. To serve the estimates of inbound transit riders, a significant investment in new facilities and service (as outlined in the Transportation Policy Plan) as well as a shift in factors such as downtown parking policy is assumed.

Table 3-1
Projected Ridership Demand Scenarios Descriptions

	2000	2010	2020	2030
Transit Ridership Goal		25% Increase Over Year 2000	50% Increase Over Year 2000	100% Increase Over Year 2000
Downtown Minneapolis				
Employment	146,474	148,439	185,746	193,560
Regional Transit Mode Split Increase	---	26.0% Increase Over Year 2000	23.4% Increase Over Year 2000	59.0% Increase Over Year 2000
Downtown Transit Mode Split (24-hr)	25.0%	30.3%	29.0%	36.7%
Inbound Transit Riders	33,833	42,020	50,580	67,589
Downtown St. Paul				
Employment	47,763	49,463	52,663	53,963
Regional Transit Mode Split Increase	---	28% Increase Over Year 2000	50.6% Increase Over Year 2000	104.0% Increase Over Year 2000
Downtown Transit Mode Split (24-hr)	12.6%	15.3%	17.3%	22.2%
Inbound Transit Riders	5,615	7,036	8,455	11,188

Source: 2000 Census and the Regional Park-and-Ride Demand Model.

Impact of the Hiawatha LRT Opening on Express Commuter Bus Demand

Base transit mode-split data is derived from the 2000 Census, thus PRDM estimates do not include the new transit riders induced by light rail. However, the PRDM estimates for express commuter bus service do include bus riders who have or will become train riders, thereby double counting these riders. Based on recent license plate survey information, the northern ends of the South Metro travel corridors may be overestimating express commuter bus demand for park-and-ride spaces to some extent as a result. No license plate surveys were conducted prior to light rail so no data is available to judge the influence of light rail in each of the corridors. However, it is known that adjacent park-and-ride facilities have experienced significant drops (up to 50 percent) in usage immediately after the opening of Phase I of the Hiawatha line. Therefore, estimates for the I-35W South Upper, Highway 77 and Highways 55/52 corridors should be considered on the high side. Subsequent biennial updates to the *Park-and-Ride Plan* and the PRDM will attempt to better account for bus-to-rail rider conversion.

Status of Adjacent Corridor Influence

- There are limited facilities and service for the Highway 65 North Corridor north of Highway 10, which results in non-competitive transit travel times. Much of the demand for park-and-ride spaces is being satisfied in adjacent corridor facilities, specifically 95th Avenue in the I-35W North Corridor and Northtown in the Highway 10/169 North Corridor, where fast and frequent service is provided.
- There are limited facilities and minimal service for the Highway 169 South Corridor north of the Minnesota River and to relatively low market demand up until a recent surge of residential development. Most of the existing demand for park-and-ride spaces is being satisfied in adjacent corridor facilities, specifically SouthWest Metro Transit Commission facilities to the north in the Highway 212/5 Corridor and Minnesota Valley Transit Authority facilities to the east in the I-35W South Corridor, where fast and frequent service is provided.
- The facilities serving the Highway 77 Corridor are overused due to high population growth and insufficient capacity. As a result, excess demand is being satisfied in adjacent corridor facilities, specifically Minnesota Valley Transit Authority facilities to the west in the I-35W South Corridor. Regardless, I-35W South continues to be a strong transit corridor, particularly south of the Minnesota River.

Near-Term (Year 2010) to Downtown Minneapolis

By 2010, demand for park-and-ride spaces for travel from the 20-county metro area to downtown is expected to exceed 16,500. Table 3-2 identifies unmet need and priority of corridor investments.

Table 3-2
Near-Term (Year 2010) Unmet Need by Minneapolis Travel Corridor

Travel Corridor	Demand	Supply[6]	Surplus/(Deficit)	Capital Investment Priority[7]
North Metro				
Hwy 10/169 North	1,895	1,951	56	Low
Hwy 65 North	806	328	**(478)**	Medium-High
I-35W North	1,142	1,148	6	Low
East Metro				
I-35E North/Hwy 36	745	956	211	Low
I-94 East	633	1,028	395	Low
Hwy 61 South	223	219	**(4)**	Medium
South Metro				
Hwy 169 South	549	150	**(399)**	Medium-High
I-35W South Upper	740	1,275	535	Low
I-35W South Lower	1,080	1,776	696	Low
Hwy 77	1,312	817	**(495)**	Medium-High
Hwy 55/52	804	798	**(6)**	Medium
West Metro				
I-94 West	2,750	2,986	236	Low
I-394/Hwy 12	2,842	2,351	**(491)**	Medium-High
Hwy 212/5	1,011	1,752	741	Low
TOTAL	**16,529**	**17,935**		

Source: Regional Park-and-Ride Demand Model and the 2004 Annual Park-and-Ride System Survey.

By 2010, demand is expected to outstrip capacity in both the I-94 West Corridor and I-394/Highway 12 corridors due to high population growth. Much of the growth is expected to occur outside of the I-494/I-694 beltway.

[6] Supply includes new or expanded, programmed (funded and located) facilities that will be completed by December 2008. Supply does not include the seven Hiawatha light-rail facilities. Supply values are the sum of the capacities of facilities with service only to downtown Minneapolis plus a prorated portion of the capacity of facilities with service to both downtown areas based on a ratio of express bus service and ridership to each of the two downtown areas.

[7] The capital investment priority classification is as follows: Very High (≥1,000 space deficit), High (≥500 space deficit), Medium-High (≥250 space deficit), Medium (≥0 space deficit), and Low (Surplus).

Near-Term (Year 2010) to Downtown St. Paul

By 2010, demand for park-and-ride spaces for travel from the 20-county metro area to downtown is expected to reach 2,000 (or 1/8 of the downtown Minneapolis demand). Table 3-3 identifies unmet need and priority of corridor investments.

Table 3-3
Near-Term (Year 2010) Unmet Need by St. Paul Travel Corridor

Travel Corridor	Demand	Supply[8]	Surplus/(Deficit)	Capital Investment Priority[9]
North Metro				
Hwy 10/169 North	147	179	32	Low
Hwy 65 North	57	76	19	Low
I-35E North	234	384	150	Low
East Metro				
Hwy 36 East	230	656	426	Low
I-94 East	290	230	**(60)**	Medium
Hwy 61 South	142	275	133	Low
South Metro				
I-35E South	401	693	292	Low
Hwy 55/52	245	0	**(245)**	Medium
West Metro[10]				
I-94 West	126	0	**(126)**	Medium
I-394/Hwy 12	55	0	**(55)**	Medium
Hwy 212/5	73	0	**(73)**	Medium
TOTAL	**2,000**	**2,493**		

Source: Regional Park-and-Ride Demand Model and the 2004 Annual Park-and-Ride System Survey.

Currently, there are no park-and-ride facilities with express service to downtown St. Paul directly serving the Highway 55/52 Corridor due to a relatively low market demand. Expected commuter growth in the corridor is estimated to increase demand to both downtown areas. Rail service will likely serve future demand growth to Minneapolis from this corridor. By 2010, the demand to St. Paul from this corridor is expected to exceed 200 spaces, the recommended minimum facility size.

Currently, there are no park-and-ride facilities serving the I-94 West, I-394/Highway 12or Highway 212/5 corridors with direct express service to downtown St. Paul due to a relatively low market demand. Though these corridors show projected capacity deficits, it may not be possible to serve these corridors with sufficiently frequent, cost-effective express service. Toward the long-term, a demonstration project (express service from one facility) in one or more of these corridors may be warranted.

[8] Supply includes new or expanded, programmed (funded and located) facilities that will be completed by December 2008. Supply does not include the seven Hiawatha light-rail facilities. Supply values are the sum of the capacities of facilities with service only to downtown St. Paul plus a prorated portion of the capacity of facilities with service to both downtown areas based on a ratio of express bus service and ridership to each of the two downtown areas.
[9] The investment priority classification is as follows: Very High (≥1,000 space deficit), High (≥500 space deficit), Medium-High (≥250 space deficit), Medium (≥0 space deficit), and Low (Surplus).
[10] Though these corridors show projected capacity deficits, it may not be possible to serve these corridors with frequent, cost-effective express service.

Mid-Term (Year 2020) to Downtown Minneapolis

By 2020, demand for park-and-ride spaces for travel from the 20-county metro area to downtown is expected to exceed 20,600. Table 3-4 identifies unmet need and priority of corridor investments.

Table 3-4
Mid-Term (Year 2020) Unmet Need by Minneapolis Travel Corridor

Travel Corridor	Demand	Supply[11]	Surplus/(Deficit)	Capital Investment Priority[12]
North Metro				
Hwy 10/169 North	2,379	1,951	**(428)**	Medium-High
Hwy 65 North	930	328	**(602)**	High
I-35W North	1,385	1,148	**(237)**	Medium
East Metro				
I-35E North/Hwy 36	958	956	**(2)**	Medium
I-94 East	884	1,028	144	Low
Hwy 61 South	304	219	**(85)**	Medium
South Metro				
Hwy 169 South	764	150	**(614)**	High
I-35W South Upper	864	1,275	411	Low
I-35W South Lower	1,385	1,776	391	Low
Hwy 77	1,681	817	**(864)**	High
Hwy 55/52	1,043	798	**(245)**	Medium
West Metro				
I-94 West	3,480	2,986	**(494)**	Medium-High
I-394/Hwy 12	3,285	2,351	**(943)**	High
Hwy 212/5	1,332	1,752	420	Low
TOTAL	**20,674**	**17,935**		

Source: Regional Park-and-Ride Demand Model and the 2004 Annual Park-and-Ride System Survey.

By 2020, demand is expected to outstrip capacity in both the Highway 10/169 North and I-35W North corridors due to high population growth. Much of the growth is expected to occur in Anoka County. If implemented, the Northstar Commuter Rail line would be expected to absorb nearly all of the bus transit demand in this corridor.

By 2020, demand is expected to outstrip capacity in I-94 East corridor due to high population growth. Much of the growth is expected to occur in Washington County and Wisconsin.

[11] Supply includes new or expanded, programmed (funded and located) facilities that will be completed by December 2008. Supply does not include the seven Hiawatha light-rail facilities. Supply values are the sum of the capacities of facilities with service only to downtown Minneapolis plus a prorated portion of the capacity of facilities with service to both downtown areas based on a ratio of express bus service and ridership to each of the two downtown areas.

[12] The investment priority classification is as follows: Very High (≥1,000 space deficit), High (≥500 space deficit), Medium-High (≥250 space deficit), Medium (≥0 space deficit), and Low (Surplus).

Mid-Term (Year 2020) to Downtown St. Paul

By 2020, demand for park-and-ride spaces for travel from the 20-county metro area to downtown is expected to exceed 2,500. Table 3-5 identifies unmet need and priority of corridor investments.

Table 3-5
Mid-Term (Year 2020) Unmet Need by St. Paul Travel Corridor

Travel Corridor	Demand	Supply[13]	Surplus/(Deficit)	Capital Investment Priority[14]
North Metro				
Hwy 10/169 North	172	179	7	Low
Hwy 65 North	75	76	1	Low
I-35E North	269	384	115	Low
East Metro				
Hwy 36 East	284	656	372	Low
I-94 East	349	230	**(119)**	Medium
Hwy 61 South	176	275	99	Low
South Metro				
I-35E South	545	693	148	Low
Hwy 55/52	296	0	**(296)**	Medium-High
West Metro[15]				
I-94 West	183	0	**(183)**	Medium
I-394/Hwy 12	74	0	**(74)**	Medium
Hwy 212/5	106	0	**(106)**	Medium
TOTAL	**2,529**	**2,493**		

Source: Regional Park-and-Ride Demand Model and the 2004 Annual Park-and-Ride System Survey.

Currently, there are no park-and-ride facilities with express service to downtown St. Paul directly serving the I-94 West, I-394/Highway 12 and Highway 212/5 corridors due to relatively low market demand, which has lead to a gap in service. Though these corridors show projected capacity deficits, it may not be possible to serve these corridors with frequent, cost-effective express service.

[13] Supply includes new or expanded, programmed (funded and located) facilities that will be completed by December 2008. Supply does not include the seven Hiawatha light-rail facilities. The supply values are the sum of the capacities of facilities with service only to downtown St. Paul plus a prorated portion of the capacity of facilities with service to both downtown areas based on a ratio of express bus service and ridership to each of the two downtown areas.

[14] The investment priority classification is as follows: Very High (≥1,000 space deficit), High (≥500 space deficit), Medium-High (≥250 space deficit), Medium (≥0 space deficit), and Low (Surplus).

[15] Though these corridors show projected capacity deficits, it may not be possible to serve these corridors with frequent, cost-effective express service.

Long-Term (Year 2030) to Downtown Minneapolis

By 2030, demand for park-and-ride spaces for travel from the 20-county metro area to downtown is expected to exceed 28,700. Table 3-6 identifies unmet need and priority of corridor investments.

Table 3-6
Long-Term (Year 2030) Unmet Need by Minneapolis Travel Corridor

Travel Corridor	Demand	Supply[16]	Surplus/(Deficit)	Capital Investment Priority[17]
North Metro				
Hwy 10/169 North	3,126	1,951	**(1,155)**	Very High
Hwy 65 North	1,221	328	**(893)**	High
I-35W North	1,983	1,148	**(974)**	High
East Metro				
I-35E North/Hwy 36	1,378	956	**(422)**	Medium-High
I-94 East	1,378	1,028	**(350)**	Medium-High
Hwy 61 South	489	219	**(270)**	Medium-High
South Metro				
Hwy 169 South	1,216	150	**(1,066)**	Very High
I-35W South Upper	1,149	1,275	126	Low
I-35W South Lower	1,910	1,776	**(134)**	Medium
Hwy 77	2,333	817	**(1,516)**	Very High
Hwy 55/52	1,408	798	**(610)**	High
West Metro				
I-94 West	4,927	2,986	**(1,941)**	Very High
I-394/Hwy 12	4,287	2,351	**(1,936)**	Very High
Hwy 212/5	1,906	1,752	**(154)**	Medium
TOTAL	**28,711**	**17,935**		

Source: Regional Park-and-Ride Demand Model and the 2004 Annual Park-and-Ride System Survey.

By 2030, demand is expected to outstrip capacity in the I-35E North/Highway 36, I-94 East and Highway 55/52 corridors due to high population growth.

[16] Supply includes new or expanded, programmed (funded and located) facilities that will be completed by December 2008. Supply does not include the seven Hiawatha light-rail facilities. The supply values are the sum of the capacities of facilities with service only to downtown Minneapolis plus a prorated portion of the capacity of facilities with service to both downtown areas based on a ratio of express bus service and ridership to each of the two downtown areas.

[17] The investment priority classification is as follows: Very High (≥1,000 space deficit), High (≥500 space deficit), Medium-High (≥250 space deficit), Medium (≥0 space deficit), and Low (Surplus).

Long-Term (Year 2030) to Downtown St. Paul

By 2030, demand for park-and-ride spaces for travel from the 20-county metro area to downtown is expected to exceed 3,500. Table 3-7 identifies unmet need and priority of corridor investments.

Table 3-7
Long-Term (Year 2030) Unmet Need by St. Paul Travel Corridor

Travel Corridor	Demand	Supply[18]	Surplus/(Deficit)	Capital Investment Priority[19]
North Metro				
Hwy 10/169 North	241	179	**(82)**	Medium
Hwy 65 North	102	76	**(26)**	Medium
I-35E North	359	384	164	Low
East Metro				
Hwy 36 East	368	656	288	Low
I-94 East	489	230	**(259)**	Medium-High
Hwy 61 South	239	275	36	Low
South Metro				
I-35E South	781	693	**(88)**	Medium
Hwy 55/52	407	0	**(407)**	Medium-High
West Metro[20]				
I-94 West	275	0	**(275)**	Medium-High
I-394/Hwy 12	103	0	**(103)**	Medium
Hwy 212/5	148	0	**(148)**	Medium
TOTAL	**3,512**	**2,493**		

Source: Regional Park-and-Ride Demand Model and the 2004 Annual Park-and-Ride System Survey.

[18] Supply includes new or expanded, programmed (funded and located) facilities that will be completed by December 2008. Supply does not include the seven Hiawatha light-rail facilities. The supply values are the sum of the capacities of facilities with service only to downtown St. Paul plus a prorated portion of the capacity of facilities with service to both downtown areas based on a ratio of express bus service and ridership to each of the two downtown areas.

[19] The investment priority classification is as follows: Very High (≥1,000 space deficit), High (≥500 space deficit), Medium-High (≥250 space deficit), Medium (≥0 space deficit), and Low (Surplus).

[20] Though these corridors show projected capacity deficits, it may not be possible to serve these corridors with frequent, cost-effective express service.

Summary of Unmet Need

Between 2008 and 2030, there is an estimated need for more than 11,000 added park-and-ride spaces to downtown Minneapolis and 1,000 added park-and-ride spaces to downtown St. Paul (see Tables 3-8 and 3-9). These estimates assume the following:

- The two central business districts will add the forecasted employment,
- Regional transit service providers will expand express service (coverage and frequency), build larger, better located park-and-ride facilities, and complete a comprehensive network of transit advantages (to improve transit travel time competitiveness), and
- Factors influencing travel behavior, such as roadway congestion levels, downtown parking pricing and supply, etc. will shift.

Please note:

- The estimates contained in this Plan are for an enhanced express commuter bus network only, and not for proposed transitways (bus rapid transit, light-rail transit, or commuter rail transit). Implementation of proposed transitways is expected to create added demand for park-and-ride spaces along their respective corridors, as described in the next section.
- Any deviations (increases, decreases, accelerations, decelerations) from the 2004 Regional Development Framework population forecasts for 2010, 2020, and 2030 could impact the projected park-and-ride need in any given area.[21]
- Any shifts in downtown commuter trip generation due to changes in accessibility from relative changes in highway congestion could impact the projected park-and-ride need in any given area.[22]

[21] Localities continually alter their comprehensive plans to accommodate changes in development patterns. These changes can result in an acceleration or deceleration of forecasted population growth or an actual increase or decrease of forecasted population growth. Once these changes are validated by a regional entity, the new population forecasts should be admissible for estimating future park-and-ride need.

[22] For example, the opening of a highway, like new Highway 212, may induce a higher percentage of residents living along the corridor to work in downtown Minneapolis in the future. Once these inducements can be validated by a regional entity, the new travel behavior patterns should be admissible for estimating park-and-ride need.

Table 3-8: Incremental Unmet Need by Minneapolis Travel Corridor (Express Commuter Bus Only)

Travel Corridor	Unmet Need by 2010	Additional Unmet Need by 2020	Additional Unmet Need by 2030	Total Unmet Need By 2030		2030 Demand[23]	2004 Utilization[24]
North Metro							
Hwy 10/169 North	---	400	800	**1,200**		3,126	1,520
Hwy 65 North	500	100	300	**900**		1,221	365
I-35W North	---	400	600	**1,000**		1,983	817
East Metro							
I-35E North/Hwy 36	---	---	400	**400**		1,378	796
I-94 East	---	---	400	**400**		1,378	491
Hwy 61 South	---	100	200	**300**		489	201
South Metro							
Hwy 169 South	400	200	500	**1,100**		1,216	13
I-35W South Upper	---	---	---	**0**		1,149	259
I-35W South Lower	---	---	100	**100**		1,910	1,405
Hwy 77	500	400	600	**1,500**		2,333	851
Hwy 55/52	---	200	400	**600**		1,408	608
West Metro							
I-94 West	---	500	1,400	**1,900**		4,927	1,451
I-394/Hwy 12	500	400	1,000	**1,900**		4,287	1,316
Hwy 212/5	---	---	200	**200**		1,906	900
TOTAL	**1,900**	**2,700**	**6,900**	**11,500**		**28,711**	**10,993**

Source: Regional Park-and-Ride Demand Model and the 2004 Annual Park-and-Ride System Survey.

Table 3-9 Incremental Unmet Need by St. Paul Travel Corridor (Express Commuter Bus Only)

Travel Corridor	Unmet Need by 2010	Additional Unmet Need by 2020	Additional Unmet Need by 2030	Total Unmet Need by 2030		2030 Demand[17]	2004 Utilization[25]
North Metro							
Hwy 10/169 North	---	---	---	**0**		241	675
Hwy 65 North	---	---	---	**0**		102	606
I-35E North	---	---	---	**0**		359	705
East Metro							
Hwy 36 East	---	---	---	**0**		368	245
I-94 East	---	100	200	**300**		489	516
Hwy 61 South	---	---	---	**0**		239	201
South Metro							
I-35E South	---	---	---	**0**		781	1,244
Hwy 55/52	200	100	100	**400**		407	0
West Metro							
I-94 West	100	100	100	**300**		275	0
I-394/Hwy 12	---	---	100	**100**		103	0
Hwy 212/5	---	100	---	**100**		148	0
TOTAL	**300**	**400**	**500**	**1,100**		**3,512**	**4,192**

Source: Regional Park-and-Ride Demand Model and the 2004 Annual Park-and-Ride System Survey.

[23] 2030 Demand summarizes estimates from the Transportation Policy Plan (TPP) Goal Model Scenario, which simulates a 100 percent increase in Transit Commuter Ridership to each of the two downtowns by Year 2030, which translates into a 59 percent increase over Year 2000 Transit Commute Mode Split for Downtown Minneapolis and a 104 percent increase over Year 2000 Transit Commute Mode Split for Downtown St. Paul.

[24] 2004 Utilization includes an unknown number of St. Paul-bound transit riders using park-and-ride facilities that serve both CBDs.

[25] 2004 Utilization includes an unknown number of Minneapolis-bound transit riders using park-and-ride facilities that serve both CBDs.

4. Transitways

The 2030 Transportation Policy Plan identifies a network of transitway corridors to be implemented by 2030 (see Figure 4-1).

Existing	Tier I	Tier II
Hiawatha Corridor	Northstar Corridor	Red Rock Corridor
I-394 Corridor	Bottineau Blvd Corridor	Rush Line Corridor
	Cedar Avenue Corridor	Southwest Corridor
	I-35W South Corridor	
	Central Corridor	

The facility infrastructure and service improvements proposed for these corridors would create park-and-ride demand beyond what is projected in this plan. Each transitway project estimates park-and-ride demand using a more complex model as required by the Federal Transit Administration for New Starts projects, and each is at a different stage of study, planning and design. Rather than develop estimates of induced demand for each transitway using the Park-and-Ride Demand Model, the most current park-and-ride information for each transitway project is summarized below.

Northstar Commuter Rail Corridor

One existing facility, three new facilities, and three expansion facilities are proposed as part of the Northstar Commuter Rail line, totaling more than 2,400 new park-and-ride spaces (see Table 4-3). This is about 1,300 spaces more than identified in the previous Unmet Need section for typical growth of express bus service. However, this is consistent with the phenomenon of induced demand resulting from the implementation of rail and improved transit travel time competitiveness. Note that the existing facility at Garfield and 7th Ave in Anoka would be eliminated (80 spaces).

Table 4-1
Northstar Commuter Rail Park-and-Ride Facilities

Facility	Capacity (new spaces)	Note
Fridley	595 (595)	New facility
Coon Rapids/Riverdale	453 (0)	Existing
Foley Blvd	1,542 (299)	Phase II Expansion
Anoka	258 (258)	New Facility
Ramsey	545 (545)	Phase II New
Elk River	731 (414)	Expansion
Big Lake	400 (310)	Expansion
TOTAL	**4,524 (2,421)**	

Source: Anoka County Transit System Plan, October 2004, Anoka County

Figure 4-1: Transitway Corridors (8½ x11, Insert)

Bottineau Boulevard Busway

Two new facilities are proposed as part of the Bottineau Boulevard Busway, totaling nearly 1,200 new park-and-ride spaces (see Table 4-2).

Table 4-2
Bottineau Boulevard Busway Park-and-Ride Facilities

Facility	Capacity	Note
63rd Ave N	400	County owns land
Brooklyn Blvd	800	Future expansion to 1,200

Source: Metro Transit

Cedar Avenue Corridor

Two new facilities and two existing facility expansions are proposed as part of the Cedar Avenue Busway, totaling nearly 2,200 new park-and-ride spaces (see Table 4-1). This is about 900 spaces more than identified in the previous Unmet Need section for typical growth of express bus service. However, this is consistent with the phenomenon of induced demand resulting from significant improvements in frequency and transit travel time competitiveness.

Table 4-3
Cedar Avenue Busway Park-and-Ride Facilities

Facility	Capacity (new spaces)	Note
Cedar Grove Transit Station	500 (500)	New facility
Palomino Hills Park-and-Ride	768 (456)	Expansion
Apple Valley Park-and-Ride	1,200 (731)	Expansion
CSAH 50 Park-and-Ride	500 (500)	New facility
TOTAL	**2,968 (2,187)**	

Source: Cedar Avenue Corridor Transitway Alternatives Analysis and Final Report, May 2004

I-35W South Bus Rapid Transit (BRT) Corridor

While this study identifies two specific park-and-ride lot needs, the scope of the I-35W South BRT Study is much broader than this plan for the benefit of reducing congestion on I-35W between Lakeville and downtown Minneapolis (including between Highway 62 and downtown). This corridor study includes most of the downtown Minneapolis commuter market south of the Minnesota River (which includes Highway 77/Cedar Avenue corridor), local transit markets in neighborhoods with connecting bus routes adjacent to I-35W serving downtown Minneapolis, and I-494 area, as well as other areas along this corridor. This resulted in a higher demand estimate for the I-35W South Corridor Study than estimated for specific facilities in this plan.

A 500-space park-and-ride located south of 76th Street/Knox Avenue near Best Buy headquarters was opened in December 2004. This will have to be relocated when MnDOT reconstructs the I-35W/I-494 interchange. The new location should be located on I-35W between 76th and 82nd streets.

One new 440-space park-and-ride facility is proposed as part of the I-35W South Busway. It would be located in the northern portion of Lakeville between County Roads 46 and 50, with direct access to 35W. It would initially be a surface lot, but could be improved to a ramp facility. If BRT service is eventually extended to County Road 70, the existing park-and-pool lot at this site could be upgraded.

Central Corridor

There are no park-and-ride facilities planned for this transitway project.

Red Rock Corridor

Red Rock Commuter Rail would serve downtown Minneapolis and downtown St. Paul from the southeast suburbs. Beginning in Hastings, the proposed Red Rock line would run parallel to Highway 61 to downtown Saint Paul on a rail line and on to downtown Minneapolis using existing freight rail lines. Two new facilities and two existing facility expansions have been proposed, totaling more than 1,100 new spaces (see Table 4-5). An Alternatives Analysis/Scoping Study is currently underway thus proposed capacities are subject to change.

Table 4-4
Red Rock Commuter Rail Park-and-Ride Facilities

Facility	Capacity (new spaces)	Note
Lower Afton Road	400 (290)	Expansion
Newport	500 (500)	New
Cottage Grove	800 (310)	Expansion
Hastings	300 (300)	New; Shared Use

Source: Washington County Regional Railroad Authority (January 2005).

Rush Line Corridor

The Rush Line Corridor Transit Study completed in September 2001 identified several opportunities for park-and-ride facility expansion. Though its proposed commuter rail line is not yet in advanced planning stages, the study identifies near-term capacity increases for park-and-ride facilities to be served by buses. New transit centers and accompanying park-and-ride lots are proposed for the cities of Forest Lake and White Bear Lake. Each facility would have 200 spaces. The transit study also calls for the establishment of a North Branch park-and-pool and expansion of the park-and-ride lot at County Road C and Highway 61.

Should a commuter rail line be built in the corridor, added park-and-ride facilities would be planned. The size and number would depend on the length of the rail line. Park-and-ride facilities would be located at all stations north of St. Paul. Depending on the alignment, four to 13 park-and-ride facilities would serve the corridor. The low estimate reflects service ending at White Bear Lake, the high estimate reflects service to Hinckley. Projected ridership for the corridor in 2020 is 2,600 riders daily, from Hinckley southward. Thus, approximately 2,500 park-and-ride spaces would be distributed across 13 facilities, with small lots on the north and large lots on the south end of the proposed rail line.

Southwest Corridor

The Southwest Corridor Rail Transit Study (October 2003) analyzed a trunk line and three alternative extensions for light-rail service to the southwest metro. Transit stations with park-and-ride facilities were proposed to serve the rail line, totaling approximately 4,500 new spaces. The new spaces are expected to be a combination of existing facility expansions and new facilities. The location of the capacity varies among the three extension alignments. Note: an alternatives analysis has been started and both light rail transit and bus rapid transit are still under consideration. No alignment, station locations or park-and-ride locations have been selected.

5. Site Location Area Identification and Selection

Using unmet need estimates and applying the general geographic site location criteria (see Site Location Criteria section), potential site location areas (areas in which a specific site could be selected later) were identified and selected by travel corridor for the near-term (Years 2005-2010), mid-term (Years 2011-2020) and long-term (Years 2021-2030). For each potential area identified, further exploration is needed to determine the feasibility of locating a facility on a specific site, including applying the specific site location criteria. An alternate site location area that could serve the same market may need to be identified if the initial area identified in this Plan is not feasible.

Competing vs. Complementary Facilities and Service

In selecting locations many criteria need to be considered (see Site Location Criteria section). The impact of a new facility and service on existing nearby facilities and service can be positive or negative. As such, the careful consideration of this criterion is critical during the site selection process. A new facility and service can alleviate the over use of an existing, non-expandable facility or it can lure away a sizeable portion of an existing facility's market area. As the region moves toward larger facilities - often structures, or permanent, publicly owned surface lots with significant amenities - this criterion becomes more and more important. The redevelopment or termination of small, under used surface lots or joint-use facilities is relatively simple. Redevelopment or conversion of a large, publicly-financed structure or surface lot is more difficult and less desirable.

North Metro

The North Metro area is bounded by the Mississippi River to the west and Highway 61 on the east. Within this area, there is expected to be an unmet need for approximately 3,100 park-and-ride spaces to Minneapolis by 2030 (see Tables 3-8 and 3-9). Several proposed site location areas also could serve park-and-riders to St. Paul, therefore no additional park-and-ride capacity serving St. Paul should be needed. The Anoka County Transit System Plan (October 2004) discusses additional transit needs in the North Metro area in greater detail (see Appendix D).

Highways 10/169 North

Within this corridor, there is expected to be an unmet bus transit need for 400 spaces by 2020 and an additional 800 spaces by 2030 (see Tables 3-8 and 3-9). If the proposed Northstar Commuter Rail line is implemented, bus transit service likely will be scaled back and restructured, and many bus riders would become commuter rail riders. Also, additional demand would be induced as a result of the improved transit travel time. If the Northstar line is delayed or not implemented at all, many of the park-and-ride sites identified for the rail corridor also would be suitable sites for the 1,200 spaces needed for express bus transit (see Figure 5-1).

Figure 5-1: North Metro Area Potential Site Location Areas (8½ x11, Insert)

Highway 65 North

There is expected to be an unmet need in this area for 500 spaces by 2010, 100 additional spaces by 2020, and 300 additional spaces by 2030 (see Tables 3-8 and 3-9). Currently, this corridor is not served by park-and-ride facilities and express transit service due to a lack of transit advantages on Highway 65 north of Highway 10. The intersection of Highway 65 and Highway 242 is programmed to be reconstructed with grade separation, as well as bus only shoulders along Highway 65 north of Highway 10 to County Road 16 by 2010. Other intersections between Highway 10 and Bunker Lake Boulevard (County Road 16) are envisioned to be upgraded with a series of grade separated interchanges but are not currently funded. These would reduce congestion and enable improved (or more competitive) transit service within this segment. However, if the proposed Northstar Commuter Rail line is implemented, many of the anticipated park-and-riders living west of Highway 65 may travel farther to become rail transit park-and-riders. If the attractiveness of commuter rail is comparable to light rail, then only a single, smaller (up to 300 spaces) park-and-ride facility near the future Highway 65/County Road 14 interchange may be warranted (see Figure 5-1).

Interstate 35W North (Minneapolis)

Within this corridor area, there is expected to be an unmet need for 400 added spaces by 2020 and an additional 600 spaces by 2030 (see Tables 3-8 and 3-9). The existing I-35W & 95th Avenue NE park-and-ride should be expanded from 800 spaces to 1,100 spaces by 2020. Either the existing I-35W & County Road H facility should be doubled to 400 spaces by 2030, or a new facility of that size will be needed on the east side of I-35W at County Road H as part of redevelopment of the Twin Cities Army Ammunition Plant.

Demand for projected Minneapolis commuters from Hugo and points north on I-35, as well as demand for service to downtown St. Paul could be accommodated if the connection envisioned between I-35W and I-35E via County Road 14 were constructed by 2030. A new 600-space facility (400 spaces for I-35W North and 200 spaces for I-35E North/Highway 36 East) could be located near I-35E & County Road 14. This location would allow good access to I-35W to Minneapolis and I-35E to St. Paul (see Figure 5-1).

East Metro

The East Metro area starts at Highway 61 on the north and continues south to the Mississippi River. Within this area, there is expected to be an unmet need for approximately 1,400 park-and-ride spaces to Minneapolis and 300 park-and-ride spaces to St. Paul by 2030 (see Tables 3-8 and 3-9).

Interstate 35E North/Highway 36 East (Minneapolis)

Within this corridor area, there is expected to be an unmet need for 400 spaces by 2030 (see Tables 3-8 and 3-9). Either the existing St. Croix Valley Sports Complex facility should be expanded from 100 spaces to 300 spaces by 2030, or a new expanded replacement facility of the same size will be needed in the vicinity of the Highway 36 & Highway 5 interchange.

Demand for projected Minneapolis commuters from Hugo and points north on I-35, as well as demand for service to downtown St. Paul could be accommodated if the connection envisioned between I-35W and I-35E via County Road 14 were constructed by 2030. A new 600-space facility (400 spaces for I-35W North and 200 spaces for I-35E North/Highway 36 East) could be located near I-35E & County Road 14. This location would allow good access to I-35W to Minneapolis and I-35E to St. Paul (see Figure 5-2). A partial alternative site location in Forest Lake, albeit with a smaller capacity and only if the Rush Line Transitway were implemented, could also serve some of this market area.

Interstate 94 East

Within this corridor area, there is expected to be an unmet need for 400 spaces to Minneapolis by 2030, 100 spaces to St. Paul by 2020 and an additional 200 spaces to St. Paul by 2030 (see Tables 3-8 and 3-9). The programmed I-94 East facility in Lake Elmo should be expanded from 500 spaces to 700 spaces by 2020, and to 900 spaces by 2030. The existing United Artist Theater facility should be expanded from 550 spaces to 850 spaces by 2030 (see Figure 5-2).

Highway 61 South

Within this corridor area, there is expected to be an unmet need for 100 spaces to Minneapolis by 2020 and an added 200 spaces by 2030 (see Tables 3-8 and 3-9). An expansion of the existing Cottage Grove park-and-ride would accommodate the expected unmet need. If the proposed Red Rock Commuter Rail line is implemented, bus transit service likely will be scaled back and restructured. Current and future bus riders would become commuter rail riders. If the proposed Red Rock Commuter Rail line is implemented, additional demand would be induced as a result of the travel time improvements and the attractiveness of rail.

South Metro

The South Metro area is bordered by the Minnesota River on the west and continues east to the Mississippi River. This area can expect an unmet need for approximately 3,300 park-and-ride spaces to Minneapolis and 400 park-and-ride spaces to St. Paul by 2030 (see Tables 3-8 and 3-9). Scott County and Dakota County are preparing Transit System Plan for their respective counties during 2005, which discuss additional transit needs for the South Metro area in more detail (see Appendix D).

Highway 169 South (Minneapolis)

Within this corridor area, there will be an unmet need for 400 spaces by 2010, an additional 200 spaces by 2020 and an additional 500 spaces by 2030 (see Tables 3-8 and 3-9). Nearly all of this unmet need is south of the river crossing in northern Scott County. A new 200-space facility will be needed at or "upstream" of the future County Road 21 (Eagle Creek Avenue) & County Road 16 (Eagle Creek Boulevard) by 2010. This facility should be expanded from 200 spaces to 500 spaces by 2030. A new 200-space facility will be needed at or "upstream" of Highway 169 & County Road 83 (Canterbury Road) by 2010. This facility should be expanded from 200 spaces to 400 spaces by 2020 and then from 400 spaces to 600 spaces by 2030 (see Figure 5-3).

Figure 5-2: East Metro Area Potential Site Location Areas (8½ x11, Insert)

Figure 5-3: South Metro Area Potential Site Location Areas (8½ x11, Insert)

Interstate 35W South (Minneapolis)

Within this corridor area, there are two distinct markets: one north of the river and one south of the river. Some capacity within the corridor is new, some is not ideally located and some is underserved by transit. These factors contribute to a false impression that there is sufficient capacity. Partially counterbalancing the errant supply side, the two adjacent corridor areas are either currently underserved with transit (Highway 169 South) or underserved with capacity (Highway 77 South), resulting in current demand in those adjacent corridors is being satisfied by the facilities and service located in this corridor area.

Current park-and-ride facilities near Best Buy headquarters (76th Street and Knox Avenue) must be replaced when the intersection of I-35W and I-494 is reconstructed. The intersection of I-35W and 82nd Street is a possible replacement location. Further discussions are needed to develop the concept and design.

The end result, assuming both adjacent corridors have more capacity and service in the future, is an unmet need for a single facility of approximately 100 spaces by 2030 located at or "upstream" of I-35 & County Road 46 (see Figure 5-3). If the proposed I-35W Busway is implemented, additional demand would be induced as a result of the travel time improvements, requiring a 400-space expansion of the I-35 & County Road 46 facility.

Highway 77 South (Minneapolis)

Within this corridor area, there is expected to be an unmet need for 500 spaces by 2010, an additional 400 spaces by 2020 and an additional 600 spaces by 2030 (see Tables 3-8 and 3-9). If the proposed Cedar Avenue Busway is implemented, then additional demand would be induced as a result of the travel time improvements.

Highways 55/52

Within this corridor area, there is expected to be an unmet need for 200 spaces by 2010, an additional 100 spaces by 2020 and an additional 100 spaces by 2030 to St. Paul, and 200 spaces by 2020 and an additional 400 spaces by 2030 to Minneapolis (see Tables 3-8 and 3-9). A new 200-space facility will be needed near the Highway 52/55 & Concord Boulevard interchange by 2010. This facility should be expanded to 400 spaces by 2030. A new 200-space facility will be needed near the Highway 52 and County Road 42 interchange, which is programmed for reconstruction by 2020 (see Figure 5-3). Two-thirds of the estimated unmet need to Minneapolis (400 spaces) is expected to be served by planned expansions of park-and-ride facilities at the Fort Snelling light-rail Station.

West Metro

The West Metro area is bordered by the Mississippi River on the north and the Minnesota River on the south. Within this area, there is expected to be an unmet need for approximately 4,000 park-and-ride spaces to Minneapolis and 500 spaces to St. Paul by 2030 (see Tables 3-8 and 3-9). Several of proposed site location areas would serve both Minneapolis and St. Paul-bound customers.

Interstate 94 West

Within this corridor area, there is expected to be an unmet need for 500 spaces by 2020, additional 1,400 spaces by 2030 to Minneapolis; and 100 spaces by 2010, an additional 100 spaces by 2020 and an additional 100 spaces by 2030 to St. Paul (see Tables 3-8 and 3-9). The 130-space 85th Avenue & Highway 169/County Road 81 facility is scheduled for closure by the end of 2006 as part of a roadway reconstruction project. The lost capacity will need to be replaced. The programmed 400-space County Road 81 & Brooklyn Boulevard facility should be expanded to 800 spaces by 2020. This facility could provide partial replacement for the lost capacity at 85th Avenue. A new 200-space facility will be needed at or "upstream" of the Highway 610 & Zachary Lane interchange by 2020; an earlier partial or full build may be warranted to replace the loss of spaces at 85th Avenue. This facility should be expanded to 300 spaces by 2030. A new 1,000-space facility will be needed near the future I-94 & Highway 610 interchange by 2030. Land acquisition and preservation for a large facility at I-94 & Highway 610 is critical. An earlier partial build (300-500 spaces) with long-term full expansion potential may be necessary to secure a suitable site in the area. A new 200-space facility will be needed at or "upstream" of the I-494 & County Road 10 interchange by 2030 (see Figure 5-4). The Bottineau Boulevard (Northwest Corridor) Busway Study (November 2002) discusses additional transit needs for the County Road 81 Corridor and the I-94 West Corridor in more detail (see Appendix D).

Interstate 394/Highway 12 West

Within this corridor, there is expected to be an unmet need for 500 spaces by 2010, an additional 400 spaces by 2020 and an additional 1,000 spaces by 2030 to Minneapolis; and an additional 100 spaces by 2030 to St. Paul (see Tables 3-8 and 3-9). The Highway 100 & Duluth Street facility should be expanded by 300 spaces by 2010. A new 200-space facility at or "upstream" of Highway 12 & County Road 15 by 2010. This facility should be expanded to 400 spaces by 2020. A new 200-space facility near the Highway 55 & Highway 169 interchange will be needed by 2020. A new 200-space facility at or "upstream" of the I-494 & Highway 55 interchange will be needed by 2030. A new 200-space facility at or "upstream" of Highway 12 & County Road 6 will be needed by 2030.

If either light-rail transit or bus rapid transit is implemented along Highway 7, additional park-and-ride demand would be induced as a result of the travel time improvements and the attractiveness of transit on a dedicated right-of-way. If a Southwest light-rail line is implemented, bus service likely will be scaled back and restructured. Current bus transit park-and-riders would become light-rail park-and-riders. A new 200-space facility at or "upstream" of the I-494 & Highway 7 interchange or the I-494 & County Road 5 interchange will be needed by 2030. These next two facilities could serve a future transitway as well. A new 200-space facility at or downstream of the Highway 7 & Highway 100 interchange will be needed by 2030. A new 200-space facility at or downstream of the Highway 7 & Highway 169 interchange will be needed by 2030 (see Figure 5-4).

Figure 5-4: West Metro Area Potential Site Location Areas (8½ x11, Insert)

Highways 212/5 West

The Highway 169 South Corridor is currently underserved by transit service and facilities, resulting in demand from Highway 169 south of the river being satisfied by the facilities and service located in this corridor area as well as in the adjacent I-35W South Corridor. The end result, assuming the adjacent Highway 169 South corridor will have more service and capacity in the future, is an unmet need for a single facility of approximately 200 spaces by 2030 to Minneapolis located at or "upstream" of the future Highway 212 & Highway 41 (see Figure 5-4). If either light-rail transit or bus rapid transit is implemented in this corridor, additional park-and-ride demand would be induced as a result of the travel time improvements and the attractiveness of transit on a dedicated right-of-way. If a Southwest light-rail line is implemented, bus service likely will be scaled back and restructured. Current bus park-and-riders would become light-rail park-and-riders. The expanded access created upon opening of the new Highway 212 may result in the need for more park-and-ride spaces beyond the estimates provided here. Subsequent updates to this document will further consider the impact of the new Highway 212 when travel behavior forecasts are available.

6. Site Location Criteria

The site location criteria are one of the two cornerstones of this plan, the other being the unmet need projections. The criteria are a tool that better enable regional transit planners and local officials to work more collaboratively in the selection and approval of sites that maximize transit efficiency while serving the greatest number of customers. Suitable park-and-ride facility sites are selected through a mutual recognition, understanding and balancing of competing interests for the public good. The criteria flow diagram (see Figure 6-1) and accompanying criteria descriptions on the following pages form a standardized framework for evaluating and comparing potential park-and-ride facility sites.

Not all criteria are created equal, hence, the essential (E) and preferred (P) designation on the flow diagram and in the descriptions. The inability of a potential site to meet an essential criterion is not a fatal flaw but rather an indication that the site is less than ideal. However, the inability of a site to meet several essential criteria may constitute a fatal flaw. A preferred criterion should be considered a bonus feature that can be used to distinguish two or more otherwise equally suitable sites.

For facility design criteria (such security and lighting considerations, etc.), please refer to Appendix J (Park-and-Ride Guidelines) in the 2030 Transportation Policy Plan.

Facility Need

The need for a new facility is driven either by unmet need (net demand), which can manifest itself through the emergence of a new primary market area or an over-capacity facility(s) or the loss of an existing facility. If a park-and-ride location is being considered is beyond those areas identified by corridor in this plan, it must be validated using the Regional Park-and-Ride Demand Estimation Methodology found in Appendix N of the 2030 Transportation Policy Plan. An exception to this requirement would be facilities supporting transitways, which are required to follow Federal Transit Administration guidelines.

New Primary Market Area

The emergence of a new primary market area typically occurs in high population growth areas not directly served by transit or without facilities. These areas tend to be along major transportation corridors on the perimeter of the reach of the existing transit service area. Examples of such areas are Lakeville, Rogers, and Forest Lake.

Over-capacity Facility

An over-capacity facility typically occurs in high congestion growth areas. These areas tend to be along major transportation corridors within the existing transit service area. Examples of such areas are Plymouth, Maplewood and Apple Valley.

Replacement Facility

In certain instances, it is necessary to replace an existing facility. For example, public right-of-way, on which a facility is located, may be needed for roadway expansion or re-alignment. Another common example is a joint-use facility without a permanent or long-term lease arrangement whose lease is terminated by the landowner.

Figure 6-1: Site Location Criteria Flow Diagram (8½ x11, Insert)

General Geographic Attributes

General geographic attributes are the macro-level site location criteria that should be used to identify general areas suitable for locating park-and-ride facilities.

Low-Density Areas with Less than Full Transit Service Coverage (E)

Facilities should be located in lower density developing areas, as designated in the Regional Development Framework, that are within the transit taxing district, where full coverage with transit service is not feasible. Priority should be given to locations in areas categorized as Transit Market Area III within the Metropolitan Urban Service Area (MUSA). See Figure 6-2.

Major Travel Corridor to Major Activity Center (E)

Facilities should be located in areas with high levels of travel demand at major activity center(s).

Facility Competition or Reinforcement (E)

When implementing a new facility, the influence of other nearby facility(s) should be evaluated. Facilities placed closer than four to five miles apart within the same corridor have strong potential for competition. However, there are instances where locating facilities closer than 4 to 5 miles would create a complementary (facility reinforcement) rather than competitive situation. There is a grey line between facility competition and reinforcement; the bottom line is whether a new, nearby facility would result in a long-term decrease in usage of a nearby, existing facility.

Transit Service Competition or Reinforcement (E)

Facilities can, in some cases, compete with local transit service within the same area, especially when a cost differential exists between the two services. This situation should generally be avoided, either by local route modification or elimination.

Congested Travel Corridor (P)

Facilities should be located in congested travel corridors. Priority should be given to facilities concentrated along and/or serving congested metropolitan highway corridors.

Upstream of Major Traffic Congestion (P)

Facilities should be located in advance of areas experiencing major traffic congestion. Diverting vehicles off the roadways can lessen the amount of congestion in areas already experiencing congestion and slow the extension of congested corridors.

Transit Advantages (P)

The primary travel corridor, on which the facility is located, should be equipped with continuous transit advantages, such as bus-only shoulders, within the congested segments of the corridor.

Figure 6-2: Transit Market Areas (8½ x11, Insert)

Transit Travel Time to Major Activity Center (P)

There is an ideal transit travel time from the park-and-ride facility to the major activity center for optimal transit service efficiency. The rule of thumb is a maximum, one-way transit travel time of 45 minutes because the vehicle serving the first and potentially second peak period trip could be used for another trip late in the peak period. A transit travel time of 30 minutes is the current norm. Distance will differ by corridor due to congestion levels and availability of transit advantages.

Site Specific Attributes

Site-specific attributes are the micro-level site location criteria that should be used to identify specific sites suitable for park-and-ride facilities.

Convenient Access to Regional Highway System (E)

Facilities should be located within ½ mile of the nearest interchange (or intersection) accessing the regional highway system (usually principal arterial).

Convenient Vehicle Access (E)

Facilities should be located to optimize vehicle travel (transit and personal) into and out of the facility. In addition, connections to external bicycle and pedestrian networks should be included as design elements to provide equivalent access.

Minimum Capacity (E)

Facilities should be sized to accommodate a minimum of three exclusive, peak-period, express bus trips (no smaller than 150 spaces).

Local Area Factors (E)

There are three groups of local area factors that need to be acknowledged, considered and satisfied for local consent of a potential park-and-ride site: community or land use compatibility, environmental constraints and economic implications.

Transit Advantages (P)

Direct, seamless access for transit vehicles between (to and from) the facility and the adjacent primary travel corridor, on which the facility is located, is desired for transit travel time savings, such as a ramp-meter bypass.

Good Visibility from Primary Roadway(s) (P)

Facilities should be oriented to ensure good visibility among potential users. Anchor facilities, those located on the end of a travel corridor, should be visible from the adjacent highway (i.e., interstate) while intermediate facilities, those located between an anchor facility and a major activity center, should be visible from the cross-roadway (i.e., county road).

Future Expansion Potential (P)

Expanding successful sites is often easier and faster than building entirely new facilities.

Upstream of Primary Access Point (P)

Access and egress to the facility should be located on the right side of the roadway in terms of the inbound direction to the primary activity center (destination). This allows the arriving commuter to make a right turn into the facility with minimum delay. Access to the facility from feeder arterials, rather than the primary one, is preferable.

Surface (P) or Structured

Surface lots should be constructed where reasonably feasible. Structured ramps could be constructed in areas with high land acquisition costs, high potential park-and-ride demand or where a complementary, shared parking joint-use venture is feasible.

Transit Center Synergy (P)

If there is a need for a transit center, one should be accommodated as part of the site selection process.

Method of Capacity Provision

While considering site-specific attributes, the question of whether to expand an existing facility if one exists, or to construct a new facility to satisfy the unmet need will arise. Careful consideration must be given to answering this question.

Expansion of Existing Facility(s)

Whenever possible, consider enlarging facilities that demonstrate successful demand characteristics, rather than developing new.

Construction of New Facility(s)

Land constraints or geographic location may prohibit expansion of existing facility(s). The construction of a new facility may require a longer implementation timeline than expansion of an existing facility due to the site acquisition element.

Type of Land Provision

If new construction is selected, one of three types of land provision must be identified: public right-of-way, joint-use opportunity or private land. The selection of land type must be cost effective but not necessarily driven by capital cost alone. Annual operating costs also must be considered.

Public Right-of-Way

The selection of public right-of-way should be driven by two factors: availability and land acquisition cost. In many cases, surplus or excess public right-of-way can be found along principal arterials and other major roadways, particularly around interchanges and intersections. Many times these parcels are irregularly shaped and not suitable for commercial land development. Public right-of-way tends to have lower acquisition cost than private land.

Joint-Use Opportunity

The selection of joint-use opportunity should be driven by two factors: complementary use and long-term or permanent lease arrangement. Joint-use opportunities are most applicable in corridors with little available land or at locations where large shared-use facilities are desired and reasonable.

Private Land

The selection of private land should be driven by two factors: zoning compatibility and land acquisition cost. A site for a park-and-ride facility needs to be compatible to the surrounding land uses. The acquisition of land for a park-and-ride facility must not be cost-prohibitive.

Criteria Application & Use

The flow diagram (Figure 6-1) and the site criteria descriptions can easily be converted to a checklist format (see Figure 6-3 for a simplified example of a sample site). A checklist format allows for the easy application and ready use of the site location criteria.

As mention earlier and worth repeating here, not all criteria are created equal, hence, the essential (E) and preferred (P) designation on the flow diagram and in the descriptions.

Figure 6-3: A Sample Park-and-Ride Site Evaluation Checklist Form

Proposed Site Name: North Metro	
Proposed Site Location: Some Quadrant of Some Interchange in the North Metro	
Facility Need: New Primary Market Area & Overcapacity Existing Facility	
Method Capacity Provision: New Construction	
Type of Land Provision: Public Right of Way	
General Geographic Attributes	
Essential	
Low Density Areas w/ less than Full Transit Service Coverage	Yes
Major Travel Corridor to Major Activity Center	Yes
Facility Competition or Reinforcement	Competition but alleviate nearby overcrowding
Transit Service Competition or Reinforcement	Reinforcement: New express service
Preferred	
Congested Travel Corridor	Yes
Upstream of Major Traffic Congestion	Yes
Transit Advantages	Yes, bus-only shoulders downstream
≤ 45 minute to Major Activity Center	Yes
Site Specific Attributes	
Essential	
Convenient Access to Metro Highway System	Yes
Convenient Vehicle Access	Yes
Min. Size or Capacity	Yes, will exceed 200 spaces
Local Area Factors	
Preferred	
Transit Advantages	No
Good Visibility from Primary Roadway(s)	Yes
Future Expansion Potential	Yes
Upstream of Primary Access Point	Yes
Surface or Structured	Surface
Transit Center Synergy	No

7. Permanent Joint-Use Park-and-Ride Facilities

What elements make a good joint-use, park-and-ride facility? There are several good examples in this metropolitan area. Among the recent examples are the SouthWest Metro Transit Station in Eden Prairie, the Maple Grove Transit Station, the Eagan Transit Station, the Apple Valley Transit Station and the United Artists Theatre in Woodbury. These examples are distinctly different from the joint-use, park-and-ride facilities of the past. From the early years of the regional park-and-ride system through the mid-1990s, joint-use, park-and-ride facilities typically referred to small surface lots (less than 100 spaces) at churches and strip malls. Since the mid-1990s, joint-use, park-and-ride facilities typically referred to large surface lots (greater than 200 spaces) or structured facilities integrated in a larger, more diverse commercial area. The modern version of joint-use, park-and-ride facilities tend to be more success than their earlier counterparts for several reasons: better visibility, improved lighting and all-day activity in and around these facilities is perceived as safer by the transit user. The diversity of commercial uses either on-site or nearby is more attractive to the transit user than the more limited commercial uses found in the traditional strip mall.

Future updates to this document will include a more detailed section on this topic. For now, detailed information about transit-oriented development is available in the July 2000 Metropolitan Council guidebook titled "Planning More Livable Communities with Transit-Oriented Development." The Metropolitan Council plans to release an update to this guidebook in 2005.

8. Park-and-Pool Facilities

The primary focus of this Plan is park-and-ride lots, or facilities served by mass transit. However, park-and-pools, facilities not served by transit service, are important elements of the system as a whole. These facilities fill-in the gaps of the transit service network in areas along the perimeter of metropolitan area growth. In some corridors, these facilities can serve as "land banks" for future conversion to park-and-ride facilities as part of proposed transitways or expansion of the express transit network. The regional system of park-and-pool facilities is managed and maintained by the Minnesota Department of Transportation (Mn/DOT).

Developing a demand estimation methodology specifically for park-and-pool facilities is outside of the scope of this Plan. However, based on current use of exclusive park-and-pool facilities serving the region and assuming a trend similar to park-and-rides, it would be reasonable to expect the overall demand for or use of park-and-pool spaces to double by 2030 from around 200 to 400. Mn/DOT should continue to take the lead on planning for the future needs of the regional park-and-pool system.

As a general rule, park-and-pool facilities could be located using the same set of site location criteria as park-and-ride facilities with one major modification: the site should be at least five miles "upstream" of the farthermost major park-and-ride facility on the corridor. Working with Mn/DOT, subsequent updates of this Plan may focus on this question in further detail.

Technical Appendices

Appendix A

Market Area Maps (YR2004)

Appendix B

Downtown Commuter Maps

Appendix C

Demand Scenario Maps

Appendix D

Works Citied

Appendix E

PRD Model Tables