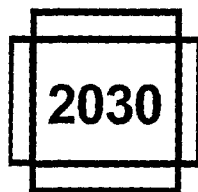


04 - 0672



Transportation Policy Plan

—Adopted December 15, 2004—



Metropolitan Council

Mission

The mission of the Metropolitan Council is to develop, in cooperation with local communities, a comprehensive regional planning framework, focusing on transportation, wastewater, parks and aviation systems, that guides the efficient growth of the metropolitan area. The Council operates transit and wastewater services and administers housing and other grant programs.

General phone	651 602-1000
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TTY	651 291-0904
Metro Info Line	651 602-1888
E-mail	<i>data.center@metc.state.mn.us</i>
Council website	<i>www.metrocouncil.org</i>

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Preface

The Metropolitan Council is directed by Minn. Stat. sec. 473.145 to prepare a comprehensive development guide for the seven-county Twin Cities metropolitan area. The development guide, as currently implemented, consists of the *2030 Regional Development Framework* and four “chapters,” dealing with transportation, aviation, water resources and regional parks. Minn. Stat. sec. 473.146, provides direction to the Council to adopt these comprehensive policy plans for transportation, airports and water resources as chapters of the metropolitan development guide.

This is the first time the system plan for surface transportation also includes a reference to the aviation system. The *Transportation Policy Plan* incorporates the transportation policies and plans that support the Metropolitan Council’s *Regional Development Framework* and describes the Council’s approach to investments between now and 2030. This is the tenth update of the regional transportation plan first adopted by the Council in 1971 and represents the fifth decade of coordinated efforts in planning and implementing this region’s metropolitan urban transportation system. It replaces the 2001 *Transportation Policy Plan*.

The *Transportation Policy Plan* has been prepared pursuant to the federal Transportation Equity Act for the 21st century (TEA-21) requirements and to Minn. Stat. sec. 473.145 and 146. Minnesota Statutes require the Council to review and revise the transportation guide at least every five years; TEA-21 requires an update every three years. However, the Council may amend the plan more frequently if necessary due to changing conditions. The Council is designated by state legislation as the Metropolitan Planning Organization (MPO) for the Twin Cities metropolitan area (Minn. Stat. sec. 473.146). This requires the Council to assure administration and coordination of transportation planning with appropriate state, regional and other agencies, counties and municipalities. The administration and coordination is carried out through the established transportation 3C (comprehensive, coordinated and continuing) planning process. The plan preparation process includes the involvement of local elected officials through the Council’s Transportation Advisory Board (TAB) and participation of citizens. The roles and responsibilities of all participants in the regional transportation planning process are fully described in the TAB’s *Prospectus*.

The *Transportation Policy Plan* conforms to the 1990 Clean Air Act Amendments (CAAA) as required by TEA-21. The conformity of regional transportation plans and programs to CAAA requirements is determined by the air quality analysis methods as discussed in Appendix K.

Uses of This Plan

The Council will use this *Transportation Policy Plan* to fulfill its state and federal statutory responsibilities, including:

- To provide direction for criteria used to solicit and select transportation projects for federal funding;
- To review applications for federal and state financial assistance;
- To review and approve controlled-access highway plans;
- To review environmental assessments and impact statements;
- To guide policy implementation strategies;
- To provide direction to local planning;

- To serve as the basis for system monitoring and evaluation;
- To provide direction for coordination and implementation activities;
- To serve as a basis for identifying issues and developing policy input;
- To provide a forum for informing the public and ensuring citizen participation;

Public Participation Process

The Council provided a variety of methods for interested parties and the public to participate in the formulation of the region's *Transportation Policy Plan*. Described below are the specific activities undertaken to encourage public participation to the development of this regional transportation plan. These activities are consistent with the council's proposed Citizen Participation Plan, found in Appendix D of this plan.

- Preliminary draft presented and discussed with the Technical Advisory Committee (TAC).
- Three public outreach meetings were held to present issues and schedule for system plan preparation: May 18, 20 and 24, 2004.

Public notice of participation process and key dates:

- August 25, 2004 – Council will adopt the draft plan for purpose of public hearing
- September 27, 2004 – Public hearing on draft plan
- October 22, 2004 – Record closes on public comments
- Six public open houses were held throughout the region to present the draft plan during September.
- Copies of the draft plan and background material were provided free upon request. The draft plan was sent to area libraries for public access and was posted on the Council's Web site.
- The draft policy plan was be presented to the TAB Policy Committee and TAB, the TAC Planning and Funding and Programming Committees and TAC.
- Comments were accepted at the public hearing, open houses via comment cards, mail, facsimile, a comment telephone line and Web site postings.
- Copies of all comments received were available for review at the Council's Data Center.
- The Council's Transportation Committee considered the public hearing report and revised plan at its November and December meetings.
- The Council accepted the public hearing report at its December 15, 2004 meeting and adopted the plan with recommended changes.



Minnesota Pollution Control Agency

August 24, 2004

Mr. Natalio Diaz
Director
Metropolitan Transportation Services
Metropolitan Council
230 East 5th Street
St. Paul, MN 55101

RE: Metropolitan Council's Final Draft Update to the Twin Cities 2030 Transportation Policy Plan

Dear Mr. Diaz:

The Minnesota Pollution Control Agency (MPCA) staff has completed its review of the proposed update to the Twin Cities Transportation Policy Plan (plan). The plan was reviewed in two ways. First, we reviewed it for transportation conformity purposes. Secondly, we reviewed it in terms of policy concerns that are important to the MPCA. The MPCA will address the policy concerns in our comments during the official comment period. However, the following contains our comments about the transportation conformity review.

Appendix K of the plan is the Council's documentation of its conformity review as required by the U.S. EPA Transportation Conformity Rule, while Appendix D is the Council's Citizen Participation Plan. The regional emissions modeling analysis as documented in Appendix K of the plan, shows that future carbon monoxide emissions in tons/day in the analysis years 2010, 2020, and 2030 will remain below the regional emissions budget established by the MPCA's emissions inventory, even if all the regionally significant projects listed in the plan are built. With regards to the Council's Citizen Participation Plan (Appendix D), the MPCA staff would like to note that we appreciate the efforts you made in revising the public participation section to meet the revised federal requirements. After reviewing these two appendices for policy criteria established under the federal transportation conformity rule, we believe the proposed plan fully meets the transportation conformity criteria.

The MPCA appreciates the opportunity given to review the plan, and look forward to working with your staff to address any policy concerns we may raise during the public comments period. Please contact me at (651) 296-7739 or by e-mail at innocent.eyoh@pca.state.mn.us if you have any questions.

Sincerely,

Innocent E. Eyoh
Principal Transportation Planner
Regional Environmental Management Division

IEE:ar

cc: Connie Kozlak, Metropolitan Council
James Barton, Metropolitan Council
Patricia Bursaw, Mn/DOT Metro Division, Water's Edge
Ann Seha, MPCA

520 Lafayette Rd. N., Saint Paul, MN 55155-4194; (651) 296-6300 (Voice); (651) 282-5332 (TTY); www.pca.state.mn.us

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Chapter 1/Accommodating Regional Growth

During the 1990s, the Twin Cities metropolitan area gained more population –353,000 – than any previous decade in our history. By the year 2030, the region is expected to grow by nearly 1 million people – the equivalent of two Denvers plunked down within the boundaries of the seven-county metropolitan area.

Such robust growth is a sign of the region’s economic health and vitality. With this growth will come new jobs, greater ethnic diversity, expanded economic opportunities and increased tax revenues. But accommodating growth is not always easy, as the increasing public concern about traffic congestion attests. In a 2003 regional survey, metro area residents listed traffic congestion as the region’s top problem, outpacing crime, education and housing.

The purpose of the Metropolitan Council’s *2030 Regional Development Framework*, adopted in January 2004, is to provide a plan for how the Council and its regional partners can address such challenges. The Council’s *Framework* and the accompanying metropolitan system plans – including this *Transportation Policy Plan* – are intended to help ensure the “coordinated, orderly and economical development” of the seven-county Twin Cities metropolitan area – consisting of Anoka, Carver, Dakota, Hennepin, Ramsey, Scott and Washington Counties (Minn. Stat. sec. 473.851).

The *Framework*’s strategies are organized around four policies:

Policy 1: Work with local communities to accommodate growth in a flexible, connected and efficient manner: Supporting land-use patterns that efficiently connect housing, jobs, retail centers and civic uses. Encouraging growth and reinvestment in centers with convenient access to transportation corridors. Ensuring an adequate supply of developable land for future growth.

Policy 2: Plan and invest in multi-modal transportation choices, based on the full range of costs and benefits, to slow the growth of congestion and serve the region’s economic needs: Improving the highway system, removing bottlenecks and adding capacity. Making more efficient use of the highway system by encouraging flexible work hours, telecommuting, ridesharing and other traffic management efforts. Expanding the bus system and developing a network of transitways, based on a thorough cost-benefit analysis.

Policy 3: Encourage expanded choices in housing location and types, and improved access to jobs and opportunities: Allowing market forces to respond to changing market needs, including increased demand for townhomes and condominiums as baby-boomers grow older. Preserving the existing housing stock to help maintain a full range of housing choices and ensure existing local and regional infrastructure is fully utilized. Supporting the production of lifecycle and affordable housing with better links to jobs, services and amenities.

Policy 4: Work with local and regional partners to reclaim, conserve, protect and enhance the region’s vital natural resources: Encouraging the integration of natural-resource conservation into all land-planning decisions. Seeking to protect important natural resources and adding areas to the regional park system. Working to protect the region’s water resources.

The *Framework* recognizes that “one size does not fit all” – that different communities have different opportunities, needs and aspirations. It includes implementation strategies that are tailored for different types of communities – fully developed communities, communities that are still developing and four different types of rural communities.

Regional Growth Forecasts

During the last three decades, the seven county Twin Cities metropolitan area grew by nearly 800,000 people. By the year 2030, we forecast that the region will add another 966,000 people and 471,000 households. (Table 1-1)

Table 1-1
Metropolitan Area Growth, 1970-2030

	1970	2000	2030	1970– 2000 Increase	2000–2030 Projected Increase
Households	573,634	1,021,454	1,492,000	448,000	471,000
Population	1,874,612	2,642,056	3,608,000	767,000	966,000
Jobs	779,000	1,563,245	2,126,000	784,000	563,000

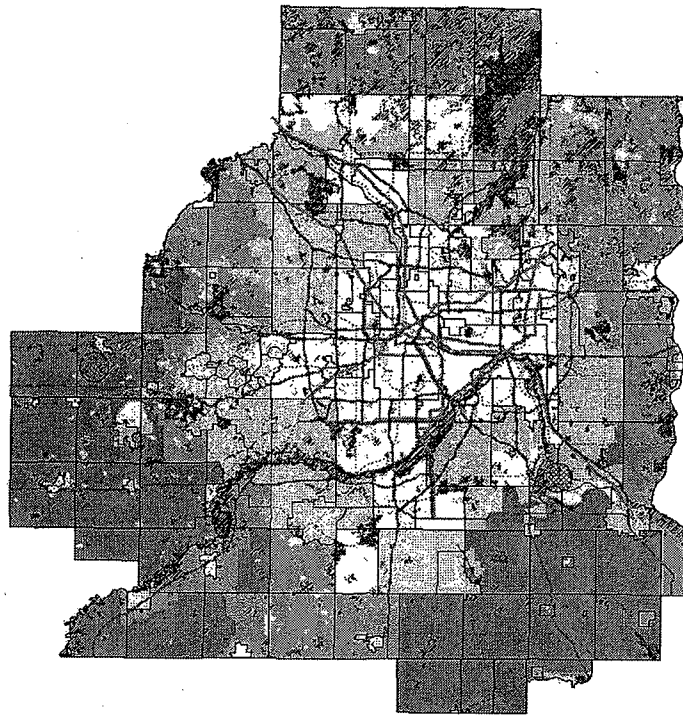
The metropolitan system plans seek to carefully integrate regional land-use, transportation, housing and natural resource policies to achieve regional goals in each area and to avoid working at cross-purposes. The forecasts are used in the planning and capital improvement program processes to assess regional needs, land use patterns and infrastructure investments that will be needed to serve growth in a timely, efficient and cost-effective manner.

Transportation and Framework Planning Areas

The *Framework* sets out different strategies for communities based on the types of growth that are expected (see “Geographic Planning Areas” map, Figure 1-1). The *Framework* identifies an urban area and a rural area, each of which occupies approximately half of the region.

The urban area is divided into two specific geographic planning areas: the Developing Communities and the Developed Communities. The rural area is divided into four specific geographic planning areas: Rural Centers/Rural Growth Centers, the Diversified Rural Communities, the Rural Residential Areas and the Agricultural Areas. Approximately 91% to 95% of new growth is forecast to be located in the urban area – in land use patterns that make efficient use of regional infrastructure – with the rest, 5% to 8%, in the rural area, particularly in small towns to be designated as Rural Growth Centers.

Figure 1-1
Development Framework Geographic Planning Areas



One of the primary differences among these planning areas is the density at which they develop. The Council has established benchmarks indicating the overall densities for planned development patterns in each of the geographic planning areas. The Council negotiates a share of the regional forecasts with each community based on its geographic planning area designation(s), development trends, expected densities, available land, local interests and Council policies. The cumulative results of the community-negotiated distribution of the forecasts among planning areas becomes the basis for determining the required land supply, and for the Council's plans for investments in regional systems such as highways and wastewater service.

The Developed Communities are the cities where more than 85% of the land is developed, infrastructure is well established and efforts must go toward keeping it in good repair. These communities have the greatest opportunities to adapt or replace obsolete buildings, improve community amenities and remodel or replace infrastructure to increase their economic competitiveness and enhance their quality of life. The *Transportation Policy Plan* and infrastructure investments will support the maintenance and enhancement of transportation facilities to accommodate growth and reinvestment in the developed communities.

Developing Communities are the cities where the most substantial amount of new growth – about 60 percent of new households and 40 percent of new jobs – will occur. The amount of infill and redevelopment and the way in which new areas are developed directly influence when and how much additional land in Developing Communities will need urban services – services that will call for substantial new regional and local investments. The TPP and infrastructure investments will support the staged, coordinated expansion of regional systems (wastewater treatment, transportation, parks and open space and airports) to help develop services to

communities as they grow and stage their development within an area needed to accommodate 20 years worth of forecasted growth.

Roughly half of the 3,000 square miles in the seven-county Twin Cities area are rural or agricultural. That includes cultivated farmland, nurseries, tree farms, orchards and vineyards, scattered individual home sites or clusters of houses, hobby farms, small towns, gravel mines, woodlands and many of the region's remaining important natural resources. About 5% to 8% of new growth is forecast for the rural and agricultural area. The TPP and infrastructure investments will support rural growth centers in their efforts to concentrate growth as a way to relieve development pressure in rural parts of the metropolitan area.

Transportation and Land Use

Transportation – the link to countless destinations within our metro area and beyond – is a vital tool for keeping our region competitive in the world economy and improving our quality of life. Decisions relating to transportation, sewers, housing, natural resources and other land uses cannot be made in isolation from one another. Regional transportation and sewer investments and services help shape growth patterns; housing location and types affect mobility options and travel patterns; unplanned growth can put a strain on natural areas, groundwater quality and other resources. In the longer term, the region also can slow the growth in congestion by encouraging development and reinvestment in centers that combine transit, housing, offices, retail, services, open space and connected streets that support walking and bicycle use. Such development enables those who wish to reduce their automobile use to meet their daily needs and makes it possible for those who are unable to drive to live more independently.

The significant costs associated with building new transportation facilities mean that the region will have to make targeted investments, recognizing that “one size does not fit all” and carefully weighing the options in every corridor. The first priority for highway improvements must be to maintain the existing metro highway and roadway system, reducing or providing congestion relief from the numerous bottlenecks that impede travel, implementing new strategies to improve the efficiency of the system and adding capacity where possible. But the region also must look for new ways to make more effective use of the existing system. Transitways in heavily traveled corridors – bus rapid transit (BRT), light rail transit (LRT) and commuter rail – will help slow the growth of highway congestion and attract livable, mixed-use developments of housing, retail, offices and open space. Other such strategies include encouraging flexible work hours, telecommuting, ridesharing and other traffic management efforts and employing a variety of pricing techniques such as FAST lanes and HOT lanes.

The major features of this *Transportation Policy Plan* include:

- Three scenarios for maintaining, managing and expanding the metropolitan highway system, depending on the level of resources available.
- A plan for increasing transit ridership 50 percent by 2020, with the goal of doubling ridership by 2030.
- An integrated network of transitways – rail and bus – on dedicated rights of way, as well as an expanded system of express bus routes on freeways.

The TPP seeks to integrate growth, housing policies and natural resource protection efforts with transportation plans and investments to achieve regional goals contained in the *Framework* along with the strategies for each of the planning areas. The full potential of investments in transportation, housing, natural resource preservation and other factors is best realized when they are considered together in well conceived land use patterns. Maximizing the benefits of

transportation infrastructure has a key role in supporting the competitive position of the region. Transportation investments will be coordinated with land use decisions to support and encourage development concentrations along transportation corridors and at key activity centers.

In addition to supporting the largest regional activity centers – the two central city downtowns, the Twin Cities campus of the University of Minnesota, and the MSP/Airport South/Mall of America – investments will give support to community development plans for mixed use centers. By combining retail, commercial, civic and residential uses, more people have the option of working in the same community in which they live. If the land use patterns cluster housing, businesses, retail and services in walkable, transit-oriented centers along transportation corridors, the benefits increase –improved access to jobs, open space, cultural amenities and other services and opportunities.

Greater attention must be given to the challenges of moving resources and goods within and through the region to North American and world markets. The importance of a coordinated regional and state system is key for increasing the economic competitiveness of businesses, industries and their customers. Regional transportation investments – coordinated with investments by local governments and the private sector where feasible – must provide sufficient access to freight facilities, business and industrial concentrations and distribution centers.

The aviation industry is very important to keeping the region economically competitive in the global economy. Continued implementation of the MSP 2010 improvement plan is necessary to increase runway and terminal capacity at Minneapolis-St. Paul International Airport, along with the maintenance, improvement and expansion of the regional system of reliever airports. These improvements should include runway extensions at Anoka County and Flying Cloud airports to better serve corporate jets.

While airports have benefits for the whole region, there are land use and ground transportation impacts. Regional agencies must work with local communities to mitigate the adverse impacts of airports and ensure compatible land uses in adjacent areas and provide adequate highway and transit support.

Comprehensive Planning Process

The *2030 Regional Development Framework* was prepared under the authority of state statutes, which direct the Council to:

...prepare and adopt...a comprehensive development guide for the metropolitan area. It shall consist of a compilation of policy statements, goals, standards, programs, and maps prescribing guides for the orderly and economical development, public and private, of the metropolitan area. The comprehensive development guide shall recognize and encompass physical, social, or economic needs of the metropolitan area and those future developments which will have an impact on the entire area including but not limited to such matters as land use, parks and open space land needs, the necessity for and location of airports, highways, transit facilities, public hospitals, libraries, schools, and other public buildings....
(Minn. Stat. sec. 473.145)

The *Development Framework* is the initial “chapter” and the unifying theme of the Council’s Metropolitan Development Guide. The *Framework* is the umbrella statement of regional policies, goals and strategies that will inform the Council’s metropolitan system plans for transportation, airports, wastewater service and regional parks, as well as other comprehensive development guide chapter policies adopted by the Council.

Under state law, each city and township in the seven-county metropolitan area is required, at least every 10 years, to review and, if necessary, amend its local comprehensive plan to ensure that the local plan – and local fiscal devices and official controls – are consistent with the Council's metropolitan system plans (Minn. Stat. sec. 473.864). The next round of updated local plans will be due in 2008.

Following the adoption of this *Transportation Policy Plan* and the issuance of system statements as required under the Metropolitan Land Planning Act (MLPA), local communities then have three years to update their local comprehensive plan. These plans are reviewed by the Council for conformance with metropolitan system plans, consistency with Council policies and compatibility with adjacent and affected governmental units.

Conformance: A local comprehensive plan generally will conform with the metropolitan system plans if the local plan:

1. Accurately incorporates and integrates the components of the metropolitan system plans as required by Minn. Stat. sections 473.851 to 473.871:
 - Transportation components including accurate road functional classification, transit facilities and corridors, traffic forecasts, right of way preservation for future roads and bike/pedestrian facilities.
 - Identification of traffic volumes (current Average Daily Traffic), number of lanes on roadways (principal and minor arterials), allocation of 2030 forecasts to Traffic Assignment Zones and 2030 traffic forecasts for principal and minor arterials.
 - Airports, aviation facilities, noise and safety zones and appropriate land uses surrounding these features.
2. Integrates public facilities plan components described in Minn. Stat. sec. 473.859, subd. 3.
 - Integrates development policies and compatible land uses to accommodate forecasted growth at appropriate densities and to maximize the efficiency and effectiveness of the regional system.

Consistency: A local comprehensive plan generally will be consistent with Council policies and statutory requirements if the local plan:

1. Addresses community role strategies contained in the *Framework* including the planning and development of an interconnected local transportation system that is integrated with the regional system.
2. Addresses the linkage of local land uses to local and regional transportation systems.
3. Includes an implementation plan that describes public programs, fiscal devices and other specific actions for sequencing and staging to implement the comprehensive plan and ensure conformance with regional system plans, described in Minn. Stat. sec. 473.859, subd. 4).
4. Addresses official controls:
 - Includes a Capital Improvement Program (sewers, parks, transportation, water supply and open space) that accommodates planned growth and development.

Compatibility: A local comprehensive plan is compatible with adjacent and affected governmental units, based on comments or concerns, or lack thereof, from these entities. In order to be determined compatible, a community must adequately document that it has addressed the concern(s) of all adjacent and affected governmental units.

Chapter 2/ Travel Behavior and the Existing Transportation System

Since 1970, the population of the Twin Cities metropolitan area has grown by 767,000, or more than 40 percent. During this same period, the region has seen:

- More women entering the workforce. Between 1970 and 2000, the proportion of women in the Twin Cities workforce increased from 48.8 percent to 71.4 percent. Among the largest 25 metropolitan areas, the Twin Cities ranks the highest in both male and female workforce participation.
- Dramatic growth in auto ownership. In 1970, a third of the households in the Twin Cities metropolitan area had two cars. By 2000, the figure had increased to 62 percent. In 2000, there was slightly more than one car for every licensed driver in the metro area.
- Increased suburbanization and decentralization. In 1970, 54 percent of the region's households were outside of Minneapolis and St. Paul. By 2000, the figure had risen to 73 percent. Similarly, the share of the region's jobs located outside of the central cities grew from 44 percent in 1970 to 69 percent in 2000.

Today, more people are making more trips and traveling longer distances, with suburb-to-suburb commutes exceeding those from the suburbs to the central cities.

By 2030, the region is expected to add nearly 1 million people, 470,000 households and 560,000 jobs. This will generate an additional 4 million daily trips, a 37 percent increase in travel on our region's roadways. The population of counties where 5% or more of the population commute to the seven-county area will also increase more than 30% by 2030. In 2000, nearly 100,000 residents of the 13 adjacent counties commuted to jobs within the seven-county metropolitan area. In five counties - Chisago, Isanti, Sherburne and Wright Counties in Minnesota, and St. Croix County in Wisconsin - the residents commuting to jobs in the metro area represented more than 40% of their employed residents (see Figure 2-1). In 2000, more than 18,000 residents of the seven metro counties commuted to jobs in those counties, adding to the travel demands they face.

Many different modes of transportation are used within the Twin Cities area, although the auto accounts for more than 89% of all person-trips. Travel to or from the rest of the state, country or world also takes place by train, waterway, or air. The 2000 Travel Behavior Inventory showed that more than 93% of the trips in the metropolitan area both start and end within the region, while 6% start or end outside the metropolitan area. Fewer than 1% of trips are pass-through trips with both their origin and destination outside the seven-county region.

Daily travel for work, shopping, school, and other purposes expands as the region grows, according to the most recent travel survey conducted by the Council in 2000. This trend is expected to continue as the region expands.

Daily travel growth is due to many factors including the number of people, households and jobs; income levels and labor force participation rate; availability of cars and alternative modes of travel and the land use patterns that are present in the region. In 1999, when compared to the nation's 25 most populous Metropolitan Statistical Areas (MSA), the Twin Cities 13-county MSA had the third highest median household and family income and the fifth highest per capita income. The poverty rate in the 13-county region was 6.5% in 1999, the lowest of the 25 largest MSAs. The percentage of elderly residents below the poverty line was 6.1% and ranked 24th. The region ranked highest in the percentage of households with earnings of \$50,000 to \$99,000. The region ranked highest in both male and female labor force participation. The percentage of two wage earner households in 2000 was 68%, which ranked highest among the 25 most populous areas.

In 1970, 33% of households in the region had two or more cars. By 2000, this had increased to 62%. The average number of licensed drivers per household in 2000 was 1.75. In 2000, there were 1.03 registered vehicles for each licensed driver in the seven counties. In the adjacent 13 counties there were 1.13 vehicles for each licensed driver.

The pattern of land use within the region also influenced and encouraged the growth in traffic. Both households and jobs have dispersed. In 1970, 54% of the region's households lived outside Minneapolis and St. Paul. By 2000, the number had risen to 73%. Over the same period, more jobs located in the suburbs. In 1970, 44% of the region's jobs were outside Minneapolis and St. Paul. By 2000, the number had increased to 69%. The two downtowns and the University of Minnesota are key transit markets. While the number of jobs in these three locations has grown, the percentage of regional jobs they provide has decreased significantly, dropping from 25% in 1970 to 15% in 2000.

A measure of job availability is jobs per household by county. Hennepin and Ramsey Counties still exhibit much higher rates of jobs per household than any of the other counties examined. Job location relative to household location influences travel patterns. No longer do the majority of commuters primarily travel inward in the morning and outward at night. Instead, they commute throughout the region, with suburb-to-suburb commuting exceeding suburb-to-central city commutes.

The Appendix further details these driving forces behind Twin Cities travel behavior.

Daily person trips in 2000 by all modes totaled 11,670,000. Of this total, 10,800,000 were motorized trips, an increase of 1,500,000 – or 16 percent – from 1990. By 2030, daily person trips are expected to grow to about 15 million.

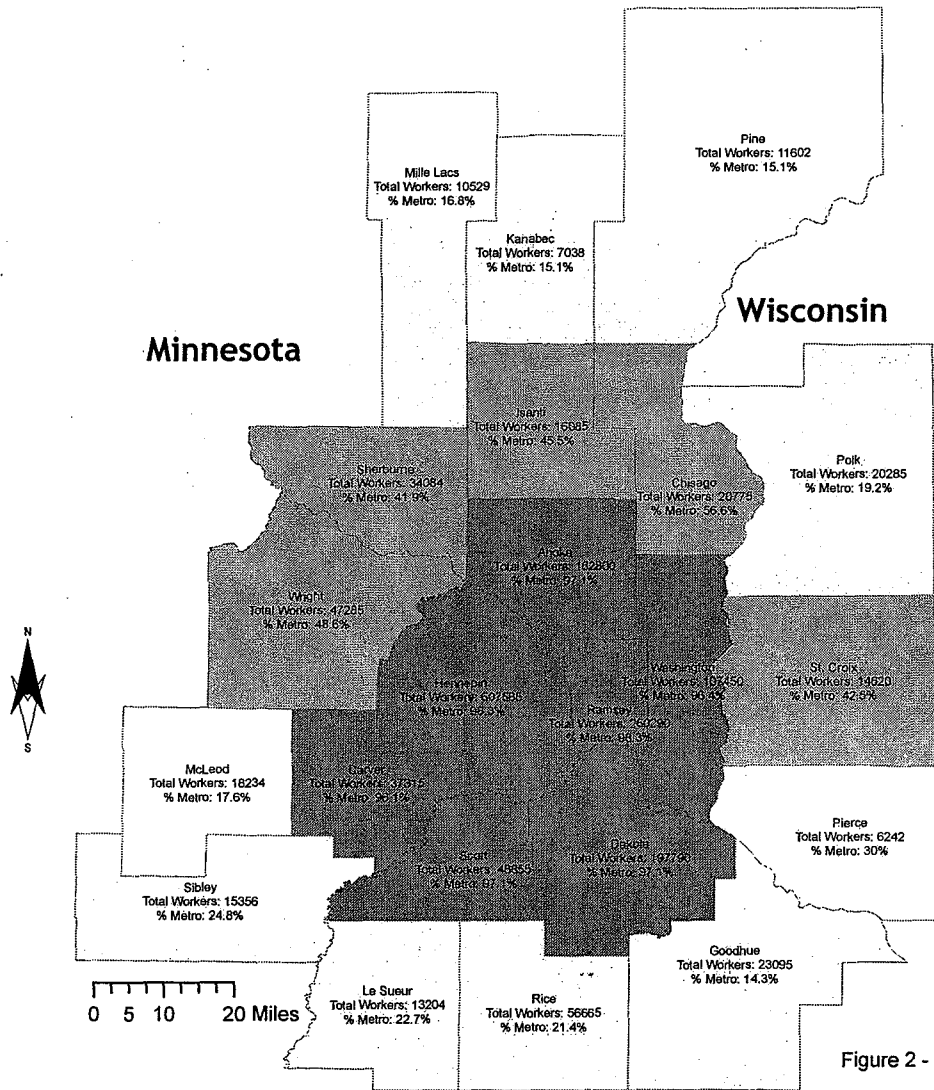
Total vehicle-miles traveled (VMT) per day is expected to grow from more than 57 million in the year 2000 to 86 million annually by 2030, a 51% increase (Table 2-1). Because of these increases in travel demand, congestion will increase and accessibility will decline.

The focus of air transportation is providing access for people and goods to markets and economic opportunities outside the Twin Cities area. Hubs such as Minneapolis-St. Paul International Airport (MSP) serve as transfer points – resulting in a larger number of operations and level of service than would otherwise be needed to serve an area of this size. Total regional aircraft operations (airline, charter, air-taxi, general aviation and military) in 1990 were 383,922, and are expected to grow to 676,000 operations by 2030, as depicted in Table 2-2. Total passenger movements through MSP in 1990 were 20.3 million, and they are expected to increase to 44.3 million by 2030.

The ability of the region to take advantage of air transportation depends upon its airports infrastructure. Recent improvements at MSP give the region some breathing room; however, substantial increases in air travel are expected. MSP air-access, airfield congestion and gate demands are continuing areas of concern, along with ground access and parking. The ability to implement improvements at reliever airports is also an issue.

Further data on the demographics behind travel behavior is available in Appendix E.

Regional Workforce Contributions by County



Workforce Percent Employed in 7 County Metropolitan Area

- Less than 19.2%
- 19.2% - 30.0%
- 30.0% - 56.6%
- More than 90%

Source: US Census

Table 2-1
Population Household Employment and Vehicle Miles Traveled, 1990-2030

	Population	Households	Employment	VMT
1990	2,288,721	875,504	1,273,000	48,922,671
2000	2,642,062	1,021,459	1,600,348	57,195,148
2010	3,005,270	1,197,580	1,805,700	66,630,512
2020	3,334,160	1,361,870	1,978,000	74,014,160
2030	3,607,660	1,491,630	2,126,000	86,168,310

Table 2-2
MSP Airport Usage

<u>Year</u>	<u>Total Operations</u>	<u>Total Passengers</u>	<u>Regional Population</u>
1990	383,922	20,381,314	2,288,729
2000	523,170	36,614,671	2,642,062
2003	512,350	33,195,873	-----
2007	583,147	-----	-----
2010	-----	41,700,000	3,005,270
2020	-----	43,000,000	3,334,160
2030	676,000	44,300,000	3,607,660

Regional Benchmarks

As part of the *2030 Regional Development Framework*, the Council adopted regional benchmarks that will be used to monitor the success of achieving the goals and objectives of the *Framework* and system plans.

Many of the goals and objectives established in the *Framework* are ambitious. Success will hinge on the efforts not only of the Metropolitan Council, but also those of local communities and other regional partners. They also will require the commitment of additional resources – particularly in the areas of highways and transit – in the coming years.

Nonetheless, the Council is committed to tracking and measuring progress toward the achievement of the goals relating to shaping development patterns, improving transportation, slowing the growth of congestion, expanding the housing supply and choices and preserving vital natural resources. The Council, in response to questions and concerns raised in the public input process for the *Framework*, committed to examine and refine the benchmarks and issue updates on progress. The transportation and related benchmarks are provided in Table 2-3. Data on these topics are recorded in this Chapter and in the system plans in Chapter 4. These benchmarks are evaluated, cost estimates provided and changes and new benchmarks are recommended in some cases.

**Table 2-3
Regional Transportation Benchmarks**

Highway Capacity 2000 Baseline: 2030 Trend Line: 2030 Target: Annual Indicator:	1,485 lane-miles of freeway 300 additional lane-miles of freeway 1,786 lane miles of freeway 10 lane-miles constructed per year
Roadway Usage 2000 Baseline: 2030 Trend Line: 2030 Target: Annual Indicator:	23.1 vehicle miles per capita per day 25.15 vehicle miles 24.55 vehicle miles less than .02% growth per year
Highway Congestion 2001 Baseline: 2030 Trend Line: 2030 Target: Annual Indicator:	28 hours spent in congestion per year 40 hours 37 hours 1% growth per year
Air Quality 2002 Baseline: 2030 Target:	Maintain federal ambient air quality standards for carbon monoxide, ground-level ozone and fine particulates Zero violations Zero violations
Transit Service 2002 Baseline: 2030 Trend Line: 2030 Target: Annual Indicator:	42.4 million vehicle revenue miles per year 42 million miles (assuming no growth) 89 million miles 3% growth per year (starting in 2006)
Peak-Hour Transit Capacity 2002 Baseline: 2030 Trend Line: 2030 Target: Annual Indicator:	2.34 million peak-hour seat miles 2.34 million peak-hour seat miles (assuming no growth) 4.68 million peak-hour seat miles 3% growth per year (starting in 2006)
Transit Ridership 2003 Baseline: 2030 Trend Line: 2030 Target: Annual Indicator:	74.9 million riders per year 75 million riders (assuming no growth) 150 million riders 3% annual ridership growth (starting in 2006)
MSP Airport Runway Congestion 2002 Baseline: 2030 Trend Line: 2030 Target: Annual Indicator:	6.9 minutes average annual aircraft delay 9.8 minutes average annual aircraft delay 7.1 minutes average annual aircraft delay 3.2% growth in aircraft operations

Highways

A four-class system is used to designate the function of roads in the Twin Cities – principal arterials, minor arterials (A and B minors), collectors and local streets. This functional classification is described in detail in Appendix F.

The Metropolitan Highway System consists of 657 miles of principal arterials, shown in Figure 2-2. The principal arterials are the most heavily used roads in the area, carrying 59% of the total vehicle miles traveled in the region. These roads are usually Interstate highways and other freeways or expressways. They are designed to carry longer trips at higher speeds with minimal land access. These roads are primarily owned and operated by MnDOT, although four are under the jurisdiction of counties.

Most metropolitan highways are on the National Highway System (NHS), serving as important connectors to the state and nation. MnDOT has also identified a system of Interregional Corridors (IRC), shown on Figure 2-3, that connect the most important regional centers in the state and adjacent states to the metropolitan area and to each other. Most of these also are on the National Highway System.

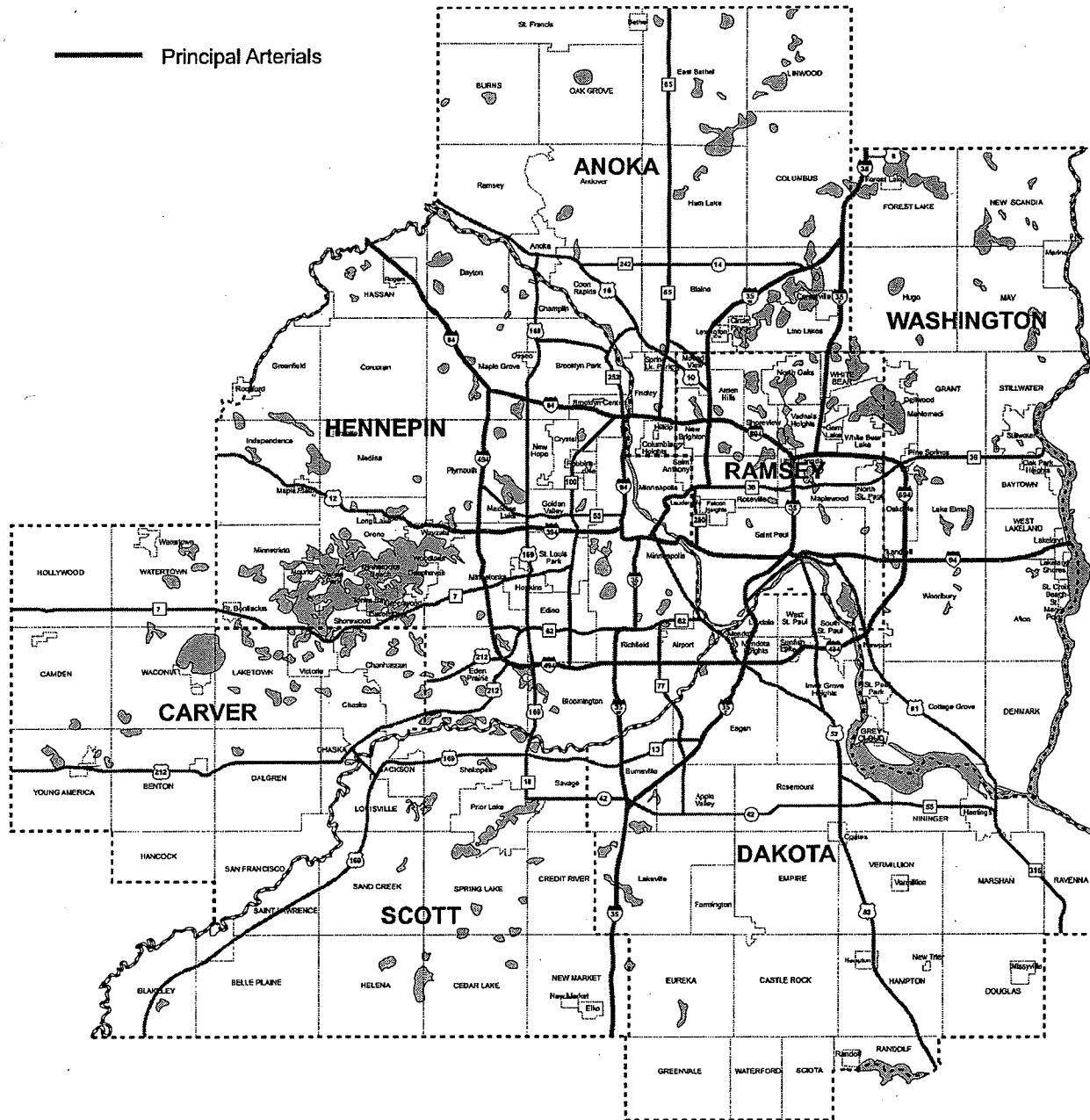
More than 1,550 miles of “A” minor arterials supplement the principal arterial system and provide for mobility needs in the region. (A large map of the “A” minor arterials is too detailed to reproduce in this plan but is available from the Metropolitan Council.) Planning for the approximately 11,600 miles of collectors and local streets, whose primary function is land access, is the responsibility of local units of government.

Many of the roads, especially the Interstate freeways constructed in the 1960s and 1970s, are reaching the end of their design life. Pavement and bridges are wearing out and will require substantial repair or replacement. In addition, roads originally designed to accommodate traffic for 20 years are exceeding capacity.

Over the last 15 years, many intelligent transportation system (ITS) improvements have been made to better manage the highway system and increase its people-carrying capacity. High-occupancy vehicle (HOV) lanes have been added to I-394 and I-35W, and buses are allowed to use shoulders on many other highways. Most metro area freeway ramps are now metered to smooth traffic flow and effectively increase road capacity. Many of the metered ramps also have bypasses to allow buses and carpools to bypass the meters, giving a time advantage to those willing to use a mode more efficient than the single-occupant auto.

Capacity expansion on principal arterials is limited by economic, social and environmental constraints. Minor arterials will need to carry more of the short- to mid-range trips to alleviate congestion on principal arterials. In the region’s developed area, use of these roads declined after the construction of nearby freeways, but traffic has gradually increased to pre-freeway levels. Opportunities for expansion of these roads in the developed areas are limited.

Figure 2-2
2000 Metropolitan Highway System

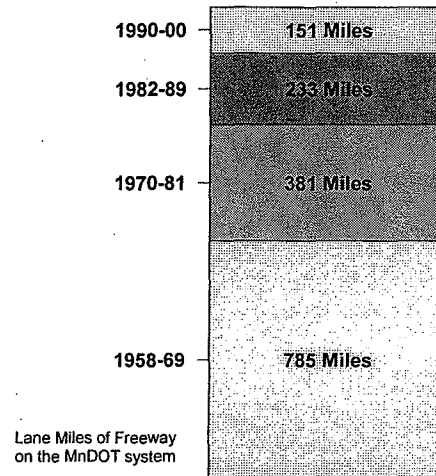


Highway Capacity and Congestion

One critical factor in determining the level of congestion and the ease of regional accessibility is the number of lane miles of new principal arterials built each year. Figure 2-4 illustrates the number of lane miles constructed per decade has fallen since the initial decade of interstate construction (1958 to 1969).

According to the *2002 Annual Mobility Report*, produced by Texas Transportation Institute (TTI), congestion on metro area freeways and arterial streets has increased measurably. Figure 2-4A shows how traffic volumes have grown on selected freeway links over time. In 1990, according to the TTI report, 30% of the area's freeway lanes were congested; by 2000, the figure was over 50%.

Figure 2-4
Lane Miles of Freeway Construction



According to the *2002 Annual Mobility Report*, produced by Texas Transportation Institute, congestion on metro area freeways and arterial streets has increased measurably. Figure 2-4A shows how traffic volumes have grown on selected freeway links over time. In 1990, 30% of the area's freeway lanes were congested; by 2000, the figure doubled, to 60%.

If the region is successful in adding lanes and reducing the increase in vehicle miles driven, the increasing rate of congestion can possibly be reduced.

Air Quality

Transportation is a major source of carbon monoxide (CO) and is a major contributor to the formation of ozone and particulate matter. The Twin Cities area currently meets the ozone standard and was designated by U.S. Environmental Protection Agency in 1999 as a maintenance area for CO. The term "maintenance area" is given to a region that did not previously meet CO standards, but is presently meeting the standard, and is expected to continue to do so. Much of the reduction in CO emissions over the past decades can be attributed to changes in automobile technology, resulting in cleaner cars. In addition, the region implemented several transportation control measures over the past twenty years to decrease CO concentrations at specific "hot spots", including implementation of one way streets (Hennepin/1st Ave N and Lake/Lagoon) and traffic signal coordination along University Ave in St Paul.

Although the region is in attainment for ozone, air quality alerts for ozone and particulate matter have been issued for the region over the past few years during the summer by the Minnesota Pollution Control Agency. The alerts were issued due to exceedances of daily national air quality standards at monitoring sites maintained by the MPCA. Emissions from transportation sources contain particulate matter and precursors that help to create ozone. Emissions from stationary sources, most of which are privately owned, also contribute to ozone generation. Public and private sector partnerships are underway to implement strategies to reduce precursor emissions to avoid having the region declared "nonattainment" for ozone in the future. Strategies include reducing the rate of growth of VMT, providing bottleneck relief to improve daily traffic flows, increasing transit usage and reducing emissions at their sources by the use of hybrid-electric buses and extra-low-sulfur diesel fuel in public transit vehicles.

Highway Traffic Volume Comparisons: 1980 to 2000

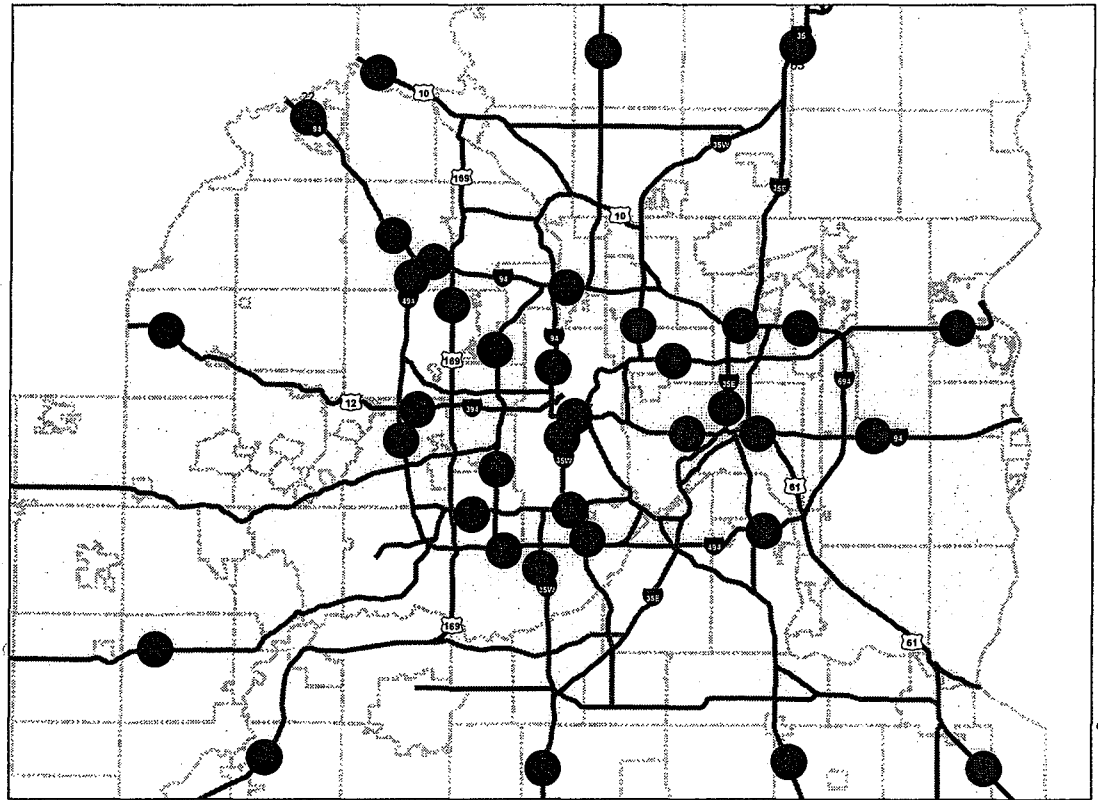


Figure 2 - 4A

Metropolitan Council



0 5 10 15 Miles

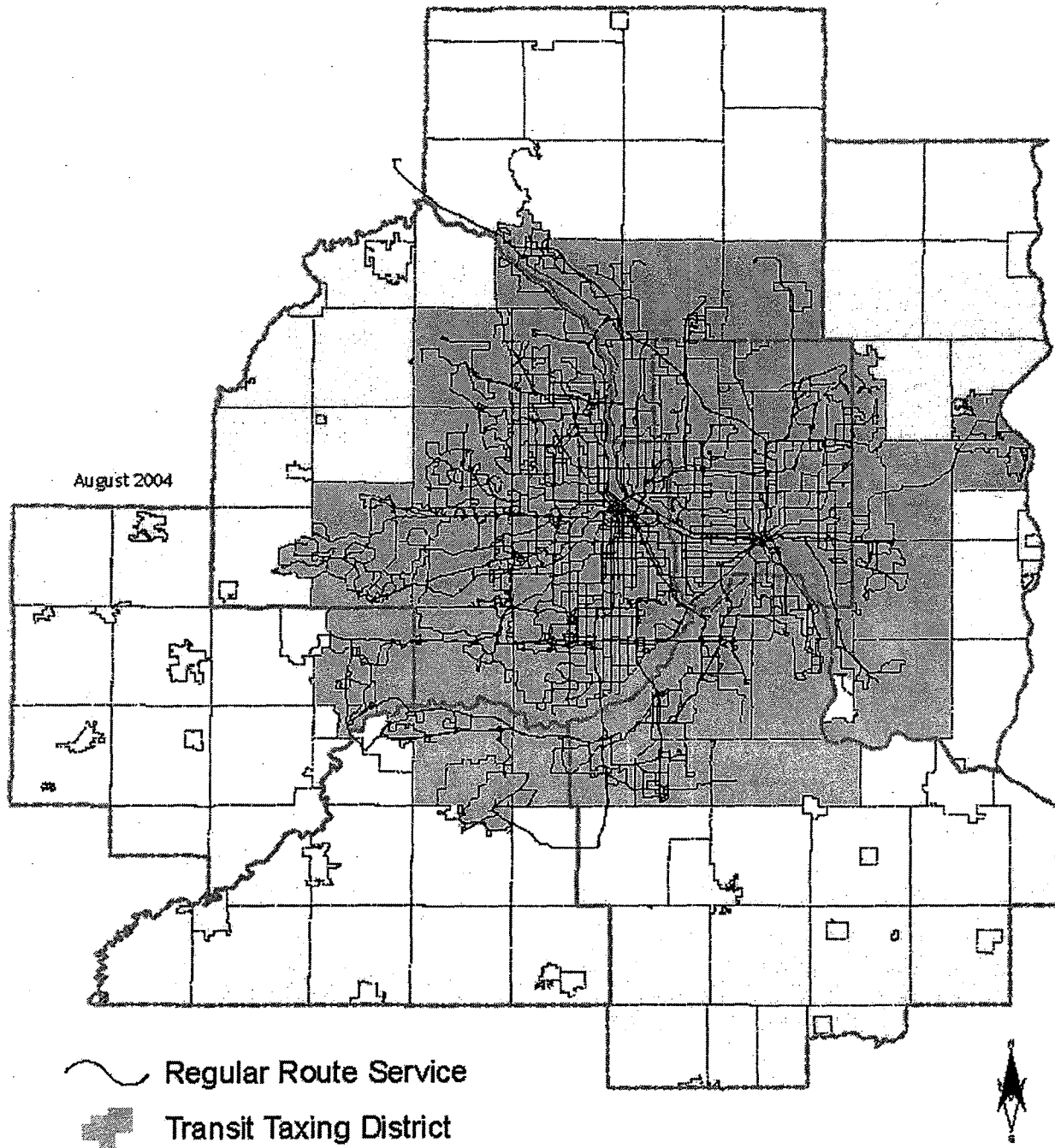
82- 1980 ADT
160- 2000 ADT
(ADT values in 1000's Vehicles)
Source: 1980 and 2000 MnDOT ADT

Figure 2-4A

Transit

Twin Cities transit service is delivered through several programs, which are described in this section.

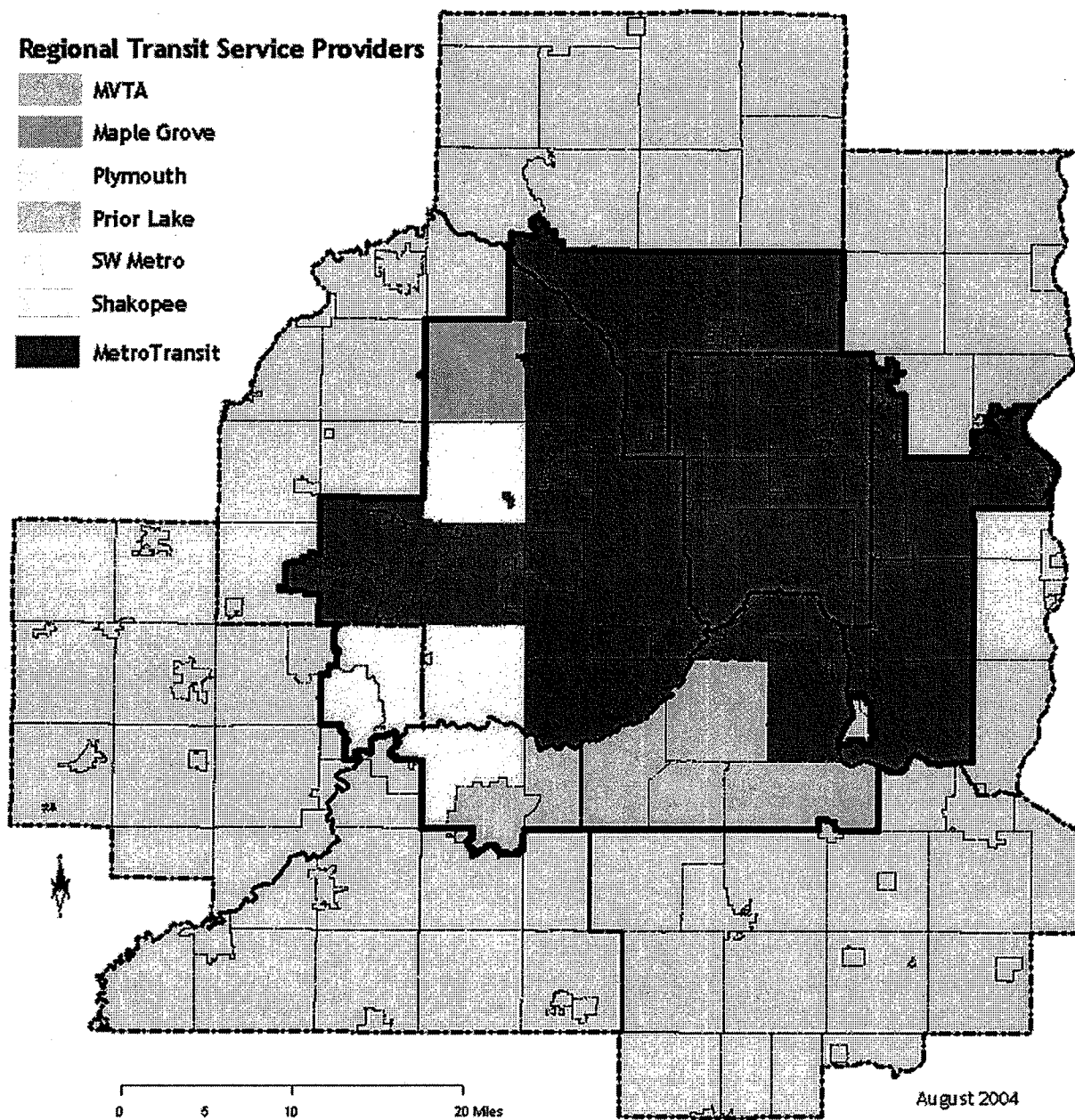
Figure 2-5
Regular-Route Transit System



Metro Transit

In 2003, Metro Transit, the largest transit operator in the region, provided scheduled bus service on 138 routes – 71 local routes, 51 express routes, and 16 routes under contracts to opt-out communities and other organizations. It operated 766 buses from five garages during peak periods. It also operated transit from approximately 111 park-and-ride facilities throughout the region. Metro Transit provides most of the region's urban core service, suburban local service, cross-town routes and about two-thirds of the region's suburban express service, all operated on fixed schedules. Metro Transit carried 65,956,387 passengers in 2003, 90% of the riders in the region. In June 2004, Metro Transit began operating the Hiawatha LRT line, the first rail transit line in the region since the 1950s.

Figure 2-6
Metro Transit and Opt Out Service Areas



Opt Out Transit Systems

Since 1982, 12 communities provide their own transit services, currently funded with revenues from the state Motor Vehicle Sales Tax (MVST). Four communities are independent while eight chose to form two transit consortiums. Some contract with Metro Transit and some with private providers but still control the location, types, and frequency of routes.

In 2003, the opt-out systems operated 62 routes using 258 vehicles, of which 45 vehicles were operated by Metro Transit. Opt outs carry about 5% of the riders in the region. These services provided are separately described below.

1. Maple Grove Transit System

MGTS primarily provides express service to downtown Minneapolis but also neighborhood service throughout the city. It also provides some local circulators.

2. Plymouth Metrolink

Plymouth Metrolink provides commuter/reverse-commuter services between Plymouth and downtown Minneapolis. It also operates the Plymouth Flyer for seniors and people with disabilities, coordinated with nonprofit transportation services in Plymouth.

3. Southwest Metro Transit Commission

Southwest Metro Transit serves the cities of Eden Prairie, Chanhassen, and Chaska. It provides peak-hour express service to downtown Minneapolis and the University of Minnesota, reverse-commute service, fixed-route service to Southdale and Mall of America, and local fixed-route service.

4. Shakopee Area Transit

Shakopee provides a local dial-a-ride program and several regular routes primarily serving residents traveling within the city. The city also operates a commuter vanpool program, which offers trips for workers and shoppers traveling outside the city.

5. Minnesota Valley Transit Authority

Minnesota Valley Transit Authority (MVTA) provides commuter service to downtown Minneapolis, downtown St. Paul, University of Minnesota, Mall of America and other locations. MVTA provides fixed-route, summer dial-a-ride and flex route services in Apple Valley, Burnsville, Eagan, Rosemount and Savage.

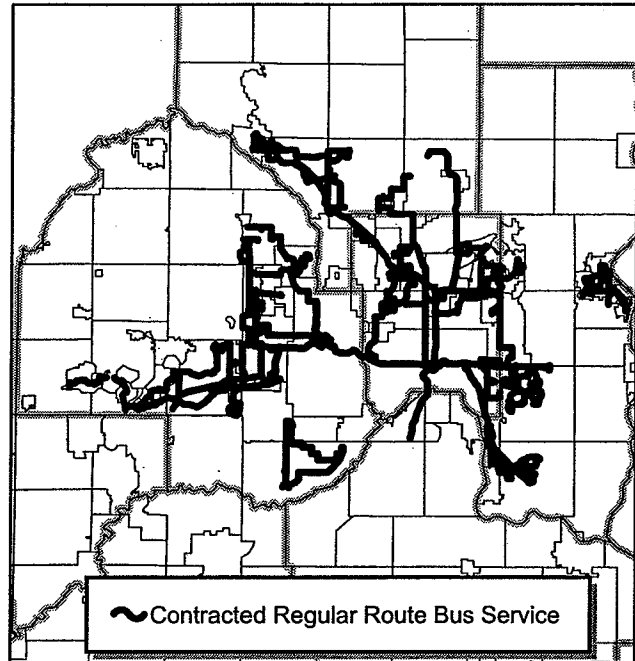
6. Laker Lines (Prior Lake)

Laker Lines provides express commuter service to downtown Minneapolis and some local and summer dial-a-ride service.

Privately Contracted Regular Routes

The Metropolitan Council contracts for about five percent of the regular route service through contracts with private and non-profit transit providers. These services generally cover a specific geographic sub-area of the region.

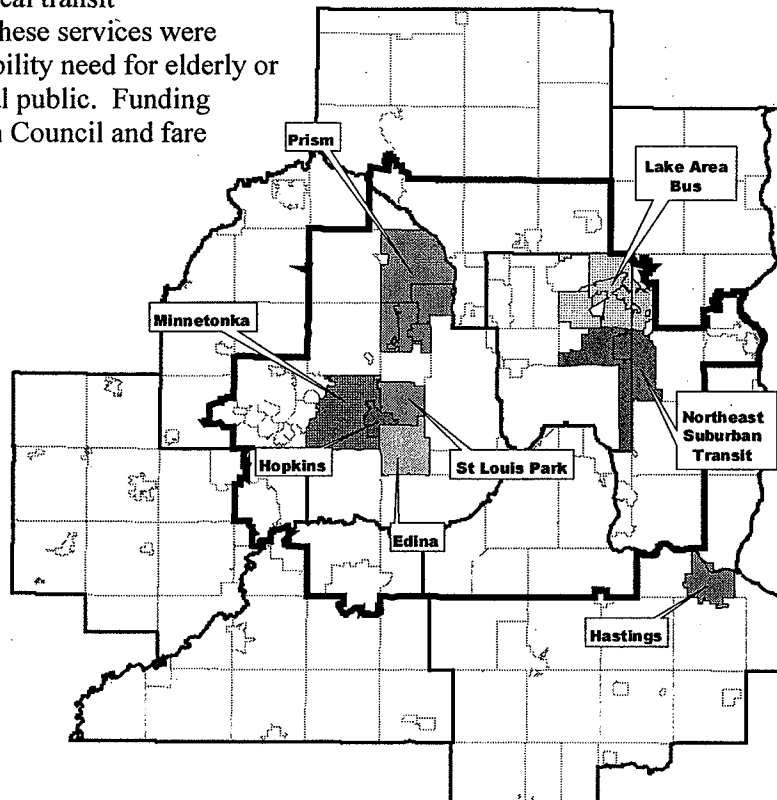
**Figure 2-7
Contracted Regular-Route Bus**



Community-based Urban Programs

Ten small urban systems operate local transit service in their communities. Many of these services were originally formed to meet a specific mobility need for elderly or disabled, but are now open to the general public. Funding comes from a mix of local, Metropolitan Council and fare revenues.

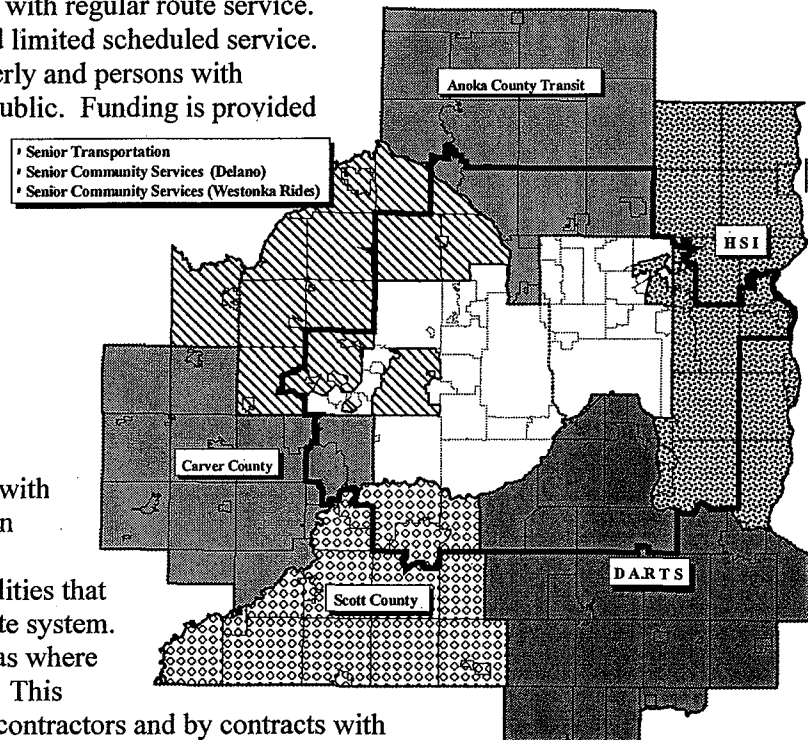
**Figure 2-8
Community-based Urban Programs**



Community-based Rural Programs

Eight rural systems provide a base level of transit service in rural areas that are not served with regular route service. They operate both demand response and limited scheduled service. These programs primarily serve the elderly and persons with disabilities but are open to the general public. Funding is provided from local sources, the Metropolitan Council, and fares. Five of the programs cover entire counties.

**Figure 2-9
Community-based Rural Programs**



Metro Mobility

In compliance with the Americans with Disabilities Act (ADA), the Metropolitan Council provides specialized, demand response service for persons with disabilities that prevent them from using the regular route system. This service is provided in the same areas where regular route transit service is provided. This service is provided through two private contractors and by contracts with Dakota Area Resources and Transportation for Seniors (DARTS) in Dakota County, Human Resources Inc. (HSI) in Washington County and Anoka County Traveler.

The largest portion of service is “demand” service, where an individual calls and sets up an individual trip. The second largest portion of service is “agency” service, where a group of individuals is taken to a common location. Agency service is primarily provided through a contract with a private company.

Metro Mobility also has contracts with smaller community providers and programs such as the “Taxi Ticket” program where, under certain conditions, persons can get vouchers to use private taxis.

Van-Go! Vanpools

Metro Commuter Services, a department of the Metropolitan Council, coordinates a vanpool program called Van-GO! This program started in 2001 to provide transit service for persons living or working in very low-density areas or in areas beyond the traditional boundaries of regional transit. People driving very long distances from low-density areas add a disproportionate amount of vehicle miles traveled (VMT) and thus, removing them from the road adds a larger than typical benefit.

Regional Sector Studies

In 1998, Metro Transit embarked on a program to improve the effectiveness and efficiency of transit service. The metro area was divided into nine geographic sectors to comprehensively evaluate transit service needs, determine market opportunities and restructure service and facilities to better address those needs and opportunities. To date transit service restructuring studies have been completed and implemented with successful results in Sectors 1 and 2 (Northeast Metro), and part of Sector 7 (three cities of Minnetonka, Hopkins, St. Louis Park). For example, after implementing the Sector 2 restructuring, ridership in the northeast quadrant of St. Paul grew by 6 percent from 2001 and 2002.

The Sector 5 Project, also known as Central-South Metro, restructures transit service in south Minneapolis, Bloomington, Edina, Richfield and in an area of St. Paul south of I-94 and west of downtown. Implementation started in June 2004 and will be completed in December 2004. Sector 5 includes several major transportation corridors: Hiawatha, I-35W South and I-494. The new Hiawatha LRT line, with partial service in June 2004 and completion of the line in December 2004, is entirely within Sector 5.

The Northwest Metro Transit Restructuring Plan (Sector 8) is under way. This project will improve service in the area west of the Mississippi River and north of Highway 55. Cities in the study area include Brooklyn Center, Brooklyn Park, Champlin, Crystal, Golden Valley, Maple Grove, New Hope, north Minneapolis, Osseo and Robbinsdale. The project is in its early stages, working toward a 2006 implementation and pursuing potential links with the proposed Northwest Corridor bus rapid transit (BRT) line.

Ridership

Twin Cities transit ridership for the past eight years is shown on Table 2-4. Ridership increased from 1991 to 2000, but suffered a reversal starting in 2001. This decline is due to many reasons. Reductions in revenues and thus in the state budget resulted in a 8% service cut for Metro Transit between September 2002 and December 2003, as well as fare increases in July 2001, August 2002 and August 2003. In addition, the recent economic downturn resulted in fewer people working, with a consequent decrease in riders since the majority of transit riders use the mode to travel to work.

Table 2-4
Twin Cities Ridership, 1996 - 2003

Twin Cities Ridership								
	1996	1997	1998	1999	2000	2001	2002	2003
Opt-Outs	2,319,129	2,446,142	2,687,314	3,020,546	3,245,370	3,377,941	3,368,586	3,417,589
Contracted	857,069	1,240,096	1,528,923	1,723,089	1,829,415	1,880,902	1,891,517	1,927,324
Community	366,463	388,161	367,123	361,245	380,978	369,365	388,631	458,777
VanGo	-	-	-	-	-	83,660	102,882	100,300
Metro Mobility	1,174,493	1,197,052	1,183,579	1,164,861	1,204,805	1,223,298	1,313,953	1,289,906
MTS Subtotal	4,717,154	5,271,451	5,766,939	6,269,741	6,660,568	6,935,166	7,065,569	7,193,896
Metro Transit Bus	60,448,421	60,623,266	64,643,921	70,276,774	71,840,231	71,570,739	67,995,312	65,956,387
NorthstarCommtr Bus	-	-	-	-	-	-	121,109	144,277
Total	65,165,575	65,894,717	70,410,860	76,546,515	78,500,799	78,505,905	75,181,990	73,294,560

Metro Transit carries most of the region's public transit passengers – 90.6 percent (Figure 2-10) and operates the greater share of revenue hours – 64.0 percent (Figure 2-11).

Figure 2-10
Percent of Passengers Carried, 2002

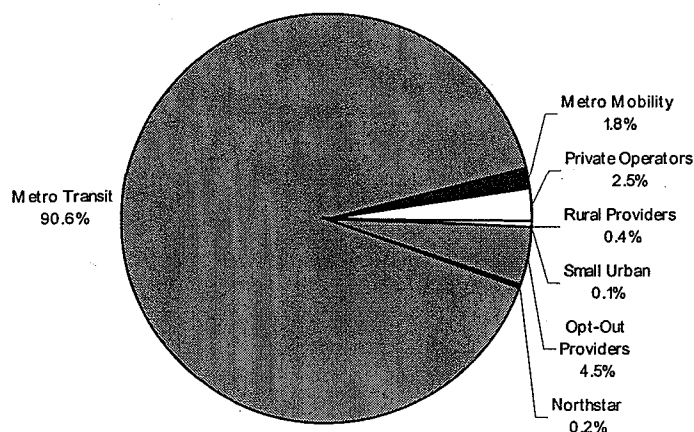
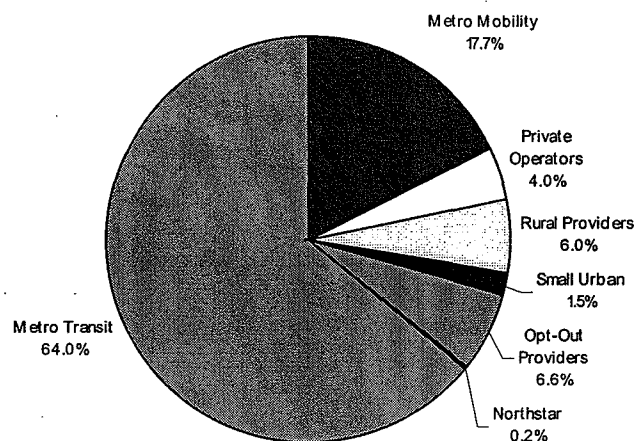


Figure 2-11
Percent of Revenue Hours, 2002



Accessibility of Transit Fleet

The bus fleet of all the regional transit service providers became 100 percent accessible in 2004. The buses either have lifts or are low-floor. In addition, bike racks are being added to all buses. The Metro Transit fleet has been 100 percent equipped since mid-2004 and the regional fleet will all have bike racks by 2006.

Transit Advantages

Transit operations benefit from travel time speed and reliability advantages provided on the region's roadways. Metro Transit and the Metropolitan Council, MnDOT and several cities and counties have jointly developed transit advantages on the roadway system. Transit advantages include bus-only shoulders, ramp meter bypasses, signal priority for buses and direct highway access for buses from park-and-ride lots. Other advantages include the bus lanes on the downtown streets and the University of Minnesota Transitway.

Construction of bus shoulder lanes began in 1992, continuing annually since then. At the end of 2004, there were 223 miles of bus shoulder lanes in the metro area. Figure 2-12 shows the existing bus shoulder lanes.

In addition, the region has two high-occupancy vehicle (HOV) lanes – on I-394 from Hwy. 101 to Washington Avenue in downtown Minneapolis and on I-35W from 76th Street in Bloomington to Hwy. 13 in Dakota County.

A total of 88 HOV ramp meter bypasses on Twin Cities area freeway entrances provide carpoolers and buses quick access to area highways. The bypasses are located on the most heavily traveled segments of the regional highway system.

Passenger Facilities

Along with operating transit service, transit providers must build and operate passenger facilities, such as park-and-rides, transit centers, transit stations and bus stop shelters.

Park-and-ride lots have existed in the metro area since 1970. The size and use of the lots have changed over the years. Originally, lots were small and joint use. To offer more attractive and efficient service, the region has moved to adding larger, freeway-oriented park-and-rides with transit advantages. Ongoing studies are being conducted to determine the needs and locations of park-and-rides. There were 137 active park-and-ride facilities in the Twin Cities metro area as of the spring of 2004, providing 15,623 spaces, with more than 11,250 of the spaces being used. Figure 2-12 depicts the park-and-rides lots in the metro area. Of the 137 park-and-rides, 125 are served by transit. The more successful facilities have locations near the beginning point of congestion and near a major roadway, have high frequency express bus service and have transit advantages available for the bus service.

As the region has expanded suburban service and restructured existing routes, transit centers and transit stations have been developed to facilitate transferring between routes. Suburban transit centers – such as Southwest Station in Eden Prairie, the Burnsville Transit Station and Brooklyn Center Transit Center (new facility opening in December 2004) – have been built with waiting areas for the passengers transferring between routes. Urban facilities, such as Uptown Transit Center, allow for convenient transfers.

Transit Incentive Programs

A number of incentive programs, offered through metro area employers, are designed to make taking transit or joining a car or vanpool more attractive to both the companies and their employees.

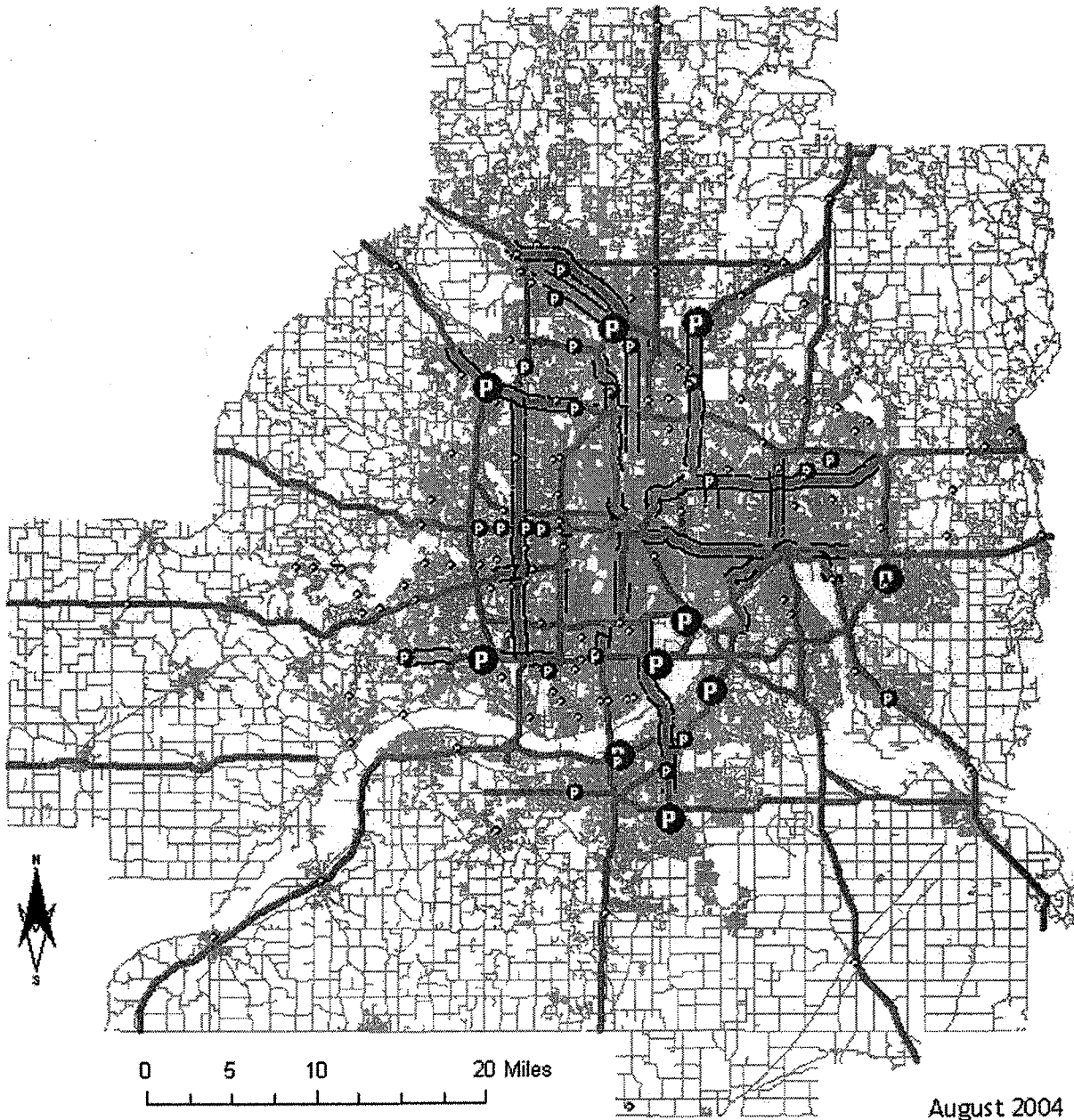
The Metropass program, which began in the fall of 1998, provides employers with discounted annual transit passes purchased for employees. Metropass has made a significant impact in ridership at participating companies. As of the end of April 2004, 97,000 employees at 100 companies and organizations were eligible for passes under the Metropass program. Of the 97,000 employees eligible, 14,800 have registered for these unlimited-ride passes.

Under the TransitWorks! program, transit passes are sold to an employer at a discount. Employees can then purchase them on-site at the discounted rate, often on a pre-tax basis. Approximately 540 metro area companies participate in the TransitWorks program.



The Commuter Check program provides vouchers that employers can give their employees to purchase transit passes or pay for vanpool costs. A recent federal tax law change allows an employee to use Commuter Checks to purchase transit passes with a pre-tax salary deduction.

The U-Pass program, which began in fall of 2000, offers discounted, unlimited-ride passes each semester to University of Minnesota students on the regional transit system under a U of M transit program. More than 12,500 students purchased the U-Pass for the 2004 spring semester.




Figure 2-12
Bus Lanes, Bus-Only Shoulders and Park-and-Ride Lots



Bus and Shoulder Lanes

-  Shoulder Lane
-  Bus Lane

Active Park & Ride Capacity

-  8 - 100
-  101 - 500
-  501 - 1260

Rideshare Services

Metro Commuter Services is the regional provider of travel-demand management services. Working closely with transportation management organizations (TMOs), transit agencies and cities in the region, Metro Commuter Services develops and delivers marketing and educational programs for commuters and employers in the metropolitan area. The four regional TMOs working in concert with Metro Commuter Services are the Minneapolis TMO, the St. Paul TMO, the Midway TMO, 494 Commuter Services and Anoka TMO.

Metro Commuter Services:

- Provides computerized ride-matching services for car and van pooling, transit and biking.
- Offers training to employers on commuter transportation products and services.
- Develops and administers commuter surveys to identify transportation issues at employment sites.
- Assists employers in developing transportation plans to solve commuter problems at their work sites. Solutions may include flexible work hours or telecommuting.
- Administers bike-locker rentals at area park-and-ride lots and at various locations in both downtown areas and in some suburban locations.
- Provides several regional incentive programs such as Guaranteed Ride Home, Commuter Check and other programs.
- Coordinates regional marketing and educational efforts such as Commuter Challenge and Commuter Choice.

Metro Commuter Services currently has 30,215 individuals and 3,555 companies in its database. It has 4,005 registered carpools and 82 vanpools. The Regional Guaranteed Ride Home program has 24,991 registered participants.

Pedestrians and Bicycles

Walking and bicycling are especially important as modes to access other means of travel, such as transit. In fact, people walk during at least a small portion of all the trips they take. Because of short average trip lengths, nationally about $\frac{1}{4}$ to $\frac{1}{2}$ mile for walking, and about two miles for bicycling, most of the facilities for pedestrians and bicyclists in this region are planned for and constructed at the local level.

Fifty-four percent of Americans live less than five miles from their jobs and 50% of all car trips are five miles or less, so walking and bicycling are viable alternatives to the automobile for many personal trips. Survey data for the seven-county metropolitan area indicate 5.6% of all trips are made walking and 1.6% bicycling.

Since 1991, the region has invested more than \$76 million in federal funds in freestanding pedestrian and/or bicycle facility projects. Federal funds help implement projects consistent with local comprehensive plans and regional system plans and policies.

A wide variety of pedestrian and bicycle facilities exists in the region, from sidewalks and neighborhood trails to multi-county, joint-use regional and state recreational trails. There currently are more than 170 miles of regional trails and 101 miles of state recreational trails for pedestrian and bicycle use. In urban parts of the region developed prior to World War II, sidewalks typically were provided on most streets. Since then, provision of sidewalks has varied greatly from one jurisdiction to another, often depending on the level of traffic on the adjoining street. The Metropolitan Council is participating in a regional effort to map and inventory both on-road and off-road bicycle facilities using common criteria. In addition, almost 200 bicycle lockers, many at transit centers or in downtown areas, are currently available for rent, and bike racks are being installed on all buses, with completion scheduled for 2006.

Recent census data suggest that the metropolitan area's investment in walkway and bikeway facilities has helped produce one of the nation's leading bicycle commuting populations. Based on the 2000 Census Supplemental Survey, Minneapolis is the top-ranked city in the country for bicycle commuting with a 2.63% mode share, or an average of 5,366 people riding to work each day on a bicycle.

In comparison, warm-weather cities Sacramento and Portland rank No. 2 and 3 nationally with 2.59% and 2.25% bicycle mode shares, respectively.

Local, regional, state, and federal agencies in recent years have increased greatly their attention to the issue of pedestrian and bicyclist safety. Pedestrian/vehicle and bicyclist/vehicle crash reduction remains a top issue in the region. Cities, counties, and MnDOT have increased their attention to pedestrian and bicyclist safety when designing streets, especially at the locations where most conflicts occur between vehicles and bicyclists and pedestrians. National studies of crashes indicate that educating bicyclists to safely ride with traffic, training pedestrians to be attentive to motorists, and training motorists to be attentive to both pedestrians and bicyclists are most important to improving pedestrian and bicyclist safety. Neighborhood groups and school districts in St. Paul, Minneapolis and other metro communities have initiated Safe Routes to Schools programs that assist children in bicycling and walking safely to their schools. It appears likely that federal funds will come to Minnesota to promote Safe Routes programs statewide following reauthorization of TEA-21. There are a number of other pedestrian and bicycle safety promotion activities and programs in the region. The Minnesota Department of Public Safety and MnDOT's State Bicycle Advisory Committee maintain and promote pedestrian and bicyclist safety programs and educational materials for use by local groups. Transportation Management Organizations in the region offer safety materials for people who bike or walk to work. St. Paul, Minneapolis and Hennepin County have bicycle advisory boards that address safety issues and at least one community, St. Paul, employs a pedestrian/bicycle coordinator.

An emerging issue is the increasing interest in creating communities that through their design promote walking and bicycling by their residents. The health industry has aggressively promoted such designs in response to the national obesity epidemic. National studies show that residents of areas that have characteristics like sidewalks, trails, interconnected streets and a mix of land uses are more active and therefore healthier than residents of places without such characteristics, where people lead more sedentary lifestyles. National health advocacy organizations and local health agencies and organizations are investing considerable resources to promote walkable communities through educational materials, expert advice, and even funds for the construction of walking and bicycling facilities.

Aviation System

Airports in the metropolitan system are part of a larger integrated national and state system. Figure 2-13 depicts the national hub airports, including Minneapolis-St. Paul (MSP) International Airport, the region's major airport that serves scheduled airlines.

The major air service provider at MSP, for both domestic and international travel, is Northwest Airlines, which also has domestic hubs at Detroit and Memphis. In 2002, the Federal Aviation Administration ranked MSP airport as the sixth busiest hub for operations and ninth for passengers served.

Figure 2-13
US Airline Hubs

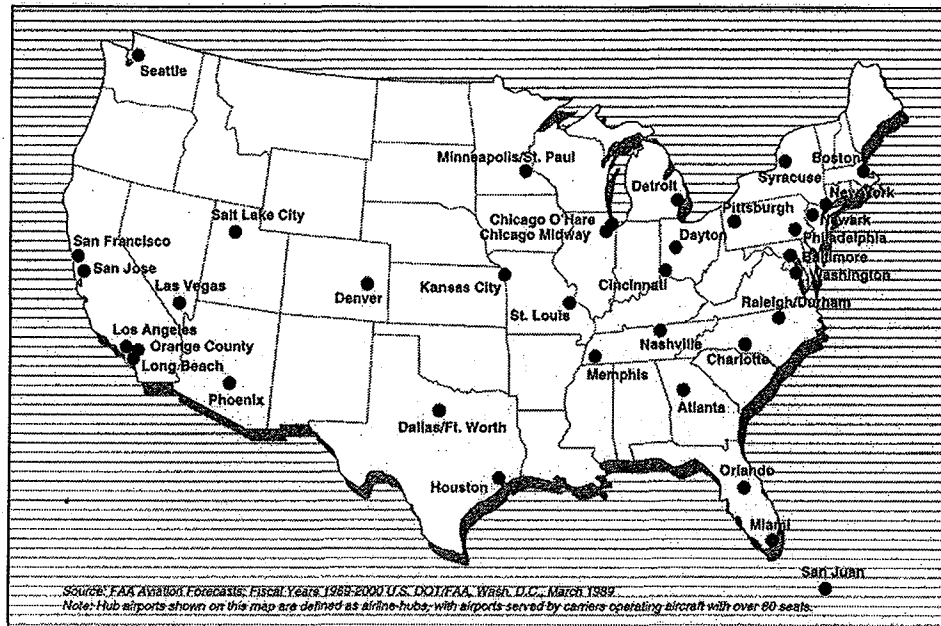
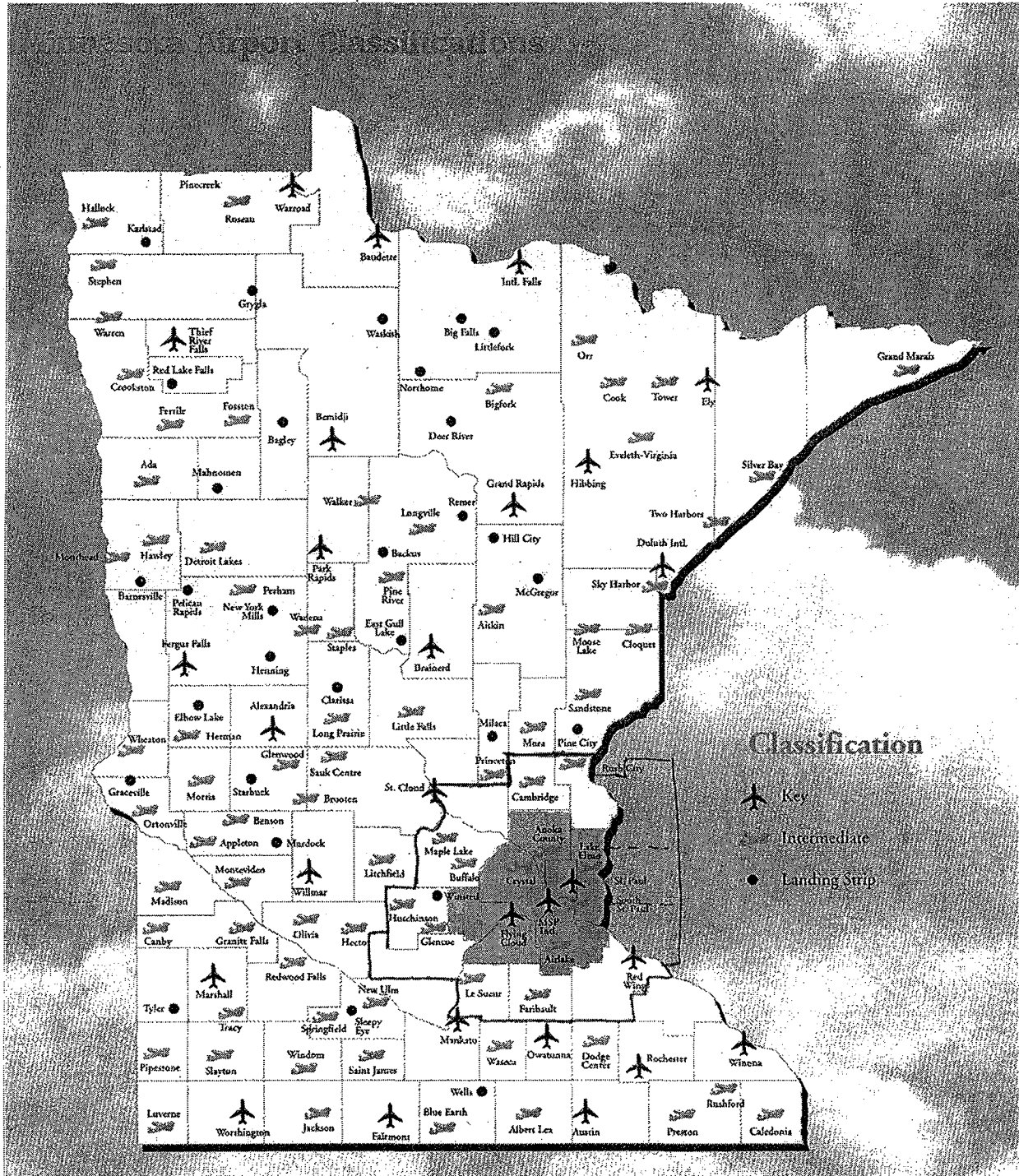


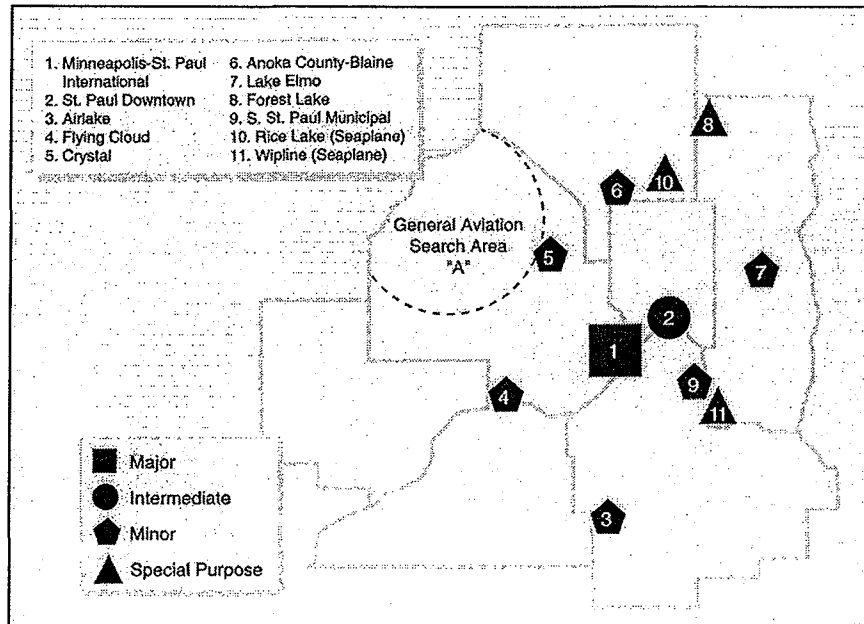
Figure 2-14
Minnesota Airports by Classification

Minnesota Airports by Classification



The Twin Cities regional aviation system shown in Figure 2-15, includes one major airport (MSP International), one intermediate airport (St. Paul Downtown) that serves corporate users, and 6 minor airports and 3 special purpose airports.

**Figure 2-15
Regional Airport System**



There are also other private public-use and personal-use facilities throughout the metro region that are not part of the regional system. These facilities are monitored and periodically assessed as appropriate to determine potential effects upon system needs and function.

A summary overview of facility characteristics for the airports in the regional system is defined in Table 2-5. Further information about the aviation system can be found in the *Aviation Policy Plan* adopted by the Council in 1996.

**Table 2-5
Airport Facility Status**

Airport	Long Term Comprehensive Airport Plan	Airport Size (Acres) ¹	Total Number of Runways/ Type	Primary Runway Length		Air Traffic Control Tower	Primary Runway Instrumentation	Number of	
				Existing	Proposed			1995 Annual Op.	1995 Based Aircraft ²
Minneapolis - St. Paul International	1996 Adopted	3,100	Three / Paved	11R/29L 10,000'	—	24 Hour / Customs	Precision Instruments / Runway Lights	465,454	48
Downtown St. Paul - Holman Fld	1992 Adopted	540	Three / Paved	14/32 6,700'	—	16 Hour ³ / Customs On-call	Precision Instruments / Runway Lights	133,686	258
Flying Cloud	1996 Adopted	560	Three / Paved	9R/27L 3,900'	9R/27L 5,000'	16 Hour	Precision Instruments / Runway Lights	216,313	482
Crystal	In Progress	430	Three / Paved One Turf	13R/31L 3,267'	—	16 Hour	Non-precision Instruments / Runway Lights	171,478	327
Anoka County - Blaine	In Progress	1,900	Two / Paved	17/35 4,855'	—	15 Hour	Non-precision Instruments / Runway Lights ²	181,866	415
Lake Elmo	1994 Adopted		Two / Paved	13/31 2,850'	13/31 3,900'	Unicom	Visual / Runway Lights	64,887	198
Airlake	Update in Progress	565	One / Paved	11/29 4,100'	11/29 5,000'	Unicom	Precision Instruments Runway Lights	75,397	179
South St. Paul	1976 Adopted	204	One / Paved	16/34 4,000'	—	Unicom	Visual / Runway Lights	51,200 ⁴	278
Forest Lake	N/A / Private	290	Two / Turf	13/31 2,575'	—	Wind Sock	Visual / No Runway Lights	—	—
Rice Lake SPB	N/A / Private	—	Two / Water	—	—	Wind Sock	Visual / No Lighted Buoys	—	—
Hellports	Major - Required Minor - N/A	0.5 to 2	N/A / Paved	—	—	Wind Sock	Visual / Some Lighted	—	—

Freight and Goods Movement

The many modes of the regional transportation system move freight as well as people. The system of highways, waterways, airways, and railways benefits producers of goods and services as well as consumers. It allows the region to compete in a global economy. Concerns have been raised by those who rely on the transportation system to move freight about whether sufficient capacity is being added. Certain freight modes already show signs of stress due to a lack of capacity. Regional freight mobility is dependent on timely improvements and coordination of multiple transportation modes. Many freight-related improvements are the responsibility of private entities that own and operate the transportation modes and freight terminal facilities. Public freight-related improvements are limited to those components of the transportation system operated and maintained by the public sector, such as highways, navigable waterways, river ports, and airports.

Within the region, freight moves primarily by trucks using the regional highway system. Freight moving to, from and through the Twin Cities area also uses water, rail and air. However, trucks are still the primary mode even in these markets. Trucks carry approximately 79 percent of the freight by value of all shipments and 59 percent in terms of tons.

The Mississippi River is navigable by a channel and a series of locks and dams maintained by the U.S. Army Corps of Engineers from north Minneapolis downstream. The river carries bulk commodities such as corn and soybeans to southern ports on the Gulf of Mexico, where the products are distributed to overseas markets. A portion of the Minnesota River from Savage to its confluence to the Mississippi River also is navigable. Twin Cities port terminals that serve barges are concentrated in St. Paul, Minneapolis Upper Harbor and Savage. Commodities shipped by water are 8 percent in tonnage and 1 percent in value of total goods shipped.

The Twin Cities region is served by four Class I railroads (CP Rail, Burlington Northern Sante Fe, and the Union Pacific and the Canadian National) and two regional or short line railroads (the Twin Cities Western and Progressive Rail). Class I railroads predominately link the region with major national market destinations moving containers, mixed freight and commodities. The short lines market is generally within a hundred-mile radius of the region, providing an important rail line link between the Class I railroad lines and the rail customer's freight terminal facility. The railroads carry large quantities of commodities and goods, constituting 31 percent of total tonnage shipped in the state. Figure 2-16 shows the location of rail lines in the region. The railroad industry has rebounded significantly from the 1980s, when rail lines were routinely abandoned. The railroads continue to make sizable investments in their physical plant and rolling stock to improve operating efficiencies. However, the rail industry's challenge will continue to be to generate revenue that provides a reasonable rate of return to their investors while retaining sufficient capital to improve the assets used to generate revenue.

Intermodalism, as it applies to the movement of freight in containers, has increased the efficiency of goods movement substantially. Containers can be moved from one mode to another without the costly breaking down and repacking of freight. Deregulation of motor carriers and railroads has led to greater competition and lower shipping costs. Each of the freight modes that serve the region (truck, rail, water and air) has improved its operations to increase efficiency. The advent of integrated logistics and supply-chain management have led to just-in-time delivery of goods and the need for transportation networks to enable quick and reliable delivery of freight for next day delivery to customers or as components for an assembly line.

There are two intermodal terminals in the region to handle containerized freight transfers between rail and trucks. Domestic and overseas freight movement is provided using rapidly expanding freight equipment technology that employs a variety of modes such as rail, truck and ships to transport goods. One terminal is located in Minneapolis (CP Rail) and the other is in St. Paul (BNSF). The St. Paul terminal is the larger of the two and severely limited in its ability to expand.

Air cargo moves through MSP International Airport, at facilities operated by airfreight service providers. Most of these facilities were built since implementation of the MSP 2010 Plan began 1996. Direct access to the metropolitan highway system is provided by the 66th Street interchange with Trunk

Highway 77 and the 24th Avenue interchange with I-494. Although air cargo is less than 1% of total freight flows by tonnage, it is 6% of total flows by value. Some elements of the airfreight industry are considering the need for and the feasibility of developing a regional distribution center (RDC) as a means to expand airfreight service to the region while improving security. The airfreight industry is also examining the need for a new airport to exclusively serve freight.

Figure 2-16 shows the location of MSP, barge terminals and rail/truck intermodal facilities, as well as the clusters of the large truck terminals in the region. Many of the facilities are located adjacent to National Highway System (NHS) routes, and others are connected to the NHS by routes that are eligible for federally funded improvements, if needed, through the Surface Transportation Program.

A Minnesota Freight Advisory Committee (MFAC) was established by MnDOT to represent major industries and modes in the state to serve as a forum to solicit input directly from those sectors of the business community which rely on freight transportation for their success. The role of MFAC is to:

- Ensure the needs of freight are addressed in the planning, research, investment and operations of Minnesota's transportation system;
- Establish guidelines to measure and manage the state's freight transportation needs; and
- Represent the needs and requirements of freight transportation to the public, elected officials and other public entities.

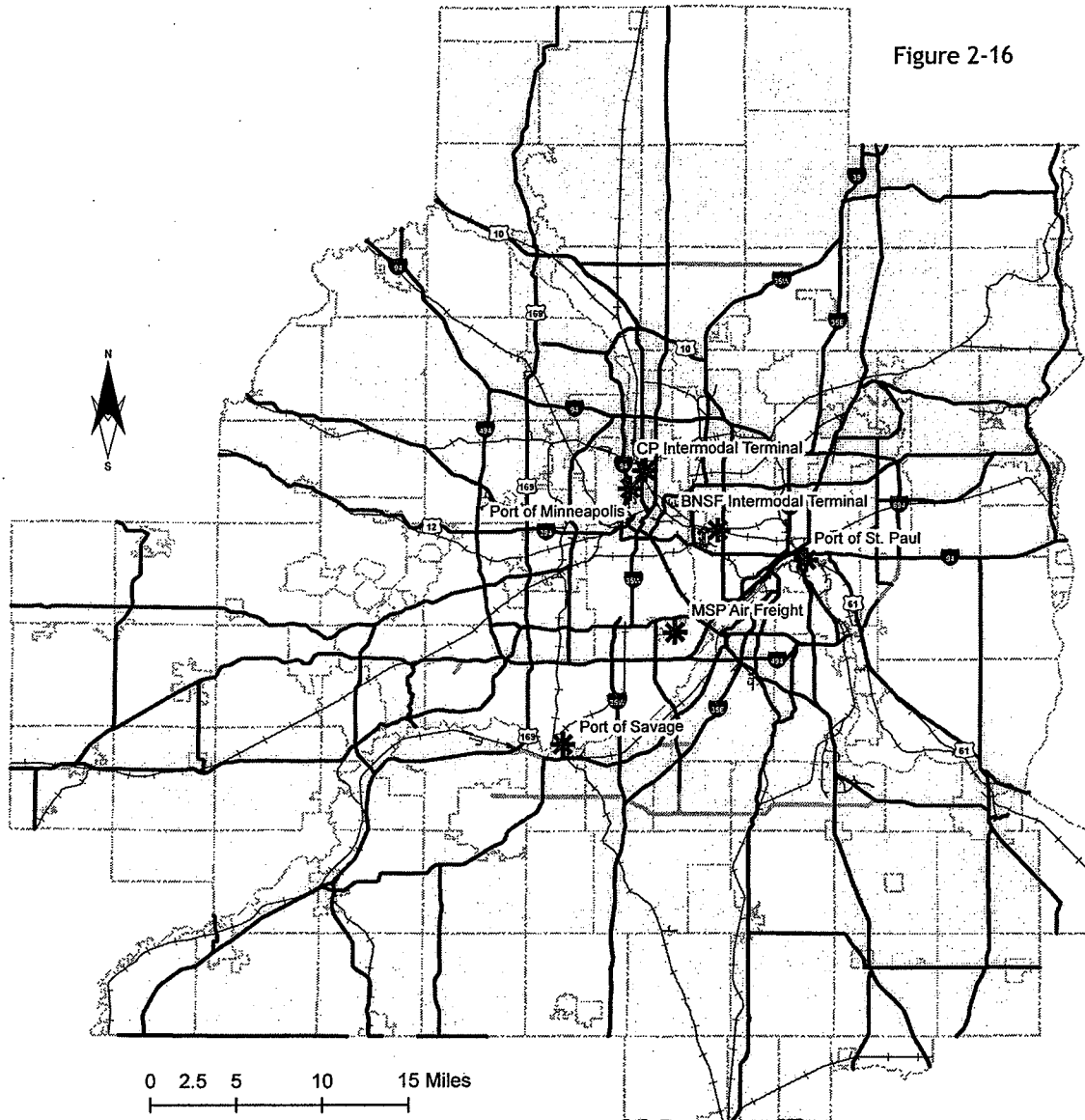
MFAC assisted MnDOT in the preparation of the first Minnesota Statewide Freight Plan.

Freight Issues

Forecasts of state freight flows prepared for the 2004 Minnesota Statewide Freight Plan estimate that 1,019 million tons of freight will be shipped in, out, within and through Minnesota in 2020, which is a 60% increase compared to 2001. This will place a significant demand on the state and regional infrastructure. The total value of Minnesota freight flows is forecast to increase from \$562 billion to \$1.2 trillion between 2001 and 2020, nearly doubling the current value of shipments.

The challenge is to establish a regional freight agenda, a common vision to assist in the coordination of public and private investments for improvements in freight mobility. This requires effective ongoing communication with the industry regarding the need and timing of infrastructure investments. For example, the public sector tends to view the freight system in terms of capital investments so it can identify, program and fund specific infrastructure projects. The private sector's view is to make the most efficient use of the supply chain. The supply chain consists of those elements of the logistics system that go beyond the physical infrastructure (access and capacity) to encompass competitive carriers, the dispatch function, support facilities and warehousing, local distributors, inventory tracking and order systems. Improved interaction of these elements is needed to meet the service, cost and reliability demands of both shippers and consumers in the drive to improve regional competitiveness. However, given the competitive business climate in which providers of truck, rail, air and water modal services must operate, changes in current corporate freight service strategies should be anticipated. These changes may affect their future level of services or service commitments to the region. A change in corporate strategy could result in a reduction of freight services by some of the modes affecting some industries located in the region.

Regional Commercial Freight System



Regional Freight System

- * Major Freight Trans-Load Facilities
- Railroads
- Major Truck Freight Network

Chapter 3/Policies and Strategies

The purpose of this *Transportation Policy Plan* is to develop an integrated transportation system that advances regional economic land use and growth management goals. This section contains policies and strategies to help achieve the regional vision as defined by the *Regional Development Framework*.

The Council develops broad action policies so regional issues are effectively addressed. Accompanying strategies provide specific methods for implementing those policies. The Council and other partners will implement the policies and strategies to bring about the transportation facilities and services called for in this plan. The policies and strategies are closely related to the multi-modal transportation plan found in Chapter 4 of this plan.

The philosophy and focus of the plan is to implement the *Framework*. Specifically:

- Plan and invest in multi-modal transportation choices based on the full range of costs and benefits.
- Make more efficient use of the regional transportation system.
- Encourage travel demand management strategies, including flexible work hours and telecommuting.
- Focus highway investments first on maintaining and managing the existing system, and second on slowing the growth of congestion.
- Encourage local communities to implement a system of fully interconnected arterial and local streets, pathways and bikeways.
- Promote the development and preservation of various freight modes.
- Support airport facilities investments.
- Serve the region's economic needs.

Achieving this integrated, transportation system plan will require additional resources. The historic funding sources are no longer adequate to meet the growing and changing needs of the region. The Metropolitan Council will actively pursue an adequate level of funding to implement the plan and address the unmet investment needs.

Policy 1: Land Use and Transportation Investments

Regional transportation investments will be coordinated with land use objectives to support and encourage the intensification of development at key nodes and along major transportation corridors within the Metropolitan Urban Service Area to accommodate growth and reinvestment and minimize loss of vital natural resources. Transportation services and facilities will serve existing development needs and help shape future patterns and intensity of development.

Strategy 1a: Transportation investments and land development along major transportation corridors will be coordinated to intensify job centers and increase transportation links between job centers and medium-to-high density residential developments to improve the jobs/housing connections, community vitality and efficiency of the transportation system.

A balance of jobs and housing along transportation corridors can significantly improve the efficiency of the transportation system. Achieving and maintaining the jobs/housing links along corridors requires focusing development in centers, and connecting specialized land uses along the corridor. Analysis of individual corridors should determine the mix of investments – e.g., housing, employment, transit, other high-occupant-vehicle modes, increased road capacity, urban design, land use intensification, improved mix of uses, etc. – that are needed to optimize the utility of transportation investments in the corridor and improve community vitality.

Some investments that improve transportation efficiency can be made through sources not traditionally related to transportation, such as the Livable Communities Demonstration Account, the Tax Base Revitalization Account or local/subregional community design initiatives. Additionally, local and community transportation systems need to be integrated with the regional system through street patterns,

bikeways, walkways and transit access for optimum investment effectiveness. This concept should be reflected in the local comprehensive plans.

Strategy 1b: Transit stations and service should be catalysts for the development or growth of centers along transit corridors.

The location, design and amenities of transit stations should be selected with the goal of stimulating development and redevelopment. Station design elements should help to provide incentives for mixed use, convenient development in and around the specific station. Also, transit stations should facilitate connections to the surrounding community by effective transportation links as well as by designs that reflect the unique character and culture of the area, such as bikeways and sidewalks. Transportation investments will support transit centers and stations that provide access and facilitate connections to economic centers and neighborhoods.

Strategy 1c: Transportation investments and land development will be coordinated to create an environment conducive to alternative travel modes including transit, pedestrian and bicycle travel.

Transportation funding criteria should ensure that new transportation facilities are designed to provide an environment that encourages many purposeful trips to be made by transit, foot or bicycle as well as by car. Increasing mobility choices is the Council's objective. This will require design tools and amenities such as appropriately scaled lighting, landscaping and suitable path surfaces. Moreover, much adjacent land development will need to provide a concentration of mixed uses in order to complement the transportation investments and to improve walkability.

Strategy 1d: Transportation spending and land development will be coordinated to meet the needs of people of all levels of functional ability.

Regional transportation investments will give priority to projects accompanied by land development that provides adequate accessibility for people with varying levels of functional abilities, including especially the ADA community and frail elderly. Additionally, the neighborhood or activity centers should be interconnected by transportation service accessible for the ADA community.

Policy 2: Adequate Transportation Resources

Working with the Governor, the Legislature, the business community and other stakeholders, the Metropolitan Council will actively pursue an adequate level of transportation funding to implement this policy plan and address identified but unmet investment needs. The funding sources will be consistent with the evaluation criteria for revenue sources and funding principles identified in the "Regional Transportation Financial Plan" section and described in Appendix.

The Transportation Financial Plan identifies priority investments possible with anticipated resources for the next 22 years. However, additional funding needs also are identified. Existing revenue levels described in this policy plan are insufficient to deliver the projects and services required to meet the objectives of the *Regional Development Framework*. MnDOT estimates that the cost of the unmet highway needs to hold the level of congestion to 1998 levels could reach \$26 billion by 2030. The region will also need \$2.4-3.0 billion in additional transit capital funds between 2005-2020 and \$120 million annually by 2020 in additional transit operating funds to implement the transit system described in this document. Failure to fund these services will result in the deterioration of regional accessibility for work and personal trips.

Funding sources and levels established in the past are not adequate to meet the growing and changing needs of the region; additional revenues will be necessary. Working with the Governor, the Legislature, the business community, local governments and other stakeholders, the Council will actively pursue increased and/or additional revenue sources consistent with the evaluation criteria and funding principles contained in the financial plan. Priority criteria for judging additional revenue sources include:

- The ability to implement the *Regional Development Framework*;

- Percent of contribution returned to the region;
- Ability to modify travel behavior and improve efficiency of the transportation system; and
- Dedicated and reliable source(s) for transit.

A number of funding sources have the potential to modify travel behavior more than the sources currently used by the region and state. Alternative funding sources such as HOT lanes, FAST lanes, toll roads, variable rate tolls, value pricing, innovative parking charges or other user fees should be used when feasible to supplement existing funding sources. MnDOT and the Council will work together to develop regional policies for guiding the equitable use of alternative financing mechanisms, to modify travel behavior and provide increased resources for highways and transit. MnDOT, the Council and the University of Minnesota will continue their studies of alternative financing mechanisms to identify positive and negative impacts, to develop procedures that may be required to mitigate negative impacts and to provide outreach activities to educate the public and private sectors about these alternatives.

Policy 3: Priorities for Transportation Modal Investments

Regional transportation investments will be made on the basis of need and will be consistent with the forecasts, policies, strategies and priorities of this policy plan and the *Regional Development Framework*.

Strategy 3a: Highway System Investments

The priority for metropolitan highway system investments will be to: first, ensure preservation; second, manage existing facilities; and third, expand the system consistent with policies, strategies and priorities of this plan. Highway investments will include provisions for alternative modes, such as transit, pedestrian and bicycle facilities.

Decisions about where and when to make investments in the highway system are made jointly by MnDOT and the Council in consultation with the Transportation Advisory Board (TAB). Consistency with the *Regional Development Framework* is the primary criterion in making these decisions. The *Framework* has growth and reinvestment strategies for each planning area designed to support connected and efficient land use patterns. The *Framework* gives attention to how development occurs—such as the mix of land uses, the number of housing units per acre, the integration of transit and the connection of local streets. The *Framework* also emphasizes the need for intensified development in centers that have convenient access to transportation corridors and in rural centers that want to grow and that lie along major highways.

To ensure that transportation investments support the *Regional Development Framework*, priority will be given to transportation facilities and programs that are part of an approved local comprehensive plan that is consistent with the *Framework* and this guide.

The Minnesota Department of Transportation has jurisdiction over more than 1,110 miles of trunk highways in the region. The metropolitan highway system, or principal arterial system, consists of 657 miles of freeways and expressways, most of which are MnDOT trunk highways. Counties have jurisdiction over three metropolitan highway facilities that are not trunk highways. These principal arterials are shown in Figure 2-2. MnDOT has identified a system of Interregional Corridors (IRC), which connect regional trade centers within the state to each other. These roads, which connect to Greater Minnesota, have a higher priority for investment than other principal arterials and trunk highways outside the I-494/I-694 corridor. On and inside the I-494/I-694 ring, improvements to the most congested bottlenecks represent another set of priorities for the region that have been included in the highway system plan to the extent funds are available.

The Council must ensure that regional investments in this highway system produce the greatest benefit for the greatest number of residents. The Council will use various tools to achieve this strategy, such as:

- Review of local comprehensive plans;

- Develop and review the Transportation Improvement Program (TIP);
- Participate in corridor studies, IRC studies and major investment studies;
- Make corridor recommendations part of this plan;
- Conduct transit sector studies and review transit corridor studies;
- Review of environmental studies; and
- Develop priorities for use of state and federal funds.

Strategy 3b: Transit Capital and Operating Investments

Regional transit capital and operating investments will support implementation of the Transit System Plan and transit policies, including developing a system of transitways and doubling transit ridership by 2030. Because funding is limited, the Council will place priority on supporting preservation, maintenance and replacement of the existing transit system's capital assets before considering new, expanded or enhanced capital facilities and equipment. The Council will seek dedicated funds from Congress and the state Legislature for transitways due to the high capital cost and limited resources available. New and additional funds will also be pursued to provide operating funds for the expanded transit system.

Strategy 3c: Pedestrian and Bicycle Improvements

Federal STP, CMAQ and Enhancement funds will be made available for pedestrian and bicycle improvements on a competitive basis consistent with the *Regional Development Framework*, the policies in this guide and federal program guidelines.

Bicycle or pedestrian projects will only be funded through the regional transportation project selection processes if they are included in, or consistent with, the policies of a state or regional plan, a city or county comprehensive plan found to be consistent with Council plans, or an adopted capital improvement program. Funding priority will be given to bicycle and pedestrian projects that:

- Serve the greatest number of likely users, especially commuters;
- Provide a direct connection to a multi-modal transfer facility;
- Support compact and mixed-use development;
- Are integrated with other transportation modes;
- Serve a transportation need or purpose over recreation;
- Provide safety and security for users, or help educate residents regarding bicycle and pedestrian safety;
- Are cost-effective;
- Fill gaps in or add continuous segments to the regional bicycle and pedestrian systems.

Strategy 3d: Investment in Multimodal Facilities

Criteria used by the region to prioritize projects for federal funding will encourage multimodal investments, such as bicycle trails or pedestrian connections to transit stations, bus-only shoulder lanes on roadways, HOV bypasses at highway interchanges or rail/truck intermodal terminals.

Strategy 3e: Airport System Investments

Airport authorities should strive to deliver high-quality services at affordable prices to users. The Metropolitan Airports Commission should operate within a long-term financial plan that maximizes non-regional funding sources to minimize financial impacts on regional taxpayers while maintaining a high rating on aviation bonds.

Policy 4: Public Participation

Public participation will be promoted in formulating transportation policy and implementing decisions.

Strategy 4a: Public Participation

The Metropolitan Council, the TAB and MnDOT will foster a variety of citizen participation activities and methods to communicate with the public to solicit broad participation, comment, review and debate on proposed plans and implementation proposals. Such methods will vary with the scale of the project, the extent of impacts and the community involved. The participation strategies will be in full compliance with all federal and state regulations. The Council's complete public participation plan is found in Appendix D.

The TAB, made up of locally elected officials, agency representatives and citizens, is expected to represent the interests of the region and help the Council with its outreach activities. The TAB acts in an advisory and supportive capacity to the Council and coordinates the 3C (Comprehensive, Continuing and Coordinated) transportation planning process in the Twin Cities metropolitan area.

TAB's role has enabled the transportation planning process of the Twin Cities metropolitan area to satisfy federal requirements, which specify that the metropolitan planning organization (MPO) functions as "the forum for cooperative decision-making by principal elected officials of general purpose local government." The majority of TAB members are locally elected officials; an additional seven are citizens appointed by the Council. Without the TAB, it is unlikely that federal agencies would recognize the Metropolitan Council as the MPO in the transportation planning process.

The Council has adopted the position that the TAB is responsible for assigning funding priorities and adopting the Transportation Improvement Programs (TIP). The Council may approve or disapprove the TIP in part or whole, but cannot modify it. If modifications are required, the TIP is sent back to the TAB with the Council's recommendations. The TAB then determines the manner in which the TIP will be resubmitted to the Council.

The regional *Prospectus*, which describes the regional transportation planning process, is available to foster understanding of the process and to facilitate meaningful public participation.

Strategy 4b: Participation of Non-traditional Populations

In compliance with federal environmental justice guidelines, the Metropolitan Council will increase its already significant efforts to reach out to groups that have not traditionally participated in the transportation planning and programming process. Special efforts are made to involve representatives of racial and ethnic minorities and low-income, elderly and disabled populations. A thorough discussion of these efforts can be found in Appendix D.

Strategy 4c: Public Awareness of Transportation Issues

Efforts to inform the public regarding important transportation issues should continue to be increased, similar to that done in recent transit sector studies.

Impacts of major transportation issues should be communicated to the public to encourage widespread discussion and to educate people on the rationale for regional transportation decisions. Topics that may benefit from more exposure include:

- Benefits and costs of alternatives to reduce the increasing rate of congestion;
- Impacts of declining investments on the regional transportation system;
- Revenue needs and dedication of long-term revenue sources;
- Benefits of transit advantages (shoulder lanes, metering and bypass lanes), transit centers and park-and-ride facilities;
- The roles of different roadways, such as minor arterials;

- The benefits of alternative revenue sources, such as HOT lanes, FAST lanes, tolls and variable pricing;
- The role of air transportation on enhancing regional economic objectives;
- The role of different airports;
- The role of transitways in promoting transit usage; and
- The effect of the region's transportation investment on air quality standards.

Strategy 4d: Transit Customer Involvement

The Council will continue to solicit community, municipal and customer involvement in transit planning and service restructuring to ensure transit is tailored to meet community needs and markets for travel. To plan and implement effective transportation services, it is essential to communicate directly with local communities and employers, affected neighborhood residents, people who are transit-dependent or who have other special transportation needs, people of minority communities and agencies that provide social services.

Policy 5: Tailoring Transit Services to Diverse Market Conditions

The Council will make the transit system more compatible with different land use patterns and socioeconomic conditions, following the design standards and service delivery strategies defined in Tables 4 and 5 of the Transit System Plan. The Council will also promote development of more transit-compatible land uses, in line with *Regional Development Framework* objectives.

The integration of land use and transit strategies is an important element of the Council's *Regional Development Framework*. Various employment, housing and population densities and varying concentrations of transit-dependent people define different transit markets. Those diverse markets must be served with different transit service strategies, service hours, operating frequencies and capital improvements. Those markets and the appropriate service standards have been incorporated in the Transit System Plan (Table 4).

Strategy 5a: Transit Service Options

The Council will continue to pursue a broad range of transit service options to better match services to demand, including:

- Local regular-route bus services (fixed route, fixed schedule);
- Express bus rapid transit (BRT) services;
- Regular route reverse commute;
- Community circulators;
- General public paratransit services (community based dial-a-ride/regular route services);
- Large and small vehicle operations;
- Light rail transit service;
- Commuter rail service;
- Ridesharing; and
- ADA services such as accessible buses and complementary services.

Strategy 5b: Transit Service Expansion

The Council will identify future transit service expansion based on projected population and employment intensification. This includes expansion of current market areas as well as the outward expansion of the transit service area boundary to include newly developing areas, as resources permit.

Strategy 5c: Rural Transit Service

The Council, in consultation with transit providers and local units of government, will develop service priority guidelines for the allocation of resources for rural transit services. The guidelines will

establish levels of rural coverage, with emphasis on preserving existing service levels and also providing a safety net for transit-dependent residents. These guidelines will serve to direct the development of transit and paratransit service in both rural communities and underdeveloped or agricultural areas.

Strategy 5d: Pedestrian- and Transit-Oriented Communities

The Council will encourage cities, through regional incentives, to create more pedestrian- and transit-oriented communities that can be more effectively and efficiently served by transit and ridesharing with an interconnected system of streets, bikeways and pedestrian walkways. Such regional incentives include federal TEA-21 funding, Livable Communities demonstration funding and other sources of funding available through the Council. The location of these types of communities with respect to the current and future regional transit system should determine whether they are transit-oriented or pedestrian-oriented. Pedestrian-oriented development, absent the presence of transit, is a desirable land use design.

Strategy 5e: Transit Service Evaluation

Every two years the Council will evaluate all regional transit services according to the performance standards integrated as part of this 2030 Transit System Plan.

Strategy 5f: Transit Centers/Stations/Park-and-Ride Facilities

The Council will work with cities to site and design transit centers and stations for access to economic centers and neighborhoods and to expand regional park-and-ride facilities to support service expansion as expected growth occurs within express corridor areas and along dedicated transitways. As land use changes occur, the opportunity to accommodate strategically located and appropriately sized transit facilities must be an active part of all regional and local planning and development processes. Well-planned and -located park-and-ride facilities provide transfer opportunities and create the intensification necessary to provide cost-effective transit service in low-density areas. Such facilities need to be designed for ease of access, both for the transit rider and for transit vehicle operations. The development by the private sector of complementary services such as childcare, convenience outlets and health clubs on sites adjacent to stations, centers and park-and-ride facilities will provide additional enhancements to of transit services.

Policy 6: Increasing Transit Service Attractiveness

The Council will continue to improve transit service coordination and passenger safety, provide financial incentives to transit users, and make the system more travel time competitive, visible and user friendly.

Strategy 6a: Coordination Among Services

The Council will promote coordination among the different transit services provided by various authorities throughout the region to ensure that the overall regional transit system functions as a seamless and understandable regional network, and to avoid inefficiencies and duplication. This coordination of regional transit will include social service transportation, suburban transit systems, local initiative transit and other services. Some support services may be provided regionally, whereas other support services may be the responsibility of individual providers.

Strategy 6b: Transit Fare Structure

The Council will support a transit fare structure that recognizes market forces and balances five objectives:

- Maximize ridership;
- Maximize fare revenues;

- Relate the price to the cost of providing the service;
- Be understandable and easy to implement; and
- Relate transit pricing to other transportation costs (parking and auto operating costs).

The Council will continue to pursue innovative fare packages and incentives with employers, school districts and other academic institutions.

Strategy 6c: Marketing Transit/Ridesharing Services

The Council will increase the perceived value, benefits and usage of transit/rideshare services through:

- A mixture of image and product-specific advertising;
- Ongoing targeted promotion of new and restructured services, such as those resulting from Sector Studies;
- Metropass, TransitWorks, Commuter Check and other employer incentives;
- Regional Guaranteed Ride-Home Program;
- Trip Planner;
- Region-wide coordination of outreach, public education and special events;
- Freeway signage for park-and-ride facilities and transit centers/stations; and
- Other initiatives and technologies that make the services more understandable and easier to use.

Annual regional transit and rideshare marketing plans will be developed by the Council based on input from providers and customers.

Strategy 6d: Safety and Security

Working with transit operators and communities, the Council will continue to give the highest priority to a safe and secure environment for transit passengers and employees. Transit security improvements on vehicles and around transit stops will continue to be given high investment priority by the Council.

Strategy 6e: Transit-Enhancing Services and Facilities

To enhance the overall attractiveness of the existing system, the Council will focus on improving transit travel time competitiveness through direct route alignment, appropriate bus stop spacing and fast fare collection; increasing the frequency and span of service; facilitating smooth transfer connections; and providing appropriate amenities; and sizing of facilities for customers and operations.

Policy 7: Transitways

The Metropolitan Council will strongly pursue the cost-effective implementation of a regional network of transitways on dedicated rights of way and express bus rapid transit-routes to provide a travel-time advantage for transit vehicles, improve transit service reliability and increase transit accessibility to jobs.

Strategy 7a: Transit Technologies

Transitway implementation will consider the modes of bus rapid transit (which may utilize busways, HOV lanes, bus only shoulders and/or arterial street bus lanes), LRT and commuter rail technology. Streetcars may also be appropriate, if proven cost-effective, in arterial corridors. Other technologies such as PRT may be considered for future implementation as they become proven, reliable and cost-effective to address needs in specific travel markets. The most appropriate technology in terms of mobility improvements, operating efficiency and effectiveness, environmental benefits and cost-effectiveness, according to the specific characteristics of each route or system segment, should be selected. The cost-effectiveness will be determined by applying the FTA cost-effectiveness criteria.

Strategy 7b: Transitway Connections and Design Characteristics

The Council will support flexibility in implementing transitways relative to various types of connections and design characteristics. Examples of such connections are: economic centers (including the major airport), urban, urban/suburban or suburban/suburban portions of the region. Design characteristics include a variety of examples – exclusive busways on their own rights-of-way, freeway/arterial shoulder bus lanes and arterial bus lanes.

Strategy 7c: Transitway Coordination

Transitway implementation will be coordinated with other transportation and transit facilities (for example, park-and-ride lots, transit centers, transit stations), with other transit advantages (for example, signal preemption, automatic vehicle location and other intelligent transportation system applications) and pedestrian facilities and regional trails, where appropriate.

Strategy 7d: Enhanced Transit Service Along Transitways

The Council will support enhanced transit service levels along transitway and HOV-lane corridors and the restructuring of routes along these corridors to connect passengers with the transitway and HOV-lane express routes.

Strategy 7e: Transitway Implementation

The Council will coordinate with MnDOT, regional rail authorities, transit providers and local units of government, including regional park implementing agencies, in the selection, design, construction and operation of transitways identified in the Transit System Plan. The Council and MnDOT will work with local units of government to identify opportunities for joint development of transitways and related facilities.

Strategy 7f: Transitways and Development

The Council will work with local units of government to ensure that transitway implementation promotes the *Framework* objectives of efficient, mixed-use development and redevelopment opportunities. Local units of government will be expected to develop consistent local comprehensive plans, zoning and community development strategies to ensure that more intensified mixed-use development occurs along transitway corridors and that the development is effectively linked to the transitway. Critical to the development of transitways, stations will be designed with weather-protective elements and provide transfer opportunities between different parts of the system.

Strategy 7g: Transit Alternatives

The Council will require that transitways and HOV lanes be considered as alternatives in feasibility, corridor scoping and environmental studies of how to provide additional capacity on metropolitan system highways.

Policy 8: Promoting Competition in the Delivery of Services

The Council and other transit providers should promote innovation, efficiency and greater diversity of options through increased competition in delivering transit services.

The Council and other transit providers should focus competition in the delivery of services on higher subsidy transit routes that may be more efficiently operated by the private sector through a competitive bidding process. These services may include paratransit operations provided in compliance with the Americans with Disabilities Act (ADA), rural or suburban small vehicle operations and other high subsidy suburban services. Metro Transit will continue to be the primary provider of regular route transit services in the fully developed area of the region as legislatively defined.

Policy 9: Transit for People with Disabilities

The Council will provide transit services for persons with disabilities in full compliance with the 1990 Americans with Disabilities Act.

A variety of transit service delivery methods will become even more critical to meet the transportation needs of the growing number of people who have physical, cognitive and mental health disabilities. These services include the accessible fixed-route transit system, Metro Mobility, county and community-based paratransit programs, and social service providers.

Strategy 9a: Accessible Vehicles

All newly purchased and leased transit vehicles purchased with public funds will be accessible to persons with disabilities.

Strategy 9b: Comparable Paratransit

Paratransit service comparable to the region's fixed-route transit system will be provided to individuals who are certified under the Americans with Disability Act (ADA) and who are unable to use the fixed-route transit systems. This comparable paratransit service, defined by the ADA law, will use Metro Mobility services and county transit providers to remain compliant.

Strategy 9c: Accessible Transit Facilities

The Council will ensure that all new transit facilities and alterations to existing facilities constructed with regional funds will be accessible.

Strategy 9d: Access to Transit for People with Disabilities

The Council will encourage cities to place priority on providing adequate access to transit stops and stations for persons with disabilities.

Strategy 9e: Utilizing Transit Centers for Transfers

The Council will encourage the utilization of transit centers and rail stations for transfers between fixed-route services, dial-a-ride, ADA paratransit and other community transportation services.

Policy 10: Travel Demand Management

The Council supports use of travel demand management techniques to reduce peak-period vehicle trips.

Among the travel demand management measures that can reduce peak-period commuter vehicle trips are:

- Promoting development consistent with *Regional Development Framework* policies and strategies;
- Transit-, bicycle- and pedestrian-friendly mixed-use development;
- Pricing techniques such as FAST lanes and HOT lanes (see strategy 13d);
- Modified or flexible work hours;
- Telework/telecommuting and telework centers;
- Aggressive promotion of alternatives to solo commuting, including transit, bicycling, ridesharing, carpool/vanpool matching;
- Transit ridership incentives and programs, such as TransitWorks, Metropass, and U-pass;
- Parking supply limitations and charges for single-occupant vehicles;
- Discounted and preferential parking for pool vehicles; and
- The regional Guaranteed Ride Home program.
- Increase transit service in corridors which are under major highway construction.

Strategy 10a: Transportation Management Organization/Association Partnerships

The Council will encourage communities with high employment concentrations to establish transportation management organizations (TMOs) or transportation management associations (TMAs). TMOs and TMAs are public or private partnerships comprising employers, building owners/managers and local government interests that are established to deal with transportation concerns, especially mitigation of peak traffic congestion.

Strategy 10b: Travel Demand Management Assistance and Incentives

The Council will provide travel demand management (TDM) technical assistance and financial incentives to transportation management organizations, transportation management associations, and to employers and building owners/managers, especially those located within a one-mile radius of metro highway system interchanges that are highly congested.

Strategy 10c: Travel Demand Management Tax Incentives

Employers are eligible for reductions in both state and federal taxes when they provide transit and vanpooling passes to their employees. Employers and building managers will be encouraged to use these incentives and to develop and implement a meaningful, proactive TDM plan. The Council will support state legislation that equalizes tax incentives between highway and transit users.

Strategy 10d: Parking Pricing and Availability

The Council will continue to work with its partners to help define the relationship of parking supply, demand, location and cost relative to the use of the single-occupant automobile versus transit, ridesharing or other alternative modes. Where appropriate the Council will promote modifications to parking policy that will encourage park-and-ride usage, vanpooling and carpooling.

Strategy 10e: Alleviate Highway Construction Impacts

The Council will work with Mn/DOT to determine where and when TDM actions may be appropriate to alleviate highway construction related traffic delays. Effective methods will be duplicated and refined from one application to the next.

Policy 11: Highway Planning

Planning a cost-effective, multi-modal and safe regional highway system that reflects the needs of a growing population and economy. Plan and design the Regional Highway System and the Local Street System to be comprehensive and integrated with present and future land uses, and respect for natural resources.

MnDOT and the Metropolitan Council have worked together to prepare MnDOT's Transportation System Plan (for eight counties) and the Council's Transportation Policy Plan (for seven counties). The policies and recommendations of the two plans have never been more consistent or integrated. The strategies in this policy provide direction for highway planning activities carried out by various levels of government.

The Metropolitan Highway System is made up of principal arterials identified on Figure 2-2. The region has identified a system of "A" minor arterials that supplement the metropolitan highways and are important to meet the mobility needs of the region. Principals and "A" minor arterials constitute the regional highway system.

Strategy 11a: Integrate existing and planned land uses and the transportation system.

If land use and transportation planning are integrated, a much more cost-effective transportation system can result and many related problems can be eliminated or reduced. Such integrated planning needs to take place at all levels of government and in all geographic settings. Access management and

freight movement requirements should be considered as key land use and transportation integration issues.

A balance is required between the land access and mobility functions of the highway system. The transportation elements of local and county comprehensive plans should identify safety, capacity or other problems on the principal arterials and the "A" minor arterial system. If improvements to locally controlled minor arterials are needed, these changes should be included in the local government capital improvement program.

Cities control access through subdivision ordinances. Local ordinances should reflect this balanced access management approach. Cities also need to recognize the freight requirements of all land uses. In some cities, this may be a significant demand on the highway system that requires special facilities, such as truck lanes and routes or modified turning radii at intersections.

Strategy 11b: Plan a multi-modal system.

Whenever a roadway plan is conceived or a design is drawn, various surface transportation modes and uses should be considered. MnDOT and the counties must provide advantages for transit where needed, including shoulder bus lanes, park and ride lots and bypasses of ramp meters. The inclusion of facilities for pedestrians and bicyclists are appropriate uses for most streets and highways with the exception of freeways and expressways. When bridges are built or rebuilt, the needs of bicyclists and pedestrians should be met, even if space must be separated from other modes to provide for safe use.

In compact, mixed-use neighborhoods and communities, transit, bicycling and walking can play important roles in meeting travel needs. Traffic calming measures on collector and local streets can reduce vehicular speeds, improve bicycle and pedestrian safety, and reduce neighborhood noise. Measures that retain interconnectivity of local streets are preferable. Traffic calming measures are not appropriate on principal or minor arterials because they inhibit the highway from fulfilling its regional role of providing mobility.

Strategy 11c: Plan and design facilities that protect and enhance the environment.

If environmental impacts are taken into consideration as the highway and street systems are planned and designed, those impacts can be lessened and, in many circumstances, positive changes can result. Recently, Context Sensitive Design has become common in roadway project development by various implementing agencies. The intent is to be sensitive to community attributes by balancing economic, social, aesthetic and environmental objectives.

Strategy 11d: Metropolitan Area and Adjacent Counties

The Council will work cooperatively with MnDOT, the adjacent Area Transportation Partnerships (ATPs) and local units of government to support the connection to and the integration of the regional highway network with the statewide transportation system focusing on interregional corridors (IRCs). The Council will also work cooperatively to ensure orderly and economic development of nodes along transportation corridors and to preserve the safety and mobility function of these transportation facilities. IRC study recommendations will be incorporated into MnDOT's TSP and recorded in Appendix G. Additional IRC studies are needed. Access management must be a significant part of protecting IRCs if the region is to support higher levels of investment.

Strategy 11e: Utilize Transportation corridor studies or sub-area studies.

Implementation planning of a highway or other transportation facility is generally done on a corridor basis or at times for a sub-area. Examples include the recent IRC studies done by MnDOT, EISs and studies for transitways. The Metropolitan Council regularly participates with other agencies and jurisdictions in highway corridor studies, transitway studies and some "A" minor arterial studies. These studies typically examine concerns about land use, access, capacity, level of service, geometrics, safety and impacts to the environment. Recommendations for improvements and other implementation

activities should be incorporated into the local comprehensive plans of the participating cities and counties and used by implementing agencies to guide improvements in the corridor.

The recommendations for regionally important highway facilities must be consistent with the corridor investment designation and cost estimate in this plan. The Council includes completed corridor studies in the Policy Plan. As new studies are completed, the Council adopts the recommendations as part of the Policy Plan by reference until the TPP is updated. Appendix G contains summaries of adopted corridor studies the Council considers current. The recommendations of these corridor studies will be used when setting priorities for regional highway and transit improvements and allocating federal funds

Strategy 11f: Plan for the management of the corridor investments.

The Council supports the implementation of a variety of management techniques to maximize the efficiency of existing highway corridors: high-occupancy vehicle (HOV) lanes, HOV bypasses at freeway ramp meters, access management, pricing strategies and bus-only shoulders. Such strategies should be evaluated in highway corridor studies and a management plan must be developed in all highway corridor expansion studies. As traffic volumes increase in highway corridors, a higher level of management should be pursued.

Policy 12: Implement a regional highway system in a cost-effective manner consistent with this Policy Plan.

Investment priorities for the Metropolitan Highway System are included in the 2005-2008 Transportation Improvement Program (TIP) in Appendix B, MnDOT's 10-year highway work plan in Table 4-11 and the financial plan in Chapter 5 of this plan.

Regional investments must be carefully made due to the significant limitations of transportation funds. The region and MnDOT are committed to deliver the projects now in the TIP and the 10-year work plan in a timely manner and within the estimated budgets recorded in this plan and the TSP. Major projects should move into the highway work plan only after full consultation between the Council, TAB and MnDOT.

Strategy 12a: The first highway investment priority is the preservation of the entire trunk highway system as described in MnDOT's TSP.

The Council supports the level of investment identified in the TSP and the financial plan chapter of this document for pavement and bridge preservation.

Preservation investments need to be made on a continuous basis. MnDOT should continue to effectively utilize its resources by incorporating management and safety improvements with preservation activities. Annually, MnDOT should continue to include the appropriate funds in the TIP to fund these activities.

Strategy 12b: Management investments are the second highest highway priority and should be upgraded as traffic demand warrants.

Safety and mobility benefits from major recent management activities are high. Highway technology provides an array of new and effective tools for this purpose. Management investments generally have the highest benefit to cost ratio of all investments in providing higher capacity and safer highways. The specific and general management investments defined in MnDOT's TSP and in Chapter 4 of this plan are higher priorities than expansion projects, even though expansion projects should move forward in the time frame described in this plan given the assumed resources are available.

Key management investments include access management, high-technology traffic management tools, as well as lot-technology activities such as FIRST (the Freeway Incident Response Safety Team). Cities are expected to incorporate access management policies in their plans and revise their ordinances incorporating MnDOT and county standards and procedures. MnDOT should systematically bring

additional management infrastructure on line.

Strategy 12c: Expand the Metropolitan Highway System in a cost-effective manner to meet the demands of the residents and economy to the extent possible within the constrained fiscal resources.

The growing population and economy of the region requires an expanded highway system. The expanded highway system will need to address many issues that exist today. The expanded system must address:

- Safety problems
- Barriers to movement of freight
- Bottlenecks caused by design issues, such as lane drops, left exits and limited interchange capacity.
- Capacity/congestion
- Transit needs
- Environmental concerns

Expansion projects on the metropolitan highway system should be consistent with the project scope and cost defined in Chapters 4 and 5 of this plan. As the project develops, changes to the scope of the project (number of through lanes and the number and location of interchanges) or increases in cost estimates of more than 20 percent would require an amendment to this plan. Procedures to accomplish this are in Chapter 5, subsection titled "Managing Projects; Scope, Cost and Revenue Sources".

Strategy 12d: Expenditure of federal transportation funds allocated by the Transportation Advisory Board (TAB) should be consistent with this plan and the process and criteria adopted by the TAB.

The TAB and Council allocate federal funds in a number of defined funding categories. The TAB works with the concerned parties in the region to develop the process, criteria and weights to allocate these funds. The projects are intended to help implement this plan and the city and county comprehensive plans that also are required to be consistent with this plan. In some cases, MnDOT projects are funded through this process. The adopted criteria should ensure that selected projects will be consistent with this plan and the TSP.

Strategy 12e: Highway interchanges.

New or reconstructed trunk highway interchanges to expand capacity or meet safety concerns should be considered only if they are consistent with MnDOT's TSP. Construction and related improvements should not negatively affect the safe operation of the main roadway. Requests for new or expanded highway interchanges should follow the procedures and respond to the criteria described in Appendix I. MnDOT and the Council (with the input of TAB) should complete its interchange needs study to prioritize investments in land access interchanges. The construction of two or more consecutive interchanges is considered an expansion investment.

Strategy 12f: Access management of the regional highways system must be included in all categories of investments.

The Council supports an access-controlled metropolitan highway system. It is clear the capacity, safety and the ability of these roads to help implement land use plans diminish as access increases. MnDOT and the counties can manage access either on access-controlled highways or where access rights have been purchased.

Control of access on other principal arterial and "A" minors must be managed through other techniques. Cities that contain non-freeway principal arterials or "A" minor arterials are expected to adopt either MnDOT's or the appropriate county's access management guidelines and incorporate them into their zoning, subdivision and platting regulations.

MnDOT and the Council encourage the integrated development of local land use, transportation and access plans that increase or preserve the mobility on IRC routes and other trunk highways. Applicable

cities and towns are expected to implement IRC access management plans before capital investments are programmed. In the absence of a corridor management plan, MnDOT will review and approve access changes based on adopted access management guidelines.

Policy 13: Manage and operate the Metropolitan Highway System and “A” minor arterial system to provide maximum safety and mobility.

Building the highway system is not enough to meet the mobility needs of the region and state in a safe and cost-effective manner; it must be managed appropriately. Management activities include access management, enforcement of traffic laws, the traffic laws themselves, education of users and how disabled vehicles or incidents are handled. MnDOT is preparing an operation plan that will cover many topics. There are some aspects of operation and management of the highway system that are legitimate elements under the TSP and for this plan. The material below provides the Council policy position on these topics.

Strategy 13a: Highway jurisdiction should reflect the role the highway plays in the region and state.

The Metropolitan Highway System, comprised of principal arterials, and the “A” minor arterial system are the high capacity highways that serve the longest trips and address the mobility needs of the state and region. MnDOT should attempt to obtain jurisdiction over all principal arterials that are not currently trunk highways and any new principal arterials. MnDOT should also seek to transfer the ownership of any trunk highway in the region that is not a principal arterial or an “A” minor arterial to the appropriate county or city.

Strategy 13b: Managing access to principal and “A” minor arterials.

The capacity, safety and utility of principal and “A” minor arterials are dictated in large part by how access to these highways is provided. Managing access to those highways is a critical aspect of managing and operating the highway system and must be carried out in cooperation between MnDOT, the counties and the cities.

Strategy 13c: Managing traffic entering and exiting highways.

MnDOT has been a pioneer in managing traffic at ramp meters to maximize highway safety and capacity. Meter bypass ramps provide incentives to transit and HOV as alternatives to single occupant autos. MnDOT has used various technologies to manage other facets of its highways, some in conjunction with meters. The use of TV cameras to monitor traffic, changeable message signs, traffic radio, and many other techniques and technologies assist the travelling public and industry. The benefit-cost ratio of the hardware and application is usually quite favorable and these technologies should be provided when feasible.

Strategy 13d: Pricing.

Pricing of highway facilities offers a very effective tool to manage traffic and raise revenues. The Council and MnDOT have studied and supported testing of a spectrum of pricing techniques in the region for the past decade, with the assistance of the Humphrey Institute’s State and Local Policy Program and the Center for Transportation Studies at the University of Minnesota. State legislation allows the state or local highway authority to implement priced projects under certain conditions. By 2005 the I-394 HOT lane will begin operation as the first regional demonstration of variable-rate pricing. Single occupant vehicles and some commercial vehicles will be able to buy their way into the HOV lane as long as the level of service does not deteriorate for transit and carpoolers. Federal FAST lane legislation is now being considered to allow many more pricing projects to add capacity on the Interstate system or other trunk highways. FAST lanes would use variable rate prices to provide a congestion-free alternative to the adjacent free lanes. MnDOT and the Council are working on a FAST/HOT lanes system plan (MnPass study) that will assess the benefits of pricing applications on the recommended expansion projects in this

plan. This plan will be completed early in 2005. The study will help MnDOT evaluate pricing proposals from the private sector. MnDOT and the Council will work closely with the cities and counties to implement any selected projects.

Policy 14: Maintain an Effective and Efficient Regional Freight Transportation System.

The role of freight transportation in ensuring economic vitality is increasingly recognized in this era of global and interstate competition. Freight movement plays a critical role in the economic prosperity of the state of Minnesota and the region.

The efficient movement of goods or “freight mobility” requires an extensive high-capacity transportation network capable of moving large amounts of freight quickly, reliably and cost-effectively. Since 1991, federal transportation funding policies have encouraged public sector transportation agencies to give more attention to freight movement. Even though much of the actual movement is conducted by the private sector (airlines, rail, truck and barge companies), they use public facilities such as roads and airports, and the lock-and-dam system on the Mississippi River.

In today's competitive global economy, the importance of a logistics system that serves the needs of customers, shippers and receivers is a key strategy for increasing the economic competitiveness of businesses, industries and their customers. Changes in technology and markets will continue to redefine how freight is moved and commodities flow to state, national and international markets.

The Council supports improving the efficiency of the region's commercial motor carriers, railroads, air cargo carriers and barge operators through strategic investments in the freight transportation system. Regional investments coordinated with investments by the private sector and local governments must provide sufficient access to freight terminals, transportation hubs, business and industrial concentrations and distribution centers.

Strategy 14a: Promote clustering of freight with industrial facilities to improve logistics operations efficiencies

The Council should promote the location of freight facilities in close proximity to their customer base as a means to improve multi-modal transfer efficiencies and reduce the number of freight-related trips, trip lengths and time in transit. This concept of clustering is referred to as “freight villages” where all activities relating to the transport of goods, support services, manufacturing, logistics and the distribution of goods are located in a specially designed industrial complex. Although the freight village concept is more suitable for large-scale developments, the concept can be applied to the redevelopment of existing underutilized industrial areas and on brownfield sites. This strategy includes the following:

- Encourage the consideration of the freight village concept in the planning of a proposed regional distribution center for air cargo should a site within the region be selected.
- Encourage communities with suitable locations to support the development of freight villages through their comprehensive plans and capital investments for infrastructure.

Strategy 14b: Identify Access Needs to Major Regional Freight Facilities

The Council will work with MnDOT and its Minnesota Freight Advisory Committee (MFAC), which represents freight carriers and freight terminal operators, to analyze freight terminal access needs and develop improvements for all modes of freight, including truck, rail, air and water. This strategy includes the following:

- Prepare and maintain a regional freight data base to complement the Minnesota Statewide Freight Data Base to be maintained by MnDOT for use in the regional freight planning and the analysis of freight investment needs;

- Coordinate with MFAC to identify and effectively communicate major investment needs to improve access and freight mobility;
- Coordinate with MnDOT to identify significant freight connections to the National Highway System; and
- Coordinate regional and private freight investments with local units of governments through their comprehensive land use plans and capital improvements programs used to manage infrastructure investments.

Strategy 14c: Reduce Congestion Impacts on Truck Travel

Congestion becomes an issue for moving freight on a timely basis. It impedes deliveries, adding costs to the carrier and the shippers' movement of goods. Through coordinated planning efforts between the public and private sectors with a vested interest in reducing costs of transportation, it should be possible to maintain and improve the regional freight transportation system. Strategies to be considered are:

- Developing analytical tools and performance measures to evaluate and identify needed improvements to the regional freight system;
- Determining the feasibility of shared-use facilities such as daytime park-and-ride lots located on the urban fringe and within key freight corridors that can function as overnight parking for trucking and reduce emissions;
- Supporting the use of FAST and HOT Lanes for appropriate types of commercial vehicles; and
- Using intelligent transportation system technology and emerging freight management technology to share real time information on congestion.

Policy 15: Develop and Maintain Efficient Pedestrian and Bicycle Travel Systems

Safe, high-quality, continuous, barrier-free pedestrian and bicycle facilities must be developed, maintained and improved to function as an integral part of the region's transportation system.

Compact, mixed-use development with facilities for pedestrians and bicyclists helps reduce short automobile trips. Over the last 10 to 15 years, the region has made an effort to direct a higher level of transportation investments to special facilities for pedestrians and bicyclists, either as freestanding projects or as part of larger transportation projects. As the region promotes the development of mixed-use centers, providing facilities for these non-motorized modes becomes an increasingly important component of planning at the city, county and regional level. As recognized in the federal surface transportation law, well-developed pedestrian and bicycle systems help promote energy conservation, reduce the pressure on the highway system, and preserve the environment. In addition, recent research indicates that residents of places designed with accommodations for bicyclists and pedestrians are more active and therefore healthier than residents of other areas.

Strategy 15a: Funding Priorities for Pedestrian and Bicycle Projects

Funding priority will be given to bicycle and pedestrian projects that:

- Serve the greatest number of likely users, especially commuters;
- Support compact and mixed-use development;
- Serve a valid transportation need or purpose;
- Provide safety and security for users, or help educate residents regarding bicycle and pedestrian safety;
- Are cost-effective;
- Are integrated with other transportation modes;

- Provide a direct connection to a multi-modal transfer facility;
- Link schools, office, commercial, industrial, recreational and residential destinations; and
- Fill gaps in or add continuous segments to the regional bicycle and pedestrian systems.

Projects must be included in or consistent with the policies of a comprehensive plan or an official agency capital improvement program in order to receive federal funding (see Strategy 20c).

Strategy 15b: Pedestrian and Bicyclist Linkages to Transit

Linking pedestrian and bicycle facilities to transit is important to developing a multi-modal transportation system for the region. The Council installs bike racks on all buses. This allows travelers to use their bicycle at either end of a transit trip in order to reach their destination. Good sidewalk access and on-street bike lanes in the vicinity of bus stops and transitway stations can encourage travelers to use transit. Heated bus shelters, marked crosswalks, bike racks and lockers, and other facilities for pedestrians and bicyclists will be provided at park-and-ride lots, transit hubs and at major destination centers throughout the region, including the downtowns.

To encourage a strong intermodal link, the operating policy for all transit modes, including LRT and commuter rail, will be to allow bicycles on board, and bicycle racks and lockers will be located at transitway stations. Bicycle and walking paths to the stations and on-site bike storage are important components to consider in station design in order to achieve strong connections with the community and create a quality bicycle/pedestrian environment around the stations.

Strategy 15c: Pedestrian and Bicycle Elements of Local Comprehensive Plans

No pedestrian or bicycle project will be funded through regional transportation project selection processes unless included in or consistent with the policies of a state or regional plan, a city or county comprehensive plan found to be consistent with Council plans, or an adopted capital improvement program.

Pedestrian and bicycle elements of local comprehensive plans shall:

- Promote safety of pedestrians and bicyclists;
- Provide connections to adjacent (local and county) jurisdictions and their walkway and bikeway systems;
- Fill gaps and remove barriers in the existing local, county or regional walkway/bikeway systems;
- Design and locate walkways and bikeways to serve both travel and leisure purposes;
- Provide pedestrian and bicycle facilities to and within high activity nodes, especially commercial and transit centers; and
- Include programs for educating motorists, pedestrians and bicyclists to increase awareness of and respect for the rights and responsibilities of all three types of travelers.

Strategy 15d: Coordinated Planning Among Local Jurisdictions

Local, county, regional and state agencies will coordinate planning efforts to develop efficient and continuous pedestrian and bikeway systems, eliminate critical gaps and ensure adequate interjurisdictional connections and signage. The Council publishes a Regional Parks Map that shows the state and regional off-road trails in the metropolitan area, and state, regional and local agencies are nearing completion of a metropolitan bikeway map. Cities and counties can use these maps as starting points to develop integrated metro wide walkway and bikeway systems.

Strategy 15e: Pedestrian and Bikeway Improvements to Roadways

When a principal or minor arterial road is constructed or reconstructed, off-road walkway designs and both on- and off-road bikeway designs should be considered, with special emphasis placed on safety and barrier removal. Bikeways and combined bicycle/pedestrian facilities shall meet MnDOT State Aid

standards and AASHTO guidelines, and also consider MnDOT Bicycle Transportation Planning and Design Guidelines. Pedestrian facilities will be provided along roads when feasible, as many roads in the region currently do not have adjacent sidewalks or separated pedestrian paths. Bicycle facilities shall be provided within existing rights-of-way when feasible instead of acquiring exclusive new rights-of-way for these facilities. Every bridge that is newly constructed or reconstructed that removes or crosses a barrier for pedestrians and bicyclists must include a walkway and bikeway to allow these travelers safe access to the same regional resources as motorized vehicles unless a reasonable alternative exists within one-quarter mile for pedestrians or one mile for bicyclists. When feasible, bicycle facilities should be separate from pedestrian facilities.

Strategy 15f: Pedestrian and Bicyclist Education

To maximize safe and pleasant pedestrian travel, the Council encourages educational promotions to increase awareness of and respect for the rights and responsibilities of pedestrians and bicyclists. Local, state and regional agencies should be encouraged to establish safety programs oriented toward educating the public in the proper use of sidewalks and crosswalks by pedestrians and of bicycle lanes and paths by bicyclists. Programs will also provide training in proper bicycling procedures such as making turns, stopping at stop signs and signals. In addition, programs will educate motorists regarding pedestrian roadway crossing laws, how to safely interact with bicyclists riding legally in the roadway, and generally to be aware of pedestrians and bicyclists. The Council also supports the implementation of Safe Routes to Schools programs at the local level and programs aimed at teaching children to walk and bike safely, including the use of proper equipment and helmets while bicycling.

Policy 16: Preservation of Linear Rights-of-Way

Linear rights-of-way in the region should be preserved as corridors for public use.

Linear rights-of-way are difficult to obtain and have value for purposeful and recreation travel and other uses. Preserving existing linear rights-of-way in public ownership should continue unless specific reasons exist not to do so. The Council's role is to facilitate and promote cooperation among the implementing agencies regarding funding priorities, ownership, maintenance and near- and long-term use of linear rights-of-way.

Strategy 16a: Railroad Corridor Preservation

The Council will support an interagency approach to preserve abandoned railroad right-of-way. Abandoned linear rights-of-way can accommodate a variety of public uses for transportation, recreation and habitat preservation purposes. Multiple uses can coexist and may change over time to serve changing transportation and public needs. For instance, during the 1970s and '80s many rail lines in the region were abandoned and purchased by the county regional rail authorities for future transit use. Several of these corridors are currently being used on an interim basis as bike and pedestrian trails.

Agencies coordinating a preservation strategy include the Metropolitan Council, the state Department of Natural Resources, county regional rail authorities and MnDOT. Other agencies may participate as needed. The appropriate agencies, rail authorities and local governments will be convened by MnDOT to initiate the preservation process at the time an abandonment notice is issued by the U.S. Interstate Commerce Commission. The assembled agencies will adopt strategies to respond to the rail line abandonment notice, preserve the corridor and prepare a use plan to manage the corridor. Where appropriate, the Metropolitan Council will mediate multiple-use conflicts that may occur in the development of a linear right-of-way.

Strategy 16b: Right-of-Way Acquisition Loan Fund (RALF)

The Council will use the RALF revolving fund to continue to purchase property within the highway corridors listed in the *Transportation Policy Plan* or any "officially mapped" state highway project within the metropolitan area. The responsibility to identify, acquire and maintain the parcels will rest with local

governments, in accordance with adopted Guidelines.

MnDOT should consider developing a procedure that would allow immediate right-of-way acquisition once the environmental review process has been completed. This would save money and ensure right-of-way is available when funds become available for construction.

Strategy 16c: Identification and Preservation of Rights-of-Way by Local Governments

Local governments are responsible for identifying and preserving rights-of-way for transportation uses, such as roads, transit, bikeways and walkways, as well as for multiple purposes that include environmental and utility uses. Local transportation plans should identify future right-of-way needs and describe procedures to preserve them, including official mapping.

Policy 17: Environmental Considerations in Transportation

The investment decisions and operations of transportation projects and facilities are to be consistent with federal, state and regional environmental standards, regulations, plans, programs and policies.

Strategy 17a: Air Quality Planning

Air quality planning is needed to meet the requirements of the 1990 Clean Air Act Amendment and promote effective transportation control measures and other strategies to reduce transportation emissions.

The Council is responsible for determining the conformity of this *Transportation Policy Plan* and the transportation improvement program with the State Implementation Plan for Air Quality. The results of the air quality analysis for the plan are shown in Appendix K, which documents the anticipated reductions in carbon monoxide emissions if the projects listed in the plan are implemented.

Since December 1999, the region has been classified by the EPA as an attainment area for the federal eight-hour standard for carbon monoxide. However, air quality alerts have been issued for ozone and particulate matter by the MPCA over the past few years. The alerts were issued when the federal air quality standards for these pollutants were exceeded. The Council will actively participate with public and private sector partnerships such as Clean Air Minnesota to implement strategies to reduce particulate matter and precursor emissions that cause the formation of ozone.

Strategy 17b: Improved Air Quality Analysis Procedures

The Council will develop improved air quality procedures to analyze impacts of regional transportation projects. The Council will prepare these procedures with the cooperation of MnDOT and the Minnesota Pollution Control Agency.

Strategy 17c: Funding Priorities for Air Quality

The Council, the TAB and MnDOT should continue to give priority to implementing improvements that help the region maintain compliance with federal air quality standards and support funding priorities for transportation projects that prevent air quality violations through the reduction of emissions.

Strategy 17d: Preserving and Enhancing Cultural and Natural Resources

Regional transportation projects should give special consideration to the preservation and enhancement of the region's cultural and natural resources. New highway and transit projects should carefully consider the aesthetic relationship of facilities with the natural, scenic, historic, archaeological, social and cultural environment. The transit and highway improvements should also avoid fragmenting large habitat areas or disturbing high-quality native plant areas to the greatest extent possible. The metrowide Natural Resources Inventory should be used by implementing agencies to develop facilities that are more sensitive to the environment including significant natural areas and regional wildlife corridors. In addition, in certain areas of the region, specific environmental rules such as the Mississippi

River Critical Area law also apply to transportation projects.

Investments in new highways and transit facilities should be consistent with regional plans and policies for parks and open space to the extent feasible. The enhancements should add value to their use. Priority for funding for such purposes should be placed on projects that create a more livable urban environment and foster increased use of alternative modes to the auto.

Strategy 17e: Protecting Surface Water

Section 208 of the Federal Water Pollution Control Act designated the Metropolitan Council as the area-wide water quality management planning agency. Under the act, the Council is given the responsibility to ensure that water management programs and policies are implemented in the metropolitan area.

Local water management plans are required under Minnesota Statutes 103B.235 to be prepared by all local governments in the metropolitan area. The Metropolitan Land Planning Act (473.859 Subd. 2) requires that the land use plan include the local water management plans required under 103B.235. The Council provides comments on the local water plans to the watershed organizations for use in their approval process for the plans.

The Council supports the State Wetland Conservation Act of 1991. The Wetland Conservation Act indicates that it is in the public interest to achieve no net loss of existing wetlands, to enhance diminished wetlands, to restore drained wetlands, to avoid direct or indirect impacts, and where wetlands must be filled or dredged, to replace them at a one-to-one ratio in agricultural areas and a two-to-one ratio in urban areas.

The draining and filling of wetlands, alterations of floodplains and lakes, and diversion of natural watercourse for the construction of transportation facilities may be unavoidable. These resources provide natural storage, water fowl and wildlife habitat, conveyance of runoff and the recharge of groundwater. Replacing these resources with large impervious areas will increase the rate and volume of runoff from the site and may lead to costly management techniques to avoid or abate downstream flooding.

The runoff from transportation facilities could affect the quality of lakes, streams and other surface waters. The construction and maintenance of transportation facilities may be a source of a variety of potential nonpoint source pollutants, such as sediments from construction erosion, chemicals from deicers, maintenance operations and nutrients from on-site vegetation.

Transportation facility development and operations plans must include a surface water management plan to protect groundwater and surface water. In addition to including information that must be consistent with watershed management organization plans and the state wetland regulations, the surface water or local water management plan should include provisions to avoid or to mitigate impacts from construction, restore or retain natural functions of remaining wetlands and water bodies, and include an emergency plan to control accidental spills of fuel or hazardous materials.

The plan should include standards and requirements that are consistent with the Council's model ordinance for stormwater management as well as require the use of best management practices during and after facility construction. When wet detention basins are required, basins must be designed according to Nationwide Urban Runoff Program (NURP) or similar criteria. Communities that have approved local water management plans may be able to use this plan as a substitute for developing a new plan if the local water plan contains all of the information referenced above.

Policy 18: Transportation and Land Use Elements in Local Comprehensive Plans.
Local comprehensive plans must be consistent with the *Transportation Policy Plan* and should recognize the special transportation opportunities and problems that various planning areas present with regard to transportation and land uses.

The ultimate success of this guide to help achieve the Council's vision for the region will, in large

part, be based on the compatibility between travel demand, and the transportation system capacity. The level of travel demand is directly related to land use type and intensity within the travel shed. Land use planning must recognize and respect transportation capacity limitations, while promoting alternatives to auto dependency whenever possible, thus increasing mobility choice. Local communities are expected to provide an interconnected system of streets, bikeways and pedestrian walkways for local trips and to work with MnDOT and the county to plan a minor arterial system that provides for moderate length vehicle trips within, to or from the community.

The Council's authority for ensuring land use/transportation compatibility rests in the Metropolitan Land Planning Act (MLPA). Under that act, local comprehensive plans must be consistent with the Council's regional plans for such systems as transportation and sewers. Local units make the initial determination if a revision to their plans is needed to respond to changes in the *Regional Development Framework* and regional system plans. The Council will work with local governments to ensure that their highway, transit and land use plan components are internally consistent, coordinated and compatible with this guide.

This plan identifies policy and geographic areas such as the transit market areas, urban service area, employment concentrations, airport influence areas, airport service areas, airport search areas, dedicated transitways, arterial transit corridors and congested corridors that present various opportunities and problems that need to be considered and acted upon in local comprehensive plans.

Strategy 18a: Nonconformance Between Comprehensive Plans and the System Plan

Under the MLPA, local units of governments must address any nonconformance between their comprehensive plans and this plan.

After adoption of this policy plan, the Council will send system statements to provide local units of government with community level detail related to the changes in regional policy and plans. Local units of government are expected to review their plans in light of the *Regional Development Framework* and the policy plans/guide chapters. If nonconformity exists, a community must amend its plan to bring it into conformance with the guide.

The Council's adopted *Framework* policies and strategies for planning areas provide the foundation for planning the transportation system. One measure of conformance with the regional transportation system is consistency with the Council forecasts on which the system plan is predicated. A community that bases its plans and development on different forecasts, either too much or too little, may have a substantial impact or contain a substantial departure from this plan and therefore need an amendment. (The Metropolitan Council's Local Planning Handbook, available at the Council's Data Center or online, records the transportation requirements of a local comprehensive plan.)

Strategy 18b: Balance Between Demand and Transportation Capacity

A common theme that appears throughout this plan is the need for compatibility and mutual reinforcement between land use, development, natural resources and the capacity of the transportation system. Congestion is a major problem that requires multiple strategies to address its impacts and to reduce its rate of growth. The Council's goal is that locally generated trips will not exceed the capacity of local or regional transportation facilities.

The Council recognizes that in a large part of the region, added development will have to be accommodated on congested streets and highways. Nevertheless, local planning for new or added development should assume there is a need to continue to provide new or expanded transportation facilities and capacity. Unless this is the approach of cities and towns as they permit land use changes, the transportation system will never function at an acceptable level. Local government must look at various issues, including:

- A mix of land uses that can maximize transportation capacity, depending on schedules of the various activities.

- Higher density will generate more trips per acre, but may also allow more walk, bike, or transit trips to be made so the percentage of vehicle trips may be lower.
- A grid system of local streets provides many options for completing a trip. An interconnected local street system permits direct trip-making between development concentrations and neighborhoods so vehicles do not have to access minor arterials.
- The location and type of access for development and local streets can significantly improve or reduce the capacity and safety of highways (using MnDOT or county access management guidelines).
- Intersection design must be appropriate for the volume of trips.
- Signal interconnections are important to move the maximum volume of cars. The timing needs to be monitored and updated regularly.
- The Private sector should be expected to provide facilities that allow a parcel to support the planned development. Off-site improvements may also be appropriate.

Local governments are expected to articulate the impacts of new development in their plan. If the capacity of the local, county or regional transportation system or other public facilities or regional systems will be exceeded, this needs to be documented. If safety problems are anticipated, they need to be identified before a development is permitted. These issues should be inventoried in the comprehensive plan and should be corrected by the appropriate level of government or in a development proposal.

Strategy 18c: Rural Highway Design and Improvements

Highway system investments in the rural area must be compatible with the *Regional Development Framework* strategies, particularly for lands designated for urban reserve. Metropolitan highways in the diversified rural and agricultural areas and urban reserve area shall be planned, designed and operated to emphasize safety, transporting products to market, delivering goods and services to the rural communities, and providing for the mobility needs of the state.

One overall objective of the Council's *Regional Development Framework* is to focus urban development within the developed and developing areas. Another is to protect locally designated agricultural activities in the rural area. Good roads are needed to serve agriculture and other appropriate activities in the rural area. These roads should not be overdesigned or built to give undue encouragement to commuting to the urban service area. Access should be consistent with the planned rural land uses and not to encourage premature urban development or to preempt their mobility function as the area urbanizes.

MnDOT has designated an Interregional Corridor System (IRC) to ensure mobility needs across the state are met. MnDOT has carried out studies to establish individual management and improvement plans for many of these corridors. Townships, cities, counties, the Metropolitan Council and the private sector have all participated in these studies. The Council and MnDOT have included the needed investments and management activities to protect these corridors from falling below the established performance levels. The cities and towns are expected to implement the access management plans before improvements are programmed in these corridors.

Strategy 18d: Urban Service Area Expansion and Development

The Council will approve the timing of urban service area expansion through local comprehensive plans to help local governments plan for and stage development to accommodate 20 years worth of forecasted growth. Local plans should address local transportation, transit, pedestrian and bicycle investments to build connections between workplaces, residences, retail, services, and civic and entertainment activities and to support the transportation needs of the planned build-out of the community. Expansion requests will be feasible when the appropriate local unit of government

demonstrates that adequate transportation improvements will be provided when needed to mitigate significant negative impact on the affected metropolitan highway and consistent with plans for and the capacity of the regional wastewater system. In addition, local plan evaluation will address housing production, surface and ground water management and natural resource conservation and regional park issues.

The Council and MnDOT have limited financial capabilities to fund transportation improvements other than those described in this plan. Local, county and private resources are needed in most cases to allow urban development to occur. The capital improvement programs of local and county governments should reflect these investments.

Strategy 18e: Transportation Facilities That Match and Support Planned Land Use

Transportation facilities will be planned, designed and operated to support and be compatible with existing and planned land use as recorded in local and county plans.

The *Regional Development Framework* provides strategies for various planning areas in the region. Local and county government and MnDOT should recognize the transportation facilities must vary to help implement the vision and plan for these areas.

Strategy 18f: Needs and Opportunities of Job Concentrations

Minneapolis, St. Paul, Bloomington and other communities that contain job concentrations should address the specific needs and opportunities of these areas in their plans.

In the developed area, four areas – downtown Minneapolis, downtown St. Paul, the University of Minnesota Twin Cities campus area, and the Airport South/Mall of America – have the most compact mix of land uses and trip destinations in the region. These areas require transportation facilities and services significantly different from those in other areas of the region. These areas provide the best opportunity to achieve changes to travel behavior that will increase the efficiency of the transportation system and allow the intensification of development. They require and can support alternatives to the single occupant vehicle. Therefore, the transportation elements of local comprehensive plans must include specific analysis and strategies to address these areas. Specific issues include the need to increase vehicle occupancy and access by alternative modes, and to provide for freight movements. The plans for these areas also need to address the benefits of mixed land uses, including housing to promote access to jobs and reduce vehicle demand.

Strategy 18g: Mixed-Use Centers

The Council will encourage cities to develop more compact mixed-use centers that are transit- and pedestrian-oriented along transitways and high-frequency transitways and arterial transit corridors. Mixed-use centers are compact integrated arrangements of some or all of the following:

- Affordable and lifecycle housing;
- Moderate to high numbers of housing units per acre;
- Employment;
- Supporting commercial uses; and
- Community activities and services.

Centers are generally one-quarter to one-half mile radius in size. The urban design and arrangement of land uses in such centers should encourage transit, bicycle use and walking “to and within the node.”

Developed and developing cities along transportation corridors with higher-frequency transit (including existing and proposed HOV lanes, transitways, and frequently operating all-day bus service) should plan for more efficient mixed-use nodes that are transit- and bicycle/pedestrian-oriented. Land use policies and urban design practices, higher numbers of housing units per acre, mixed land uses, and

transit- and pedestrian-oriented residential and commercial development are encouraged to be located at transit stops along such corridors within the metropolitan urban service area.

These mixed-use centers should result in a number of benefits over the long term. These include development and redevelopment that consume less land, generate less traffic per person, reduce the need for and lower the cost of urban services, consume less energy and generate less air pollution. Better linkages between housing and jobs can be achieved with mixing uses in nodes and along corridors.

Although frequent fixed-route transit is most productive and effective in reducing automobile trips when there are at least seven households per acre, a minimum of 10 to 12 households per acre is preferred within transit corridors. Around mixed-use nodes, there should be at least 50 employees or students per acre with a minimum total 10,000 jobs/students in at least one concentrated area along a corridor.

Strategy 18h: Transportation Corridor or Sub-area Studies

The Metropolitan Council regularly participates with other agencies and jurisdictions in metropolitan transit and highway corridor studies. These studies typically examine concerns about land use, access, capacity, level of service, geometrics and safety. Recommendations for improvements should be incorporated into the local comprehensive plans of the participating cities and used by implementing agencies as improvements are made in the corridor.

This plan incorporates recommendations from adopted corridor studies that are found to be consistent with the RDF. The Council will use these recommendations in establishing priorities for regional highway and transit improvements.

If funding has not been identified for investments, the recommendations may not be included in the TPP. However, until funding is secured, local and county plans may be modified to recognize changes envisioned for the corridor that resulted from the studies if they acknowledge regional funding is not available. Corridor studies remain in effect until all the recommendations are implemented or until the concerned parties agree the plan is out of date and needs to be revised.

Corridor study recommendations are shown in Appendix G.

Chapter 4/2030 Regional Transportation Plan

Transit System Plan

The 2030 transit system must be multi-modal, geographically balanced, cost-effective and supportive of the *Regional Development Framework*. Facing rapid population growth, growing congestion and limited prospects for new major freeways, the Twin Cities area will need a strong transit system to ensure its continued economic vitality. A transit system designed and scaled to various regional needs will promote mobility and access to opportunities around the region, and support the *Framework*, with its benefits of more efficient use of land and public infrastructure.

The bus system will remain the foundation of future transit services.

- Bus service will be significantly increased with strategically focused improvements to better meet customer needs and promote more efficient use of public facilities consistent with the *Framework's* policies and strategies. The transit vehicle fleet and related public and support facilities – including transit stations, park-and-ride lots and garages – will be expanded and enhanced to deliver transit service capable of meeting the ridership goal.
- Local routes, including suburb-to-suburb services, will benefit from expanded coverage and frequency improving transit connections between workplaces, residences, retail services and entertainment activities.
- “Arterial corridors” – selected high-traffic urban and suburban streets – will receive the highest level of local bus service – very frequent, 7-day, up-to-24-hour service, with highly visible passenger facilities at major stops and the introduction of faster limited-stop service similar to University Avenue’s Route 50 limited-stop service.
- The current network of freeway express bus routes will be enhanced and expanded in congested highway corridors. These routes will be supported by extensive park-and-ride facilities and will use bus-only shoulders, HOV lanes and ramp meter bypasses to provide fast and reliable Bus Rapid Transit.
- Other bus services, including Metro Mobility and the small urban-rural systems, will also be expanded along with related support facilities.

A network of dedicated transit corridors will be developed.

- An integrated network of dedicated transitways will also be developed. These corridors will provide a travel time advantage over single-occupant autos, improve transit service reliability and boost the potential for transit-oriented development. The Hiawatha LRT line and the I-394 HOV lane have already been completed. In 2005, I-394 will be converted to a HOT lane, which will still give preference to transit and carpool vehicles, but will also allow available space to be used by single occupancy vehicles willing to pay a toll.
- The most appropriate and cost-effective technologies will be determined on a corridor-by-corridor basis. Potential technologies will include LRT, commuter rail and BRT. Many of these corridors have been studied extensively since adoption of the 2001 TPP, and in some corridors – such as Northstar, Cedar and Northwest– studies have progressed to select a locally preferred technology.

- The first tier of dedicated transitways would include Hiawatha LRT line, the Northstar commuter rail line coming from outside the metro area, three bus rapid transit corridors, Northwest, I-35W and Cedar, and the Central Corridor between Minneapolis and St. Paul.

Regional Development Framework Direction

The Regional Development Framework provides the following direction to this transit plan:

- Enhance transportation choices and improve ability to travel throughout region.
- Maximize effectiveness and value of services, infrastructure investments and incentives.
- Collaborate with partners to accommodate growth.

Regional Transit Goal

The goals for the 2030 regional transit system for the Twin Cities metropolitan area are:

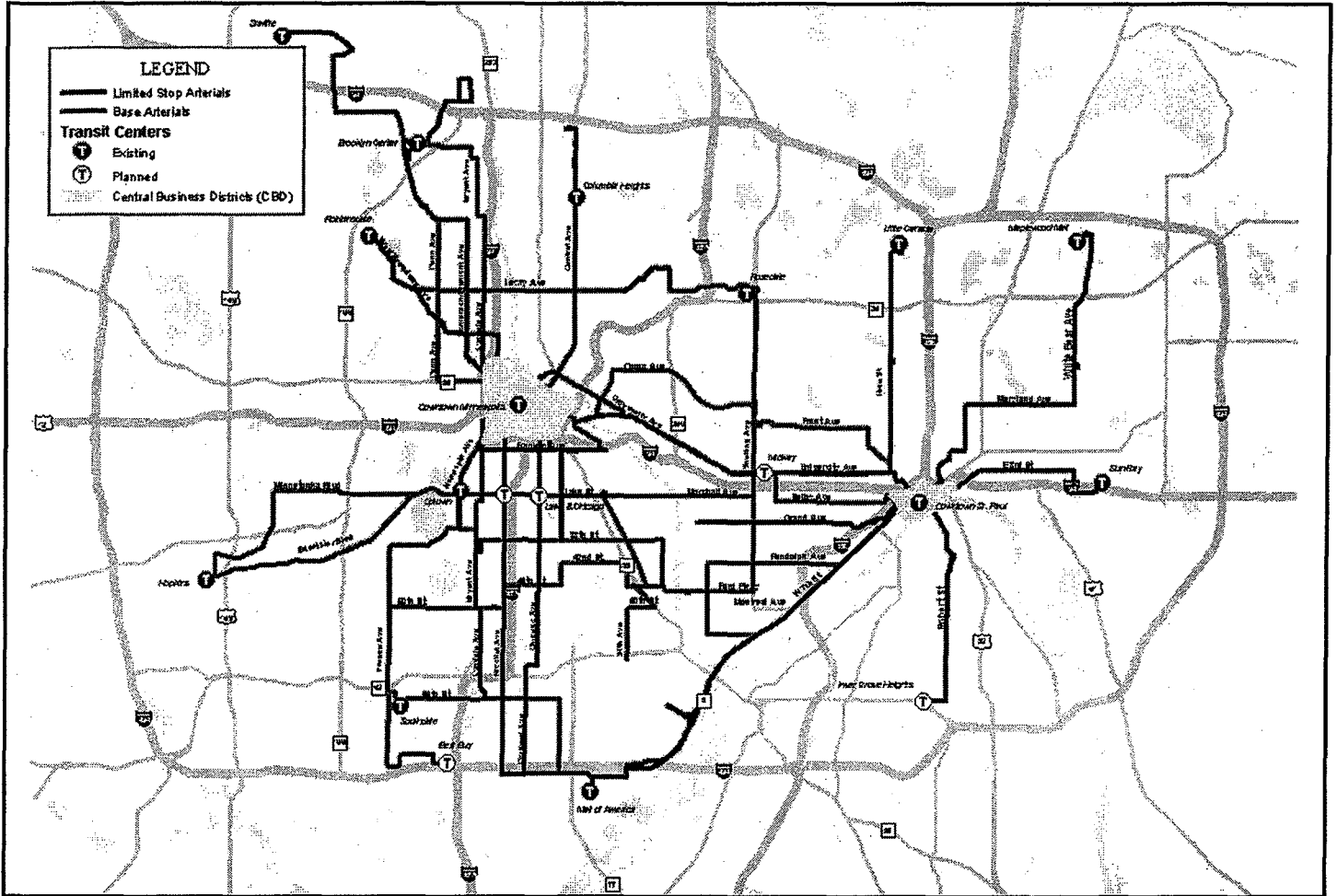
- Double current transit ridership by 2030 (2020 target: 50% ridership increase).
- Develop a network of transitways.

Goal 1: Grow Transit Ridership

The short-range target for doubling transit ridership by 2030 is to increase ridership by 50% in the next 16 years. Several components are necessary to achieve a 50% increase in ridership or 36 million new annual riders, by 2020:

- *Baseline 2020 population-employment growth* – Ridership gains generated solely from the expected 2020 population and employment growth, assuming the percentage of trips made by transit remains constant, would account for about 15 million new annual rides, or a 21% ridership increase.
- *Fare pricing and incentives* – Cost is a major influence in determining which mode people choose for a trip. Providing fare incentives for the average transit trip, through a variety of programs such as the expanding MetroPass and U-Pass or offering frequent rider tax incentives, would result in 8 million, or 11%, more rides above and beyond the 2020 baseline.
- *Arterial corridor enhancements* – Implementation of new limited stop routes, improved frequency and longer service hours in select arterial corridors (see Figure 4-1) with transit advantages to improve transit travel times would generate additional ridership of almost 2 million, or 3% above and beyond the 2020 baseline.
- *Express corridor network enhancements* – Additional ridership gains of 3.5 million, or 5%, would be generated from the implementation of additional and improved express bus service and facilities along freeway express corridors above and beyond the 2020 baseline.
- *Dedicated transitways* – Additional ridership gains of 8 million or 11% above and beyond the 2020 baseline would be generated from the completion of a comprehensive regional network of dedicated transitways.

Figure 4-1
2020 Local Arterial Corridors



Goal 2: Develop A Network of Transitways

A number of heavily traveled metro area corridors offer promising opportunities for focusing investments to provide improved and expanded transit service. This plan envisions two types of transit corridors, express commuter bus corridors and dedicated right-of-way corridors, which are shown on Figure 4-2 and described below.

Express Commuter Bus Corridors

Express commuter bus corridors primarily serve to connect commuters from suburban markets to employment in the Minneapolis and St. Paul central business districts, as well as the University of Minnesota and other major employment centers. Several highways in the region have very successful express bus service today; this plan proposes additional corridors as well as enhancement and expansion of service in existing corridors. Within each corridor, express bus routes will be supported by sufficiently sized and conveniently located park-and-ride facilities. In several corridors these routes will be further supported by community and circulator networks.

Many of these corridors have “transit advantages,” which are roadway improvements such as shoulder bus lanes, ramp meter bypasses and exclusive bus lanes at the downtown end of the trip that give transit a travel time advantage over the single occupant auto. Express bus routes should have uninterrupted and continuous access to transit advantages in congested areas of the bus trip (including at the destination end). All of these corridors will be provided with “transit advantages” by 2020. (Needed transit advantages are shown in the Transit Support Facilities section)

The express commuter bus corridors are characterized by congested freeway traffic, low residential density and high population growth. They have high ridership potential if express bus service within the corridors is time-competitive with the automobile, is frequent and convenient, and if the destination is of sufficient size and employment density. A minimum level of express service (3 trips per peak hour) from any one location within a corridor should be provided.

Transitway Corridors on Dedicated Right of Way

Transitways on dedicated rights of way would provide a travel-time advantage over the single-occupant vehicle, improve transit service reliability and maximize the potential for transit-oriented development and redevelopment. These transit corridors could be developed with a variety of transit modes, including bus rapid transit, light rail transit or commuter rail facilities. The most appropriate and cost-effective mode for any given corridor is best determined after extensive study of the individual corridor; therefore modes are not specified on Figure 4-1. Criteria to determine the preferred alternative should include among others: mobility improvements, operating efficiency, passenger carrying capacity, environmental benefits, cost-effectiveness and land-use benefits.

However, since these corridors have been shown on the regional plan for many years and are at various stages of study, a cost-effective mode has already been determined in many corridors. Two of the dedicated right-of-way corridors shown on the 2030 plan already exist, the Hiawatha LRT and the I-394 HOV lane. The status of the remaining corridors is summarized below:

2030 Transitway System

Figure 4 - 2

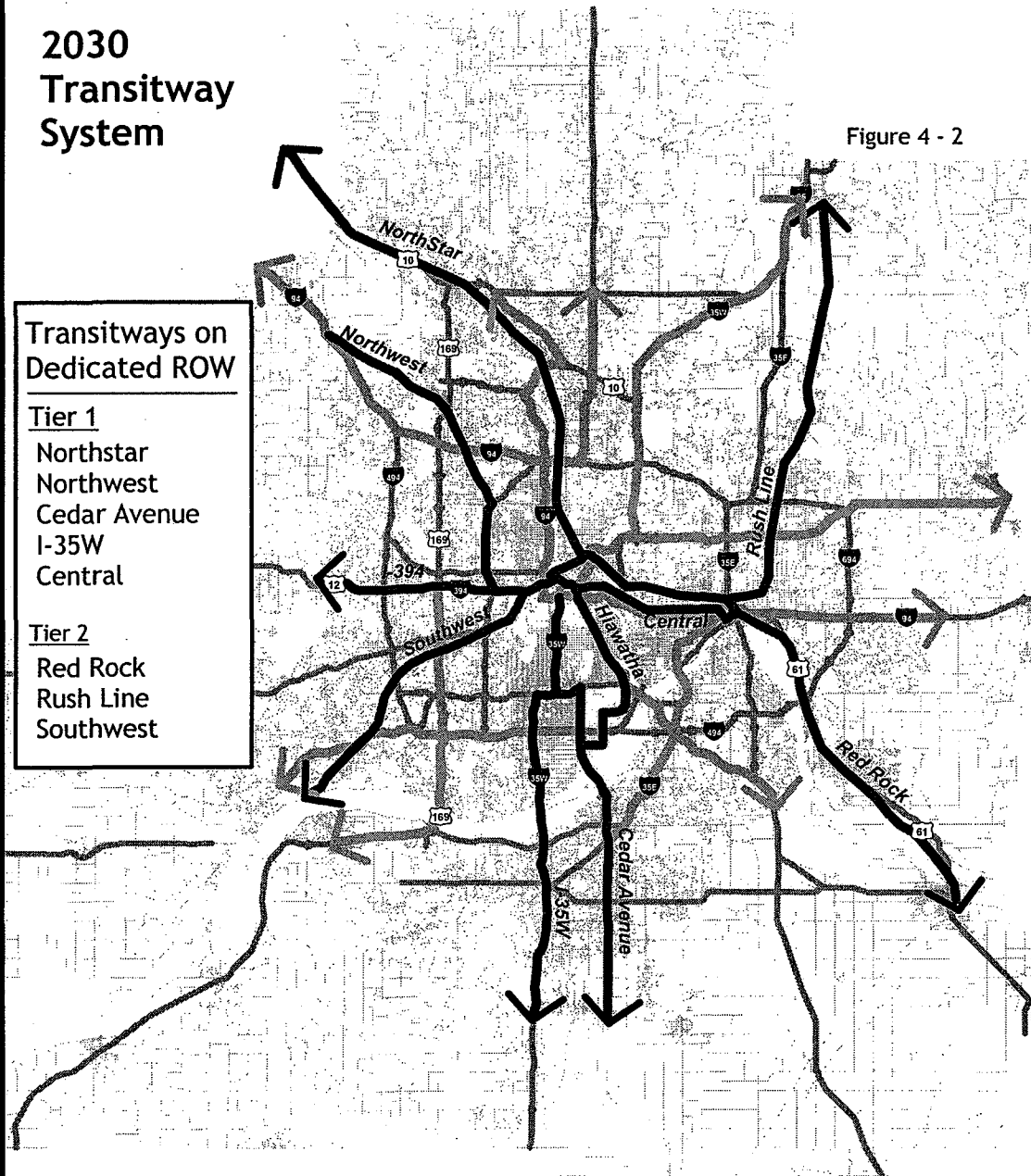
Transitways on Dedicated ROW

Tier 1

Northstar
Northwest
Cedar Avenue
I-35W
Central

Tier 2

Red Rock
Rush Line
Southwest



~ Transitways on Dedicated ROW

~ Express Commuter Bus System

August 2004

TIER I Corridors

Cedar Avenue Corridor: A 22-mile busway and bus rapid transit service is proposed from the Mall of America in Bloomington to CSAH 70 in Lakeville. Improved transit service would be provided to Eagan, Apple Valley and Lakeville along Cedar Avenue. An Alternatives Analysis and Final Report was completed in May 2004 by the Dakota County Regional Rail Authority. Federal and State funding is being sought for the project.

Central Corridor: This is the primary east-west transportation route between downtown Minneapolis, the University of Minnesota and downtown St. Paul. The Alternatives Analysis/Draft Environmental Impact Statement (DEIS) is being finalized. Two build alternatives are being considered, BRT and LRT. Selection of the locally preferred alternative is anticipated by the end of 2004. The next step is to complete preliminary engineering and final EIS.

Northstar: Preliminary engineering is completed for a commuter rail line operating on the Burlington Northern railroad line from downtown Minneapolis to Big Lake. An Environmental Impact Statement Record of Decision was received from the FTA and the project meets FTA cost-effectiveness criteria. State funding is being sought for the required local match for federal New Starts funds. The Council has contributed \$2.5 million to match a federal grant for right of way acquisition.

Northwest Corridor: This corridor parallels CSAH 81, from Minneapolis northwest to Osseo, Dayton and Rogers. A scoping report has been completed for the project. In this corridor BRT will operate along TH 100 shoulders, I-394 and local arterials as well as on dedicated busway. The busway is proposed along CSAH 81 between Bass Lake Road in Crystal and 85th Avenue in Brooklyn Park and Osseo. Other improvements include park-and-ride lots and heated and lighted stations. Bus shelters have been designed for the corridor and station site plans for Phase 1 shelters (in Minneapolis) have started. Park-and-ride facilities are being developed for County Road 81 at Brooklyn Boulevard and at 63rd Avenue. Anticipated funding for these projects includes State Trunk Highway bonding, CMAQ grants and Federal Transit Administration grants. State funding is being sought for the project.

I-35W BRT: I-35W south of downtown Minneapolis was the first Interstate highway in the Twin Cities with express bus service, beginning in the early 1970s. It is the principal arterial most heavily used by transit today. There is an HOV lane from TH 13 to I-494, which will be extended through 46th Street in south Minneapolis when reconstruction of the Crosstown interchange is completed. This plan proposes completion of a new fifth through lane in each direction north of 46th Street that would extend into downtown and would be reserved for "priority transit/HOV" operations. MnDOT, together with the Council and other transit providers, is completing an I-35W study for the 2005 legislative session which will contain details on station locations and operations plan.

TIER II Corridors

Red Rock Corridor: This corridor follows TH 61 and the Burlington Northern and Canadian Pacific railroads approximately 30 miles from Hastings through downtown St. Paul to downtown Minneapolis. An Alternatives Analysis/Scoping study was begun in the spring, 2004 to evaluate alternatives and alignments in the corridor.

Rush Line Corridor: This 80-mile corridor begins in downtown St. Paul and generally follows Highway 61 and Interstate 35/35E north through Ramsey, Washington, Chisago and Pine

Counties. The Rush Line Corridor Transit Study completed in 2001 examined three alternatives: express bus on shoulders, busway and commuter rail. An Alternatives Analysis has not been done. Bus improvements and park-and-ride lots are being constructed in the corridor to provide short-term transit improvements.

Southwest Transitway: The Southwest corridor extends between Carver County and Minneapolis, including the cities of Eden Prairie, Minnetonka, Hopkins, and Saint Louis Park along railroad right-of-way acquired for future transit by the Hennepin County Regional Railroad Authority (HCRRA). Currently, the southwest LRT trail accommodates bicyclists and pedestrians throughout the corridor. Transit feasibility studies have been completed for this corridor and the adjoining Midtown Corridor that extends between the southwest Corridor and the Hiawatha LRT line. HCRRA will initiate an Alternatives Analysis study in fall 2004 for the Southwest and Midtown Corridors. This study will evaluate transit alternatives according to federal guidelines. As required by FTA, a bus rapid transit alternative will be included along with bus, LRT and streetcar alternatives. However, state law has prohibited the Council from constructing a busway along certain segments of the southwest Corridor.

Transit Strategies to Achieve these Goals

To achieve these transit goals, this plan relies also on the following key transit strategies:

1. Respond to various future transit needs in the region's different transit markets.
2. Improve and expand transit passenger and support facilities.
3. Promote higher density initiatives along dedicated right-of-way transit corridors.

Strategy 1. Service Levels for a Variety of Transit Markets

The region has four distinct transit market areas. Population and employment density and transit dependency are the principal factors distinguishing these areas from each other. Recognizing that one size does not fit all, service will be designed and scaled to meet a range of needs based on these identified transit markets.

Figure 4-3 shows a generalization of the existing transit market areas while Figure 4-4 illustrates the potential transit service area by 2030, by expanding Market Area III to include fast-growing areas on the urban fringe that do not yet have sufficient density for transit but are the most likely areas to have that density in the future. Table 4-1 briefly describes characteristics of each market and provides a list of service options appropriate for each market area. Additional detail regarding service options and characteristics is provided in the Appendix.

Several years ago, Metro Transit began a series of sector studies to reconfigure service to better meet the range of needs based on these identified transit market areas. The Sector 1 and 2 studies, covering the northeast quadrant of the region, were the first to be completed. Following the successful reorganization of transit service in those areas, the South Central Sector (5) and a portion of Sector 3 in the western suburbs were implemented. The Sector 8 (Northwest Minneapolis and suburbs) bus-route restructuring plan is currently being developed, with anticipated implementation in 2006.

Although they are not shown as distinct market areas, it is also important to recognize that the two downtowns, along with the University of Minnesota and the MSP/Airport South/MOA area, account for the majority of transit trip destinations in the metropolitan area. Measures to strengthen the role of transit in serving these major activity centers are crucial to the health of the entire transportation network. To strengthen transit's effectiveness within major activity centers,

it will be necessary to provide safe and attractive passenger amenities, bus layover facilities, and optimal travel times through measures such as exclusive bus lanes and signal prioritization.

Figure 4-3
Existing Transit System Service Areas

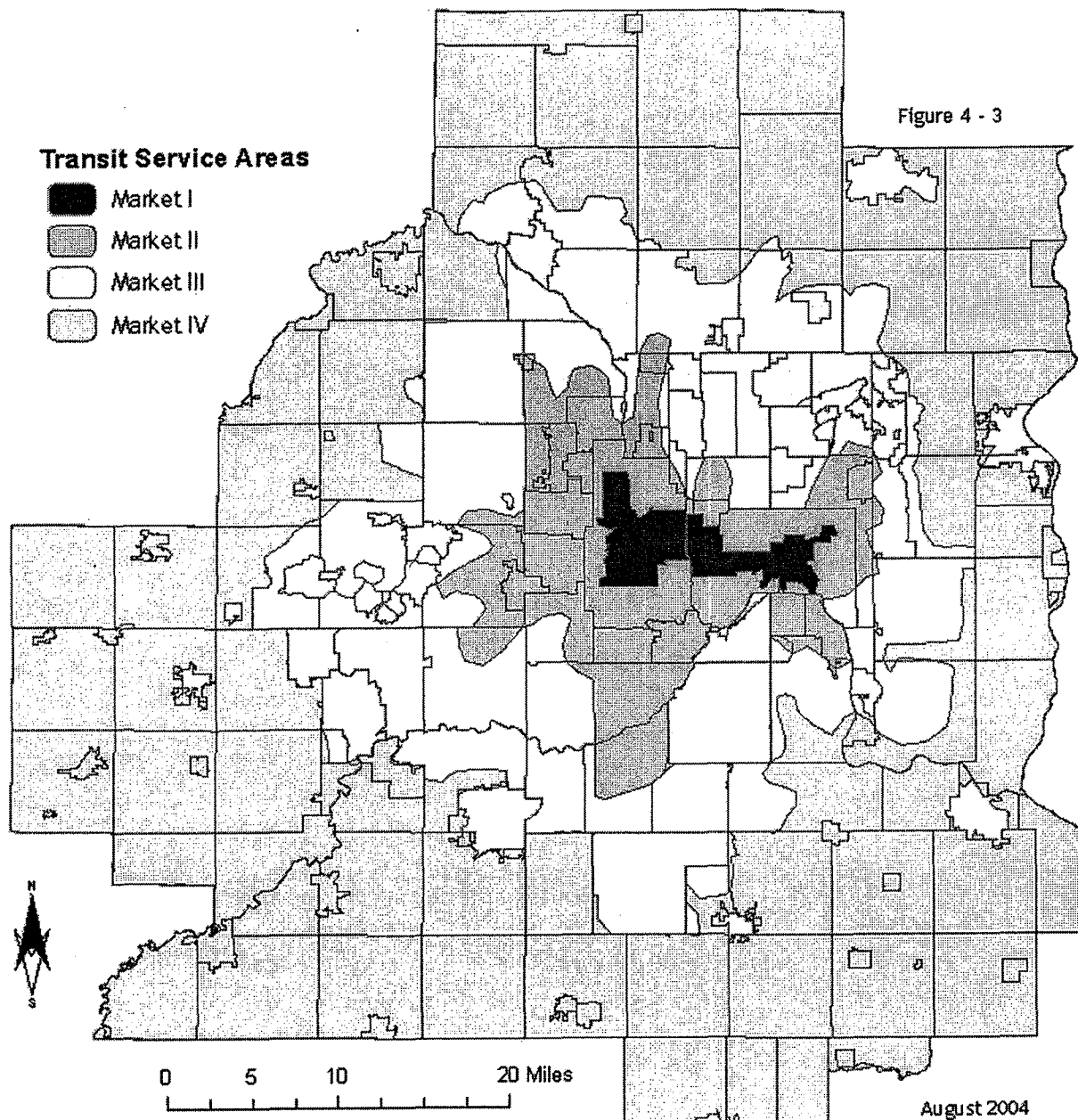


Figure 4-4
Area of Potential Transit Service Expansion

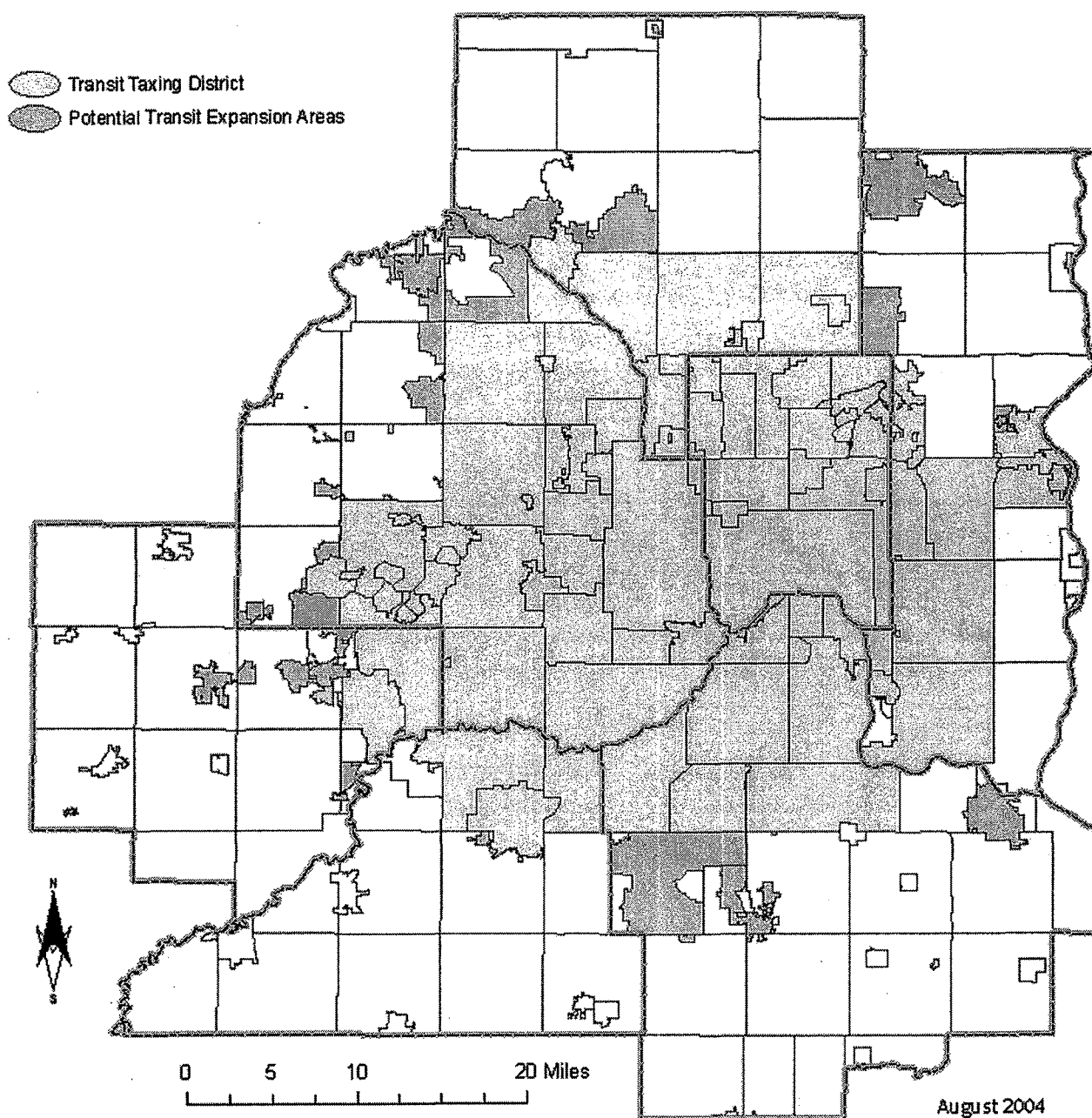


Table 4-1
Transit Market Area Features and Improvements

Market Areas	Land Use Pattern	Service Options	Service Characteristics
I	Highest concentrations of activity, housing and jobs	Regular-route locals, all-day expresses, special needs paratransit (ADA, seniors,) ridesharing	<p>Frequencies: 5-15 minute local and circulator</p> <p>Span of Service: 18-24 hours, 7 days per week</p> <p>Access: Locals spaced 0.25-0.5 mile apart with 8 bus stops per mile</p>
II	Moderate concentrations of jobs, housing and activities	Regular-route locals, all-day expresses, small-vehicle circulators, special needs paratransit (ADA, seniors,), ridesharing	<p>Frequencies: 15-30 minute or 30-60 minute depending on land use pattern</p> <p>Span of Service: 12-20 hours per day, 7 days per week</p> <p>Access: Locals spaced 0.5-1.0 mile apart with 6-8 bus stops per mile</p>
III	Generally lower concentrations with intermittent pockets of moderate concentrations (pockets would receive highest service levels)	Peak-only express, small vehicle dial-a-ride, midday circulators, special needs paratransit (ADA, seniors,), ridesharing	<p>Frequencies: Peak-period-only expresses, 1-2 hour midday frequencies, dial-a-ride advance registration</p> <p>Span of Service: 10-14 hours per day, weekdays and limited weekends</p> <p>Access: Services tied to park-and-ride lots and hubs</p>
IV	Lowest concentrations of housing and jobs	Dial-a-ride, volunteer driver programs, ridesharing	<p>Frequencies: As needed</p> <p>Span of Service: 8-10 hours per days, weekdays</p> <p>Spacing: Services tied to park-and-ride and park-and-pool lots</p>

Strategy 2. Improve and Expand Passenger and Support Facilities

Transit Passenger Facilities

Transit passenger facilities are essential to providing convenient and attractive transit service. They range from the most basic (a bus stop with sign) to large and complex (a multi-route transit center and park-and-ride next to a BRT or LRT station). For greater detail regarding specific facility needs by geographic area, please refer to Figure 4-5.

Passenger shelters and transit stops are essential tools for providing convenience and accessibility to customers throughout the transit system. At high-demand bus stops, particularly in the downtown areas, adequately sized passenger shelters and sidewalk space need to be provided. Over the past decade the region has also embarked on a program to ensure that all bus stops are signed and ADA-accessible, through installation of wheelchair loading pads and curb cuts.

Passenger information systems, which include both static and dynamic systems, are important tools for providing directions to transfer points and real-time service information. The Web-based transit information system for the Twin Cities has been very successful. A network of passenger information systems will be deployed and installed using proven and cost-efficient technology at key locations, such as transit stations and centers, and through electronic media, such as the Internet and telecommunications network.

Park-and-ride facilities (i.e., surface lots and structured ramps) are another important type of passenger facility. They are the primary tools for creating the critical mass necessary to provide cost-effective transit service to and from low-density suburban market areas.

Future park-and-ride facilities should be surface lots rather than structured ramps, where feasible, given the \$2,500 average surface parking space cost versus the \$12,000 average cost of a structured space (cost excludes land acquisition). The construction of structured ramps as park-and-ride facilities could be considered in areas of high land cost, high potential demand, or where a shared parking joint-use venture is possible.

Adherence to regionally accepted guidelines for planning, developing, designing and managing the park-and-ride system and increased coordination by those entities involved in planning and operating park-and-ride facilities will lead to a more efficient system that better meets the needs of transit riders and achieves greater utilization. (See Appendix J for specific regional park-and-ride guidelines).

Additional park-and-ride capacity expansion will be needed to support anticipated ridership growth in both the express commuter bus corridors and dedicated right-of-way corridors. Figure 4-5 and the Appendix show park-and-ride facilities that are planned or programmed for the short term. A park-and-ride facility plan will be completed by mid-2005 so that specific locations needed for the express commuter bus corridors can be transmitted to communities by mid-2005 for incorporation in their comprehensive plans. The location of park-and-ride facilities along the proposed transitway corridors will be defined as the individual corridors are planned.

Transit stations (which are stops along rail lines and busways) and transit centers (which are facilities where multiple bus routes meet to transfer passengers) are necessary tools for efficiently transferring passengers between travel modes. The location of transit stations along the proposed transitway corridors will be defined as the individual corridors are planned and

designed to support the ridership goals within those corridors. In addition, an integrated and strategically located network of transit centers needs to be completed and maintained throughout the metropolitan area to anchor the network of local transit corridors and facilitate convenient passenger connections. Many suburban transit centers will be integrated with park-and-ride facilities, while urban centers that serve primarily local routes will not usually have parking facilities.

The provision of amenities for transit stations and centers, as well as park-and-ride facilities, should be consistent with the regional goal of growing transit ridership through travel time savings, cost savings, and convenience and comfort for the transit customer.

The provision of additional transit passenger facilities in the downtowns will be necessary to accommodate the expected ridership growth in those areas. Some such facilities are identified on Figure 4-5. However, further study of the downtowns as major trip destinations and to a lesser extent trip originations, as well as important future intermodal trip transfer points resulting from converging transitways, is needed. Specialized facilities, such as the Union Depot and the Minneapolis Intermodal Station will be needed in the downtowns to serve as terminal point and connect the various transitways converging downtown, over and above the passenger facilities required for usual bus service.

Transit Support Facilities

The regional transit system must have sufficient facilities to support efficient and cost-effective transit services. These support facilities include garages and bus maintenance facilities, bus layover facilities at the route terminal point, and dispatching and control centers. Special bus-related road features, often referred to as "transit advantages," will also be required to maintain transit travel times which are competitive with the automobile. Figure 4-6 shows the locations of some of these needed facilities.

Transit vehicle storage and maintenance facilities include bus garages, bus layovers and rail yards and shops. The capacity of transit vehicle storage and maintenance facilities will need to be increased, through the expansion of existing facilities and the construction of new facilities, as the transit vehicle fleet expands to meet the anticipated ridership growth by 2030.

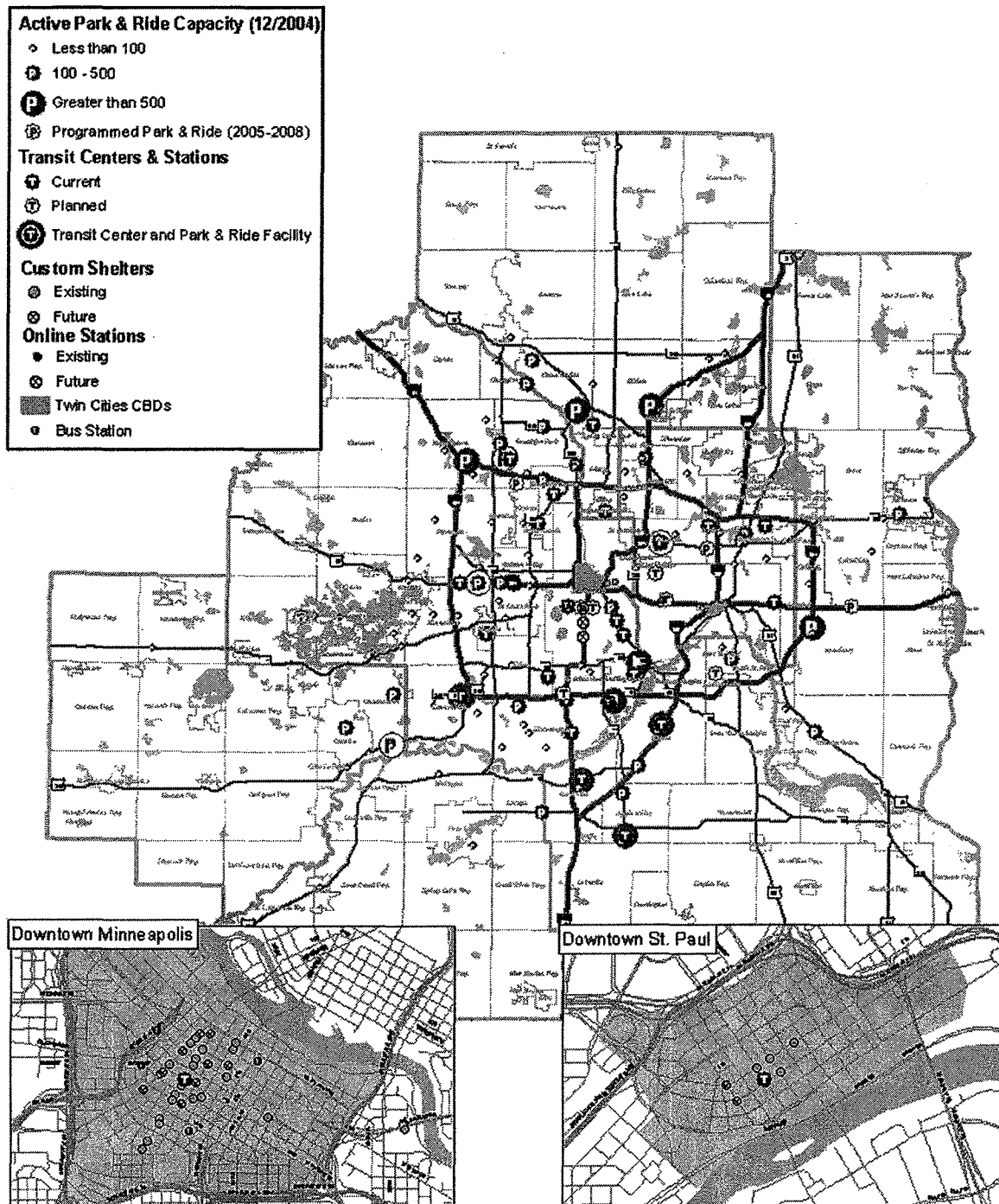
Bus layover facilities provide a physical space for transit vehicles to stage; an opportunity for route recovery time and schedule adherence; and driver break rooms and restrooms. As intermediate points between the vehicle storage facilities and the first pick-up point of the route, these facilities enable the system to operate cost-effectively and on-time. Additional layover facilities will be needed in both downtowns and some suburban locations.

Transit control centers (TCCs) are an essential communications, safety, security and service operation link for regional transit service. The TCC enables staff to monitor schedule adherence, and coordinate the daily activities of transit vehicles, service vehicles, training vehicles and other mobile units. TCC also enable staff to support Street Operations with dispatch in their response to on-street incidents and service disruptions, and to support Transit Police with dispatch in their response to security and emergency response.

The provision of additional transit support facilities in the downtowns will be necessary to accommodate increased transit operations to serve the expected ridership growth in those areas. Some such facilities are identified on Figure 4-6. However, further study of the operation of transit service in these major activity centers is needed. Strategically located support facilities,

such as the West End Transit Facility, are needed to provide cost-effective transit service to these major activity centers.

Figure 4-5
Transit Passenger Facilities



New Metro Transit Bus and Rail Control Centers have recently been completed. They are sufficiently sized and equipped with the latest Intelligent Transportation Systems (ITS) technologies to meet existing and future needs. New technologies are continually being developed and tested to improve transit service delivery. For example, the planned Go-To Card will increase the efficiency of fare collection through the reduction of the average fare collection time per passenger. New technologies should be considered based on their ability to provide system efficiencies and improved customer service.

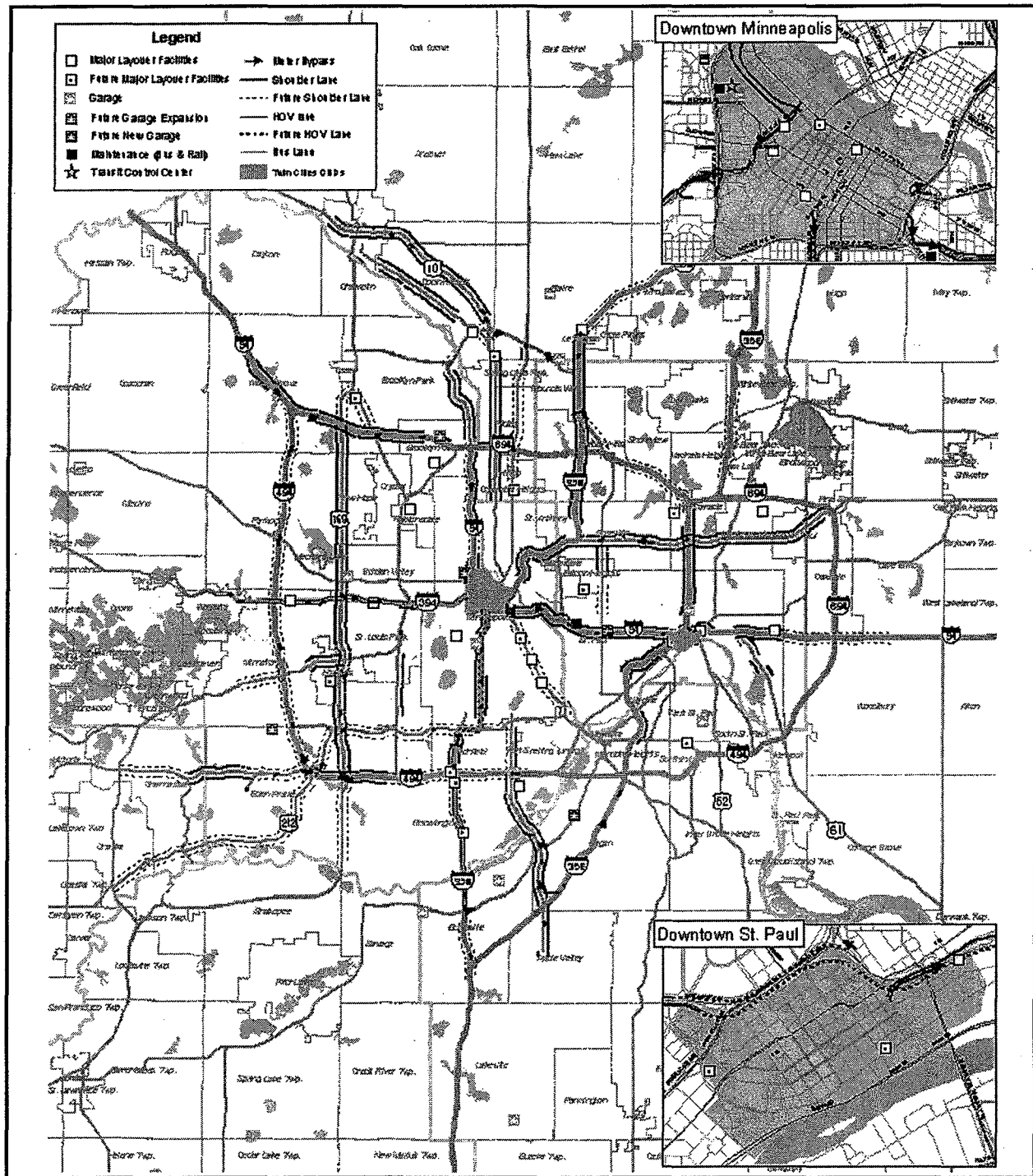
“Transit Advantages” include any of the road network facilities that give buses a competitive time advantage over the personal automobile. Some express and local transit corridors are currently well served with transit advantages while others will need additional transit advantages. Additional bus-only shoulder lanes are needed in strategic locations to enable express transit corridors to function as bus rapid transit (BRT) on non-dedicated right-of-way corridors (see Figure 4-6).

In order to maintain competitive travel time advantages and accommodate ridership growth in major activity centers – such as the downtowns, the University of Minnesota and MSP/Airport South/MOA area – more on-street bus lanes and comprehensive traffic signal priority within select corridors must be provided. Specific improvements will be determined in partnership with the cities.

Strategy 3. Promoting higher density initiatives along dedicated transit corridors

Enhancing the effectiveness of transit service along dedicated transit corridors requires attention to three interrelated factors. First, the type and density of residential developments is key to bringing potential users within an easy walk or bicycle ride to the transit stop or station. Medium- to high- density housing – townhomes, condominiums and apartments – either as residential only developments or as a part of mixed-use developments should be promoted to support transit investments and service. Second, a local street and pedestrian system that easily and safely connects housing to the transit stop or station needs to be in place. Third, attention also needs to be given to the destinations served by the corridor. Increasing the intensity of jobs and mix of activities and services at destination centers along with well-designed and interconnected pedestrian facilities will increase ridership. The Council’s incentives, planning and technical assistance will support local land use and development/redevelopment activities to support land use patterns and developments that are conducive to transit use and build the potential ridership base.

Figure 4-6
Transit Support Facilities



Future ADA Needs and Service

The region provides ADA service for the portion of the disabled population that is unable to use the regular route transit service described above. According to the 2000 Census, 14 percent of the population in the metro area is disabled. The Metropolitan Council forecasts that by 2030, the disabled population will increase by 44 percent, to 20 percent of the population. As the population grows and ages, a higher percentage of the total population will become eligible for ADA services. The impending impact of this increased population on ridership and fleet requirements for 2020 and 2030 is shown below.

In addition, if transit providers extend their area of service or their hours of service, ADA paratransit service will be required to make a comparable expansion adjustment.

To meet future ADA-related demand, the region will need to expand service to accommodate at least a 30 percent increase in ridership by 2020 and 40 percent by 2030 (see Figure 4-7). The ADA fleet size will need to expand accordingly, by about 20 percent by 2020 and 30 percent by 2030 (see Figure 4-8).

Figure 4-7
Estimated Annual ADA Ridership to 2030

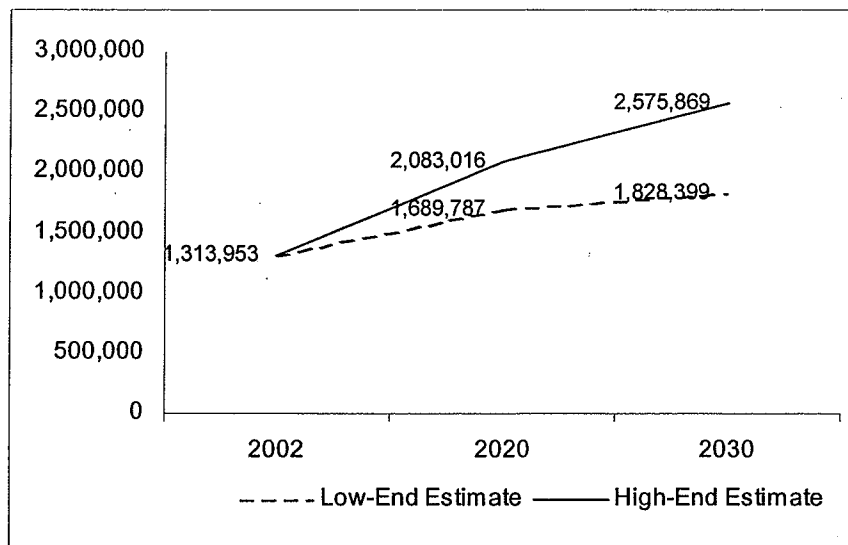
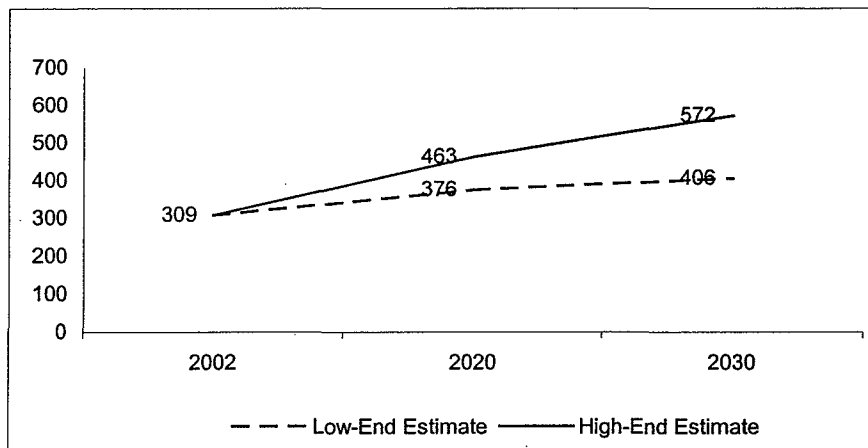


Figure 4-8
Estimated Annual ADA Fleet Size to 2030



Transit Plan Implementation Costs and Priorities

This plan calls for doubling transit ridership by 2030, but sets an interim goal of a 50% increase in transit ridership between 2005 and 2020. There are two components to reaching this 2020 goal: grow bus ridership and develop a network of transitways in the region.

Grow Bus Ridership: Costs

The Twin Cities transit system will need an additional \$83 million in net annual subsidy in 2020 to grow bus ridership. (Table 4-2)

Table 4-2
Grow Transit Ridership:
Incremental Annual Operating Needs in 2020

Operating Budget Needs	Regular Route	ADA Service	Total
Operating Costs	\$91 M	\$9 M	\$100 M
Fare Revenues	(\$16 M)	(\$1 M)	(\$17 M)
Net Subsidy	\$75 M	\$8 M	\$83 M
Table Note: 2004 dollars			

An additional \$500 million above current funding levels would be necessary to support the incremental capital needs. (Table 4-3)

Table 4-3
Grow Transit Ridership:
Incremental Capital Budget Needs, 2005-2020

Capital Budget Needs	Regular Route	ADA Service	Total
Vehicles	\$268 M	\$5 M	\$273 M
Park & Ride Facilities	\$86 M	--	\$86 M
Park & Ride Preservation	\$15 M	--	\$15 M
Garages	\$126 M	--	\$126 M
Total Capital	\$495 M	\$5 M	\$500 M
Table Note: 2004 dollars			

Grow Bus Ridership: Implementation Priorities

Additional ridership gains could be made throughout the region by adding service on existing routes, adding new routes, and extending service into currently unserved or underserved markets. Because of high unmet demand, a strategy for phasing additional service is necessary. The strategy for transit improvements is to make incremental investments, within available resources, focusing on corridors with the highest demand for service first. For arterial corridors, this priority is based on the estimated ridership gains that could be achieved (Table 4-4). For freeway/express corridors, priority is based on both estimated ridership gains that could be achieved as well as the estimated demand for park and ride spaces. Low priority routes and corridors are not shown. (Table 4-5)

Table 4-4
Grow Transit Ridership
Arterial/Local Corridor Investment Priorities

Corridor	Priority
Nicollet Ave.	High
Emerson, Fremont Ave.	High
Hennepin, France	High
Chicago Ave.	High
Central Ave. NE	High
Lake	High
W. 7 th St.	High
Payne, Maryland	Medium-High
Lyndale & Bryant Ave.	Medium-High
Franklin & Riverside Ave.	Medium-High
Robert Street	Medium
Broadway Ave. W	Medium
Bloomington Ave.	Medium
East 3 rd Street	Medium
Grand Ave.	Medium
4 th St & University Ave. SE	Medium
Rice Street	Medium
Lowry Ave	Medium

Table 4-5
Grow Transit Ridership
Freeway/Express Corridor Investment Priorities

Corridor	Operating Priority	Park and Ride Priority
I-94 West	High	High
Hwy 10/252/65	High	High
Hwy 212/169	High	High
I-35E North	Medium-High	High
I-94 East	Medium-High	Medium-High
I-35W North	Medium-High	Medium-High
Hwy 52/55	Medium-High	Medium-High
Hwy 61	Medium	Medium
Hwy 36	Medium	Medium
I-35E South	Medium	Medium

Develop Network of Transitways: Implementation Costs and Priorities

Five transitways should be constructed between 2005 and 2020 and work should be done to advance three more. At this point, several of these corridors are being studied and a final mode or alignment has not yet been selected. Final costs may vary depending on the year of implementation, the final alignment, the mode selected, and the final length of the transitway. Because of these factors, final costs may vary from those shown at this point in time. The capital costs shown in Table 4-6 reflect the most recent studies done in each corridor.

In addition, two dedicated transitways exist in the Twin Cities: Hiawatha Light Rail Transit and I-394 BRT. Transit demand estimates for I-394 BRT indicate a high additional unmet demand in this corridor for park and ride space. Approximately \$20 million in capital funds are needed to meet existing demand for park and ride space in this corridor. These costs are included in the estimates for growing bus ridership.

Hiawatha LRT will be fully operational in December 2004, making it too early to estimate future capital needs for additional park-and-ride capacity or operating needs. It is expected that future Policy Plans will carry estimates of long-term needs once utilization stabilizes. At this point, approximately \$6 million of operating subsidy does not have a long-term funding source and these costs are included in transitway operating funding needs.

**Table 4-6
Transitway Costs by 2020**

Corridor	Capital Cost	Net Incremental Annual Operating Subsidy	Readiness	Ridership Potential
Tier I:				
Cedar	\$60 M	\$5 M	Immediate	Medium
Central	\$240 - \$840 M	\$6 M	AA Hearing Fall 2004	Very High
Northstar	\$265 M	\$5 M	Immediate	High
Northwest	\$50 M	\$5M	Immediate	High
I-35W (Lakeville-Mpls)	\$50 M	\$5 M	BRT Study Underway	High
Tier II:				
Southwest, Rush Line, and Red Rock*	\$135 M	\$5 M	Studies just beginning	TBD
Existing:				
Hiawatha	--	\$6 M		--
I-394				
Total Capital	\$800 - \$1,400 M	\$37 M		
Table Note: Operating costs are in 2004 dollars Capital Costs are estimated for various years, depending on when corridor study was completed: Northwest: 2005 dollars Cedar: 2004 dollars Northstar: 2008 dollars I-35W: 2004 dollars Central: 2008 dollars *Southwest, Rush Line, and Red Rock: Dollars are an estimate of what could be spent in 2004 dollars to advance these corridors during this time period.				

Summary of Incremental Transit Implementation Costs

The total cost of the transit plan is summarized below.

**Table 4-7
Incremental Transit Funding Needs**

Incremental Costs	Grow Bus Ridership	Transitways	Total
Capital Needs 2005 – 2020	\$500	\$800 - \$1,400	\$1,300 - \$1,900
Annual Operating Subsidy in 2020	\$83 M	\$37 M	\$120 M

Metropolitan Highway Plan

Since the 1991 federal Intermodal Surface Transportation Efficiency Act (ISTEA), the region is required to adopt a long-range transportation plan that balances planned investments with reasonable expected resources and produces cleaner air or meets the adopted emission budget. However, this plan also considers two scenarios that assume a significant increase in current resource levels.

This plan focuses on the needs of the 2030 metropolitan highway system shown in Figure 4-9 and the "A" minor arterial system. The metropolitan highway system, a network of 657 miles of freeways and expressways (classified as principal arterials) carries the majority of vehicle travel in the region and the longest trips at the highest speeds. There are three Principal Arterials owned and maintained by cities or counties which are not included in the state road construction funding allocation discussed below.

The 1,500-mile "A" minor arterial system, defined and adopted by the region in 1993, supplements the metropolitan highway system. (A large map of the minor arterials, which is too detailed to reproduce in this plan, is available from the Metropolitan Council.) Many miles of the "A" minors are owned and operated by counties or cities. Federal funding for these "A" minor arterials, as well as the non-MnDOT principals, is available through the STP program of the Regional Solicitation. The STP program is assumed to be about 60% of the total Solicitation of \$61.5 Million annually.

The remainder of streets and highways in the region are made up of "B" or other minor arterials, collectors and local streets (the function and characteristic of all streets and highways are explained in Appendix F). The predominant use of all roads and highways is either for mobility or land access. Principal Arterials serve the mobility needs of the public, while the local street emphasis is land access.

Major Highway Problems

The focus of the plan is to help implement the *Framework* and address the major problems facing the metropolitan highway system over the next 26 years, which are:

- Significant increases in travel demand due to more people, more licensed drivers and more automobiles;
- Inefficient use of the highway system by vehicles with only one person;
- Increasing maintenance needs for an aging system of highways;
- Funding levels that have not matched the increase in demand and maintenance needs;
- Funding sources that do not provide incentives to improve the efficiency of the transportation system;
- Difficulty in expanding highway capacity due to the social, environmental, physical and political impacts.

Framework Direction

Unless these problems are adequately addressed, the lane-miles of congested metropolitan highways will increase from just over 1,900 miles in 2000 to over 2,500 lane-miles in 2030. This, in turn, will result in an increase in the cost of doing business, making it more difficult for the region to compete with other economic centers in North America.

While the region cannot build its way out of congestion, the region must take steps to reduce its rate of growth and to meet the transportation needs of the people and businesses. One of the *Framework's* four goals is to “enhance transportation choices and improve the ability of Minnesotans to travel safely and efficiently throughout the region.” The related policy is to “plan and invest in multi-modal transportation choices, based on the full range of costs and benefits to slow the growth in congestion and serve the region’s economic needs.”

The following five strategies provided in the *Framework* are intended to help achieve this policy as it is related to highways:

Strategies

1. Focus highway investments on maintaining and managing the existing system, removing or relieving bottlenecks and adding capacity.
 - Highest priority must be given to adequately maintaining the entire highway system to serve existing and planned development and relieving bottlenecks.
2. Make more efficient use of the regional transportation system by encouraging flexible work hours, telecommuting, ridesharing and other traffic management efforts, and by employing a variety of pricing techniques such as FAST lanes and HOT lanes.
 - The region, working with its state and local partners, must make investments that help better manage traffic and increase the efficient operation of the system. These investments should produce incentives for people and business to share rides, to change the time of travel outside the peak periods and to use arterial streets for shorter trips.
 - The region needs to pursue innovative pricing strategies – such as tolls, HOT lanes, FAST lanes, value pricing and variable rate pricing – that provide incentives to more efficiently use the highway system, encourage use of alternative modes and increase the resources available to help maintain regional accessibility.
3. Expand the transit system, add bus-only lanes on highway shoulders, provide more park-and-ride lots and develop a network of transitways.
 - A multi-modal transportation system is required to address a variety of personal and business transportation needs.
4. Encourage local governments to implement a system of fully interconnected arterial and local streets, pathways and bikeways.
 - Minor arterial roadways must be carefully designed to safely balance their dual roles of serving local and subregional trips by many different modes. These arterials serve adjacent land uses while carrying autos, trucks, local bus routes, bicycles and pedestrians.
5. Promote the development and preservation of various freight modes and modal connections to adequately serve the movement of freight within the region and provide effective linkages that serve statewide, national and international markets.

Many of the metropolitan highways that connect to Greater Minnesota are identified as Interregional Corridors (IRCs) by MnDOT (see Figure 4-10). Investments for those highways outside the I-494/I-694 beltway are an important component of the State's Plan. These facilities should be planned, prioritized and funded by MnDOT centrally.

Figure 4-9
2030 Metropolitan Highway System

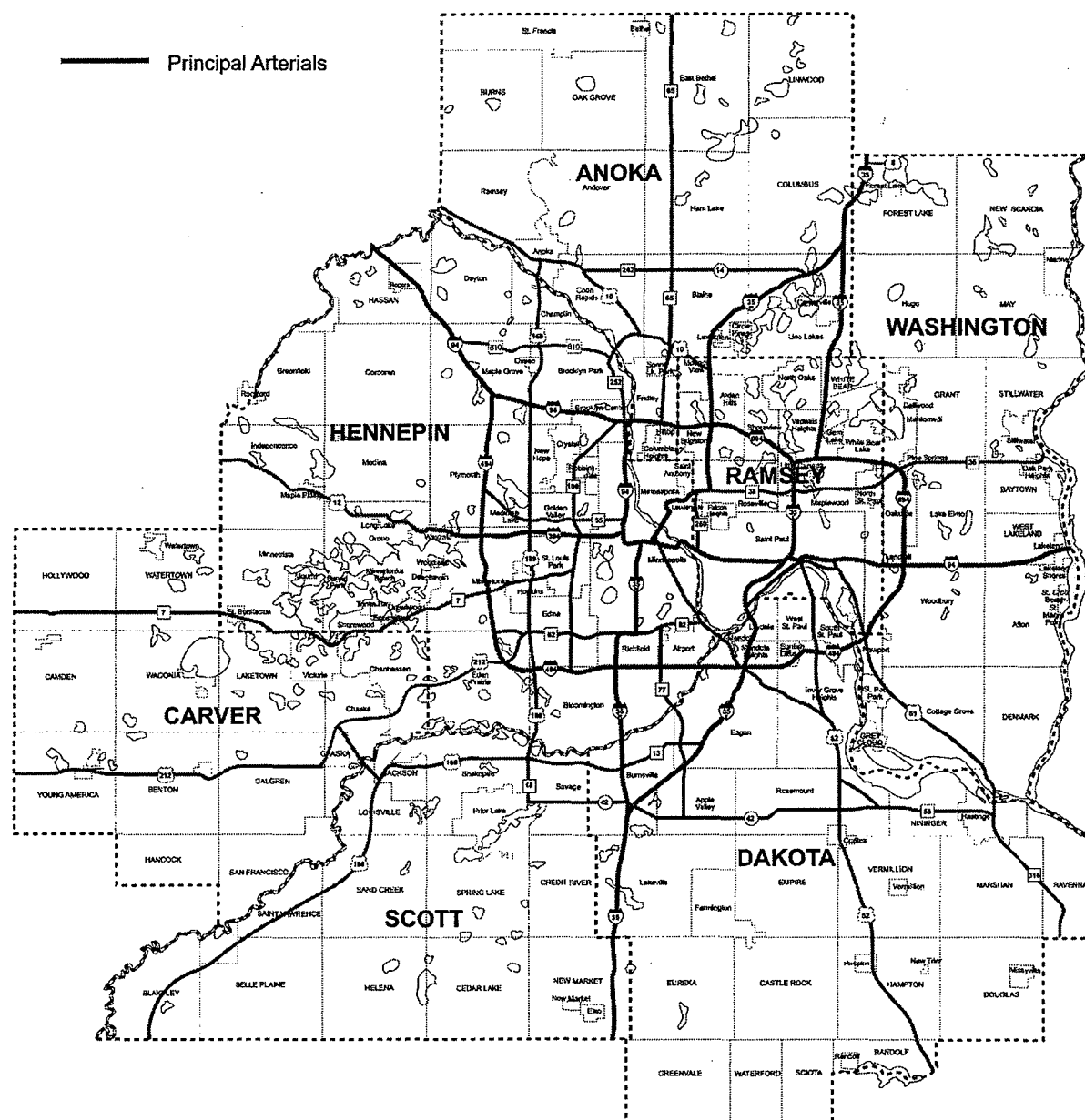
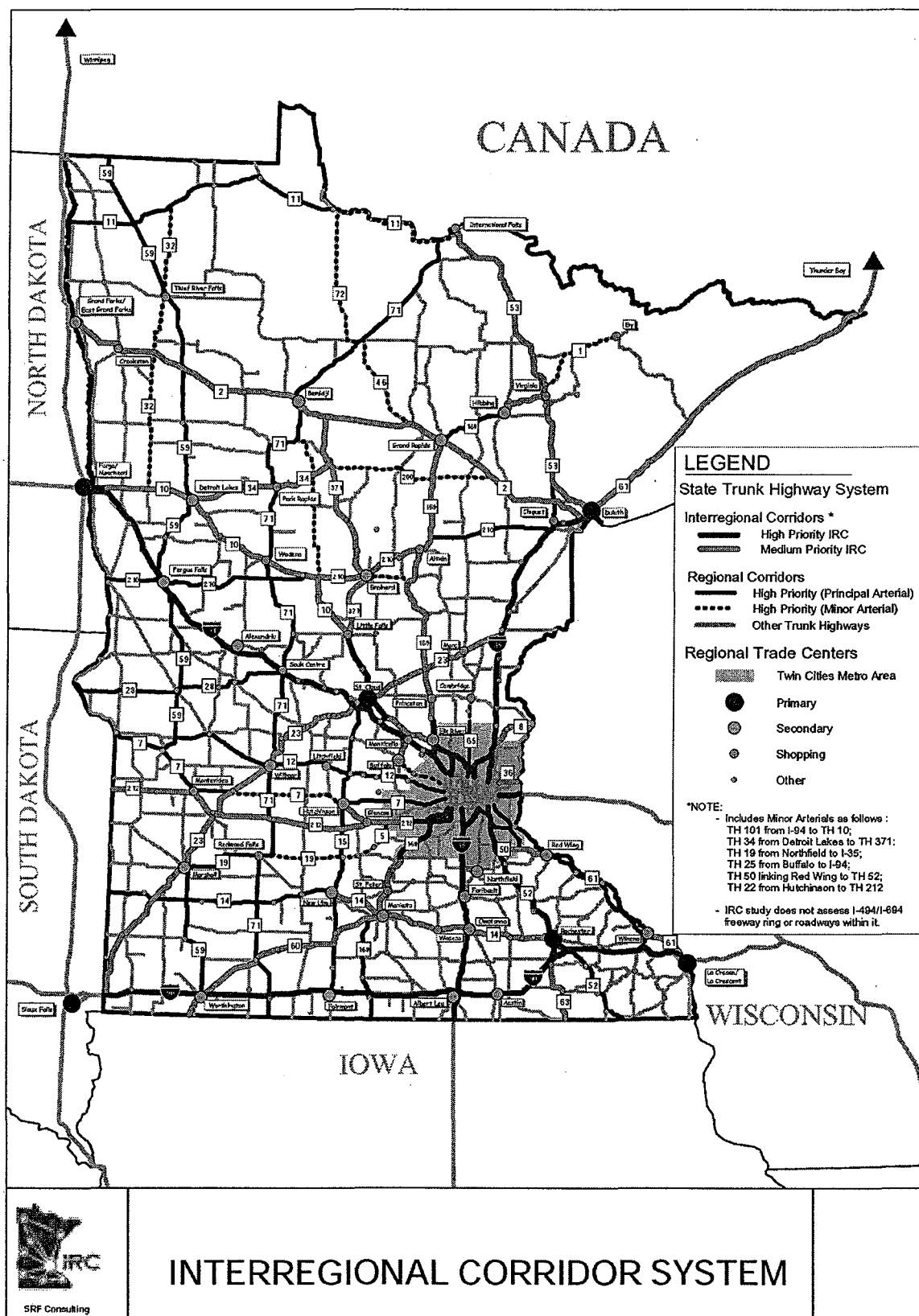


Figure 4-10
Interregional Corridors



The Highway Plan

The Council and MnDOT work very closely to produce this plan and the Metro District Transportation Systems Plan (TSP). Both plans are consistent and supportive of each other. The forecast of highway revenues and cost for this plan have been prepared by MnDOT.

Resources and Scenarios

Highway revenue estimates for this plan include all state and federal fund categories that have historically gone to MnDOT. However, a number of activities currently underway suggest that new funding sources and higher funding levels could also materialize in the near future. Those activities include:

- The new federal Surface Transportation Act yet to be passed, which could result in significant funding increases over the previous TEA21 funding levels.
- MnDOT's review of the funding allocations among MnDOT's districts, which could affect the Metro District's construction funding levels.
- Statewide initiatives underway to increase state transportation funds, which could be successful in upcoming legislative sessions.
- Adjustment in distribution of Federal gasoline tax revenue due to ethanol credit.

Because of the funding uncertainties described above, this plan contains three scenarios. One reflects historical funding levels while the other two contemplate higher levels of resources. Should additional state or federal highway funds become available, the Constrained Plus 30% Scenario provides general direction as to how these funds might be allocated. The level of funds would determine if and when a revised Regional Transportation Plan would be required.

Natural or other disasters may cause the priorities in this plan to change. The nature of the emergency may require action that would need to be implemented immediately.

Constrained Plan Scenario: This scenario assumes highway revenue estimates based on historic levels of state and federal funds. It also includes the federal funds allocated through the TAB regional solicitation process. The revenue estimates include inflationary increases that result in a real purchasing power increase with respect to current levels of about 20 percent by 2030. The Constrained Plan Scenario is the formally adopted plan as required by federal rules. The constrained plan is shown on Figure 4-11.

The Constrained Plan assumes the 2030 State Road Construction Fund will grow by 20% in real purchasing power over existing levels by 2030. This may or may not be accurate, given the four activities noted above. As these activities are completed or end, a re-examination of the revenue forecast will be in order. The Council hopes there will be additional new revenue that can go toward funding the +30% Scenario. While this may happen, the Council also realizes that identified and unidentified obligations recorded in this plan will need to be paid for before allocations are made to new projects or needs. Unanticipated increases in project costs are always possible, although various procedures and policies have been put in place to attempt to account for these. Payback and cost overages for the 2001 bonding projects in the current TIP are still being resolved. Short term cash flow problems due to delay in the new Federal Act are a priority use for any new Federal Funds. Payback of advance construction funds must be accounted for fully.

Unconstrained Plan Scenario: This scenario illustrates the magnitude of highway investments required to meet the performance targets established in MnDOT's Statewide Transportation Plan (August 2003). Its implementation would require about a 425 percent increase in highway expenditures over the Constrained Plan Scenario. This scenario would not address all traffic needs because non MnDOT-owned principal arterials and "A" minor arterials are not included. Some new Principal Arterials may also be required.

Constrained Plus 30% Plan Scenario: This scenario assumes a 30% increase in highway funding over the Constrained Plan Scenario. This scenario would permit an acceleration of projects and provides a list of project categories to move into the plan should a higher funding level materialize.

Table 4-8 shows the recommended annual allocation and the 22-year total (2009-2030) of state road construction funds by investment category for all three scenarios.

Table 4-8
Resource Allocations Summary
Trunk Highways, 2009-2030 *
(in millions)

	Constrained	Unconstrained	Constrained +30%
Preservation	31	31	31
Pavement	55	55	55
Bridge	<u>16</u>	<u>16</u>	<u>16</u>
Miscellaneous	102	102	102
Management	60	60	40
Other Allocations	12	12	12
R/W	12.5	12.5	12.5
Supplemental Agreements	<u>5.0</u>	<u>5.0</u>	<u>5.0</u>
Cooperative Agreements	29.5	29.5	29.5
Expansion	92	973	197
Total	283.5	1,164.5	368.5
22 YEAR TOTAL	\$6,237	\$25,619	\$8,107

*These funds are not available for city or county owned highways

Constrained Plan Investment Priorities

Since 1988, the Council and MnDOT have agreed on the following highway investment priorities:

Preservation of the Existing Highway System

The first investment priority must be to preserve the existing trunk highway system, a significant regional asset that includes the 657 miles of the metropolitan highway system and an additional 450 miles of minor arterials, most of which are "A" minors. The MnDOT pavement management and bridge management systems, which monitor roadway conditions, were used to determine preservation needs, which are assumed to be the same for all three scenarios. Primary activities include preventive maintenance, pavement repair and rehabilitation, and bridge repair and rehabilitation to achieve pavement and bridge performance measures.

The total investment required to preserve the trunk highway system is about \$2.244 billion between 2009 and 2030. (These figures included trunk highways in Chisago County because it is within MnDOT's Metro District. This issue will be addressed in the financial plan section.)

If funding becomes so limited that preservation investments must be reduced, investing in the metropolitan highway system should take precedence over the other trunk highways.

Management of the Highway System for Capacity and Safety

The second investment priority is to manage the trunk highway system to improve its efficiency and safety. The investment strategies include a wide range of spot geometric design and traffic flow improvements to address localized concerns. Over the coming 22 years, \$1.32 billion has been allocated to this project category. A portion of the right-of-way set aside will be used also for the management investments. Should management funds be less than projected, management of the principal arterials should have priority over the other trunk highways.

This category includes activities such as:

- Hazard elimination safety (HES) and capacity safety projects
- Access management
- Intersection improvements
- Signal timing
- Freeway management strategies such as metering ramps, ramp meter bypasses, bus-only shoulders, video surveillance and providing travel information
- Various ITS investments to add capacity or improve safety
- Construction of isolated interchanges and auxiliary lanes of less than one mile in length
- Tolling of existing lanes

The focus of system management must be to move more people in a safe and efficient manner, not more vehicles. The management of the highway system should provide incentives to those willing to share rides and reduce vehicle travel whenever possible.

The expansion investments now being made or recommended in this plan will result in fully managed facilities. The following components define a fully managed facility: ramp meters and bypasses, ITS technology to allow monitoring and active intervention by use of changeable message signs, and transit advantages such as bus-only shoulders and park and ride lots.

The Council offers the strategies listed below for MnDOT to establish management investment priorities and to review project plans and local comprehensive plans:

- The Council, working with MnDOT, the Transportation Advisory Board and its Technical Advisory Committee, has developed a congestion management system plan (CMSP) that provides the region's philosophy, policy direction and tools for managing highways. The CMSP should play a key role in prioritizing management investments.
- The Council's rural policies assume low or very low-density development. Rural highway investments should not encourage urban density development. Management investments in rural areas typically would include:
 - Access management,
 - Safety improvements, and
 - Park-and-pool lots
- Incentives to encourage users to share rides should be a common theme for management investments. HOV bypass of meters, HOV lanes, transitways, bus shoulder lanes, bus queue jumpers, park-and-ride and kiss-and-ride lots are critical strategies for the operation of the system.
- Travel demand management activities go beyond what MnDOT can do alone. The Council, counties, cities, private sector, traffic management organizations, the University system and school districts can and should play a role. The Council will continue to provide and fund activities that result in reduced vehicular travel demand. MnDOT management projects should

reflect these efforts.

- Improved management of access to principal and minor arterials should be emphasized in the selection of management projects. The capacity that exists today can quickly erode if additional uncontrolled access is allowed. MnDOT has developed access management guidelines for its trunk highway system. Most counties have either adopted MnDOT's guidelines or have developed their own. Cities and counties should note the need for, and benefits from, access management in their comprehensive plans and support the use of such guidelines. Where appropriate, cities should incorporate these features into their zoning and subdivision ordinances. Strategies such as development of frontage roads, "backage" roads, and parallel routes may be needed to limit access on local, county and state arterials.
- Safety should be a key criterion in selecting management projects. Correctable causes of vehicle, bicycle and pedestrian accidents need to be considered in allocating these resources. MnDOT TSP performance measures should be used as appropriate in this effort.
- Mobility of the highway users, no matter the mode, should be reflected in the projects selected for implementation.

MnDOT's TSP will better define the criteria and process that will be used to identify, prioritize and design management projects. At this time, MnDOT is committed to a number of short-term management projects. The funding of these projects will be the subject of MnDOT's Cost Participation Policy and, as such, a significant local share of costs is assumed. These will be the first priority for management as defined in this plan and MnDOT's TSP.

Committed Management Projects:

I-35 at CR 70
I-694 at Rice St.
TH 10 at Hanson Blvd.
TH 36 at McKnight
TH 52 at CR 46
TH 169 at CR 6/CR 64
TH 169 at CR 81/85th Ave.
TH 169 at 93rd Ave.

Expansion of the Metropolitan Highway System

Expansion is the third investment priority once preservation and management investments have been funded. These projects, which produce significant increases of principal arterial capacity, include the addition of one or more through lanes (including new tolled lanes or FAST lanes), expressways rebuilt to freeway design standards, new principal arterials on new alignments or the construction or substantial increase of transit services. These expansion projects are needed when capacity needs clearly cannot be met through corridor management strategies.

The following two tables describe the status of committed and recommended expansion projects. Table 4-9 lists 15 projects that are either under contract or are programmed for contract letting in the 2005-2008 TIP period. They are estimated to cost \$1.650 billion. The TH 36 St. Croix Bridge project has only \$5 million allocated in the current TIP. However, if an agreement can be reached on the alignment, design, and mitigation, the project will need to be fully funded at a cost estimate ranging from \$248-\$333 million.

A significant portion of the TIP projects use “advance federal construction funding.” These funds are “borrowed” from future years’ resources and thus have been debited from the annual highway allocation recorded in Table 4-8.

Table 4-10 includes the remaining expansion projects that were recommended in the previous 2001 TPP and continue to be recommended in this plan under all three scenarios. Together with the projects in the TIP, these projects represent a major investment in the mobility needs of the region. The total cost of these projects is estimated to be about \$2.035 billion, or about 30% of the total \$6.237 billion in funds available to MnDOT for 2009 to 2030.

Tables 4-9 and 4-10 define the specific project scope and cost recommended for various highways or corridors based upon the analysis conducted by MnDOT for the update of the Metro District TSP. The regionally agreed upon project description and cost provide the basis for a fiscally constrained plan that meets federal air quality conformity requirements. Any project that exceeds the cost estimate recorded in this plan by 20% or more (after adjusting these 2004 costs by the Minnesota Construction Cost Index and increased right-of-way costs) at the time of contract advertisement, or that adds more capacity than described in this plan, will be considered inconsistent with this plan and will require a plan amendment. The plan amendment process must resolve the question of funding resources, recalculate air quality conformance and provide adequate public input.

While no additional expansion projects are recommended as part of the 2030 Constrained Plan Scenario, three modifications have been made as described below.

The planned improvement project on I-35W north of 46th Street to I-94 has been modified to include an additional “transit priority/HOV lane” and Lake Street access. This is the logical extension of the Crosstown/I-35W common area expansion project included in the 2005-2008 TSP. The 2001 TPP now includes \$185 million for this project. Inclusion of this project assumes a large portion of the additional funds needed will come from federal high priority project allocation or other non-MnDOT sources. The timing of this project is uncertain, but it will not be added to MnDOT’s work plan during the next five years unless new funds materialize that are not currently assumed in the Constrained Scenario.

The TH 36/St. Croix Bridge project had been fully funded at one time, but due to delays, the allocated funds were used for other projects. The funding was a partnership between the Metro Division and MnDOT Central Office, since TH 36 is of more than regional significance connecting Minnesota to Wisconsin and other parts of the U.S. and Canada. The 2004-2006 TIP includes \$5 million as a placeholder. This project is not programmed to move into MnDOT’s 10-year plan at this time. The mediation process is not complete. The region has assumed it will be responsible for one-half of the Minnesota share of the bridge and highway project. The cost of mitigation is significant and is not assumed to come from traditional sources.

MnDOT annually prepares a 10-year Highway Work Plan. Table 4-11 records the projects from the 2004-2013 10-year work plan that cost \$10 million or more and that are not included in the region’s 2005-2009 TIP (the TIP projects are listed in Table 4-9). These are the next projects to move into the TIP as funds become available since project development activities such as environmental assessment and final design are currently being undertaken on these projects. Table 4-12 lists the priority expansion projects to move into the 10-year Work Plan prior to the next revision of this plan..

The 2001 TPP made recommendations on future bridge needs across the major rivers in the region. At present, there is \$5 million allocated for right-of-way preservation for a crossing of

the Minnesota River near Chaska. This plan also adds \$5 million for a crossing of the Mississippi River north of Anoka. A specific alignment has not yet been selected, although several alternatives are being examined within the corridor shown on Figure 4-11. The general location of these crossings must also continue to be shown in local comprehensive plans until a specific alignment is chosen through the environmental process.

The Lafayette and Hastings bridges suffer from “critical fractures.” They are inspected frequently to evaluate their condition and may need to be advanced quickly and moved into the TIP ahead of other projects. The Hastings bridge replacement is assumed to be a four-lane structure to replace the present two-lane bridge. The Lafayette bridge project will replace the four-lane bridge that exists today with adequate lane and shoulder width. The cost for these bridges are included in the preservation costs, but are mentioned in this section due to their importance and unique situation of requiring funding in short notice. The region recognizes there may be other emergencies that require moving projects into the TIP.

In many instances, corridor studies will need to be conducted prior to entering the design phase for these expansion projects. As each corridor study moves forward, a number of factors should be considered or included:

1. Reflect the regional policy direction in the *Framework* and this *Transportation Policy Plan*.
2. Reflect adopted local comprehensive plans.
3. Evaluate at least the following alternatives:
 - No build
 - Travel demand management
 - Transportation system management
 - Transit improvements identified in the Transit System Plan.
 - Expansion based on the project scope recorded in this plan and the TSP.
4. Define all “build” alternatives with the objective of holding cost to the level recorded in this plan and the TSP.
5. Evaluate a range of alternative financing mechanisms, including but not limited to FAST or toll lanes, or other value pricing techniques.
6. Define and evaluate minor arterial system to provide for short to moderate-length trips if it does not exist or is not planned for within the corridor or subarea.
7. Evaluate access management and develop an access management plan as a study product.
8. Evaluate timing of the corridor improvements based on the timing of the urbanization of the travel shed.

The adopted study recommendations will be incorporated into this policy plan in future revisions. The affected local units of government will be required to modify their comprehensive plans accordingly.

Figure 4-11
2030 Constrained Metropolitan Highway System Plan Investment Priorities

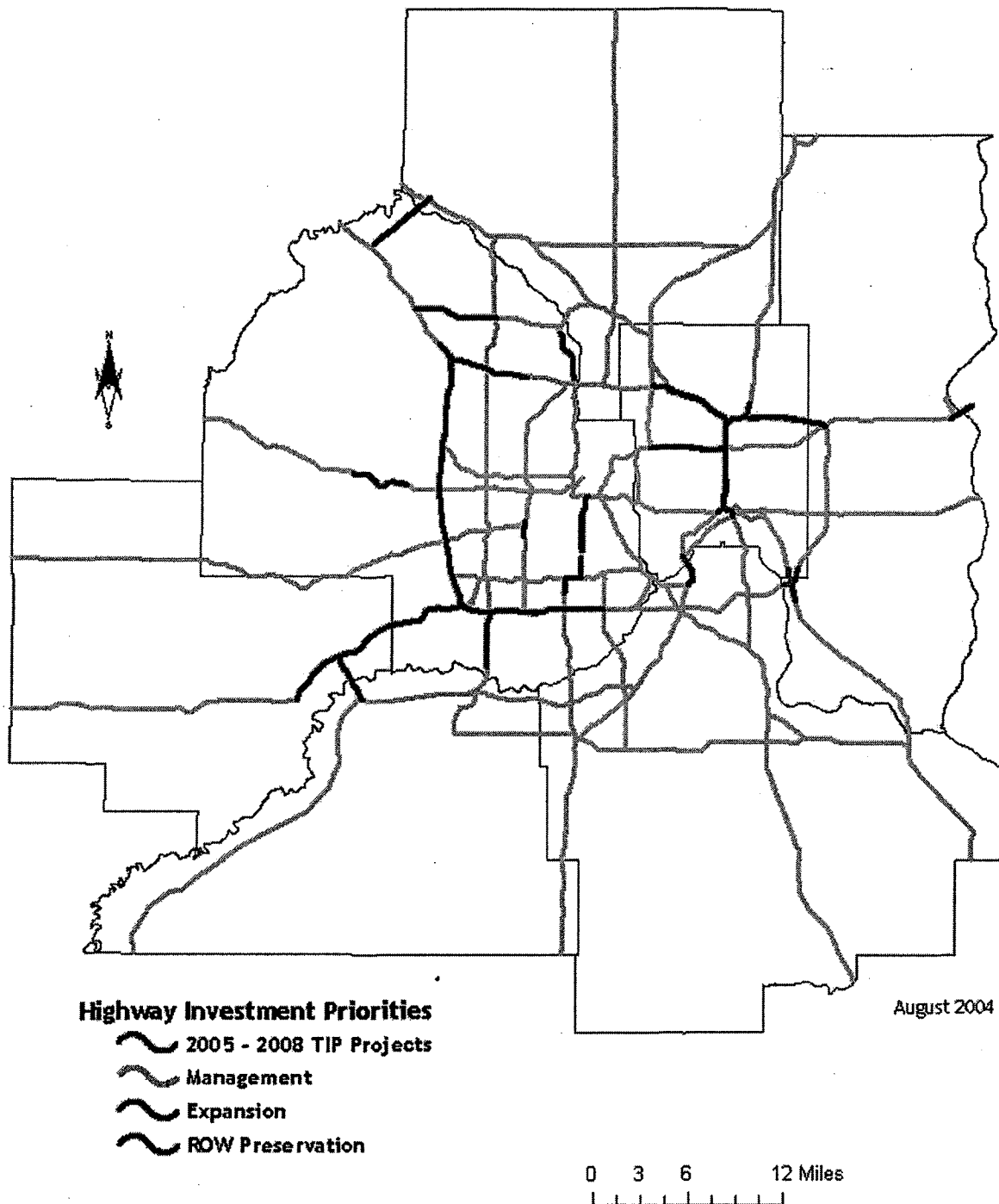


Table 4-9
Major Highway Projects Under Way or Included in 2005-2008 Transportation Improvement Program

<u>Project Highway and Bridge</u>	Cost Estimates (000s)	Current program years	Assumed year open to traffic	Project Description	Status in 2001 TPP	Status and Other Comments
1. TH 12	\$60,000	2003	2006	Construct new limited access 2-lane highway between Wayzata Blvd. to CR 6 in Orono. Parallel to existing TH 12.	In 2001-2004 TIP	Contracts let
2. I-35E, from TH 13 to Shepard Rd.	\$33,000	2002	2005	Replace and Expand Miss. River Bridge. Project let.	Bridge in 2001-2004 TIP	Contracts let
3. I-35W, HOV lane, from 66 th St. to 42 nd St.	\$206,000	2006	2010	Reconstruct TH 62 and I-35W and add the HOV lane. Stage 1 (I-494 to 60 th St.) contracts let 4/99	In 2001-2004 TIP	Project redesign required by legislature, to be let 2006
4.. TH 36, St. Croix Bridge	\$5,000			New 4-lane bridge and approaches. Negotiation process underway. Request for high priority funding has been made	In 2001-2004 TIP	\$5M placeholder in '05-'08 TIP. Mediation process underway. MN cost estimates from \$150-\$227 M The cost recorded here is ½ of the average.
5. TH 55, Hiawatha Av.	\$129,000	2003	2004	Reconstruct the 4-lane arterial from Crosstown to I-94.	In 2001-2004 TIP	Contracts let
6. TH 100, from Glenwood Av. to CSAH 152	\$146,000	2003	2004	Construction underway to rebuild as 6 lane freeway.	In 2001-2004 TIP	Contracts let
7. I-494/TH 61 interchange, TH 61/ local access	\$250,000	2002	2009	Replace and widen I-494 bridge, reconstruct interchange, reconstruct TH 61. Provide local access. First contract let	In 2001-2004 TIP	Contracts let.

Table 4-9 (continued)
Major Highway Projects Under Way or Included in 2005-2008 Transportation Improvement Program

<u>Project Highway and Bridge</u>	Cost Estimates (000s)	Current program years	Assumed year open to traffic	Project Description	Status in 2001 TPP	Status and Other Comments
8. I-94, from Weaver Lake Rd. to Humboldt Av.	\$80,000	2001	2005	Reconstruct, add general use 3 rd lane from Hemlock to Brooklyn Blvd.	In 2001-2004 TIP	Contracts let
9. I-94 from McKnight to TH 120	\$11,000	2005	2007	3 rd lane, bridge widening Ruth St. to Ramsey Co. line	Expansion Corridor	
10. I-494 from TH 5 to TH 100	\$74,000	2003	2005	Add 3 rd lane, first contract let	In 2001-2004 TIP	Contract let Described as I-494, from TH 212 to TH 100
11. TH 610 from TH 169 to CR 130	\$26,750	2004	2005	Continue construction of new 4-lane freeway on new alignment	Expansion Corridor	
12. TH 169 from Minnesota River to Valley View Road	\$104,000	2005	2008	Reconstruct three intersections as interchanges and reconstruct interchange with I-494	Corridor study recommended '03-'06	
13. I-494 from TH 212 to TH 55	\$130,000	2004	2006	Widen I-494 to six lanes	Expansion Corridor	Described as I-494, from TH 212 to I-394
14. TH 212 from CSAH 4 to ¾ mile west of CSAH 147	\$259,000	2004	2006	Construct new four lane freeway on new alignment	Expansion Corridor	Described as TH 212, from CSAH 4 to old alignment
15. I-694 from west to east Junction I-35E (unweave the weave)	\$137,000	2004	2007	Reconstruct and add lanes to eliminate bottleneck	Expansion Corridor	Described as I-694, from W jct. I-35E to E jct. I-35E
TH 169 So of CSAH 81 to No. of CSAH 109	\$41,580	2007	2009	Construct Interchange Bridge	Improvement Corridor	
TOTAL	\$1,692,330					

Table 4-10
Metropolitan Highway System Expansion Projects
2009-2030

Highway	From	To	Length (miles)	Total (millions)	2001 TPP Comment	Recommended Facility Improvement
I-35E	TH 110	TH 5	2.3	39	Improvement to be Defined	Bridge Under Construction. Add 3 rd Lane.
I-35E**	I-94	I-694	5.6	197	Subarea Study Needed	Add 3 rd and 4 th Lane. Connect Phalen Corridor, Reconstruct Cayuga Bridge
I-35W**	46 th St.	I-94	5.3	309	Improvement Corridor	Add HOV/ transit priority lane and Lake Street interchange
I-494	TH 55	I-94	5.5	176	Description was I-394 to I-94	Add 3 rd Lane
I-494	TH 77	TH 100	5.1	628	Description was from TH 77 to TH 100	Build in Accordance with EIS Completed in 1997
I-694**	I-35W	W. Jct. I- 35E	5.6	180		Add 3 rd Lane
I-694	E Jct. I- 35E	TH 36	5.5	86	Corridor Study Needed	Add 3 rd Lane
TH 36 St. Croix Bridge*			1.0	201		New four lane bridge and mitigation
TH 36**	I 35W	I-35E	5.3	118	Description was I35W to I35E	Add 3 rd Lane
TH 41	TH 169	TH 212	3.0	10	Right-of-Way Preservation	Preserve Right-of-Way after alignment is defined
New Miss. River Crossing	TH 10	I-94 or TH 610	2.0	10	River crossing need recorded	Preserve R/W after alignment is defined
TH 100**	36 th St.	Cedar Lake Rd.	1.0	104		Add 3 rd Lane
TH 252	73 rd Av.	TH 610	2.9	127	Corridor Needs Unclear	Convert to 4-Lane Freeway
TH 610	CR 130	I-94	5.0	148		Complete 4-Lane Freeway
TOTAL			46.8	\$2,322		

* The region assumes it is responsible for one-half of the state's share.

**All or part of these projects are in the MnDOT 10-year (2004-2013) Work Plan

Table 4-11
MnDOT Highway Work Plan, 2009-2013
Major Construction, Reconstruction and Bridge Replacement Greater Than \$10 Million

				Project Cost Estimates				
Highway	Project Description	Program	Construction Fiscal Year	Design Estimate (\$000)	R/W Estimate (\$000)	Year-of-Construction Estimate (\$000)	Construction Engineering Estimate (\$000)	Total Project Cost (\$000)
35E	I-94 to Maryland Ave. in St. Paul, grading, surfacing, brs., etc., including Cayuga Br. and Phalen Blvd. connection	MC	2010	7,687	Limited	76,755	6,140	90,571
35W	At Lake St. in Minneapolis, reconstruct interchange (Ph. 1)	MC	2009	1,160	Continuous/Major	11,600	928	13,688
35W	At Lake St. in Minneapolis, reconstruct interchange (Ph. 2)	MC	2010	1,785	Continuous/Major	17,850	1,428	21,063
36	At Lexington Ave.. in Roseville, replace Br. 5723 and reconstruct interchange	MC	2009	1,380	Limited	13,804	1,104	16,289
100	36 th St. to Cedar Lake Rd. in St. Louis Park, grading, surfacing, Brs., etc. for 6-lane freeway	MC	2011	6,150	Continuous/Major	61,500	4,920	72,570
169	Near CSAH 6 in Belle Plaine, grading, surfacing, Br., etc. for new interchange	MC	2010	1,904	Limited	19,040	1,523	22,467
694	E of I35W in Arden Hills to E of Lexington Ave.. in Shoreview, grading, surfacing, Brs., etc. to add third lane and correct weave at TH 10/51	MC	2012	6,960	Minimal/Spot	69,596	5,568	82,123
TOTALS				27,015		270,145	21,611	318,771

Table 4-12
Regional Priority Projects to Move into
10-Year Highway Work Plan, 2005-2009

Highway	Project Description
I-35E	TH 110 to TH 5, add one through lane
I-494	TH 55 to I-94, add one through lane
TH 610	CSAH 81 to I-94, Complete four-lane freeway
Total: \$ 300 million	

Constrained Plus 30 Percent Scenario

This scenario assumes an increase in annual highway revenues from the \$283.5 million level in the Constrained Scenario to \$368.5 million starting in 2003. The total funds for the 22-year period (2009-2030) would be \$8.1 billion, an increase of \$1.87 billion with respect to the Constrained Scenario. Because at this higher level of funding some management projects could become expansion projects, this scenario assumes a reduction in the annual allocation to management projects from \$60 million to \$40 million. This reduction and the overall funding increase results in a 22-year allocation for expansion of \$4.334 billion, a 115 percent increase with respect to the Constrained Scenario level of \$2.024 billion.

Under the Constrained Plan, some of the expansion projects will not open to traffic until after 2030. The availability of more funds would allow these projects to be advanced. Generally, the projects in the plan should proceed before new expansion projects.

Projects in MnDOT's 10-year work plan (Table 4-11) and the Regional Priority Projects to move into the 10-year work plan (Table 4-12) should be advanced as soon as funding permits.

Specific projects have not been recommended for use of these funds but instead categories are identified in Table 4-13 and further described below. In the selection of additional projects, the Council will consider geographic balance. When available, the appropriate funding need has been included.

Table 4-13
Project Categories or Strategies to Be Considered
for Plus 30 Percent Funding

Project/Strategies	Importance of the Category	Funding Level
Advance Recommended Projects now in 10-year plan or recommended for inclusion (Table 4-12)	The projects in the Constrained plan may not open to traffic until after 2030.	Building these projects sooner will produce benefits sooner and save money
Complete 6-lane beltway	This has been declared a State/Regional priority	\$80 to \$100 million
Mobility needs on Principal Arterials	Due to lack of funds, some PAs have been designated management corridors. Additional funds would be used to provide expansion on these highways, if cost effective.	
Non Trunk Highway Principal Arterials	There are 3 PAs not under MnDOT's jurisdiction. The funding to meet mobility and safety targets should be made available if they can function as principal arterials in the future or identify and fund highways that could replace them. The needs are not included in the Constrained Scenario.	Unknown
Mobility Needs on "A" Minor Arterials	These trunk highways have been designated preservation corridors, even though they may have mobility needs. Counties and Cities also own "A: minors that have mobility needs that are not funded.	
IRCs	Complete IRC studies and meet the minimum speed performance target.	
New Principal Arterials	Additional principal arterials are needed to meet the spacing standards and to replace non-MnDOT principal arterials, if needed.	
Bridge Needs Across Major Rivers	Two bridge needs were noted in the 2001 TPP. These have not been funded. Study costs should be allocated for additional capacity across the Mississippi south of I-494.	?

Categories to be Considered for Plus 30 Percent Funding

Additional Mobility Needs on Principal Arterial Management Corridors

The Constrained Plan limits investment on some Metropolitan Highway System Principal Arterials to management projects. Should additional funds be available, the designated investment category would be revisited for these corridors to determine if expansion would be more cost-effective.

Specific corridors considered candidates are:

- I-35W south of I-494
- I-35W north of I-494
- I-35E south of TH 77
- TH 36 from English to I-694
- TH 65 from I-694 to TH 242

Non-Trunk Highway Principal Arterials

The metropolitan highway system includes three county-owned nonfreeway principal arterials. In order to serve the function of principal arterials they need to be protected from an unreasonably high number of intersections or access points. To accomplish this, these principal arterials need to have the support of affected local governments through their comprehensive plans.

Anoka and Dakota County have completed access management plans for CSAH 14 and CSAH 42. St. Paul has recently completed the reconstruction of Shepard and Warner Road. In all cases, access has been limited so the highways can function as principal arterials for most of their lengths. The prime objective is to manage these roadways so that they carry vehicles at an average speed of at least 40 miles per hour during peak-traffic periods. If this objective is not generally achieved over a significant portion of the highway, the roads will not be able to function as principal arterials and may need to be dropped from the system.

If additional funds are made available to the region, these three facilities should be evaluated for their expansion needs. Should expansion not be feasible, replacement principal arterials may need to be identified.

Mobility Needs on the "A" Minor Arterial System.

MnDOT, the counties and some cities all own "A" minor arterials that have mobility or safety issues that cannot be addressed within the constrained plan. The problems on trunk highways have been identified in the TSP. Should additional funds be available, MnDOT, the Council and the counties should undertake a detailed assessment to prioritize the investments on this system. The counties, in their comprehensive plans, have identified problems on trunk highways (in some cases) and the county systems. A method should be found to prioritize these projects so additional funds can be used to meet these needs.

IRCS

Important IRC projects are included in the constrained plan but additional needs still exist or have yet to be defined. The intent of the IRC designation corridor plan and investments is to protect them over time, so their capacity is not reduced and expansion may be possible. The state has set a minimum performance standard that the region supports so all corridors are treated

fairly. Inside the seven county metro area, 89 of the 239 miles of IRCs do not meet the minimum speed requirements. This is a statewide priority and the costs should be distributed equally. The region has already made a significant investment in IRCs. Either additional funds or a change in the formula to pay for these projects is needed. Investments should only be made where cities and towns have adopted the access management plans for the corridor and are implementing it through their subdivision and platting ordinances.

New Principal Arterials

The region has not designated a new principal arterial since 1991. County plans and corridor studies have noted the need to add high-capacity highways to serve long regional trips. Should additional funds become available, the region should determine where principal arterials are needed in accordance with the spacing guidelines in the functional classification system (see Appendix F). In addition, the needs of the county-owned principal arterials should be examined (see above). Included in this work would be the review of changing the functional class of some minor arterials to principals. Reviews have been requested, for TH 55, TH 3 and TH 101 north of Rogers, as well as E-W arterials in northern Anoka and southern Dakota/Scott Counties and a N-S arterial in Washington County.

Bridge Needs Across Major Rivers

Crossing of major rivers is an essential element of the regional roadway system. The Mississippi, Minnesota and St. Croix Rivers impose significant mobility restrictions. Many of these crossings are principal arterials, while others, especially in the denser central cities, are minor arterials.

The Constrained Plan contains \$10 million to protect right of way for crossings of the Mississippi River north of Anoka and the Minnesota River near Chaska. If funds become available, additional money should be made available for right of way, design and construction of these crossings. Funds should also be made available to study the feasibility of additional capacity across the Mississippi between I-494 and Prescott. Bridge studies can be very complex because they attempt to maximize crossing capacity while minimizing impacts on vital natural resources.

Unconstrained Scenario




The MnDOT State Plan directs the districts to determine what the total needs are on the trunk highway system to 2030. This plan provides specific guidance on the measures the districts should use to calculate the needs so they will be comparable. The Council has worked closely with the Metro Divisions as it has attempted to do this. The unconstrained needs scenario covers all trunk highway needs and associated local needs. The preservation needs, management and "other allocations" are similar to the Constrained Scenario (Table 4-8). The mobility targets are addressed by the management and expansion categories in Table 4-8 and illustrated in Figure 4-12. MnDOT's TSP will record a more complete description of the projects and the performance targets they address.

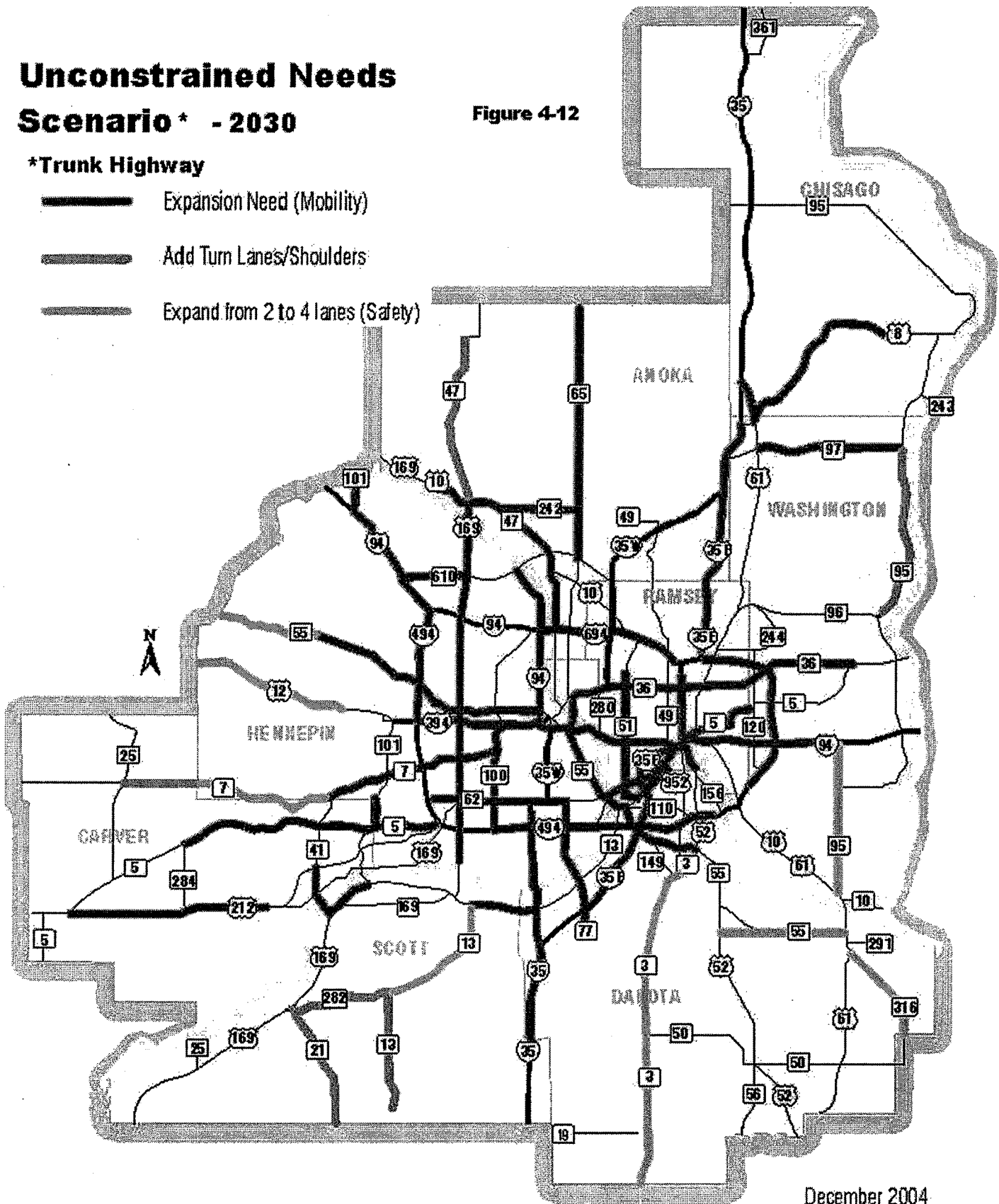
In some expansion corridors, there are also local needs for more interchange capacity or a widened cross street to support development or to carry additional locally generated traffic. In these cases, MnDOT will apply its local Cost Participation Policy to determine the local share of the costs. These local costs are contained within the expansion or management category in Table 4-8. The estimated cost to meet all the performance targets for the Metro Eight County District is approximately \$26 Billion.

Unconstrained Needs Scenario * - 2030

Figure 4-12

*Trunk Highway

-  Expansion Need (Mobility)
-  Add Turn Lanes/Shoulders
-  Expand from 2 to 4 lanes (Safety)



December 2004

Aviation System Plan

The regional aviation system plan reflects the legislatively defined roles and responsibilities of MnDOT, the Metropolitan Airports Commission and the Council in airport planning and development. Review and update of this aviation system plan usually occurs every five years. The latest update took place in 1996 to reflect the changes and recommendations of the Council and Commission as required under the *Metropolitan Airport Planning Act*. That legislation mandated a major airport “dual-track” planning process and resulted in directives that are key to the systems current status:

- **Prepare and implement a MSP 2010 Development and Mitigation Plan:**

The 2010 Plan for Minneapolis-St. Paul International Airport is nearing completion. Improvements include the airfield and terminal projects, improved ground access/parking and LRT service, surface water control, a program to address deicing impacts, adoption of an airport safety zoning ordinance, and accomplishing last steps in residential sound insulation for noise impacts out to the year 2007. New runway 17/35 is scheduled to become operational by late 2005 and help provide adequate airside capacity to 2020. The need for interim terminal/gate capacity and hangar area redevelopment in the near-term is being discussed.

- **Develop a plan to divert the maximum feasible number of general aviation aircraft operations from MSP to the reliever airports:**

To achieve this diversion, it is necessary to enhance the reliever airports by providing services and facilities essential to general aviation business, especially jet aircraft users. The plans for Anoka County-Blaine and Flying Cloud Airports have been approved for 5,000-foot runways, precision landing aids and new hangar building areas. These projects are in the final stages of environmental review/mitigation. Enhancement of these two airports will provide improved long-term system capabilities; funding should be established for project implementation within the next three years.

- **Plan and maintain a viable, state-of-the-art airport system:**

Update of the regional airport system plan was initiated in 2000, but it was put on hold in 2002 because of the unparalleled effects of 9-11 on air-travel and the need to allow for completion of several studies. These included the state’s Air Service study, Air-Cargo regional distribution center initiative, MSP Part 150 Update (to 2007), adoption of the *Regional Development Framework* and FAA approval of new sport pilot/light sport aircraft rule. Subsequent to that decision, the SARS outbreak and poor economy put additional pressure on airline revenues, affecting local project funding and implementation. The MAC annual capital improvement program is being adjusted and a review of rates and fees at reliever airports is underway. This may result in an adjustment in the role of different reliever airports in the region. System-wide runway and hangar capacity appears adequate, assuming timely implementation of approved airport development plans. New forecasts and system capacity assessment is planned for 2007. At this point, it will be appropriate to examine the long-term airport needs of the region.

Until these and other issues are further resolved, the full integration of the aviation policy plan into the TPP will not occur. The 1996 Aviation Policy Plan will remain in effect with the exception of the *Land Use Compatibility Guidelines*. These guidelines have been revised to reflect the MSP Part 150 Update for 2007 and are included in Appendix H.

Plan for Non-Motorized Modes

Walking and bicycling are important modes of transportation in the Twin Cities region that are available to people of all ages and socio-economic levels. These non-motorized modes provide key alternatives to the auto, especially for short trips in urban areas. Like driving an automobile, walking and bicycling provide people with a high degree of independence and flexibility regarding travel schedule and destination. Bicycling and walking facilities provide important access to transit for the region's residents.

Ensuring safe routes for bicyclists and pedestrians is key to creating safe, high-quality bicycle and pedestrian systems that travelers feel comfortable using. These travel modes provide many benefits to users as well as the whole region. Benefits to the environment include zero emissions of air or noise pollutants, no consumption of fuel resources, smaller pavement and parking space requirements than other travel modes, and congestion relief. Providing for the access and mobility needs of bicyclists and pedestrians expands travel choices and helps free resources for other needs. These modes also offer many health benefits for users and can be used for both transportation and recreational trips.

As the Council works with communities to promote centers of development and redevelopment along transportation corridors, walking and bicycling become increasingly important as effective means of travel within and between compact, mixed-use neighborhoods. Systems of safe, continuous, barrier-free bicycle and pedestrian facilities are integral to the success of these developments. To ensure the most efficient investment of public resources, regional bikeway and walkway facilities shall be located where potential use is highest. These locations are travel corridors that link major bicycling and walking destinations such as central business districts, transit centers, schools or college campuses, shopping centers, residential areas, office parks and regional parks.

Along with improvements to facilities, education and promotion are important fundamentals in increasing bicycling and walking while also improving safety. The Council supports building upon the existing education and promotion activities of community and county bicycle/pedestrian advisory boards and regional and local Transportation Management Organizations (TMOs). In addition, following federal direction, the Council will support local Safe Routes to Schools programs that address bicycling and walking safety issues for students.

Pedestrian and bicycle access to transit is a key component of a regional intermodal transportation system, since linking these modes provides travelers access to a larger service area. Pedestrians can best access transit service in the urban core where higher frequency service and facilities such as sidewalks are provided. Bicycle trips also provide easy access to transit and can be especially useful in the suburbs and developing parts of the region where the distribution and frequency of transit service is less dense. As light rail, commuter rail and busway corridors are developed, bicycle and pedestrian connections will be important aspects of planning for local access to regional transit systems.

Recreational bicycling and walking are very popular activities among the region's residents. The region has 170 miles of regional trails and 101 miles of state trails open to the public, which are popular for recreational walkers and bicyclists as well as commuters. The Council is currently developing or acquiring another 31 miles of regional trails and has plans or proposals for an additional 483 miles of regional trails in the future. Regional recreational trail plans are detailed in the Council's Regional Recreation Open Space Policy Plan.

Pedestrians

The movement of the individual by foot is part of all travel and must be recognized as a critical element of transportation. In the *Regional Development Framework*, the Council encourages local governments to implement a system of interconnected arterial and local streets, pathways and bikeways. The region is committed to providing policy support and financial resources to the development of pedestrian facilities. However, because walking trips are typically short, local units of government and site developers shall take primary responsibility for planning and implementing needed facilities. Land use characteristics and the site designs – responsibilities of local units of government – determine how pleasant and safe the walking experience will be and therefore are critical factors in promoting walking as an alternative means of travel.

Local governments shall locate and design neighborhoods and places with the potential to draw significant numbers of pedestrians, such as schools, civic gathering sites and employment and commercial centers, with consideration of safe and convenient pedestrian access. Likewise, cities, counties and MnDOT shall consider pedestrians when planning, designing and constructing roadways and bridges. When feasible, sidewalks shall be constructed along all new or reconstructed roadways in urban areas, including along at least one side of local streets in urban residential neighborhoods. In consideration of the needs of all pedestrians, the designs of sidewalks, street crossings, curb cuts and traffic control devices must conform to the Americans with Disabilities Act (ADA). Agencies shall also implement programs for maintaining pedestrian facilities, including snow removal, throughout their useful life.

Pedestrian access shall also be given careful consideration in transit planning and service design. As transit planners and providers design or redesign transit service, pedestrian access needs to be one of the key focal points in order to create a safe, pedestrian friendly environment to and from transit service. In the downtowns, the skyway systems facilitate pedestrian connections to transit in all seasons, which enhances transit's appeal. Close coordination with local governments and neighborhood groups is necessary as transit planning activities proceed in order to meet the needs of the local community.

The Council, through its Transportation Advisory Board's regional solicitation process, makes specific categories of federal funds (Transportation Enhancements, Surface Transportation Program, and Congestion Mitigation and Air Quality Improvement Program) available to local governments on a competitive basis for pedestrian facilities and pedestrian safety and promotion programs. In addition, the evaluation criteria for roadway and transit categories give priority to those projects that address more than one travel mode. Pedestrian amenities usually can be incorporated into other transportation projects as well, such as sidewalks, landscaping, and crossing treatments in roadway construction projects. Pedestrian projects must be included in or consistent with the policies of the local government's comprehensive plan as a condition of receiving federal funds.

Bicycles

The Twin Cities urban area is recognized as one of the most bicycle-friendly large metropolitan areas in the country due to the region's extensive network of bikeways, relatively high rates of bicycling, and strong community and institutional support for bicycling. However, the region still has room for improvement. Gaps and barriers still exist in the regional bikeway system, including crossings of freeways and major railroads, and especially of the Mississippi, Minnesota and St. Croix rivers.

The bicycle provides mobility for a large segment of the population for transportation and recreation trips. While more facilities are being built to give the bicycle its own right-of-way, most bicycle use occurs on local streets or the shoulders of highways. The Council supports the improvement of both types of right-of-way – on-street bike lanes or wide shoulders, or off-road separated parallel bike paths – as long as bicycle travel can be accomplished safely. As with pedestrian facilities, most of the planning needs to be done at the local level. Local governments shall consider the needs of all bicyclists – experienced, commuter, and recreational – when planning and designing bicycle facilities and programs. The needs of bicyclists shall be considered in the construction and reconstruction of all metro roadways and bridges. Bicycle plans shall be coordinated with adjoining municipalities to ensure continuity across jurisdictional boundaries.

To date, the region's on-road bicycle facilities have not been inventoried in a comprehensive and consistent manner. One of the difficulties in such an effort is to get agreement on a classification scheme for on-road facilities. However, the Metropolitan Council is participating in a regional effort to map and inventory both on-road and off-road bicycle facilities using common criteria. Cities, counties, and park agencies with maintenance jurisdiction over the facilities have designated the bike routes that fit the agreed-upon criteria.

This effort was initiated to evaluate the need to plan a regional bikeway system focused on the highest priority bicycling transportation corridors and destinations. It is expected that the product of this effort will be a base bicycle transportation system map that incorporates both types of facilities and can be used to identify bicycle system needs within future planning efforts at both the regional and local level. Local-level trail connections and connections to recreational facilities would remain an important component of this system. The coordination of individual investments of cities and counties is key to closing the gaps in the regional bikeway system. Additional effort shall be made by jurisdictions to fill in existing gaps in the regional system in addition to creating new facilities. Following Council approval of the system identified in the Metro Bikeways Map, the Council's bikeway funding criteria will give priority to projects that fill gaps in and add continuous segments to the system.

The counties are also important in providing facilities, since the county highway system can be a significant element of a bicycle system. Counties can provide cross-community facilities that can also link to facilities in adjacent counties. Special attention shall be paid to county road improvements in developing areas, where right-of-way is still available and yet imminent development makes it likely that destinations will be within a reasonable distance for biking. Counties shall help to coordinate the connections from city to city within their boundaries and from county to county. As implementing agencies for the regional park system in many cases, counties are in the best position to coordinate the recreational and purposeful trip-making facilities.

To promote maximum use of bikeways, timely maintenance, such as frequent sweeping and snowplowing, is encouraged. Security and safety of users shall be taken into account in the design and location of facilities. Bicycle racks and lockers shall be provided throughout the region, especially at high-activity nodes, major employment centers, park-and-ride lots and transit centers to allow safe parking for bicyclists. This is an opportunity for both public and private sectors to get involved in facilitating alternative modes.

The bicycle can be a very effective means of travel in a mixed-use neighborhood or as an access mode to transit. These special applications shall be given high priority in the planning of transit routes and facilities and in the preparation of local plans. Continuous, safe access to and from transit for bicyclists is key to creating strong intermodal connections in the region. Bicycle

racks are on all Metro Transit buses and on light rail vehicles. In the future, commuter rail and busways will provide facilities for bicyclists on board and at stations.

Again, as with pedestrian facilities, the Council has decided to direct federal funds toward bicycle facilities and amenities. Also, evaluation criteria for highway and transit projects give priority to those that also accommodate and encourage bicycle use. The majority of cities and counties in the seven-county metropolitan region recognize the need for facilities for bicyclists and pedestrians in their community, and to a varying degree provide facility plans and policies in their local comprehensive plans to support these transportation and recreational needs. The designs of bikeway and walkway projects competing for federal funds shall meet MnDOT State Aid standards and AASHTO guidelines, and shall consider MnDOT's Bicycle Transportation Planning and Design Guidelines. Bicycle facility or program projects also must be included in or consistent with the policies of a local comprehensive plan to be eligible for federal funding under the Council's and Transportation Advisory Board's regional solicitation process.

Freight

The development of a high-capacity, cost-effective regional freight transportation network to ensure freight mobility is important to the region's long-term economic vitality. Freight mobility is now recognized as a major economic development issue in an era of regional, national and global competition. Changes in the demand for goods and services alter patterns of trade and places demands on the supporting transportation systems. The challenge is to effectively plan, program and coordinate regional transportation investments with a full understanding of the patterns of freight flows serving the region, their linkages by freight modes (truck, rail, water, and air), and their relationships to state, national and international flows of goods. The understanding of freight flows and the dependence of these movements on transportation infrastructure improvements are ongoing regional planning priority.

Freight planning and investments have been given a greater national importance at the federal level due to global competition and homeland security requirements. Although freight modes are privately owned, they use publicly owned facilities and waterways such as roads, navigable rivers and airports. TEA-21 broadened the planning role of the Council to incorporate freight mobility in the regional transportation planning process. The additional planning responsibilities must be done with the active participation of the business community, agencies, communities and other freight stakeholders that are part of the Council's planning and decision-making processes.

The logistics industry continues to change in response to the demands of the marketplace for service that is reliable, cost-effective and secure with reduced transit times. Coordinated logistics have merged as a management tool that promotes a seamless system of freight movement between modes. The tandem development of ITS by the public sector and E-commerce by the private sector can become integrated into an important logistic management tool. The evolution of efficient internet communications between customers and businesses promote expectations of fast and reliable delivery of goods and services, making multi-modal transportation a more important freight system planning concept. Distribution center capacity, location (with respect to present and future markets) and operations that allow integrated product movement across freight modes are critical business decisions in providing the most cost-efficient delivery of services. The addition of ITS real-time traffic and travel information can be applied to devise trip routes to expedite freight movement, estimate transit times and plan around traffic delays.

The Council will encourage communities with significantly sized clusters of freight facilities and that have suitable sites for the development, redevelopment and expansion of clusters, to support mixed industrial uses at those locations. A cluster of related mixed industrial uses located in close proximity to one another – such as production, distribution centers, logistics and other added value services – can increase employment and provide an opportunity to improve operating efficiencies to the businesses in the complex. The benefits of industrial mixed-uses are similar to the Mixed-Use Centers described in Strategy 21g. The integration of land uses and job concentrations can reduce commercial vehicle travel times, trip frequency and length. The proposed Regional Distribution Center to consolidate the movement of air cargo can present an opportunity to implement an industrial mixed-use complex.

Roadway congestion will remain a problem to the efficient movement of freight. The Council will create a regional freight database to enhance the effectiveness of its truck-travel forecasting model. The model will help evaluate roadway access to major freight clusters, and identify the congested highway corridors and choke points that cause the greatest reduction to freight mobility. This information will be considered when determining priorities for future highway investments.

The Council supports the integration of public sector ITS and the private sector information technology used to manage the shipment of goods. Such integration provides an opportunity to share real-time travel information on road conditions, travel times route selection, and implement security procedures.

Chapter 5/Regional Transportation Financial Plan

This financial plan describes the transportation investments that can be supported with transportation funding sources that can be reasonably expected during the planning period. It acknowledges that extrapolating current funding levels will not be sufficient to adequately serve the travel demand increases projected from significant regional population and economic growth. Under that revenue scenario, the movement of people and goods throughout the region will be severely constrained.

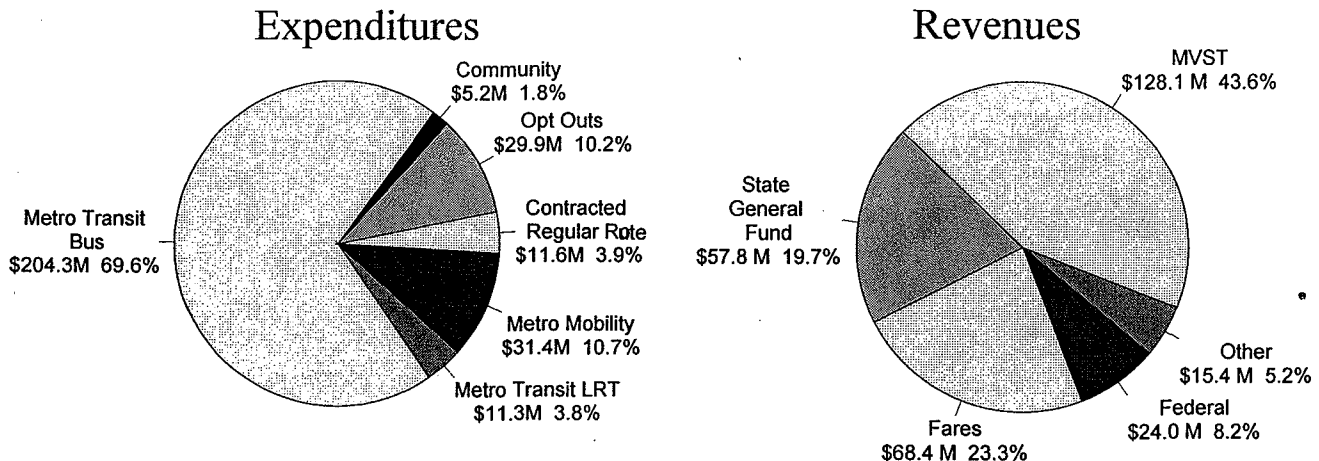
Highway funding levels resulting from extrapolating current revenue trends will result in significant highway congestion increases, reducing the region's competitiveness in the national and international markets. Without additional capital investments, regional accessibility to opportunities (such as work, business, education and recreation), as measured by travel time, will deteriorate significantly.

Transit service increases, which could mitigate the negative effects of unfunded highway needs, will not be possible at current funding levels. Meeting the Council's goal of doubling the base transit system by 2030 and building a network of transit corridors will require new revenues for both capital and operating needs from a new and yet unidentified revenue source.

Transit Operations

Current Sources of Funds/Expenditures

Figure 5-1
2004 Budgeted Transit System Operating Costs
(Total \$293.6 million)



As shown in Figure 5-1, there are currently three major funding sources for transit service operations in the Twin Cities metro area:

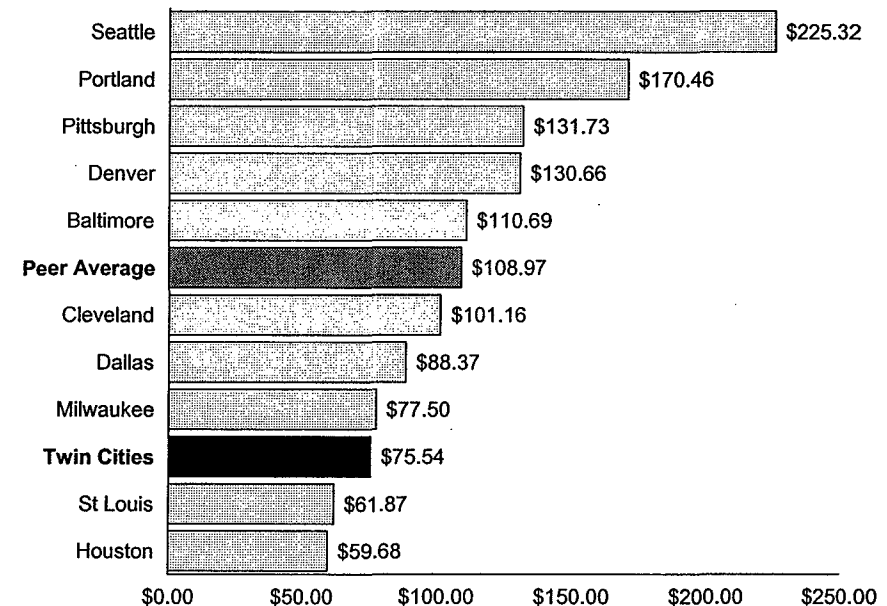
- State Motor Vehicle Sales Tax (MVST)
- State General Fund
- Fare revenues

Together these sources make up more than 85% of the current funding for transit operations.

Federal funds (Congestion Mitigation/Air Quality and federal formula funds for capitalized maintenance) make up about 8% of funding while other sources such as advertising, interest and other revenues account for the rest.

Public funding for transit operations on a per capita basis is low compared to ten other major transit systems. Figure 5-2 shows that the annual transit operating subsidy per capita (\$75.54 in 2002) ranks ninth of the 11 regions surveyed.

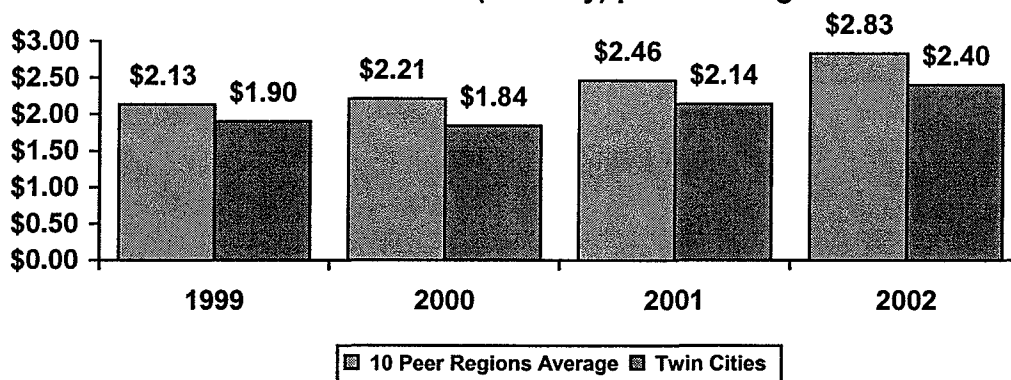
Figure 5-2
Transit Operating Subsidy Per Capita



2002 NTD Regional Figures - 2000 UZA Population

Similarly, as shown in Figure 5-3, the subsidy per passenger, or the net cost per passenger after fare revenues are deducted, was about 15% less in the Twin Cities than in other peer regions in 2002. This gap has been growing since 1989 when the Twin Cities subsidy per passenger was 11 percent lower than the average for the peer regions.

Figure 5-3
Twin Cities Region
Net Government Cost (Subsidy) per Passenger



Future Funding Needs

Current funding sources will need at least to increase with inflation to maintain the current level of transit services in the future. This also will require keeping expenditure increases at or below inflationary trends. Key issues associated with current transit operating revenues include:

- Obtaining inflationary increases on State General Fund appropriation, particularly if state budget deficits persist in the future;
- The stability and long-term growth potential of the MVST funds.

Meeting the goal of increasing transit ridership by 50% will require a substantial increase in operating funds as outlined in Table 5-1, even assuming that new services will have a 30% fare recovery rate. In addition, the region's ADA service levels will need to increase by 25% to meet growing demand. The incremental funding needs shown in Table 5-1 are those over and above current funding levels (i.e. 2004).

Table 5-1
Net Incremental Operational Funding Needs in 2020
(in 2003 millions of dollars unadjusted for inflation)

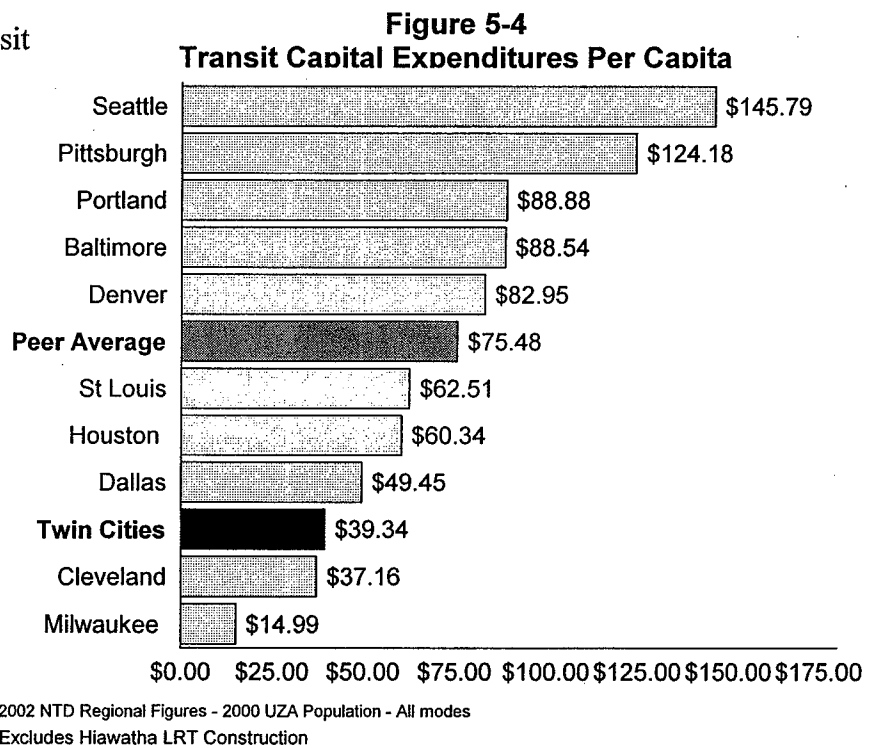
	Expand Regular Route Bus System	Transitways	ADA Programs	TOTAL
2020 Operating Cost	\$75 M	\$37 M	\$8	\$120 M

Transit Capital Investments

Current Sources of Funds

- Federal Grants
 - Federal Formula Funds - based on a portion of the federal gasoline tax
 - Congestion Mitigation/Air Quality grants (CMAQ) - competitively allocated grants
 - Discretionary Bus and Bus Facility Grants - grants awarded at the discretion of Congress
 - New Starts - grants awarded at the discretion of Congress for transitway projects only
- Regional Transit Capital Bonds - Bonds issued by the Metropolitan Council and repaid through a property tax levied within the transit taxing district. The maximum amount levied is controlled by the Legislature.
- State Funds - are state general obligation bond revenues, general funds, trunk highway bond revenues, or other state revenues granted for transit purposes.
- Local Revenues are primarily from local units of government such as Hennepin County Railroad Authority or the Metropolitan Airports Commission for the construction of transit facilities.
- Other Revenues include anything not listed above, primarily interest earnings

Current funding levels for transit capital are low compared to other comparable regions, as shown in Figure 5-4. The Twin Cities annual per capita spending is \$39.34, or ninth of the 11 cities surveyed.



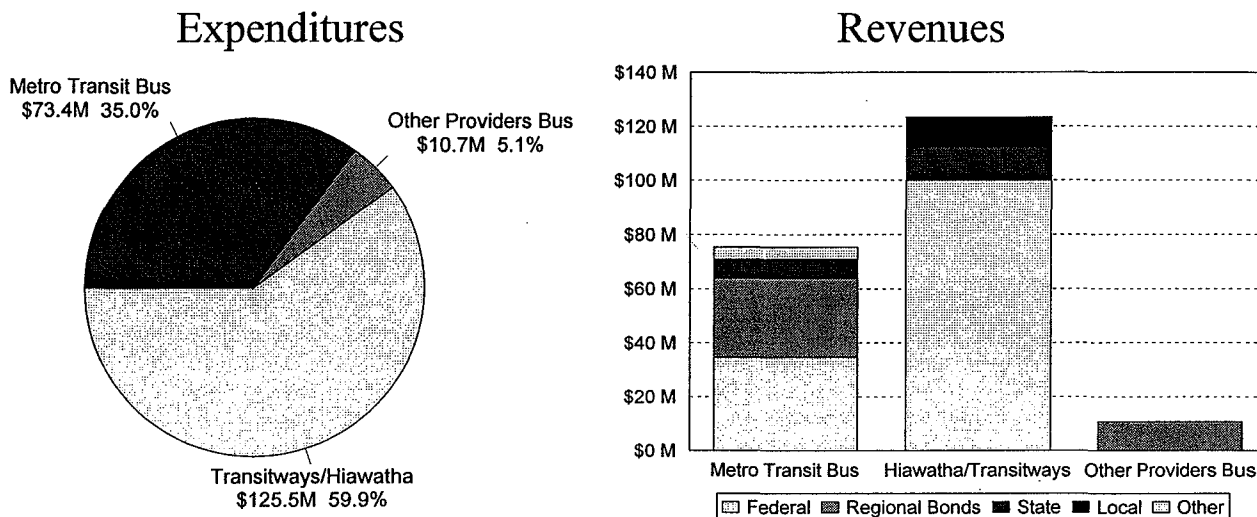
Current Expenditures

There are three components to transit capital shown in Figure 5-5:

- Metro Transit bus needs
- Other regional provider bus needs
- Capital costs of transitways

In 2004, the largest transit capital expenditure was for transitway development, primarily the construction of the Hiawatha Light Rail Transit line, with expenditures of \$109.3 million in 2004.

Figure 5-5
2004 Budgeted Transit System Capital Costs
 (Total \$209 M)



2004 Adopted Capital Program - 2004 Expenditures Only

2004 Adopted Capital Program - 2004 Expenditures Only

Future Capital Funding Needs

Maintain Existing Bus System

Approximately \$75 M was needed to maintain the existing bus system in 2004. Of this, 51% of funding came from Regional Transit Capital Bonds, 45% from federal sources (primarily federal formula funds), and the balance of 4% from other sources. Funding to maintain the existing system would cost \$1.125 billion from 2005 to 2020 at this level. It is projected that 55% of the funds needed to maintain the existing system would come from regional transit capital funds and 45% would come from federal sources from 2005 to 2020.

One strategy that is being pursued to manage these costs is to use \$100 million from a new funding source to move from a bonding program to a pay-as-you-go program for regional transit capital. This would reduce interest expense, decreasing the cost of the regional capital program.

Bus System Expansion

It is projected that approximately \$500 million is needed to expand the base bus system between 2005 and 2020. Of this, it is assumed that half of the funds will come from federal sources, including federal formula funds, discretionary funds and any new federal programs. The balance of funding of \$250 million would come from a new funding source discussed below.

Transitway Development

Three sources are projected to fund the system of transitways outlined in this plan. The first funding source is state revenues. Three projects requested state general obligation bonds in the 2004 Legislative session. It is assumed that these three projects will receive this funding. In addition, two projects are eligible for federal New Starts monies. It is assumed that half of the funding for these two projects will come from this source. The balance of needs for each project is assumed to come from a new funding source discussed below.

Table 5-2
Projected Transitway Capital Funding Needed 2005 - 2020
(in 2003 millions of dollars)

	Total	State Bonds	Federal	New Funding Source
Tier I				
Northwest BRT	\$50	\$20	-	\$30
Cedar BRT	\$60	\$10	30	\$20
I-35W BRT	\$50	-	-	\$50
Northstar Commuter Rail	\$265	\$37.5	\$132.5	\$95
Central	\$240 - \$840	-	\$120 - \$420	\$120 - \$420
Tier II				
Additional transitways *	\$135	-	-	\$135
Total Capital	\$800 - \$1,400	\$67.5	\$282.5 - \$552.5	\$450 - \$780
Average Annual Cost	\$53-\$93	\$5	\$18 - \$37	\$31-\$52

*Rush Line, Southwest, Red Rock

Funding Assumptions: Summary

The total transit funding needs and sources are estimated as follows:

Table 5-3
Projected Additional Annual Capital Subsidy Needed in 2020
(in 2003 millions of dollars)

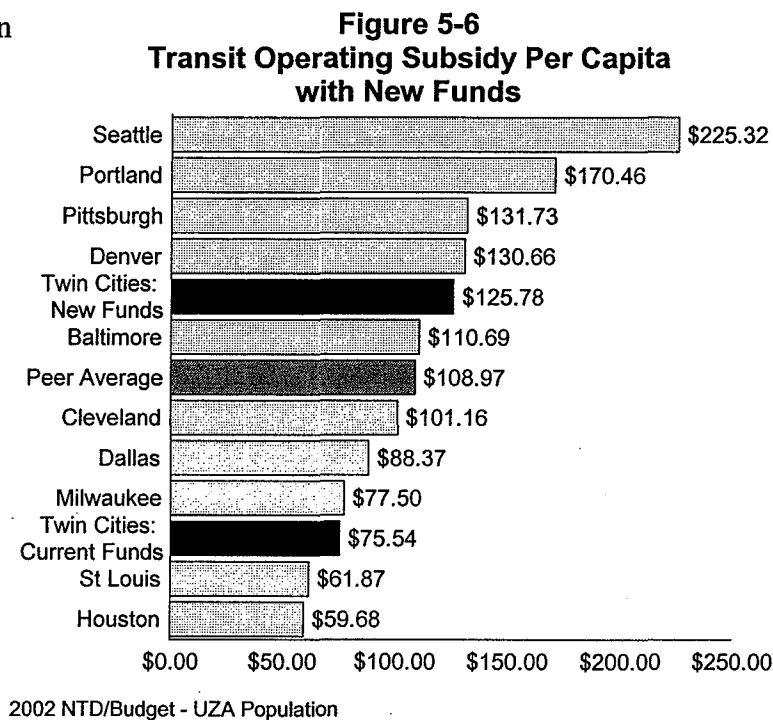
	Maintain Existing System	Expand Bus System	Add Transitways	Total
Regional Bonding	\$520	-	-	\$520
Federal	\$505	\$250	\$282 - \$553	\$1037 - \$1,308
State	-	-	\$68	\$68
New Funding Source	\$100	\$250	\$450 - \$780	\$800 - \$1,130
Total	\$1,125	\$500	\$800 - \$1,400	\$2425 - \$3,025

Strategies for a New Transit Funding Source

Implementation of this transit plan would require between \$55 million to \$75 million per year between 2005 and 2020 for capital needs and \$120 million in additional operating funds in 2020.

Even securing this funding increase, the region would move from only ninth to fifth in terms of per capita operating subsidy levels when compared to its peers (Figure 5-6).

A number of initiatives in search of additional transportation resources for both highways and transit are underway. It is expected that legislative proposals will be developed for the 2005 legislative session.



Ideally, a new funding source for transit would have the following characteristics:

- Stable and reliable enough to allow long-range planning.
- Dedicated to transit.
- Able to grow both with the economy and with the population being served.
- Broad-based.
- Can be utilized for both operating and capital needs.
- Provide diversity in revenue sources.

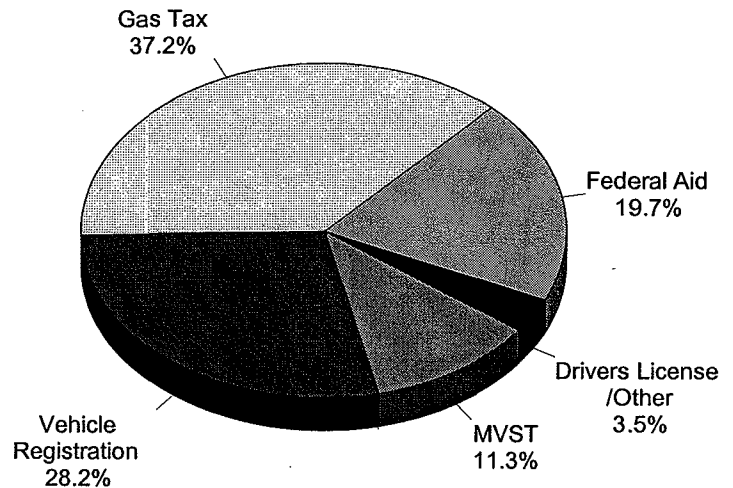
Highway System

Current Funding Levels

Highway funding statewide comes primarily from two sources: federal highway grants and state funds. State funds come primarily from three sources:

- State Gasoline Tax: In Minnesota, there is a 20 cents per gallon tax on gasoline and diesel sales. In FY 2003, this tax was budgeted to bring in \$642 million.
- Motor Vehicle License Fees: The license fee varies by the age and value of the vehicle. In FY 2003, this tax was estimated at \$487 million.
- Motor Vehicle Sales Tax (MVST): MnDOT received 30% of the MVST funds generated by a 6.5% tax on the sale of motor vehicles. In FY 2003, the highway portion of this fund was estimated at \$195 million.

**Figure 5-7
Major Minnesota Highway
Funding Sources**



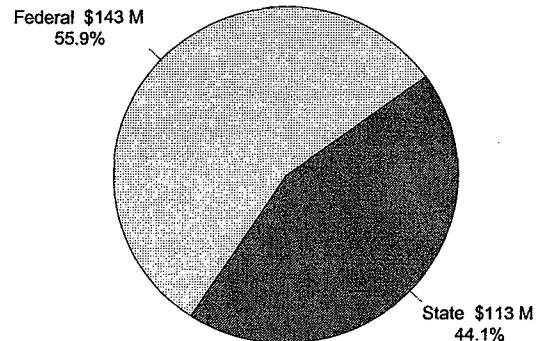
Recently, MnDOT received one-time monies from the State General Fund in 2001 and 2002.

In FY 2003, these three revenue sources brought in \$1.324 billion statewide and 59% of these revenues, or \$780 million, were transferred to the Trunk Highway fund. In addition, \$340 million of federal grants and \$60 million from drivers license fees and other revenues were deposited in the Trunk Highway fund, generating \$1.18 billion. Of these funds, \$585 million was dedicated to trunk highway construction.

In 2003, the Legislature approved the Governor's proposed \$800 million statewide transportation financing package to accelerate construction of some key projects. Four major metro area construction projects were included in the package. The \$800 million was a combination of \$400 million in trunk highway bonds to be repaid from the trunk highway fund, and \$400 million in federal advance construction (AC) funds. These AC funds are to be repaid with future federal funds.

The MnDOT Metro District receives a portion of these funds for construction of highways in the Twin Cities region. In 2004, MnDOT's Metro District encumbered \$256 million for highway construction from the Trunk Highway fund.

Figure 5-8
2004 MnDOT Metro District Highway Construction Program: \$256 M



Future Funding Levels

As discussed in Chapter 4, MnDOT's Metro District construction program is expected to grow to \$283.5 million per year as an average for the 2009-2030 period. This level of funding, which represents the Constrained Scenario, will allow all expansion projects in the 2001 Transportation Plan to be built by 2030 instead of 2025. Therefore, under this funding scenario, implementation of the overall plan will be delayed 5 years.

Under the Constrained +30% Scenario, total funds would grow by \$85 million per year and funds for expansion projects would grow from \$92 million per year to \$197 million per year. This more than doubling of the expansion capability would make it possible to build very badly needed projects much sooner and advance the implementation of the 2030 plan by almost seven years.

Higher funding levels would make it possible to accelerate the plan implementation even more.

In order to raise \$85 million per year, it would be necessary to increase significantly existing dedicated funding sources (i.e. gas tax, license fees and MVST) or to rely on a new funding source such as a portion of a regional sales tax.

Managing Projects, Scope, Cost and Revenue Sources

Over the life of this plan and as it is periodically revised, major projects evolve and move toward implementation. Procedures are needed to ensure the region's priorities can and will be implemented. Three problems have arisen in accomplishing this objective; not using High-Priority Funds for regional priorities, not maintaining project scopes that address the problems that they were intended to address, and not living within the allocated resources of cost estimates. These are discussed in detail below.

Use of HPP funds

Federal HPP funds are earmarked by Congress and have not always been assigned to the regions' top priorities. Because HPP funds, in this plan, are included in the revenue projections they should not be used for projects that are either not in the plan or are regional priorities. The Council has adopted the following procedures to manage HPP funds that come to the region and recommends MnDOT help implement them.

For MnDOT trunk highway system projects:

- HPP funds will only be spent on projects if they are identified in the current TPP and TSP.
- The state share of HPP projects identified in the 10-year work plan will be funded by MnDOT in the scheduled TIP or work plan year.
- All other funds to match HPP funding will be from non-MnDOT funding sources.
- If an agency wishes to advance projects that are not within the work plan using HPP funds, the state share of the project will be reimbursed by MnDOT in a year(s) beyond the work plan, but within the timeframe of the TPP/TSP. Should funding shortfalls cause prioritized projects to be delayed, such repayments will also be subject to delay. The Council will work with MnDOT to ensure all jurisdiction, if they wish, can participate under this provision.
- MnDOT's share of the project will only be to the investment level identified in the constrained TPP/TSP. Investments beyond the identified constrained investment level will be 100% local.
- The state share will be determined in accordance with current MnDOT cost-share policies.
- The region supports the use of HPP funds for design work on projects that are in the 10-year Work Plan or that are priorities to move into the 10-year Work Plan.
- In emergencies such as natural disasters or where a critical fracture bridge needs to be replaced, these policies and the priorities in the plan may need to be superseded.

For non-MnDOT (county/city) system projects:

- HPP funds may only be spent on projects on local elements of the regional transportation system if they are consistent with the constrained funding scenarios of the TPP/TSP.
- HPP funds spent on other local projects must be consistent with this plan and the applicable city and county comprehensive plans.
- All matching funds for HPP projects on the local system shall be from non-MnDOT sources.

Managing Project Scope and Cost

Federal rules require the TPP to be fiscally balanced. The Constrained Scenario is the adopted regional highway plan, which is fiscally balanced. The investment category and funding level for all metropolitan highways are recorded in Chapters 4 and 5. It is assumed that these investment levels will be respected as corridor studies are undertaken. Should the recommended investments for trunk highways exceed the cost estimate recorded in this plan by 20% or more, or if the recommended project scope does not reflect this plan, the project will need to be reviewed to determine whether the modified project should remain a regional priority.

The intent of the policy is to ensure the region is meeting federal rules but also to allow a regional discussion of the cost and benefits of these major projects as they move toward implementation. Projects evolve over time but they are generated from a regional needs analysis to address certain problems. This plan records a solution at a set cost and provides the appropriate allocation of state and regional resources relative to other regional needs. As the project moves from the later years of the plan to the 10-year Work Plan and finally to the TIP, the project scope and cost estimates change due to additional analyses. The following procedures recognize this evolution and provide opportunities to address these changes at various points in the project development process.

- As the TPP and TSP are revised on their regular schedules, each project scope and cost estimates are reviewed. Changes that occur in the project scope should reflect changing conditions in the region or the concept on which the project was based. A new expansion project added to the plan may go through a number of TPP and TSP revisions before it moves into MnDOT's 10-year Work Plan.
- A key decision point is when the project is ready to move into the 10-year highway work plan and the implementation work begins. At this time a check is required to determine whether this is an appropriate regional investment. The project scope must be examined to determine if it addresses the identified problem. Once the appropriate scope is determined, the cost estimate should be examined closely. With this information, the region should determine if this is an appropriate project to be a regional priority and move it into the 10-year Work Plan.
- From the time the project is included in the 10-year Work Plan, to the time it is included in the TIP, additional study takes place. A transportation corridor study is an example of such work. Alternative layouts for environmental evaluation are prepared. While many issues are examined, the emphasis is on project scope and impact versus cost. The affected jurisdiction should be aware that the region has certain expectations for the project, its cost, and its effectiveness. These need not be considered unchangeable but instead be viewed as part of the regional context in which the project functions. The regional perspective on the project may also change. Increasing scope and cost of the project may have a large impact on the ability of the region to implement other projects in the plan. The TSP and TPP revision process should be used to evaluate the consistency of the project scope and costs prior to being moved into the TIP.
- At the time the project (From Table 4-10 of the TPP) is ready to be put into the TIP, the project scope and cost will be closely reviewed. The TIP must be fiscally balanced as well as the plan. The project cost should be more accurate at this time. Right-of-way cost will be better defined. If the project exceeds 20% of the cost recorded in the plan (after being adjusted for inflation) or if the scope is inconsistent, the plan will need to be revised to reflect these changes or the project will need to be rescoped or the cost reduced before it is added to the TIP. If the TIP revenue target is higher than the TPP for the same timeframe, no TPP revision is necessary.

Allocation of Capital Resources with Regional Capital Priorities

The level of capital resources expected to be available for investments in the region's transit and highway system over the next 22 years are shown in Table 5-4.

Highway funds, expected to grow over and above inflation at a modest 0.8 percent annually, are shown in constant 2003 dollars. The \$283.5 million amount shown in the table is an annual average for the 2009-2030 period. This forecast includes Federal High Priority Project (HPP) funds earmarked by Congress that have historically been used on trunk highway projects

Table 5-4
Estimate of Revenues Available for Capital Investments, 2009-2030 (in millions)

	Annual Allocation	2006 - 2020	2009-2030 Funding Level
<i>Historical Capital Funds for Highways</i>			
State Road Construction funds available to eight-county region according to Mn/DOT Office of Investment Management (OIM) (These include all federal and state funds spent by MnDOT or on MnDOT projects)	\$283.5		\$6237.0
Federal Funds allocated by the region for purposes other than Mn/DOT's projects according to Mn/DOT (OIM)	61.5		1353
Local funds to match federal funds based on \$50 federal funds (excluding TH funds)*	15.4		270.6
Reduction of funds to reflect seven-county region (reduction based on Mn/DOT formula for Chisago County)	(5.17)		(114)
Highway Total	\$355.43		\$7753.9
<i>Historical Capital Funds for Transit</i>			
Federal Transit Funds (Title III)			
Section 5307**Formula/Formula Fixed Guideway - Historic	33.0	505	740
Section 5309 Discretionary	10.0	150	220
CMAQ/STP	6.7	100	147
Section 5309 New Starts	17-35	252-553	369- 811
State Funds	4.5	68	100
Regional bonding	34.5	520	759
New Funding Source	55-75	830-1130	1217-1650
Transit Total	\$161-179	\$2425-3025	\$3345-4151
Highway and Transit Total	\$531-\$551		\$11,624-\$12,054
* STP Urban Guarantee, CMAQ, Enhancement, Bridge, Safety-Hazard Elimination, Rail Safety.			
** Net grant amount being used for capital projects.			

Table 5-5 shows the allocation of resources to major project and funding categories. These categories include funds specifically allocated to projects and funding levels that will be allocated through a variety of processes over the next 22 years.

The first category shows the funds committed to adequately meet the maintenance and life-cycle preservation of trunk highways in the metro region. The seven counties have a similar funding commitment for "A" minor arterials under their jurisdiction. Those improvements are

The last funding category, "selected regional projects," includes projects selected by a competitive regional process established by the TAB and the Council. This process semi-annually allocates the fund categories of Surface Transportation Program urban guarantee funds, Enhancement and Congestion Management/Air Quality funds. Project types include principal arterial/non-freeway, "A" minor arterials, transit, pedestrian, bicycle, transportation demand management, air quality, and historic and scenic enhancements to the transportation system. The TAB and the Council, in cooperation with MnDOT, select projects for safety-hazard elimination, rail safety and bridge safety.

MnDOT uses a number of methods to identify specific projects for funding. The bridge, pavement, safety and congestion management systems are the principal technical tools used for identifying preservation and management projects. (As noted above, specific projects have been identified for most of the management and expansion funds.) The region's congestion management system plan is used as a tool to define criteria and projects in this process.

Table 5-5
Transportation Policy Plan Financial Allocations, 2009-2030 (in millions)

Trunk Highway System-wide Life-Cycle Preservation	\$2,244
Trunk Highway System-wide Management	\$1,320
Trunk Highway Expansion Projects *	\$2,024
Transit Improvements (Title III Funds)	\$4,151
Enhancements (federally defined category) Regionally Selected	\$134
Congestion Management/Air Quality, Regionally Selected (less Transit)	\$281
Set Asides (right-of-way, supplemental agreements, cooperative agreements)	\$649
Selected Regional Projects (Reduced by \$165M for Mn/DOT Projects)	\$792.5
TOTAL:	\$11,595.5
* Includes cost of needed right-of-way.	

The comparison of the annual revenues available for the 2009-2030 period (as shown in Table 5-11) to the average capital requirements (from Table 5-12) illustrates that the constrained plan is in fiscal balance with reasonable expected resources. Major capacity expansions of the highway system were restricted to achieve this balance, but this does not mean that additional capacity is not needed throughout the region.

Unmet needs include, among others, projects to accommodate growth forecasted in the *Regional Framework*, transitway improvements, and expansion of the county and trunk highway "A" minor arterials.

Transportation Funding Issues

While the adequacy of funding resources remains the most significant problem for the region, there are other issues this plan addresses that need to be recognized.

- A new six-year federal Surface Transportation Act is expected to be adopted in late 2004 or 2005, determining the federal requirements and resources.
- The suballocation of funds to the eight MnDOT districts is being reexamined. All MnDOT districts are required to prepare plans by the end of the year. These activities could change the level of funds and funding procedures affecting the Metro District.
- Proposals on the state level call for significant increases in revenues. This plan attempts to position the region to be ready for a quick response to these initiatives, but a plan revision may be needed to properly address the changes.
- IRC planning, funding and implementation, an important state priority, presents challenges for the region. In many cases, the region could be required to make significant investments

when most of the benefits are realized by someone other than regional residents. Therefore, a state-wide initiative for establishing the IRC priorities may be more appropriately managed from MnDOT's Central Office rather than by individual districts.

Transportation Funding Principles

The following transportation funding principles should guide the allocation of transportation funds in a manner consistent with regional development and transportation policies. These principles are fully explained in Appendix L, along with funding options and criteria to evaluate funding sources.

1. Federal funds should be used to the maximum extent feasible to advance regional policies and priorities.
2. A local unit of government may advance the implementation of a project consistent with this guide, but no arrangements for payback of such funds by the state or region should be made.
3. The private sector should participate in funding transportation services or facilities that are required to serve one development or a select group of developments. All private sector cost sharing should be arranged through a local unit of government or other governmental body, including cities, counties, the University of Minnesota or state agencies.
4. Should the region determine that additional transportation funding is required in this area and generate such funding through regional revenue sources, MnDOT must ensure the appropriate amount of existing and future statewide revenues continue to be available to the region.
5. Transportation funding for the regional highway and transit systems, whether from federal, state or regional sources, should be allocated to priority projects that meet regional transportation needs rather than on a formula basis. The priority setting and funding allocation processes should be reexamined on a regular basis and responsive to changing needs.
6. The region, state, and various associations are pursuing additional revenue sources for transportation. Some nontraditional sources such as tolls are tied to specific corridors and facilities. The region supports these efforts, but they must follow adopted policies as would other transportation investments. The Council will assist these efforts and will allocate regional funds to advance the use of these new funding techniques as long as the projects are recognized in this plan or are consistent with the adopted policies and procedures of the region.

Criteria for Evaluating Revenue Sources

- Transportation funding should support a multimodal transportation system .
- Whenever possible, transportation funds should be generated by both users and those who benefit directly from the service or facility. However, the general public should pay for transportation services meeting the needs of those unable to pay for transportation services or where the general public receives a benefit from the service.
- New revenue sources should be analyzed using the economic criterion of "efficiency."
- The revenue source should support broad regional goals and policies.

- The revenue source should be predictable and not fluctuate significantly from year to year. Property taxes are predictable while sales tax is more subject to change.
- The revenue source should be adequate to address regional transportation needs.
- The cost and ease of administration should be considered in evaluated funding source. Funding sources should be evaluated on the amount and location of collection.

Chapter 6/Federal Requirements

This chapter records the Council's response to federal planning requirements contained in the Transportation Equity Act for the 21st Century (TEA-21) and directs the reader to relevant sections in this plan or to other Council documents that address the requirements.

Seven TEA-21 Transportation Planning Factors

TEA-21 requires Metropolitan Planning Organizations (MPOs) to address seven planning factors through their metropolitan transportation planning process. The planning factors are addressed in this plan and also in the overall regional development plan, the *Regional Development Framework*, that guides future development in the seven county metropolitan area.

The following matrix cross-references each of the seven factors with relevant policies, strategies, criteria and plan sections from either the *Framework* or from the Transportation Policy Plan (Table 6-1). The relevant categories and criteria used in the regional project selection process for TEA-21 funds are also identified as they relate to the seven planning factors.

Cooperative Revenue Forecasting

MnDOT and the Council have worked together to develop the revenue forecast used in this plan and in Mn/DOT's Metro Division Transportation System Plan, 2007-2030. The forecast assumes the traditional sources of funds will keep up with inflation and that there will be real growth consistent with historical increases. The growth averages approximately 0.8 of a percent per year or 20% over the planning period.

TEA-21, passed in 1998, established funding levels for the surface transportation system through 2003. Although TEA 21 expired in Sept., 2003, Congress has not yet passed a new authorization act. Without any more recent guidance, this plan assumes the 2003 authorization level will grow consistent with historic increases. It also assumes the metro area will receive approximately 44% of the federal Title I (highway) funds that come to Minnesota (after the state has set aside funds for specific items such as design and engineering services.) This percentage is based on a Mn/DOT formula that includes miles of highways, number of buses, future population, etc. The plan also assumes that Title III (transit) funds will grow in a similar manner.

This plan will have to be adjusted if the new federal transportation bill includes significant revenue increases for Minnesota or if the Minnesota Legislature passes a significant new transportation revenue package.

Table 6-1.
Cross-Reference of Seven TEA-21 Planning Factors with Metropolitan Council
Policies, Procedures and Solicitation Criteria

TEA-21 Planning Factor	Development Framework		Transportation Policy Plan		Regional TEA-21 Project selection Process/TIP	
	Policy/Action Step	Page	Policy/Strategy	Page	Category	Criteria
(1) Support the economic vitality of the metropolitan planning area, especially by enabling global competitiveness, productivity, and efficiency;	Policy 12	14	Policy 3 Policy 11	39 46	Principal Arterial and Transit Capital	Access to or capacity for economic development
(2) Increase the safety and security of the transportation system for motorized and non-motorized users;	-----	----	Policy 11	46	Principal Arterial and A Minor Arterial	Accident reduction forecast
(3) Increase the accessibility and mobility options available to people and for freight;	Policy 2	14	Policy 11 Policy 13 Policy 14 Policy 15	46 50 51 52	Principal Arterial, A Minor Arterial, and Transit Capital; Bikeways and Walkways	Integration of modes Integration with transit
(4) Protect and enhance the environment, promote energy conservation, and improve the quality of life;	Policy 4	18	Policy 17	55	Transit Capital, Principal Art., and A Minor Art.	Reduction in CO emissions
(5) Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;	Policy 2	14	Policy 1 Policy 3 Policy 5 Policy 9	36 38 41 45	Principal Arterial, A Minor Arterial, and Transit Capital; Bikeways and Walkways	Integration of modes Integration with transit
(6) Promote efficient system management and operation;	Policy 2	14	Policy 12 Strategy b Policy 13	48 48 50	Principal Arterial and A Minor Art.; Transit Capital	Solutions to problems and deficiencies; Service efficiency
(7) Emphasize the efficient preservation of the existing transportation system.	Policy 2	14	Policy 12 Strategy a	48	Principal Arterial and A Minor Arterial	Corridor preservation efforts/access management

ITS Applications and Regional Architecture

Mn/DOT and the Center for Transportation Studies at the University of Minnesota have been leaders in intelligent transportation systems (ITS) research and application. The Council has worked closely with Mn/DOT, ITS America and Minnesota Guidestar in their attempts to move ITS from the experimental stage to wide-scale application. ITS focuses on the management of the entire transportation network through the movement of more people and freight, in fewer vehicles, on the existing system. It is within this context that the Council supports the ITS regional architecture and will require its use in all its applications in the region.

Federal requirements include the definition of a "regional architecture" for ITS activities. In Minnesota the regional ITS architecture has been devised by Minnesota Guidestar and is used statewide. The architecture defines the functions that could be performed to satisfy user requirements and how the various elements of the system might connect to share information. It also defines the framework around which multiple design approaches can be developed. Each approach can be tailored specifically to meet the user needs, while maintaining the benefits of a common approach.

Since its inception in 1991, Minnesota Guidestar has performed a broad range of ITS activities including needs assessments, research and development, full-scale operational testing, and deployment of ITS strategies and technologies. The success of Minnesota Guidestar has been more than advancing ITS technology. Its success is based on a strong cooperation between the public and private sectors, which has produced innovative and unique programs and projects.

Intelligent transportation systems, or ITS, encompass a broad range of wireless and wireline communications-based information, control, and electronics technologies. When integrated into the transportation system infrastructure, and in vehicles themselves, these technologies help monitor and manage traffic flow, reduce congestion, provide alternate routes to travelers, enhance productivity, and save lives, time and money.

Intelligent transportation systems provide the tools to collect, analyze, and archive data about the performance of the system. Having this data enhances traffic operators' ability to respond to incidents, adverse weather or other capacity constricting events.

Examples of Intelligent transportation systems include Advanced Traveler Information Systems, Advanced Traffic Management Systems, and Incident Management Systems, described below:

- Advanced Traveler Information Systems deliver data directly to travelers, empowering them to make better choices about alternate routes or modes of transportation. When archived, this historical data provides transportation planners with accurate travel pattern information, optimizing the transportation planning process.
- Advanced Traffic Management Systems employ a variety of relatively inexpensive detectors, cameras, and communication systems to monitor traffic, optimize signal timings on major arterials, and control the flow of traffic.

- Incident Management Systems provide traffic operators with the tools to allow quick and efficient response to accidents, hazardous spills, and other emergencies. Redundant communications systems link data collection points, transportation operations centers, and travel information portals into an integrated network that can be operated efficiently and “intelligently.”

Traffic accidents and congestion take a heavy toll in lives, lost productivity, and wasted energy. ITS enables people and goods to move more safely and efficiently through a state-of-the-art, intermodal transportation system.

Current ITS activities in the metro area include Regional Traffic Management Center, Metro Transit Control Center, 800 Mhz radio system, freeway message signs, ramp meters and bypasses, Metro Transit’s web-based travel planner, signal preemption for both buses and emergency vehicles, and automatic vehicle locators on Metro Transit buses.

The Council’s policy concerning ITS investments is to support the inclusion of ITS improvements in the broadest spectrum of situations, from the replacement of aging signals with the latest interconnected self-programmable models, to the recent completion of the new traffic management center with the latest generation electronics.

ITS is a significant element of the region’s Congestion Management Plan. ITS is included as part of preservation, management, expansion and transit investments. Metro Transit and other agencies responsible for delivering transportation services should determine how best to maximize ITS applications and include funding for them as an integral part of larger projects.

Environmental Justice

Executive Order 12898 requires all federal agencies to define environmental justice as part of their mission and to address any adverse health and environmental effects of their programs on traditionally underserved minority and low-income populations. In response, the U.S. Department of Transportation issued an Order on Environmental Justice in Minority and Low-Income Populations, which establishes a process for integrating the goals of environmental justice into federally funded transportation activities.

Further guidance for incorporating environmental justice into the metropolitan transportation planning and implementation process was developed by the Federal Highway Administration and Federal Transit Administration. As the Council conducts federally funded plans, programs, and projects, it must comply with these orders and guidance. This update of the *Transportation Policy Plan* details the Council’s compliance with the environmental justice directives within the framework of existing requirements, including the National Environmental Policy Act (NEPA), Title VI of the Civil Rights Act of 1964, TEA-21, and the Americans with Disabilities Act (ADA).

The *Transportation Policy Plan* addresses environmental justice by providing a location analysis of low-income and minority populations in relation to the planned investments in the metropolitan transportation system. This analysis includes a discussion of whether disproportionate impacts were identified, the extent and magnitude of those impacts, and how the impacts will be avoided or mitigated, if practical.

Specific strategies and programs employed by the Council to improve the transportation system to the benefit of low-income and minority populations are also described. Finally, Appendix D to the *Transportation Policy Plan* includes a detailed discussion of the public participation process, including the methods employed to involve traditionally under-served populations. The Council's process ensures that members of low income and minority communities are provided with opportunities to participate in the transportation planning process, including the development of the *Transportation Policy Plan*.

Investment Strategies Related to Low-Income and Minority Populations. The impacts of transportation improvement projects on low-income and minority populations are difficult to analyze under environmental justice at a system/policy level. Those impacts will be analyzed on an individual project basis as prescribed under federal guidance. However, it is possible to describe the impacts of these investments at a larger scale.

The planned improvements to the regional highway system illustrate regional priorities as established by the Council. These priorities stress the preservation and maintenance of the existing highway system over expansion of the system. The relationship between the locations of low-income and minority populations (as shown in the 2000 Census) and planned investments in the transportation system are shown on Figures 6-1 through 6-4. Low-income populations are concentrated in relatively small pockets near the downtowns of Minneapolis and St. Paul. Outside of the two central cities very few census tracts contain significant (greater than 7%) percentages of residents in poverty. The highest proportion of minority residents correlates significantly with the locations of low-income residents—concentrated primarily in the core area—but moderate levels of minority residents are also found in inner-ring suburbs, such as the Brooklyn Park/Brooklyn Center area and Richfield/Bloomington. More detailed analysis of the region's low-income populations and racial and ethnic diversity patterns and trends is included in Appendix F, Demographics.

The new construction and expansion projects planned for in the *Transportation Policy Plan* should not create disproportionate adverse effects on low-income or minority populations, and in fact should create a benefit to them in the form of improved mobility and expanded transit service. Historically, the greatest harm done to minority and low-income populations as a result of transportation system investment decisions was caused by new highway construction or realignment projects that encroached upon, divided or even displaced neighborhoods. Mitigation techniques will be employed in all projects to minimize and mitigate the construction impacts on all affected populations.

Many of the Metropolitan Council's strategies and programs are aimed at improving and preserving the transportation system in the core area of the Twin Cities, especially through significant investments in the transit system. As Figures 6-1 through 6-4 illustrate, the core area is home to a significant portion of the region's low-income and minority residents. The focus of investment in this document's Transit System Plan is on transit markets and their potential for transit usage. Because the core area (Market Area I, as defined in Chapter 4) is where the greatest number of people who are transit dependent reside, the focus of investment will continue to be on the core area. As stated in Chapter 4, the Council supports the provision of sufficient transit services and alternative modes of transportation in Market Area I to allow its residents to live without the need to drive an automobile.

Key Transit System Plan improvements in the core area include faster service (with dedicated transitways, signal preemption for buses and limited stop operation), expanded service frequencies (15-minute frequencies for 18 hours a day), and enhanced security and pedestrian amenities within one-quarter mile of stations and stops. Other investments and policies of this plan that will benefit core-area minority and low-income populations include continued expansion of transit centers and stations, continued marketing of regional transit and rideshare services and incentives, enhanced safety and security, and continued development of the regional network of transitways on dedicated rights of way and bus rapid transit.

The transit system will also serve as a magnet for other types of investments, such as new commercial and residential development, that will benefit those populations. Additional investment in Access to Jobs programs will provide increased economic and career opportunities for low-income residents, many of whom do not have access to a private vehicle. Transit-oriented development policies will promote land uses that improve access to transit, make bicycle and pedestrian travel safer and more convenient, and create common open and green spaces.

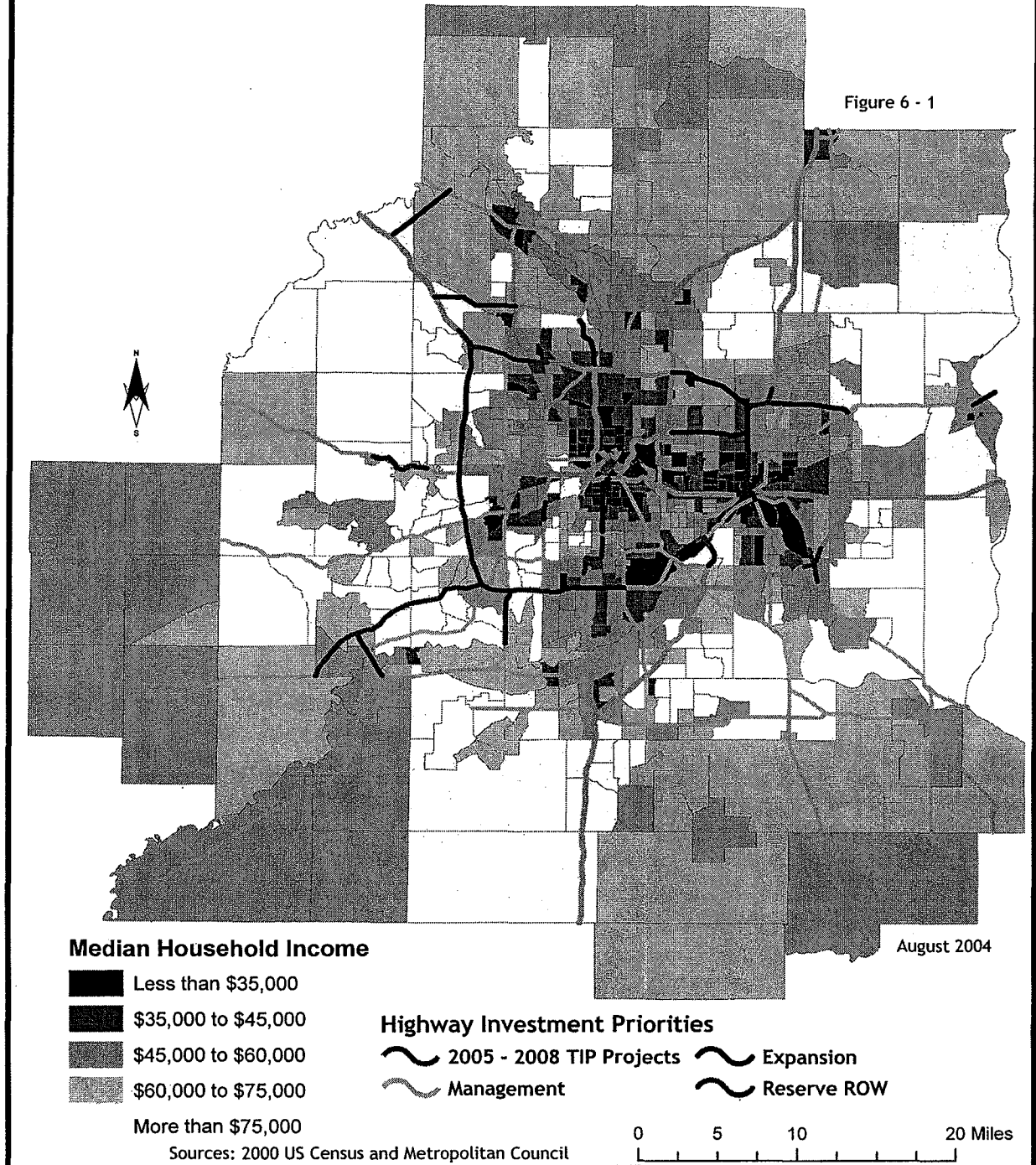
After analyzing the distribution of programs and projects identified in this *Transportation Policy Plan*, and the location of low-income and minority populations in the region, it can be concluded that any benefits or adverse effects associated with implementing the plan are not distributed to these populations in a manner significantly different than to the region's population as a whole. During the project development process, individual programs and projects will be further evaluated for potential adverse effects on these population groups in order to make a determination of no adverse effects or to identify mitigation for any adverse effects that are found.

Access to Jobs

The transit system plays a critical role in providing access to jobs for low-income people and individuals transitioning from welfare to work. The Metropolitan Council is working with county organizations and the region's transit providers to develop a set of programs which help fill gaps in transportation needs experienced by unemployed and under-employed persons. The region is experimenting with a variety of programs, including reverse commute routes, dial-a-ride programs, transportation coordinators, van programs, and auto ownership programs. These projects have been funded through the FTA Job Access and Reverse Commute (JARC) program.

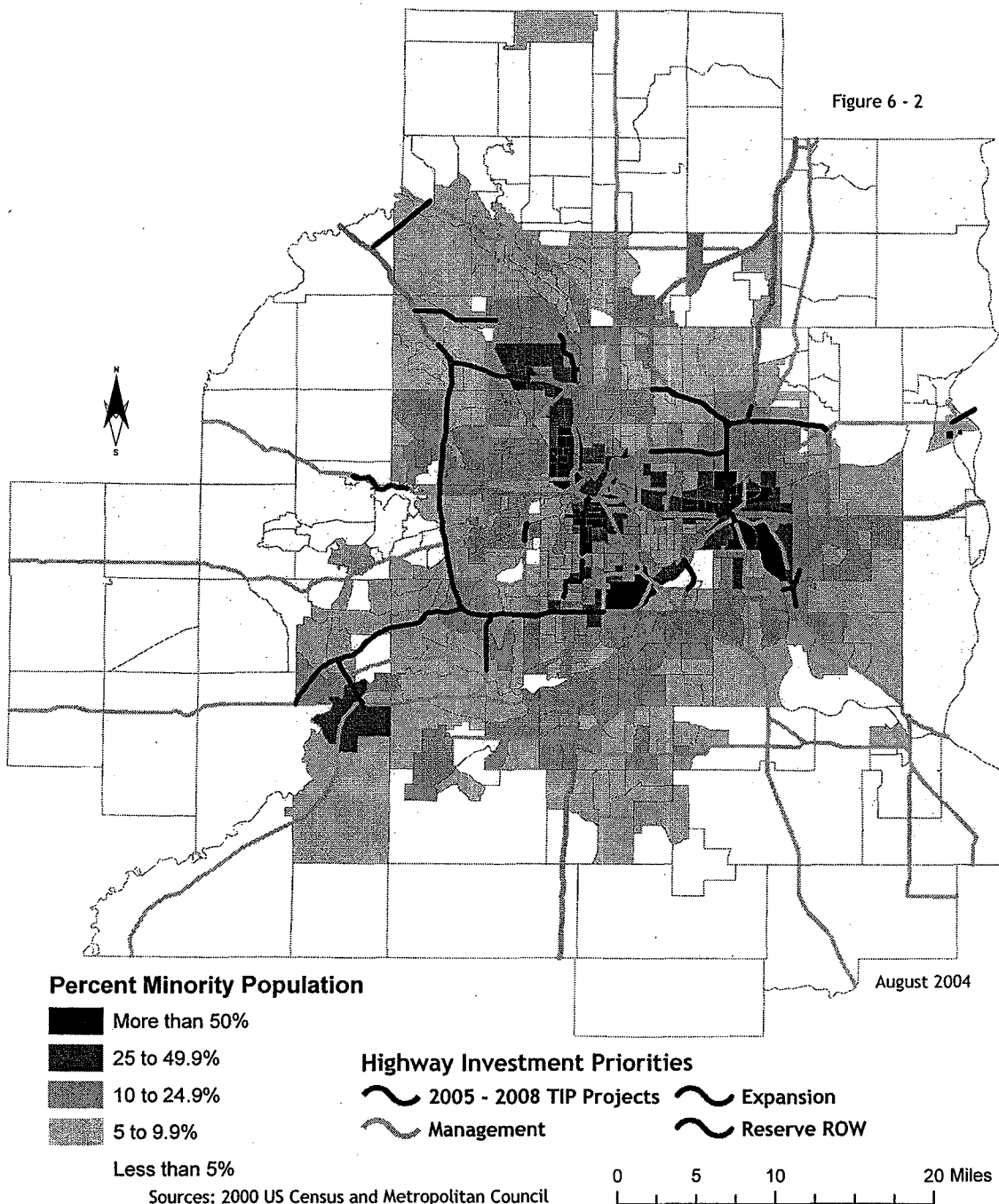
2030 Highway System Improvements and 2000 Median Household Income

Figure 6 - 1

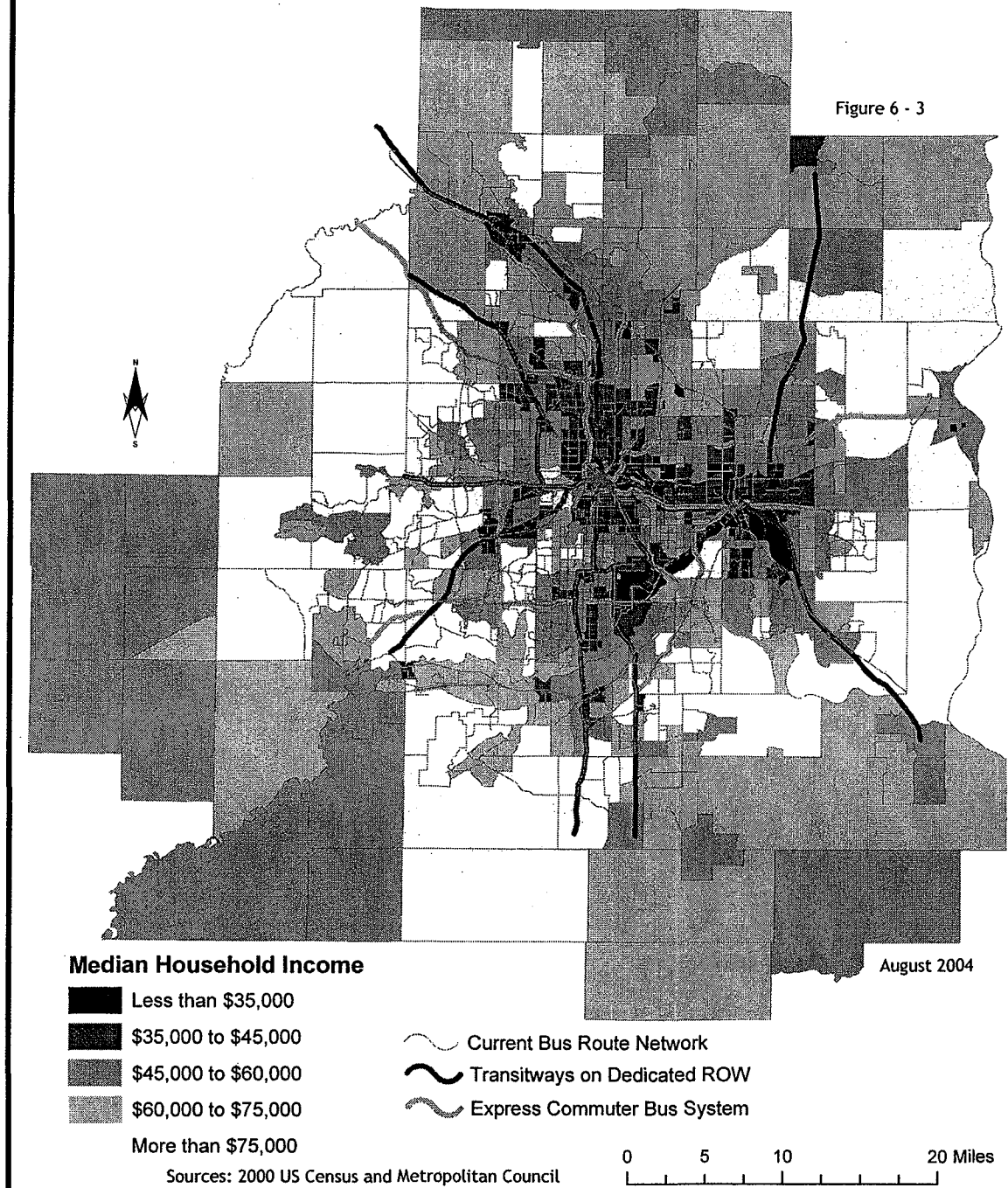


2030 Highway System Improvements and Regional Minority Population Concentrations

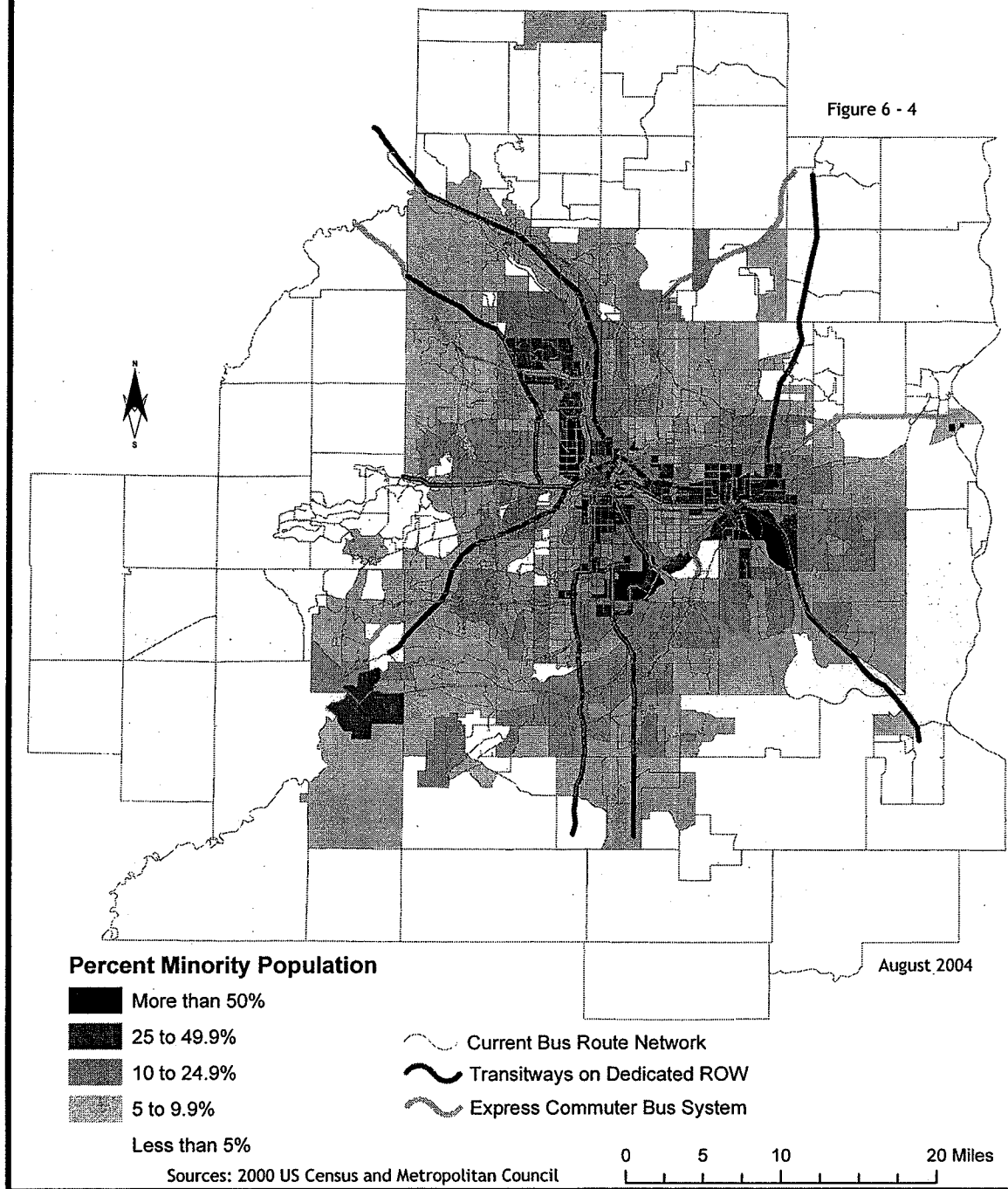
Figure 6 - 2



2030 Proposed Transit System Investments and 2000 Median Household Income



2030 Proposed Transit System Investments and Regional Minority Population Concentrations



Environmental Streamlining – Planning and Project Development Linkage

The Council is committed to the protection and enhancement of the environment. The Council promotes the planning, project development, implementation and operation of transportation services and facilities in an environmentally sensitive manner.

Early integration of project planning and the environmental review and approval process improves the likelihood that projects and services can be implemented in a timely and environmentally sensitive manner. TEA-21 stresses the need for integrating the planning and environmental process, and thereby promotes a streamlined process for reviews and permitting.

The *Regional Development Framework* – the development plan for the region – and other policy documents of the Council strongly support the protection and enhancement of the environment. In developing the region's *Transportation Policy Plan* and other system plans the Council closely followed the direction established in the *Regional Development Framework*.

The integration of the planning and development process will vary for projects included in the 2030 Regional Transportation Plan and for those already in the design phase. For many projects, the planning and environmental processes have progressed to such a stage that little will change based on this policy plan update.

TH 610 and TH 212 are the only highway projects on new alignments included in this revision of the plan, and EIS's have been completed on both of them. The majority of regionally significant highway projects consist of the widening or reconstruction of existing facilities and have been in the plan for a number of years. Environmental approvals will be necessary but are significantly different than if the projects were proposed on new rights-of-way.

All of the transitways included in this revision of the plan have also been shown in previous regional plans. Most of the corridors follow existing road or railroad rights of way. Many of the corridors are already undergoing detailed analysis and environmental review, and in some corridors, such as Northstar, environmental documentation has already been completed. This plan has and will continue to help focus the analysis and shorten the process by defining the number of corridors and the types of transit technologies to be studied.

Safety

The Metropolitan Council – as the MPO, the largest transit operator, and regional ADA service provider – is committed to promoting the safety of the surface transportation system and those who use, operate, and maintain it. A number of regional policies as well as criteria used to allocate regional transportation resources address safety.

Transportation Policy Plan policies that address safety include:

- Bicycle and pedestrian system (Policy 15)
- Freight transportation system (Policy 14)
- Highway system objectives (Policies 11-13)
- Priority for Investments (Policy 3)

- Increasing transit service attractiveness (Policy 6)

Safety-related strategies can be found in this document under the objectives corresponding to each of the policies listed above.

The TAB emphasizes safety within the regional project selection process. Projects requesting funds under the Surface Transportation Program that effectively address safety in terms of accident reduction (the most direct measure of highway safety) receive up to 100 points out of 1,300 total possible priority points and are therefore more likely to be selected. The Council and the TAB will continue to promote transportation safety through regional project selection criteria.

Public Participation

TEA-21 significantly increased the emphasis on improving public participation in the transportation planning and programming process. In response to TEA-21, the Council publishes an annual listing of the region's transportation projects for which federal funds were received in the previous year and advertises it in the draft Transportation Improvement Program (TIP).

The public has an opportunity to comment on the TIP and the project listing at the annual TIP public hearing. Council records, summarizes and responds to the public comments received, as directed by the TAB, prior to the development of the final TIP document.

A more thorough description of the Council's procedures regarding public participation is included in Policy 4 and in the *Citizen Participation Plan of the Metropolitan Council*, located in Appendix D of this plan.

Chapter 7/Work Program

The Metropolitan Council will carry out or participate in the following studies over the next two to three years. These will be used to help define changes to the various policy plans of the Council.

1. Travel Behavior Inventory (TBI)

The household travel surveys were conducted in 2001. The data collected will continue to be analyzed to provide a better understanding of travel today. Special attention will be given to travel in adjacent counties and bicycle and pedestrian trips, which is information not collected in previous TBIs. Some of this research will be done in conjunction with the University of Minnesota's Center for Transportation Studies.

2. Corridor Studies

The Metropolitan Council participates in all major corridor studies conducted in the region. MnDOT will be initiating further interregional corridor studies over the next two to three years, which will determine improvements necessary to link Greater Minnesota with the Twin Cities area.

3. 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.

4. Regular Route Overhead Allocation Analysis

This analysis will begin within the next year and be completed prior to the next Transportation Policy Plan update. It will include identification of overhead components (e.g. planning, street supervision, police, facility maintenance, customer information) and analysis of appropriate allocation to various types of regional regular route service (e.g. local, express, peak, off-peak). This work will be used to more accurately estimate operating costs in the future.

5. Functional Classification Study of the Regional Highways

Local governments have requested that several roads such as TH 13, TH 55, Washington CR 15, and Dakota CR 70 be upgraded to principal arterials. As soon as this plan and MnDOT's Transportation System Plan (TSP) are completed, the Council's Transportation Advisory Board (TAB) will undertake a functional classification study of the regional streets and highways. This study will review the characteristics and criteria that determine into which functional class highways fit. These modifications will be consistent with the updated policy direction provided in this plan and the TSP.

6. Define Highway Needs to Accommodate 2030 Growth

The Council, working with MnDOT, the counties and cities, will conduct an analysis to determine highway needs on Principal Arterials and "A" Minor Arterials to accommodate the regions growth to 2030. This analysis will include the need for new and/or expanded Principal Arterials, new or expanded "A" Minor Arterials. The 2030 Transit Plan defined in this document will be assumed in place for the purpose of the analysis. MnDOT's TSP will be utilized to the extent possible.