

CITY OF EDINA
TRANSPORTATION PLAN



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I. INTRODUCTION

BACKGROUND

The City of Edina is located in south-central Hennepin County, southwest of downtown Minneapolis, in the first ring of suburban municipalities. It is located entirely within the I-494/I-694 beltway, and covers approximately 16 square miles.

Several regional highways provide Edina with a high degree of accessibility to the metropolitan area and to outstate Minnesota. These include TH 100 and TH 62, principal arterials that have an interchange in the central section of the City. Two other principal arterials significantly affecting the City are TH 169, located approximately at the western boundary of Edina, and I-494, which lies immediately south of the City.

While the edge of urbanization has long since passed through Edina, the City is expected to continue its pattern of sustained growth into the next century. In addition to growth-related transportation challenges, Edina will need to address issues related to: accommodating infill and redevelopment opportunities, problems associated with through-traffic, and addressing the transportation needs of those needing or choosing other transportation modes.

The transportation plan has two purposes:

- To fulfill the requirements of Minnesota Statutes Section 473.859 (subdivision 3) requiring a public facilities plan section within a comprehensive plan to be submitted for Metropolitan Council approval.
- To assist the City to make correct transportation-related decisions today by anticipating the character, magnitude and timing of future transportation demand.

The City has developed a land use forecast for the year 2020. This land use projection was used to forecast travel demand on existing and future streets and roads and resulted in the definition of future needs. The transportation plan will allow the City to appropriately guide land use patterns and to take the necessary steps to acquire or preserve the right-of-way needed for future transportation facilities.

APPROACH

The transportation plan demonstrates how the City of Edina will provide for an integrated transportation system that will serve the needs of its residents, support the City's development plans, and complement the metropolitan transportation system that lies within its boundaries. To accomplish these objectives, the transportation plan addresses the following questions:

- Define the relationship to the proposed local transportation system to the density and distribution of future land uses and the anticipated metropolitan transportation system.
- Develop a functional hierarchy of streets and roads and define their access to the regional system to ensure that they support the existing and anticipated development of the area; serve both short trips and trips to adjacent communities; and complement and support the metropolitan highway system.
- Establish a system improvement and completion program that ensures that higher priority projects are constructed first; maintains a consistent and coherent roadway system during the roadway system development process; and provides for adequate funding for all needed improvements.
- Identify what transit services and travel demand management strategies are appropriate for implementation in Edina in order to increase the number and proportion of people who use transit or share rides, and reduce the peak level of demand on the entire transportation system.
- Identify the strategies and policies that need to be implemented to properly integrate the trail system (pedestrian, bicycle, etc.) with the proposed roadway system, to ensure the provision of trails in a sequence consistent with the development of the roadway system, and to create a rational network of sidewalks.

Because this analysis deals not only with streets and highways, trails, transit, traffic management and other topics, the results will constitute a transportation plan. The plan will serve as the transportation element of the Edina Comprehensive Plan.

II. POLICY FRAMEWORK

The *Edina Transportation Plan* was developed taking into consideration the Metropolitan Council's *Transportation Policy Plan* (December 1997) and the proposed *Hennepin County Transportation Plan* (draft November 1998).

REGIONAL AND COUNTY FRAMEWORK

The Metropolitan Council's *Transportation Policy Plan* identifies a policy framework within which the Edina Transportation Plan was developed. The key policy directions of the Metropolitan Council plan are to:

1. Reduce travel demand;
2. Increase transportation capacity through better system management;
3. Replace and improve the existing highway system;
4. Improve the transit system; and
5. Expand highway capacity in selected areas.

The Plan is also generally consistent with the proposed *Hennepin County Transportation Plan* (draft, November 1998). Elements of the Hennepin County plan include:

- Multi-modal planning
- Functional classification
- Access management
- System jurisdiction
- Permits and reviews
- Environmental requirements
- System improvements

Areas where the Edina transportation plan and *Hennepin County Transportation Plan* differ, namely roadway jurisdiction, classification and access management, will need to be resolved as part of plan implementation.

CITY OF EDINA TRANSPORTATION POLICIES

The *City of Edina Transportation Plan* is based on general policy areas. These policies relate to the different components of the transportation system.

Roadway Design

1. Design roadway facilities constructed in conjunction with new developments according to the intended function.
2. Upgrade existing roadways when warranted by demonstrated volume, safety or functional needs, taking into consideration environmental limitations.

3. Emphasize improvements to management, maintenance and utilization of the existing street and highway system.
4. Design residential street systems to discourage through traffic and to be compatible with other transportation modes including transit, bicycle and walking, including traffic calming measures on local streets and, in some cases, collector streets.
5. Use adequate transitions and buffers including but not limited to earth berms, walls, landscaping and distance to mitigate the undesirable impact of high volume roadways.
6. Promote use of sound mitigating features for residential development adjacent to high volume roadways, and make property owners and land developers responsible for noise attenuation at new developments near high volume roadways.

Roadway Function and Access

7. Provide logical street networks to connect residential areas to the regional highway system and local activity centers.
8. Adequately control access points to the regional roadway system (including minor arterials) in terms of driveway openings and side street intersections.
9. Provide access to the local street system (including collector and local streets) in a manner that balances the need to safely and efficiently operate the street system with the need for access to land.
10. Encourage intra-area trips on minor arterials rather than the principal arterial system, and promote serving regional trips on the metropolitan highway system.
11. Separate, to the extent possible, conflicting uses on the public street system in order to minimize safety problems. Give special attention to pedestrian and bicycle routes.
12. Provide access to redeveloping sites using current functional classification and standards rather than the existing access at the sites.

Roadway Maintenance and Operation

13. Cooperate with other agencies having jurisdiction over streets and highways in Edina to assure good roadway conditions and operating efficiency.
14. Continue the implementation of the I-494 frontage road system and Integrated Corridor Traffic Management system through ongoing coordination with Mn/DOT, Hennepin County, and the cities of Richfield and Bloomington.
15. Maintain roads by repairing weather-related and other damage.

16. Use economic and environmentally sound management techniques for snow and ice removal.

17. Replace substandard bridges and bridges that present safety or traffic problems.

Transit/TDM

18. Participate in the I-494 Commission to encourage all forms of travel demand management in order to reduce vehicle miles of travel, reduce petroleum consumption, and improve air quality.

19. Review all major new developments in light of the potential for ridesharing including bus accessibility, preferential parking for carpools/vanpools, and mixed-use development.

20. Support HOV bypasses and other preferential treatments for transit and high occupancy vehicles on streets and highways.

21. Include transit planning in the construction or upgrading of streets and highways.

22. Pursue development of a demonstration project to provide a circulator system within the Southdale/Centennial Lakes major activity center.

Parking

23. Review new developments for adequacy of parking based upon need, the potential for joint use of parking facilities and opportunities to encourage ridesharing.

24. Continue to limit on-street parking in and near congested commercial areas.

Pedestrian/Bicycle

25. Provide accessibility to pedestrians and bicycles at major activity centers, including necessary storage facilities.

26. Create pedestrian and bicycle interconnections among major generators, with continuity across major roadways and other barriers.

27. Provide sidewalks and safe crossing in high pedestrian danger areas, including high-traffic streets, commercial areas, areas with transit access and in high density residential locations.

28. Provide adequate signage along all bike paths including areas of conflict with pedestrians and automobile traffic.

Goods Movement

29. Serve major truck users and intermodal facilities with good minor arterial access to the metropolitan highway system.

Funding and Jurisdiction

30. Pursue and support regional or multi-community funding sources for improvements that provide regional or multi-community benefit
31. Support of research efforts into more efficient and cost-effective management, maintenance and replacement of street surfaces
32. Support governmental jurisdiction over roadways that reflect the role of the roadway in the overall transportation system
33. Develop and support legislation permitting a transportation utility

III. COMMUNITY CHARACTERISTICS AND GROWTH ASSUMPTIONS

The City of Edina is located in south-central Hennepin County in Minnesota (see Figure 1). The city is a first-ring suburb encompassing approximately 16 square miles. The Cities of Street Louis Park and Hopkins are to the north, Minneapolis and Richfield lie to the east, Bloomington is to the south and Eden Prairie, Hopkins and Minnetonka are lie to the west.

The entire City of Edina is located well within the Metropolitan Urban Service Area (MUSA) defined by the Metropolitan Council. The purpose of the MUSA is to define the areas within the Twin Cities Metropolitan Area that are eligible for "urban services", specifically sewers, municipal water systems and particular types of transportation systems. This boundary line is defined and maintained by the Metropolitan Council to assist in the orderly development of the metropolitan area.

LAND USE

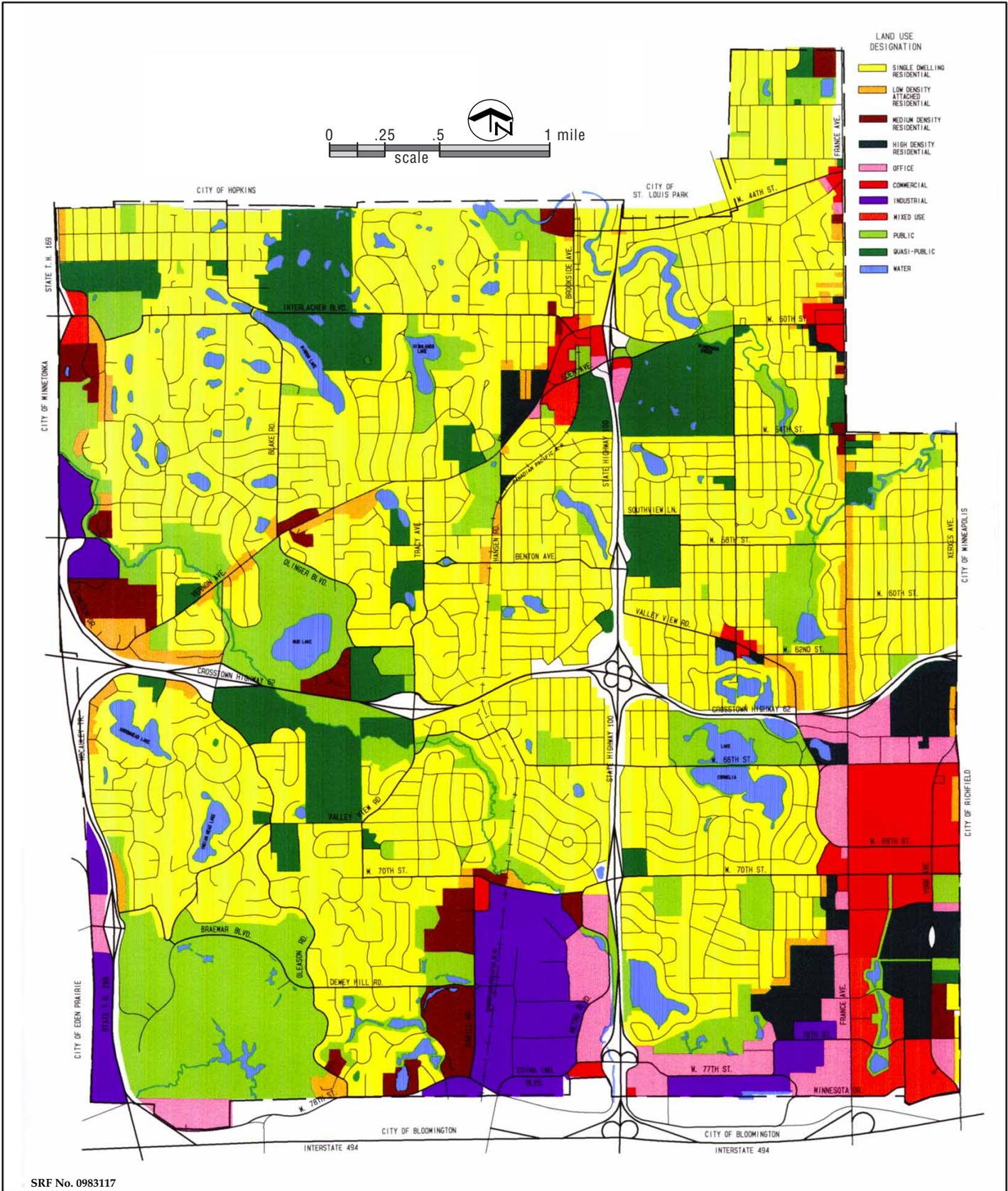
The planned land use in Edina is depicted in Figure 2. The land use plan defines areas where the City will encourage specific types of land uses to be developed. The general categories of land uses defined by the City are residential, office, commercial, mixed use, industrial, and public and parks. The Land Use Plan is a tool that the City uses to "guide" future development so that it is consistent with current and future land uses in the City.

Existing Land Use

Existing land use patterns within Edina are influenced by several factors, including:

- pre-World War II urban development in the northeast portion of the City,
- post-war automobile-oriented development patterns in areas served by the trunk highway system, and
- infill development of the former gravel mining area in the southeast corner of the City.

Residential development has occurred in all areas of the City. Single family developments, with pockets of medium or high density occur throughout most of the city. The Southdale/York Avenue area is the location of most of the higher density residential development in the City.



City of Edina Transportation Plan

Figure 2
March 1999



Land Use Plan

Office development in Edina is concentrated primarily south of W. 70th street, between Cahill road and TH 100, with pockets along TH 169 and W 77th Street.

Major concentrations of commercial activity occur at the France Avenue/West 50th Street intersection, the TH 100/Vernon Avenue area, and the Southdale regional shopping center area south of West 66th Street, and east of France Avenue.

The major institutional land use is Fairview-Southdale Medical Center area, located at TH 62 and France Avenue.

SOCIOECONOMIC CHARACTERISTICS

Table 1 illustrates the historic growth of Edina since 1970. Between 1970 and 1990 the City experienced an increase in the number of households from 13,000 to nearly 20,000, an annual growth of 2.1 percent as the city’s remaining major tracts of single family housing developed. Population has not increased at the same rate as households, due to lower household sizes in general, and an increasing amount of apartment-style housing units in the city. In the past seven years, growth has been 0.7 percent, a rate only about one-third of the previous two decades experience.

Employment growth was extremely strong between 1970 and 1990, when employment approximately doubled from 22,000 to 44,500 jobs in the city. This strong pattern has continued in the 1990’s with over 8,000 additional jobs added (a 2.5 percent per year increase). This job increase has led to a change in the commuting nature of Edina. In 1970, the city had two persons for every job and by 1997 the ratio had decreased to less than one person for every job. In other words, Edina has clearly become a net importer of commuters.

**TABLE 1
HISTORIC POPULATION, HOUSEHOLDS, EMPLOYMENT: 1970-1997**

	1970	1980	1990	1997	Average Annual Growth	
					1970-1990	1990-1997
Population	44,046	46,073	46,070	47,113	0.2%	0.3%
Households	13,002	17,961	19,860	20,866	2.1%	0.7%
Employment	22,060	36,061	44,534	52,819	3.6%	2.5%
Average Household Size	3.39	2.57	2.32	2.26		
Ratio of People To Jobs	2.00	1.28	1.03	0.89		

Source: Metropolitan Council

The strong growth of employment in Edina since 1990 is among the highest in Hennepin County. As shown in Table 2, only four communities in the county exceeded Edina in terms of employment growth.

**TABLE 2
COMMUNITIES WITH HIGHEST INCREASES IN EMPLOYMENT
HENNEPIN COUNTY**

Community	Employment		Change
	1990	1997	
Bloomington	75,837	90,853	15,016
Minneapolis	278,438	288,836	10,398
Minnetonka	35,536	45,283	9,747
Plymouth	38,103	46,994	8,891
Edina	44,534	52,819	8,285
Eden Prairie	36,095	44,319	8,224
Maple Grove	7,750	13,816	6,066

Source: Metropolitan Council

Edina, with the exception of some infill and redevelopment opportunities, is a fully developed community. As shown in table 3, both household and job formation are expected to be less than one percent per year.

**TABLE 3
FORECAST POPULATION, HOUSEHOLDS, EMPLOYMENT: 1997-2020**

	1997	2000	2010	2020	<u>Average Annual Growth 1997-2020</u>
Population	47,113	47,500	48,500	49,000	0.2%
Households	20,866	21,000	21,300	21,500	0.1%
Employment	52,819	56,000	58,500	60,000	0.6%
Average Household Size	2.26	2.26	2.28	2.28	
Ratio of People to Jobs	0.89	0.85	0.83	0.82	

Source: Metropolitan Council

IV. ANALYSIS OF EXISTING AND FUTURE ROADWAY NEEDS

Determining future roadway needs is based on both an analysis of existing roadway needs and an understanding of how traffic demand will grow in the future. A good indicator of existing need is traffic congestion. Identifying future need requires an understanding of how the city is expected to grow. The preceding section outlined both the future land use pattern and the expected distribution of population and employment. Forecasts of traffic based on these socioeconomic forecasts were made for the existing roadway system including improvements that are already programmed. This allows the detection of problems that would develop if no further system improvements were made. This section identifies both existing and future roadway system needs.

EXISTING ROADWAY SYSTEM

As with all municipalities, jurisdiction over the roadway system is shared among three levels of government: the state, the county and the city. The Minnesota Department of Transportation (Mn/DOT), maintains the interstate and trunk highway system on behalf of the state; Hennepin County maintains the County State Aid Highway (CSAH) and County Road systems. The remaining streets and roadways are the responsibility of the City.

State Highways

The City is served by three principal arterials on the state highway system. These highways also serve as the Metropolitan Highway System:

- TH 62 runs east-west through the center of Edina. Near the City of Edina, TH 62 connects with I-494 (approximately two miles west of the City), TH 169 (at the western boundary of the City), TH 100 (in the eastern portion of the City) and I-35W (approximately one mile east of the City). The highway is an important east-west connector of suburban areas within I-494/694 ring road and serves to relieve traffic demand on I-494. Interchanges in Edina include TH 169, Gleason Road., Tracy Avenue, TH 100, Valley View Road, France Avenue, and Xerxes Avenue.
- TH 169 runs north-south along or near the City's boundary with Eden Prairie, Minnetonka and Hopkins. This route is an important access route to the western suburbs within the I-494/694 ring road. Access points in Edina are at West 7th Street South/Lincoln Drive, Londonberry Road, TH 62, Valley View Road and partial access at West 78th Street. The I-494/TH 169 interchange is located at the southwest corner of the City.

- TH 100 is also a north-south principal arterial serving suburb-to-suburb movements. Access points in Edina include W. 77th Street/Edina Industrial Blvd., W. 70th Street, TH 62, Benton Avenue, and 50th Street/Eden Avenue. The I-494/TH 100 interchange lies in Bloomington, just south of the city limits.

County Highways

Five roadways on the Hennepin County system serve Edina:

- County State Aid Highway (CSAH) 17, France Avenue, which runs north-south the entire length of the city and serves the Southdale area.
- CSAH 20, Blake Road./Interlachen Blvd., which includes the portion of Blake Road north of Interlachen Boulevard and the portion of Interlachen Boulevard between Blake Road and Vernon Avenue.
- CSAH 31, which runs north-south generally at or near the eastern boundary of the City, following York Avenue except for transitions to and from Xerxes Avenue at I-494 and at TH 62.
- CSAH 53, West 66th Street, which runs east-west from France Avenue into Richfield
- CSAH 158, which follows Gleason Road from TH 62 to Vernon Avenue, then Vernon Avenue to its intersection with TH 100.

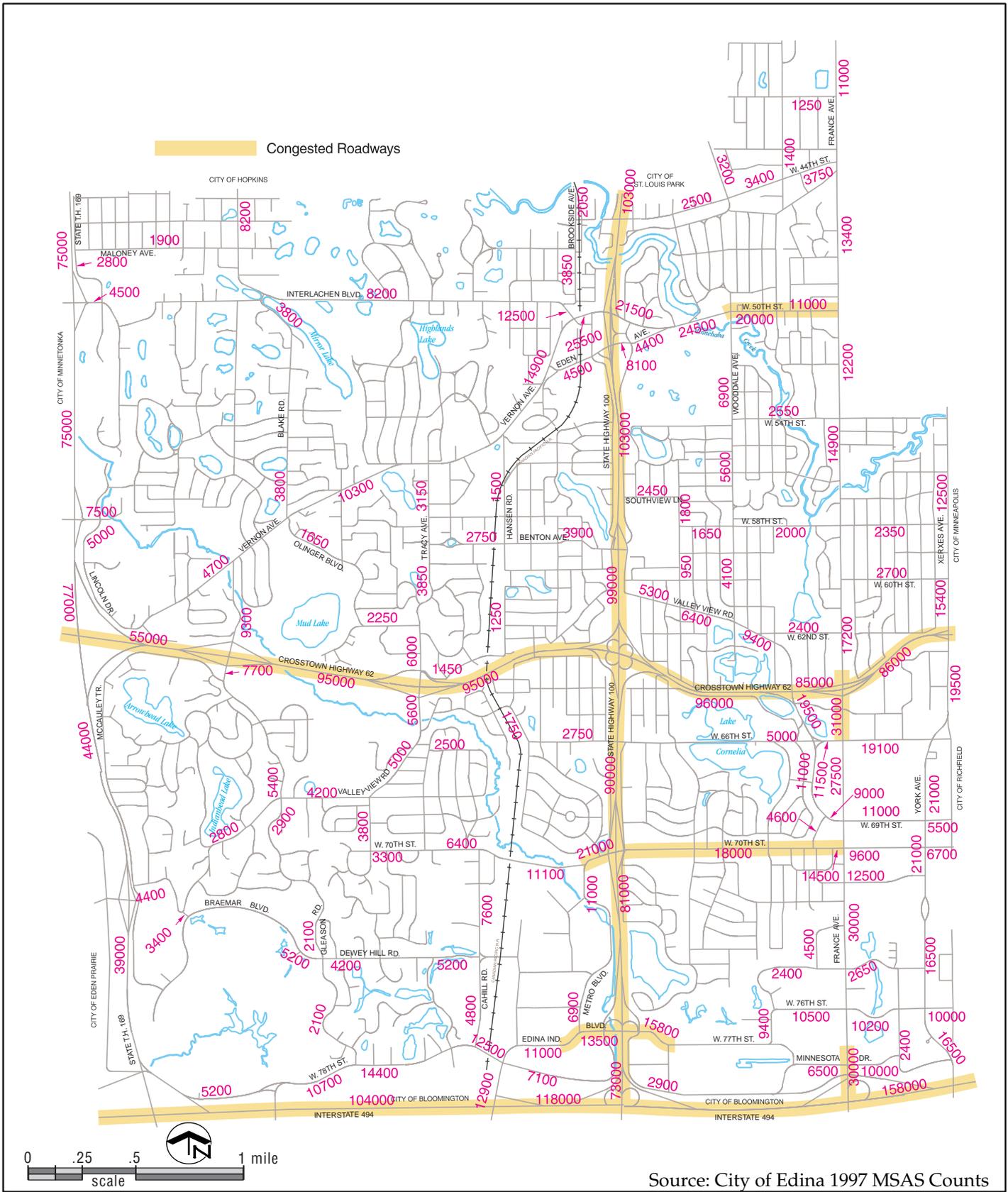
The remainder of the roadway system in the City falls under local jurisdiction.

Traffic volumes at selected locations on the Edina street system are shown in Figure 3. These values are obtained from traffic counts made by the Minnesota Department of Transportation (Mn/DOT), Hennepin County and the City of Edina.

EXISTING TRAFFIC PROBLEMS

Metropolitan Highway System Congestion

Peak period congestion occurs on nearly all of the Metropolitan Highway System as highlighted in Figure 3. In addition to mainline congestion, queuing from the ramp meters provides a source of localized congestion on the city street system as discussed below.



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Existing Traffic Volumes

Local Street System Congestion

Several areas of congestion can be found on the arterial system in Edina:

Freeway interchange queues – Peak period queuing occurs at most freeway on ramps. In particular, the older freeway interchanges with TH 62 at Xerxes and France Avenue have inadequate bridge width and storage capacity to accommodate vehicles waiting at the queue. Similar problems exist along TH 100 at West 70th Street and West 77th Street. The France Avenue interchange at TH 62 is currently being upgraded.

Through traffic on local streets – Several residential areas experience, or perceive that they experience, large amounts of through traffic. These neighborhoods include: Parkwood Knolls (traffic avoiding the TH 169/Bren Road interchange), the Tracy Avenue/Valley View Road area, and White Oaks/Country Club area.

West 50th Street/France Avenue intersection – This intersection, in the middle of a popular older commercial area, is affected by high pedestrian traffic levels as well as high vehicular traffic volumes.

TH 62/France Avenue Interchange/Southdale Area – The flow of traffic on France Avenue south of TH 62 is compounded by traffic accessing major medical, office and retail traffic generators along France Avenue.

West 70th Street, east of TH 100, is generally a two-lane road carrying approximately 18,000 vehicles per day, exceeding the capacity of the roadway.

West 77th Street and Edina Industrial Boulevard interchange with TH 100 – This interchange experiences congestion related to freeway access and local traffic.

Other roadway segments in Edina are currently congested as shown in Figure 3.

PLANNED AND PROGRAMMED IMPROVEMENTS

A variety of roadway projects are either currently under construction, programmed for completion in the next few years, or are proceeding through the planning process. From the standpoint of identification of future need, roadways that are programmed or under construction are considered part of the existing system because they will be in place by the year 2020, which is the horizon year for this plan.

Capacity improvements on the Metropolitan Highway System include:

- Completion of capacity expansion on I-494 from TH 77 to I-394. The segment from TH 100 to TH 212 is programmed for completion in 2003, with the remainder to be finished by 2020. This segment is to be constructed as a demonstration of a managed corridor designed to promote HOV and transit use. For the purpose of preparing travel forecasts for the transportation plan, the entire segment of I-494 is assumed as

a managed HOV corridor. However, Mn/DOT and the Metropolitan Council have not made a final decision on whether the expansion will be HOV lanes or a managed corridor.

- Completion of capacity expansion on I-35W from 46th Avenue So. to I-494, which is scheduled in 2003. This expansion involves an HOV lane addition plus modifications to the I-35W/TH 62 interchange.
- An HOV ramp meter bypass is scheduled for the southbound to eastbound ramp at TH 169/TH 62 interchange in 1999.

The regional *Transportation Policy Plan* classifies TH 100, TH 62 and TH 169 in the “improvement” level of investment priority. This classification means that while no expansion of these highways is currently planned, improvements to those facilities may be made that would improve traffic flow. A total of \$53 million in preservation and improvement is planned (but not programmed) for TH 62 between I-494 and I-35W through the year 2020.

Both I-35W and I-494 were subjects of environmental impacts statements completed in the early 1990s. The improvements being constructed on those roadways are the result of a staged construction due to funding limitations.

Hennepin County does not have any projects in Edina included in its 1999-2003 Capital Improvement Program (CIP). Improvements in the France Avenue/TH 62 area were included in previous CIPs and are under construction.

The City of Edina has 33 projects included in its 1999-2003 Capital Improvement Program. The most significant roadway project is the completion of the 78th Street/Braemar Frontage Road that is the last link in a continuous frontage road along I-494 and TH 169 from TH 100 to TH 62. In addition, signal projects are included at the following intersections: Computer Avenue/77th, Edinborough Way/76th, Gleason/West 78th Street, Parklawn/77th, and Vernon Avenue/Gleason Road.

Appendix A includes a complete listing of the \$12.9 municipal state aid system improvements programmed through the year 2003.

The Integrated Corridor Traffic Management System is an eight-mile long corridor between 34th Avenue South (near the Minneapolis-St. Paul International Airport) and West Bush Lake Road along I-494. A series of improvements to selected east-west roadways has created a continuous frontage road system along I-494 through Edina, Bloomington and Richfield. Traffic signalization along the corridor is interconnected with the ramp metering system on I-494 to create a “smart” reliever arterials system to reduce the effects of congestion on the freeway. Elements include motorist information and signal timing adjustments to reduce ramp meter delay and to improve traffic operation. The system is now operational and expansion of the system is being considered. The project is a joint venture among Mn/DOT, Hennepin County,

Bloomington, Richfield and Edina. Each contributes to the ongoing coordination and operation of the project.

**FIGURE 4
INTEGRATED CORRIDOR TRAFFIC MANAGEMENT PROJECT AREA**



Source: ICTM
Primary project routes are marked in black while secondary routes are shaded. Dashed lines are proposed routes.

2020 TRAFFIC FORECASTS

Traffic forecasts were made to determine the adequacy of the street and highway system to accommodate the development that is expected to be in place in the future. Forecasts were made for the year 2020.

Initial forecasts were prepared assuming no changes in the Edina transportation system other than those already programmed. Following the initial forecasts, necessary roadway improvements were assumed and a final forecast was made for 2020.

All planned improvements to the metropolitan highway system were assumed. The improvements most likely to affect traffic in Edina are the expansion of I-494 between TH 77 and TH 212, and the expansion of I-35W from I-494 to West 46th Street. Both will add necessary capacity to the regional highway system, reducing the amount of regional traffic on the local roadway system.

The travel forecast is shown in Figure 5. The forecasting process is described in Appendix B.

V. ROADWAY SYSTEM PLAN

The proposed roadway system is consistent with the anticipated density and distribution of land uses in the City in the year 2020. The purpose of this section is to present this plan, to identify the individual projects required to bring about this plan, and to establish priorities for these projects.

GUIDING PLANNING PRINCIPLES

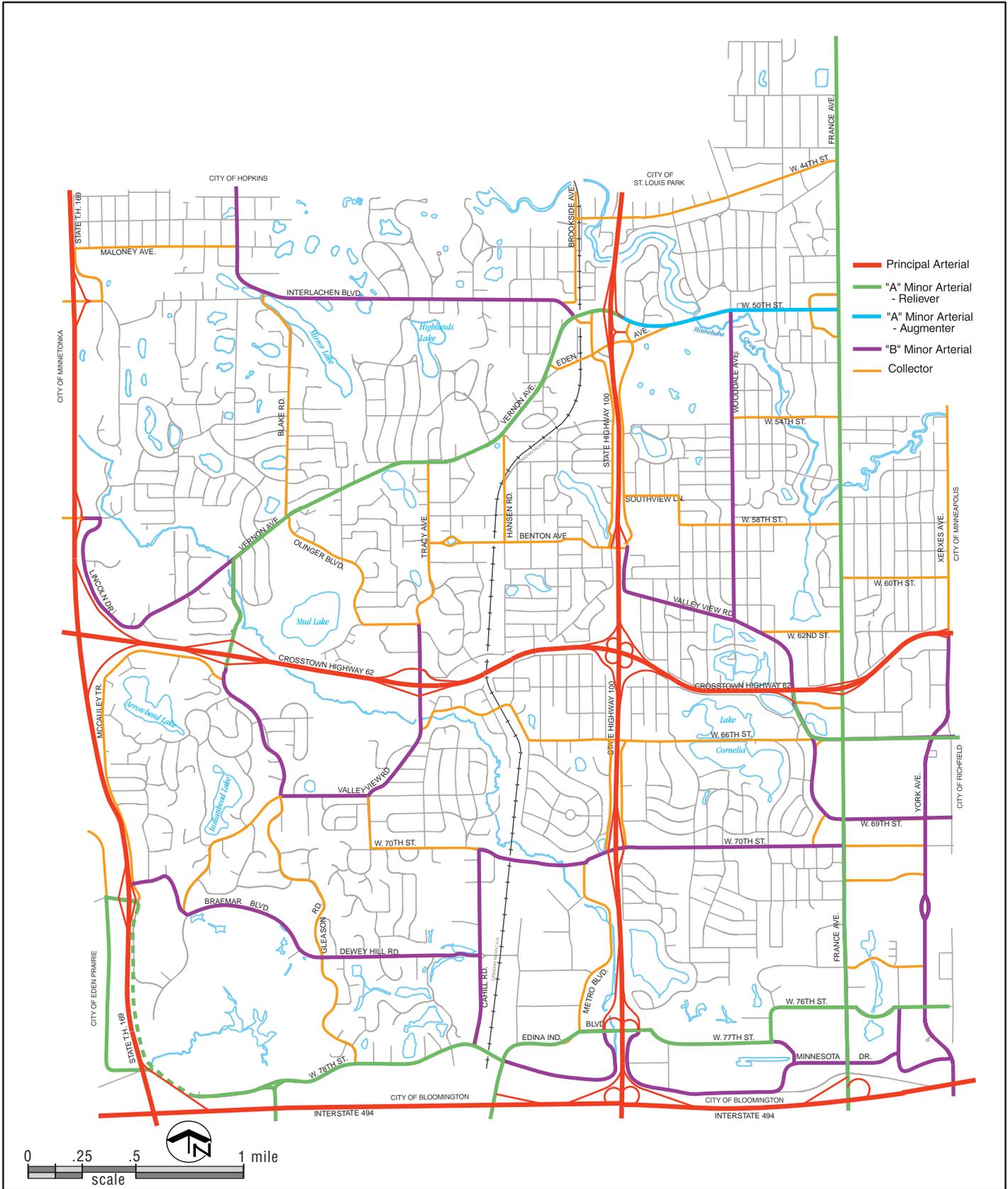
The *City of Edina Transportation Plan* has been developed using the following guidelines and planning principles:

1. The functional classification of the roadway system in Edina should conform to the criteria and characteristics summarized in Appendix D.
2. The plan should reflect vehicular travel demand in 2020.
3. Compatibility should be maintained between the roadway system in Edina and county and regional roadway systems.
4. In developing the plan, roadway segments and intersections that cannot accommodate the anticipated vehicular travel demand should be identified.

FUNCTIONAL CLASSIFICATION SYSTEM

The purpose of a functional classification system is the creation of a hierarchy of roads that collects and distributes traffic from neighborhoods to the metropolitan highway system in as efficient a manner as possible given the topography and other physical constraints of the area. Places of high demand, such as employment or commercial centers, should be served by roadways higher in the hierarchy. Neighborhoods and places of low demand should have roadways of lower classification. It is in this way that the land use plan is integrated into the transportation plan. Figure 6 shows the proposed functional classification of roadways in Edina.

The functional classification criteria presented in Appendix D were followed during the preparation of this plan. An important consideration in developing a functional classification system is adherence to the spacing criteria established by the Metropolitan Council (Table 4). The City of Edina is considered part of the fully developed area. The I-494 area and Southdale areas are considered regional business concentrations for this proposal.



**TABLE 4
SUMMARY OF SPACING CRITERIA**

Functional Classification	Spacing (Miles)			
	Metro Centers/ Regional Business Concentrations	Fully Developed Areas	Developing Areas	Rural Areas
Principal Arterial	--	2-3	3 – 6	6-12
Minor Arterial	¼ - ½	½ - 1	1 – 2	As needed
Collector	¼ - ½	¼ - ¾	½ – 1	As needed

It should also be recognized that in a fully developed area it may not always be possible to mesh the existing access and land uses along a roadway with the way in which a roadway is used. A street system developed 25 or more years ago may now be used in a manner different than that envisioned when the roadway was constructed. In that case, the functional classification of a road must be considered along with safety concerns and the practicality of travel behavior.

The City of Edina functional classification system includes the following categories:

1. Principal Arterials
2. Minor Arterials
 - a. “A” Minor Arterials
 - b. “B” Minor Arterials
3. Collector Streets
4. Local Streets

Principal Arterials

Principal arterials are the highest roadway classification and are considered part of the metropolitan highway system. These roads are intended to connect the central business districts of the two central cities with each other and with other regional business concentrations in the metropolitan area. These roads also connect the Twin Cities with important locations outside the metropolitan area. Principal arterials are generally constructed as limited access freeways in the developed area, but may also be constructed as multiple lane divided highways.

The City of Edina is served by four principal arterials:

- TH 62
- TH 100
- TH 169
- I-494

Interchanges between TH 62 and TH 169, TH 62 and TH 100, TH 169 and I-494, and TH 100 and I-494 are all located in or near the City of Edina.

“A” Minor Arterials

Minor arterials are also designed to emphasize mobility over land access, serving to connect cities with adjacent communities and the metropolitan highway system. Major business concentrations and other important traffic generators are located on minor arterials. In the developing area, one to two mile spacing is considered sufficient.

The Metropolitan Council has identified minor arterials that are of regional importance because they relieve, expand, or complement the principal arterial system. These roads have been labeled “A” minor arterials and have been categorized into four types:

- Relievers – Minor arterials that provide direct relief for metropolitan highway traffic;
- Expanders – Routes that provide a way to make connections between developing areas outside the I-494, I-694 interstate ring;
- Connectors – Roads that would provide good, safe connections to and among town centers in the transitional and rural areas in the area; and,
- Augmenters – Roadways that augment principal arterials within the interstate ring or beltway.

Connectivity among the “A” minor arterials and the principal arterials allows the minor arterial network to function in a manner similar to the grid system it emulates.

As indicated earlier, the “A” minor arterial system is designated to serve long distance trips and to concentrate traffic traveling within the City. Volumes are expected to be highest on these roads and for this reason each of the routes identified is expected to ultimately be built as a four-lane divided roadway.

The City of Edina is served by four “A” minor reliever arterials as currently classified by the Metropolitan Council:

- CSAH 17 (France Avenue), which connects to I-494 and TH 62, and relieves TH 100
- 76th/77th/78th Streets frontage road system from East Bush Lake Road to the east as far as TH 77, which connects to TH 100 in Edina and runs relieves I-494
- 66th Street, which connects to France Avenue, TH 100 and, in Richfield, I-35W
- CSAH 158 (Gleason Road/Vernon Avenue), which connects to TH 62 and TH 100

The adopted Metropolitan Functional Classification System map does not include the following segments as “A” minor arterials. However, the City of Edina proposes that they be added to the system as “A” minor reliever segments for the reasons described:

<u>Roadway</u>	<u>Segment</u>	<u>Reasons for Designation</u>
• Valley View Road	France Avenue to TH 62	Continuity of 66th Street “A” Minor reliever designation to TH 62
• West 78th Street	East Bush Lake Road to Washington Avenue	Continuation of 76th/77th/78th frontage Road system along future frontage road, connecting to existing “A” minor arterial Valley View Road in Eden Prairie.
• Washington Avenue	South of Valley View Road	Serves to relieve TH 169, especially around I-494 interchange.
• West Bush Lake Road	South of West 78th Street	Complements West Bush Lake Road and serves to relieve TH 169/I-494 interchange.

Although West Bush Lake Road is in Bloomington it, and the other proposed designations for roads in Bloomington north of I-494, affects the ability of the Edina roadway system to perform effectively. These proposed designations would need to be included by Bloomington in its transportation plan.

Edina is served by one “A” minor augmentor: 50th Street, between TH 100 and the City of Minneapolis.

The draft *Hennepin County Transportation Plan* includes the Gleason Road/Vernon Avenue (CSAH 158) roadway segment as a “B” minor arterial. However, the City of Edina concurs with the Metropolitan Council’s designation of the road. Vernon Avenue receives a significant amount of non-local traffic from the Minnetonka/Eden Prairie areas related to commuters avoiding the congested principal arterials and metered ramps in the area.

“B” Minor Arterials

The Metropolitan Council defines considers all minor arterials other than “A” minor arterials as “B” minor arterials. These roadways also serve a citywide function. Medium to long distance trips use the “B” minor arterial system. When combined with the “A” minor arterial system, most places in the City are within ½ to one mile of such a roadway. “B” minor arterials can be appropriate at spacings of ¼ mile in regional business concentrations such as the Southdale/France Avenue corridor.

Ideally, these routes would be constructed either as four-lane undivided roads (or as three-lane roadways where there is insufficient right-of-way) when the system is complete. However, the design of the roadways should be a function of the volume rather than the function of the roads.

The topography of western Edina, coupled with its fully developed status makes it difficult to identify routes that would naturally serve as “B” minor arterials. Nevertheless, it is important to create a sense of roadway hierarchy in the community. While a roadway may carry traffic volumes more consistent with a collector designation, if it is used by a high number of vehicles passing through the area of the community, it functions as a “B” minor arterial.

Roadway segments designated as “B” minor arterials in this plan include:

- Blake Road, from the City of Hopkins to Interlachen Blvd.
- Interlachen Blvd., from Blake Road to Vernon Avenue
- Lincoln Drive, from TH 169 to Vernon Avenue
- Tracy Avenue/Valley View Road, from Olinger Blvd. To Gleason Road
- Gleason Road, from TH 62 to Valley View Road
- Braemar Blvd., from TH 169 to Gleason Road
- Dewey Hill Road, from Gleason Road to Cahill Road
- Cahill Road, from West 78th Street to West 70th Street
- West 69th Street, from France Avenue to Xerxes Avenue
- West 70th Street, from Cahill Road to France Avenue
- York Avenue, from I-494 to TH 62
- Valley View Road, from TH 100 to TH 62
- Valley View Road from West 66th Street to West 69th Street
- Wooddale Avenue, from West 50th Street to Valley View Road

Hennepin County identifies CSAH 20 (Blake Road/Interlachen Blvd.) as a major collector. While this roadway is residential and a two-lane roadway, it serves an inter-community transportation role and carries trips through the residential area as well as to the area. These are characteristics of a minor arterial. Similarly, the County identifies York Avenue as a major collector. The City concurs with the designation north of TH 62, but considers York Avenue a minor arterial south of TH 62. York Avenue, in addition to being a high-volume roadway serving the Southdale regional business concentration, serves as a connection from Bloomington through Edina and into Minneapolis including an interchange at TH 62.

Collectors

Collectors are designed to serve shorter trips that occur entirely within the City and to provide access from neighborhoods to the arterial system. These roads supplement the arterial system in the sense that they emphasize mobility over land access, but they are expected, because of their locations, to carry less traffic than arterial roads.

Collectors collect and distribute traffic from neighborhoods and commercial/industrial areas to/from the major collector and minor arterial system. Local streets should be designed to connect to collectors and not to arterials.

These streets are generally built as two-lane roadways.

Estimated Mileage by Classification

The ultimate roadway system is based upon the functional classification presented above. It reflects full development of the City according to the land use plan and socioeconomic forecasts presented earlier.

Communities should have an appropriate balance among the different types of functional classification. Table 5 compares the relative size of the different functional classes in Edina with the regional average. The current classification of roadways in the city has a significantly lower percentage of arterial roadway miles than the region as a whole, with lower minor arterial mileage. The revised classification scheme reduces that imbalance.

**TABLE 5
FUNCTIONAL CLASSIFICATION MILEAGE DISTRIBUTION**

Classification	Existing Classification	Proposed Classification ⁽¹⁾	Regional Average ⁽²⁾
Principal Arterial	5%	5%	6%
Minor Arterial	5%	13%	14%
Collector	16%	10%	9%
Local	74%	77%	71%

(1) SRF Consulting Group, Inc. estimate.

(2) Source: Mn/DOT Transportation Information System.

ROADWAY PLAN

Edina is a fully developed community. Very few opportunities exist to construct new roadways, unless done as part of a redevelopment. This roadway plan identifies the major emphases the City should pursue as part of its planning:

Expanded Integrated Corridor Traffic Management (ICTM)

The partners in the ICTM project are considering the long-term potential to expand the system beyond its current size. Expansion of the system north along TH 100 and TH 169 has been discussed. ICTM has the potential to reduce delays at ramp meters in Edina and to guide non-freeway traffic more efficiently along the reliever arterials. The City should participate in the study of this expansion.

Monitor “A” Minor Arterial System Efficiency

Similar to the ICTM system, a well-coordinated minor arterial system signal system promotes the flow of traffic along the “A” minor arterials through the city. This reduces the likelihood for through traffic to divert to local streets as well as enhances the operating efficiency of the transportation system. The City should periodically monitor the progression of traffic through signals on key travel corridors (such as Vernon Avenue and France Avenue) to ensure it is operating efficiently.

Improve Storage Capacity at Metered Freeway Ramps

Older freeway interchange designs in developed areas often have insufficient storage capacity to accommodate vehicles queued for ramp meters. As a result, traffic spills back onto the adjacent roadway system causing delay for the arterial through traffic. Solutions may include adding turning lanes for traffic destined for the freeway or other geometric improvements. The following interchanges in Edina should be reviewed for potential improvements to improve interchange storage capacity:

- TH 62 at Xerxes Avenue
- TH 100 at West 70th Street
- TH 100 at West 77th Street

Improvements are programmed at the TH 62/France Avenue and TH 100/West 77th Street interchanges. The City should work with Hennepin County and Mn/DOT to promote the use of the TH 62/Valley View Road and TH 62/France Avenue ramps as part of an interconnected system. This would help balance demand for freeway access/egress and the need for arterial capacity in the heavily developed Southdale area. The segment of West 65th Street between Valley View Road and France Avenue should be constructed as a three-lane roadway as currently planned by the City.

Bus or High Occupancy Vehicle (HOV) meter bypasses can reduce the vehicle queue length while providing an incentive for people to use alternatives to the single-occupant automobile. Existing and proposed HOV meter bypasses are discussed in the transit chapter.

Additional Traffic Signals

Operational refinement of the street system will take place on an ongoing basis. New traffic signals can be built at intersections where specific warrants are met. Figure 8 shows the existing and currently proposed traffic signals in Edina. Additional signals should be considered on a site-by-site basis.

Traffic Calming

A variety of physical means (such as speed humps) exist to reduce the speed of traffic in neighborhoods. These traffic calming devices can be effective but should only be used where appropriate. Traffic calming can be appropriate on lower-volume local and collector streets where excessive speeds pose a safety problem. It should not be employed solely as a means to discourage through-traffic in a neighborhood. Through traffic can best be discouraged by having an arterial system that is spaced and operated so that it is more attractive to through traffic than local or collector streets.

FUTURE CONGESTION

Figure 5 shows roadways where congestion is expected to exist in 2020.

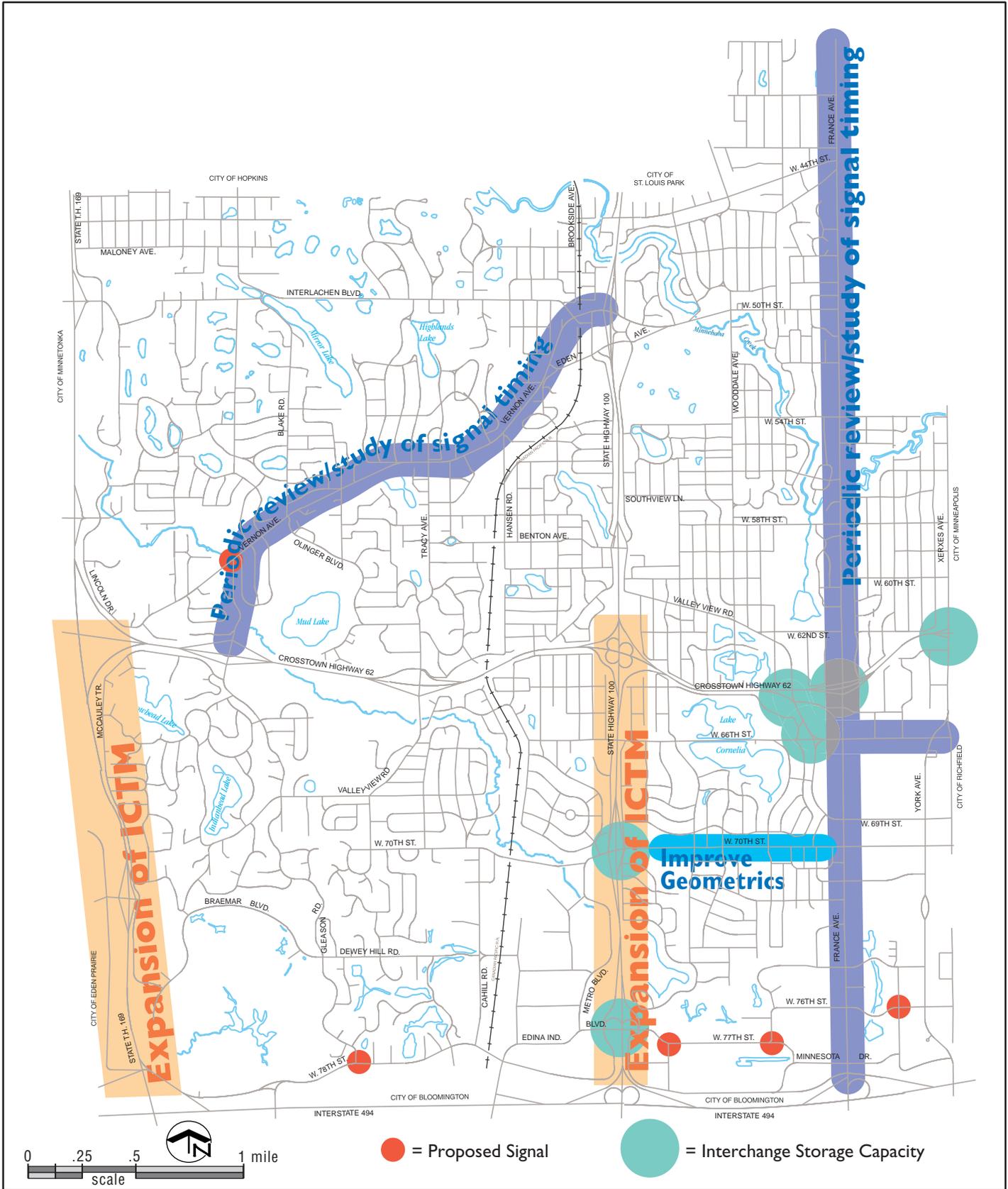
The City of Edina is limited in its ability to eliminate congestion for two main reasons:

- Its location in proximity to several congested principal arterials will result in traffic on reliever arterials or other roadways that is a function of regional growth rather than development in the City
- The City is nearly fully developed and topographically constrained. Little land exists for major roadway expansion or realignment to significantly affect traffic congestion. Site-specific improvements are possible, however.

The level of congestion of the future metropolitan highway system depends in large measure on both the capacity improvements undertaken and the availability of a local arterial system to complement and relieve the regional system. Future congestion levels also depend upon the amount of development occurring in adjacent communities and beyond.

Improvements proposed for municipal roadways are under direct control of the City and will receive highest priority in the City's Transportation Improvement Program. For roadways on the County system, the City will cooperate with Hennepin County and encourage the improvement of county roads in accordance with this plan.

This plan has not assumed any additional roadway capacity on the metropolitan highway system other than those projects that are already included in the regional Transportation Policy Plan.



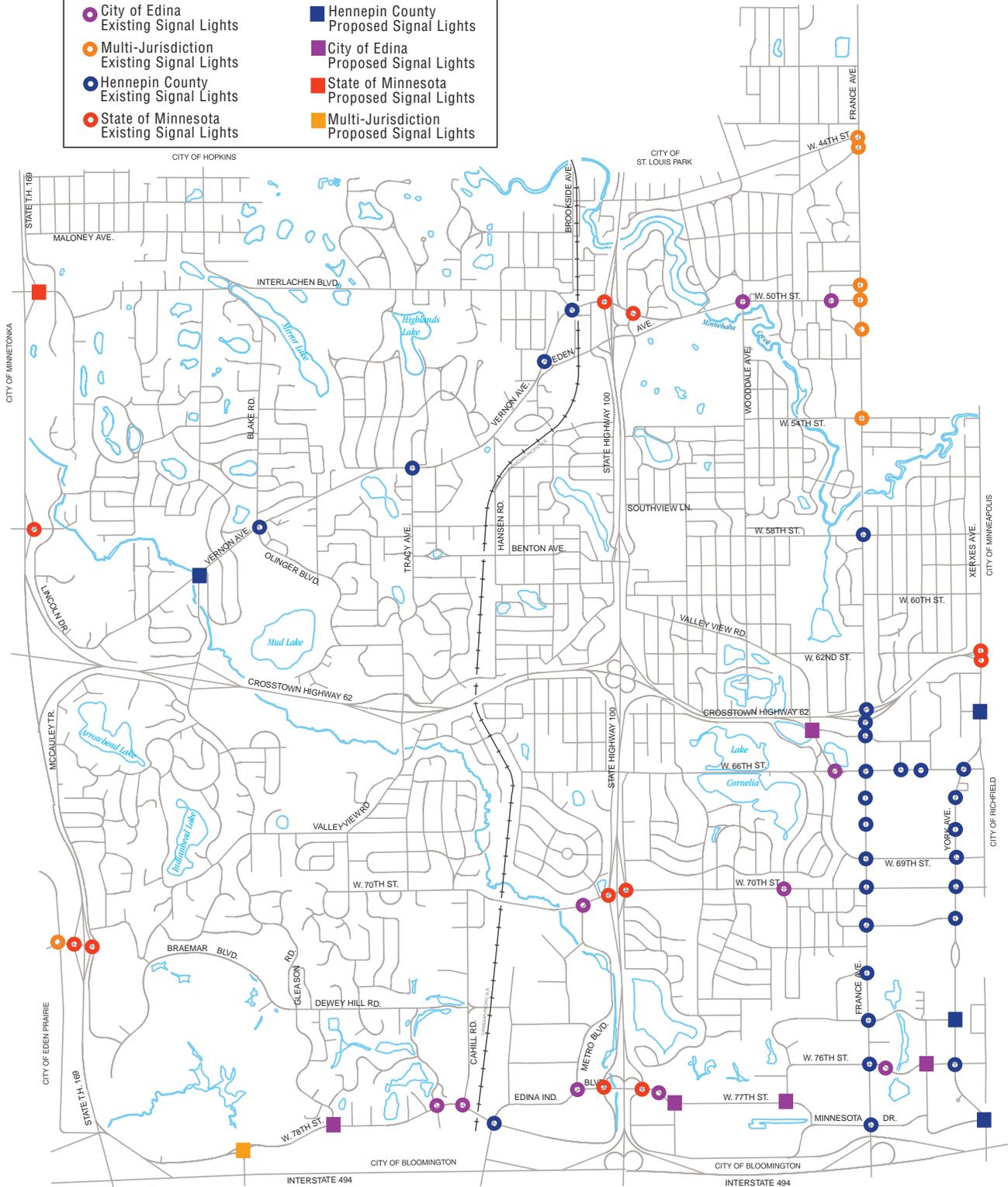
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Recommended Roadway Improvements

LEGEND

- | | |
|---|---|
|  City of Edina Existing Signal Lights |  Hennepin County Proposed Signal Lights |
|  Multi-Jurisdiction Existing Signal Lights |  City of Edina Proposed Signal Lights |
|  Hennepin County Existing Signal Lights |  State of Minnesota Proposed Signal Lights |
|  State of Minnesota Existing Signal Lights |  Multi-Jurisdiction Proposed Signal Lights |



SRF No. 0983117



Existing & Proposed Signal Locations

VI. TRANSIT AND TDM PLAN

POLICY FRAMEWORK

The Metropolitan Council's 1996 Transit Redesign serves as a regional policy framework for the promoting of transit throughout the Twin Cities. The study identified four transit market areas, delineated by the following criteria:

- Population density
- Employment concentration and job density
- Travel desire, travel volumes and patterns
- Transit dependent segments of population

The City of Edina falls into three of the four areas. Area I is classified by high density employment and population. The other three areas having lower densities in both. Area I is typical of downtown Minneapolis and downtown St. Paul, and is the only area type not found in the City of Edina:

Area II is classified as having a population density of 9-14.9 persons per acre. This area is also near high transit dependency areas. This is typical of north and east portions of Edina.

Area III is defined as having a population density of 5-8.9 persons per acre. It also is characterized by having 10-49 jobs per acre and 3,000 or more jobs nearby. It could also be near an area that is a major travel destination. This more dense employment is typical of the France Avenue corridor.

Area IV is defined as having a population density of 5 persons per acre or less.

Services appropriate for Area II are a primary emphasis on large bus/regular route service. This should be complemented with Metro Mobility paratransit service. Neighborhood circulators are possible in some areas and should tie in with the regular routes. Routes should be run up to 20 hours per day, 7 days a week, about every 15 to 30 minutes. Route spacing should be ½ to 1 mile with 6 to 10 stops per mile.

Area III suggested service type is very similar to Area II. The biggest differences are to have both large and small buses, frequency every 30-60 minutes, and service provided up to 18 hours per day.

Area IV services are geared more toward rural or outer suburban service, but there are areas in southwest Edina that meet the criteria for Area IV. The primary emphasis is on small bus or dial-a-ride service. Park-and-ride lots are a prime focus in these areas. The service times are peak periods only during the work-week.

The Metropolitan Council's 1996 Transportation Policy defines four transit zones:

Core Zone – This zone which is similar to Area I, is characteristic of a downtown or other high concentration of housing and employment.

Inner Urban/Suburban Zone – This zone is similar to Area II in the Transit Redesign Study.

Outer Suburban Zone – This zone has characteristics similar to Area IV in population densities. It does not however focus on dial-a-ride services.

Rural Zone – This is the zone that concentrates on dial-a-ride services, and rideshare programs. The population is very spread out and continual transit service would not be effective.

The City of Edina falls into two of these zones. The north and east sides of the city fall into the inner urban/suburban zone. Those are the older areas of Edina where population is denser. The southwest corner of Edina is classified as outer suburban. The characteristics of those neighborhoods are larger lots and more park-and-open space. Concentrated transit services are less likely to be effective in this area of Edina.

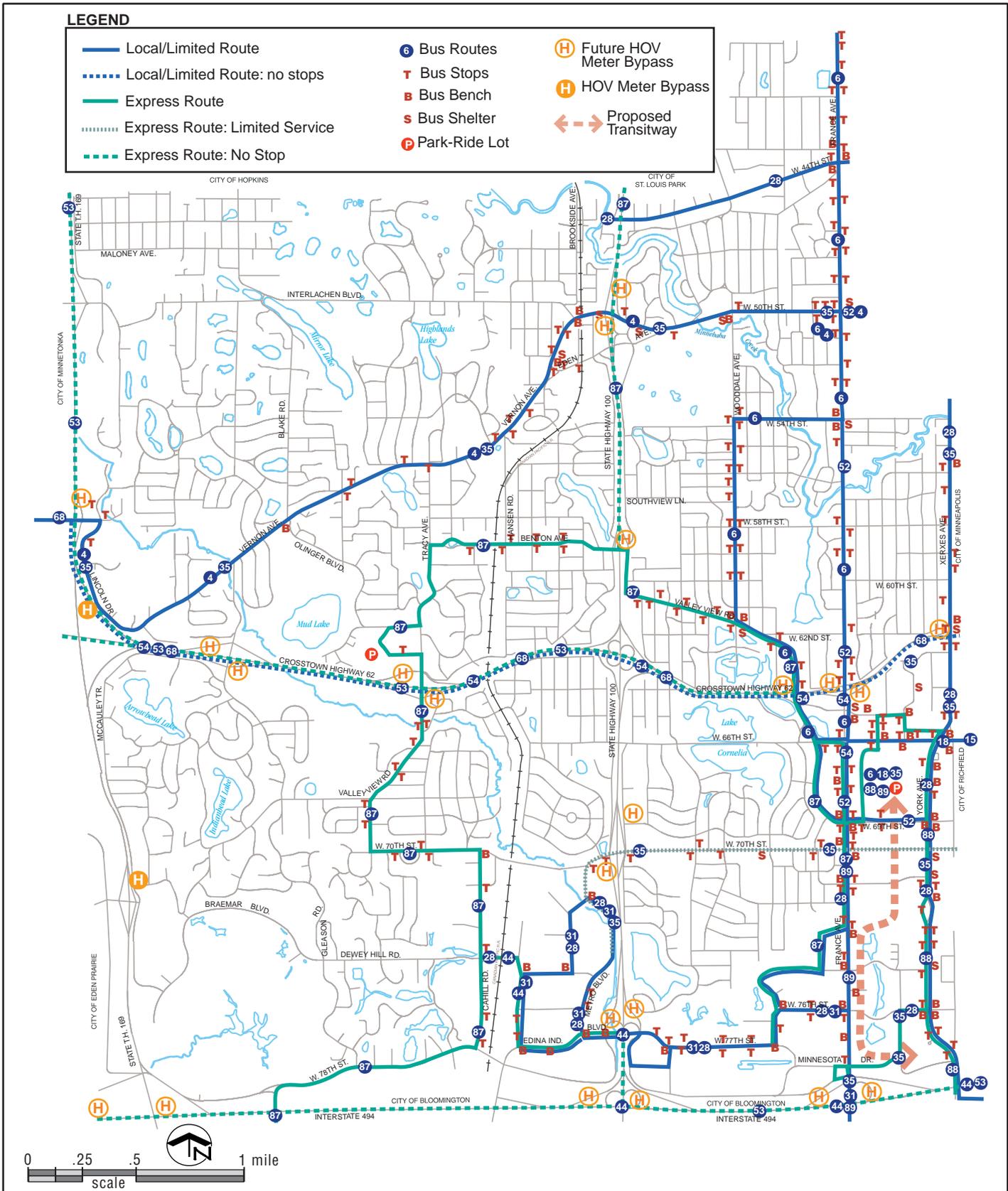
EXISTING TRANSIT SERVICES

The City of Edina is currently served by five different transit service providers (see Figure 9):

- **Metro Transit** – The region's largest transit provider operates several routes in Edina. Branches of local routes 4, 6, 18 and 28 serve various parts of the city with between one and four buses per hour in the peak and generally two buses per hour in the midday. Some potential exists to use these buses for reverse commuting. In particular, the Route 28K serves the Pentagon Park business area and Edina Industrial Area. Route 15 (the 66th Street crosstown), begins at Southdale and operates with a frequency of 15 minutes peak, 30 minutes off-peak. Route 68, which serves the Opportunity Workshop in Minnetonka, stops at Southdale. Express routes 35B, 35H, 35J, 35K, 44E and 87 also serve Edina, including some reverse commuting opportunities. Finally, Route 52B, serving the University of Minnesota campus, begins at Southdale.

LEGEND

- Local/Limited Route
- - - Local/Limited Route: no stops
- Express Route
- - - Express Route: Limited Service
- - - Express Route: No Stop
- 6 Bus Routes
- T Bus Stops
- B Bus Bench
- S Bus Shelter
- P Park-Ride Lot
- H Future HOV Meter Bypass
- H HOV Meter Bypass
- ← - - - - → Proposed Transitway



SRF No. 0983117



Southwest Metro – Route 682 (formerly 54S) provides a connection from the Eden Prairie area to Southdale and on into downtown Minneapolis. Its schedule accommodates reverse transit needs. The Southwest Metro “Telebus”, a dial-a-ride service operating in Eden Prairie, Chaska, and Chanhassen also makes stops at Southdale.

- BE Line – The two BE line routes operate as crosstown routes between the Mall of America and Southdale areas, serving Bloomington and Edina businesses and residents. Direct transfers can be made from the BE line to fourteen different routes. The BE Line is operated provided by Laidlaw Transit Service. In 1997 the route carried 247,000 passengers on an annual budget of \$620,000. Service operates Monday through Saturday from approximately 6:30 a.m. to 10:30 p.m.
- Minnesota Valley Transit – Route 31F makes three runs in each peak period, connecting Apple Valley and Burnsville to the I-494 area including the Pentagon Park business area and Edina Industrial Area.
- Metro Mobility – This demand responsive service for persons who have a mobility impairment meets the requirements of the Americans with Disabilities Act (ADA). Because of its high levels of all-day regular route transit service, Edina receives Metro Mobility service from 4 a.m. to 2 a.m..

HOV Ramp Meter Bypasses

Figure 9 shows the location of existing HOV and bus bypasses. In addition, buses are permitted to use the shoulder on I-494 from TH 5 to East Bush Lake Road.

Southdale Transit Hub

The Southdale Mall, located at France and 66th Street, is a major transit hub in the Twin Cities and is located within the City of Edina. Eleven bus routes arrive and/or depart from Southdale, with transit service seven days a week. Southdale also serves as a park-and-ride facility.

Park-and-Ride Lots

The City of Edina currently has two park-and-ride facilities. Southdale has 100 parking spaces dedicated for park-and-ride, with a 95 percent use of these spaces. Another park-and-ride lot is located at Colonial Church near the TH 62 and Tracy Avenue interchange. The Colonial Church lot has a capacity of only 12 spaces for park-and-ride, and is not typically more than 50 percent full.

Travel Demand Management

The metropolitan area's transportation policies seek significant changes in travel behavior to more effectively manage existing transportation facilities. By modifying demand for travel, congestion and the need for facility (roadway) expansion can be lessened. Travel Demand Management (TDM) refers to a variety of strategies and actions for reducing single-occupant vehicle travel, increasing vehicle-occupancy rates, and reducing vehicle miles of travel.

Edina is a participant in one of the longest-operating transportation management organizations (TMO) in the metropolitan area, the I-494 Corridor Commission. The purpose of the commission is to coordinate planning, funding and implementation of transportation and land use strategies in order to address the growing traffic congestion in the I-494. Other commission members include Bloomington, Edina, Eden Prairie, Minnetonka, Richfield, Plymouth and Maple Grove.

In 1997 the I-494 Corridor Commission began implementing a strategy titled the “New Approach”, which focuses activities on major areas that include identifying and advocating for improvements that encourage commuters to share rides to and from work, and those that improve the “people-moving capacity” along I-494.

The I-494 travel demand management program is programmed to receive approximately \$465,000 in federal Congestion Management and Air Quality (CMAQ) funds through the year 2003.

In addition to participating in the I-494 Corridor Commission, Edina businesses and residents have access to ridesharing matching and other programs offered by Metro Commuter Services.

PROPOSED IMPROVEMENTS

Service Improvements

The City should work with Metro Transit, Southwest Metro, Minnesota Valley Transit and the Metropolitan Council (as funder of the BE line) to ensure that additional transit service is provided when capacity is exceeded on existing routes.

Although most of the City is well-served by public transit, many residential areas in the western portion of the city do not have transit available within walking distance. The City should explore the potential of providing small-vehicle demand responsive service from those areas to Southdale, where connections could be made with other regional transit services.

Southeast Edina Transitway

In 1997 the city of Edina completed a feasibility study to determine the potential for an internally-circulating transit system in southeast Edina. The system would include a dedicated north-south transitway that would run between France Avenue and York Avenue (see Figure 9). The northern terminus would be in the vicinity of Southdale Mall or the Fairview-Southdale Medical Center. The southern terminus would be the Edinborough complex.

A second option being considered is the purchase of five “trolley” buses that would operate along the corridor. Service could operate either at lunch and dinner hours, or all day at 10-minute headways. Either plan would be useful in connecting places of business in the area. The corridor would also be constructed to be pedestrian-friendly. When the transit line is not in service, the corridor could be used as a recreational facility for walking or biking.

Future Park-and-Ride

Metro Transit has expressed interest in locating a new park-and-ride facility in Edina along TH 100 at Benton Avenue or 50th Street. The lot would make Route 87 a more attractive travel option for Edina residents.

The City should work with Metro Transit on meeting park-ride needs. However, the potential for additional traffic congestion at interchanges due to park-ride should be weighed against the benefit of having the service. The greatest park-and-ride needs in Edina are likely to be found in the western 1/3rd of the city, where a low percentage of households has good walk-access to transit. These households may be better served by express service along the TH 169 corridor.

HOV Ramp Meter Bypasses

The City should pursue constructing ramp meter bypasses for HOV and transit vehicles at all of the remaining interchanges on TH 169 and TH 100, if right-of-way is available. The advantages of HOV meter bypasses are that they provide an incentive for persons to use buses or carpools, they reduce operating delays for buses, and they can alleviate some of the congestion at freeway interchanges due to ramp metering.

HOV meter bypasses are to be constructed on I-494 as part of that roadway’s expansion.

Travel Demand Management

The I-494 Corridor Commission advocates several TDM and transit-related strategies, including:

Transit/Facility-Oriented

- Bus stations or super-shelters (within 1-2 miles of I-494; easy ingress/egress)
- Park-and-ride lots along the I-494 corridor
- HOV access lanes
- Bus-only shoulder lanes along I-494
- Transfer stations (where appropriate) along I-494 corridor
- Signage indicating diamond lanes/shoulder lanes along I-494
- Signage indicating park-and-ride lots along I-494
- HOV ramp meter bypasses
- Signalization control (pre-emption)
- Opticon systems (pre-emption)

TDM-Oriented

- Preferred parking at employer locations along I-494
- Van and carpool ride-matching services at the subregional level
- Circulator services through major developments and business park locations
- Shuttle services between area park-and-ride and major employment sites
- Employer-based incentives to ridesharing
- Guaranteed Ride Home programs – at the subregional level
- Services linking corridor transit hubs
- Employer subsidies for carpoolers, vanpoolers, transit riders
- TDM requirements for developers in I-494 corridor
- “Transit-friendly” ingress/egress in major employment sites
- Reserved I-494 corridor right-of-way for future HOV lanes/ramps
- Smaller parking ratio per square footage – new development
- Required TDM Program implementation for employer expansion projects

Commuter Rail

In January 1999 the Minnesota Department of Transportation completed Phase II of its Twin Cities Metropolitan Commuter Rail Study. One of the proposed lines extends from Northfield to downtown Minneapolis and includes service on the Canadian Pacific Railroad line through central Edina. Eden Avenue was considered as a preliminary location for a station.

The portion of this line commuter rail in Edina is proposed for Stage Three of implementation and would not likely be operational before 2015. Additional study would be necessary to finalize station locations. This could also include restructuring of transit routes.

VII. PEDESTRIAN, BICYCLE AND GOODS MOVEMENT

PEDESTRIAN AND BICYCLE FACILITIES

Figure 10 shows the extensive sidewalk and pathway facilities available in Edina. Sidewalks are commonplace not only in the older sections of the city, but pedestrian facilities exist throughout much of the City. Policies 24-27 described in Chapter One support the continued development of pedestrian facilities. Separating bicycle/pedestrian use from traffic enhances the livability and safety of an area. Providing pedestrian-oriented environments near transit facilities provides better access and promotes transit use.

Several corridors in the Hennepin Parks Trail System also serve the City as shown in Figure 10.

GOODS MOVEMENT

No major trucking operations exist within the City of Edina. Edina has one rail line, a branch of the Canadian Pacific with low utilization.

All industrial areas in Edina (see Figure 2) are located with adequate access to the metropolitan highway system. This reduces the impact of truck traffic on local roadways and minimizes the potential for disruption of neighborhoods.

One area of local concern is that truck movements from and within industrial areas in Hopkins may impact the local street system in Edina. This issue should be addressed through a joint effort among the cities and industries.

Truck traffic from industrial, industrial/warehousing and commercial land uses can be adequately accommodated through following sound means:

- Locating truck-intensive land uses with good proximity to the metropolitan highway system and with good access to the minor arterial system.
- Using acceptable design standards on arterials, which will ensure adequate turning radius and pavement depth for trucks
- Signing and marking to minimize truck traffic through neighborhoods



SRF No. 0983117



Pedestrian/Bicycle Facilities

VIII. PLAN IMPLEMENTATION

Previous sections have examined future travel and have recommended a Plan that is responsive to these considerations. This section concentrates on examining the steps necessary to implement the transportation plan. It discusses a general strategy for moving from 1999 to the future in accomplishing the plan.

TRANSPORTATION PLAN ADOPTION

By adopting the transportation plan, the City Council will establish the guidelines by which decisions regarding transportation facilities will be made in Edina. It should be revised as necessary to respond to changing conditions and needs. The City should periodically review the assumptions under which the plan was developed, including estimates of future development, population trends, changing financial resources, energy considerations, and citizen and governmental input, and update the plan accordingly.

The plan should be circulated widely so that residents and the business community are aware of the opportunities and limitations that the plan provides, thus enabling all interested parties to plan with full knowledge.

INITIATE JURISDICTIONAL REALIGNMENT PROCESS

In general, it is good policy that Hennepin County and the State (Mn/DOT) assume responsibility for the arterial system, and that the City assume responsibility for the collector and local street systems. This is, to a large extent, the situation in Edina.

At present, there are no roadways in the City under state jurisdiction that are under consideration for turnback to Hennepin County or the City of Edina.

The draft *Hennepin County Transportation Systems Plan* (November, 1998) identifies three roadway segments that are candidates for turnback to the City of Edina. These roadways are shown in Table 6 and Figure 11.

**TABLE 6
POTENTIAL COUNTY TO CITY JURISDICTIONAL TRANSFERS**

Roadway	Segment Limits	Reasons for Transfer
CSAH 20 (Blake Road./ Interlachen Blvd.)	No. City Limits to Vernon Avenue	Lower volume, classified as collector
CSAH 31 (York Avenue)	So. City Limits to 50th Street)	Non-continuity, proximity to France Avenue)
CSAH 158 (Vernon Avenue)	TH 62 to TH 100	Classified as B-minor arterial, but collector street function)

Source: *Hennepin County Transportation Systems Plan* (Draft, November, 1998)

As shown in Figure 11, the City does not concur with the transfer of the following roadways:

These roadways should remain under county jurisdiction for the following reasons:

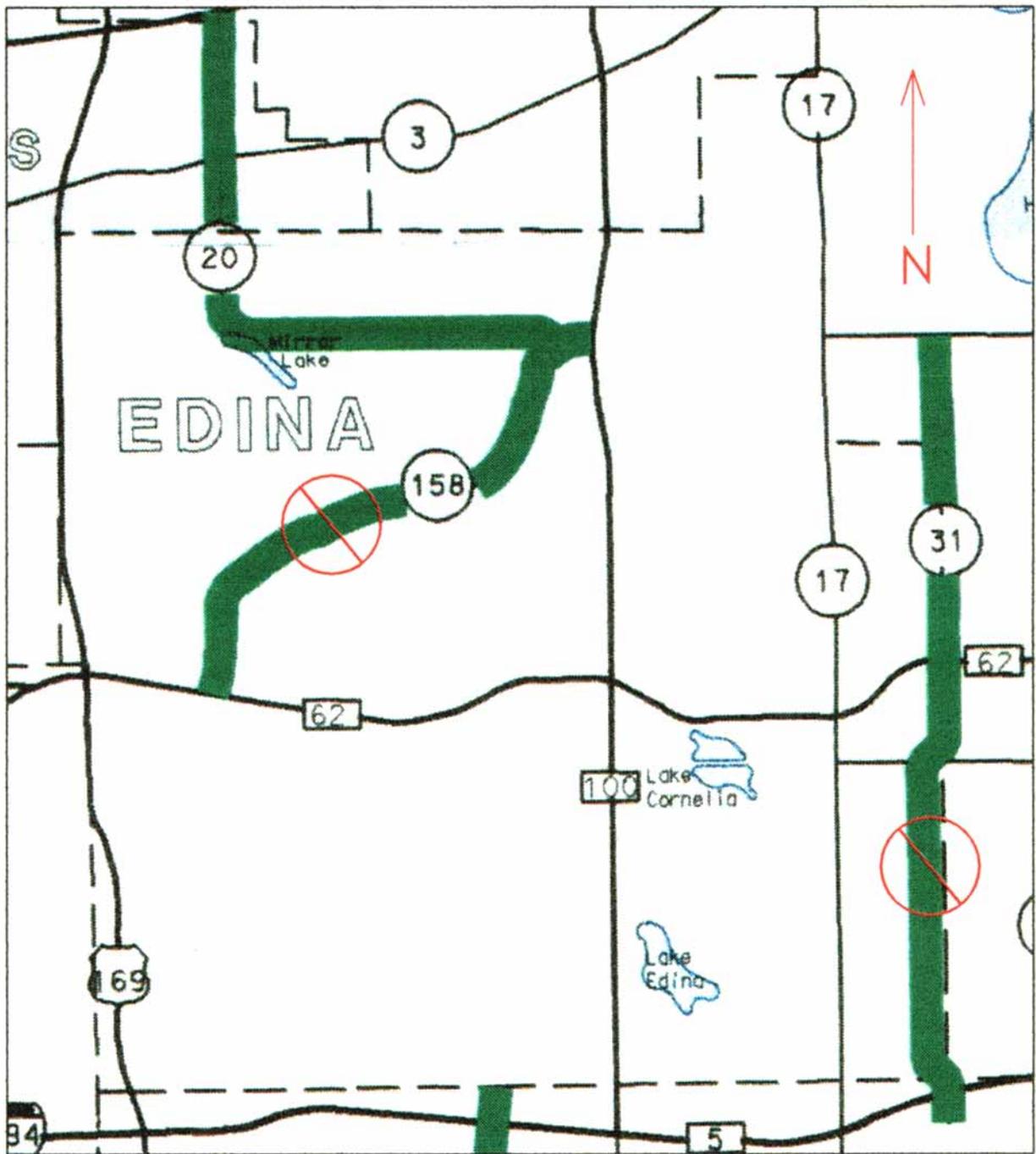
- CSAH 31, York Avenue (south of TH 62) – This road also serves an intra-community function, connecting Bloomington with TH 62 as an alternate for and therefore is appropriate for county jurisdiction. Based on travel forecast estimates, 26 percent of the traffic on the roadway has neither origin nor destination in Edina, while 12 percent begins and ends in Edina.
- CSAH 158, Vernon Avenue – This road, an “A” minor reliever arterial on the regional system, serves an intra-community function and therefore is appropriate for county jurisdiction. Based on travel forecast estimates, 45 percent of the traffic on the roadway has neither origin nor destination in Edina, while only seven percent begins and ends in Edina.

Transfer of CSAH 20 (Blake Road/Interlachen Boulevard) and the portion of CSAH 31 north of TH 62 may be logical given roadway use and access.

However, if the City of Edina were to accept any of these roadways for transfer, the City should ensure that the roads are brought up to appropriate design and maintenance standards prior to accepting transfer.

PROTECT ACCESS

The City of Edina, through its ordinances, has authority to approve developments contiguous to city streets. It is the City’s responsibility to ensure that the needs of property owners for access to the transportation system are balanced with the overall public’s needs for mobility.



POTENTIAL HIGHWAY
 JURISDICTION REVISIONS
 PER HENNEPIN COUNTY

 COUNTY → CITY
 NOT ENDORSED BY
 CITY OF EDINA

SRF No. 0983117

Source: City of Edina

City of Edina Transportation Plan

Figure 11

March 1999



Potential Highway Jurisdictional Revisions

The City must work with Hennepin County for access modifications to roadways under county jurisdiction. Hennepin County has included access guidelines included in its *Transportation System Plan*, which are shown in Appendix C.

Access control guidelines are used to preserve the public investment in the roadway system while making available to developers the terms under which plan preparation can occur. They balance the public interest (mobility) with the interests of property owners (access). Arterials should be oriented toward mobility rather than access, while local streets provide high levels of access. Collectors should serve a balance between access and mobility. Appropriate access control preserves the capacity on arterial streets, reducing the need for traffic to divert to local streets. Access management improve safety by reducing the potential conflicting movements between vehicles on the roadway.

In instances of site redevelopment, the City should enforce access control consistent with these guidelines.

The City's existing ordinance on curb cut placement limits the placement and number of accesses to local and collector roadways under City jurisdiction. In general:

- No driveway on a local street is to be within 50 feet of a street intersection
- When properties adjoin two streets the access should be to the lower volume street
- Driveways should not intersect with arterials

ESTABLISH IMPROVEMENT PROGRAMS

An overall strategy of improvement, tempered by fiscal constraints, begins with an analysis of key intersection capacity improvement projects, safety improvements and the protection of access by establishing strict standards and by designating necessary right-of-way. Identifying future needs for facility rights-of-way followed by timely "set-aside" programs will, in the long run, save the community much in the way of financial resources. Roadway improvements should also be geared toward providing for transit needs, particularly in the area of meeting turning radii, traffic signals and adequate roadway structure. It should be pointed out that non-motorized travel needs also must be carefully considered.

SOURCES OF FUNDING

Roadways under city jurisdiction are maintained, preserved, constructed and re-constructed by the City's Department of Public Works. Funding for these activities, including the administrative costs of operating the department, are obtained from a variety of sources including ad valorem taxes, special assessments, development fees and tax increment financing. A major concern of the City is the availability of sufficient funds for maintenance and construction activities. If funds are unavailable, needed projects may be delayed or terminated and maintenance of existing facilities may fall short of acceptable standards. The following discussion explains the existing sources of funding and potential new sources of revenue.

Federal Surface Transportation Program Funds

STP is a categorical funding program created under the Intermodal Surface Transportation Efficiency Act (ISTEA) and continued under the current federal funding process (TEA-21). The Metropolitan Council, through its Transportation Advisory Board, solicits projects (generally on an annual basis) through a competitive process using a set of evaluation criteria. Generally, “A” minor arterial projects and enhancement projects such as pedestrian/bikeways are funded through this program.

Congestion Management and Air Quality (CMAQ)

CMAQ is a categorical funding program created under the Intermodal Surface Transportation Efficiency Act (ISTEA) and continued under the current federal funding process (TEA-21). These funds are directed to projects that contribute to meeting national air quality Standards and generally include projects such as transit, non-motorized transportation and travel demand management. The Metropolitan Council, through its Transportation Advisory Board, solicits projects (generally on an annual basis) through a competitive process using a set of evaluation criteria.

State Aid

An extremely important source of revenue to the City is state-aid. A network of city streets called Municipal State-Aid Streets (M.S.A.S.) is eligible for funding assistance with revenue from the Highway User Tax Distribution Fund. This fund acts as a distribution or tax clearance fund, and tax income received into the fund is transferred to various transportation-related funds for expenditure. The fund receives revenue from two principal sources: 1) gasoline taxes, and 2) vehicle registration taxes. These two sources are permanently dedicated to this fund. Ninety-five percent of the net proceeds of the Highway User Tax Distribution Fund are distributed annually according to a constitutionally mandated formula: 62 percent to the Trunk Highway Fund, 29 percent to the County State-Aid Highway Fund, and 9 percent to the Municipal State-Aid Street Fund.

Assessments

Property that benefits from a roadway scheduled for improvement may be assessed for a portion of the cost of construction. The basis for the assessment is the increase in property values attributable to the project, which can be difficult to determine. For this reason, assessments represent a limited source of revenue. Nevertheless, this is an important source of revenue for the City.

Livable Communities Grants

The Metropolitan Council has funds available for projects designed to enhance the livability of communities. Transportation-related projects in this category involve

pedestrian facilities, traffic calming and land use or other improvements oriented to transit. Communities must opt to participate in the Livable Communities Program.

Ad Valorem Taxes

If 20 percent of the cost of a city project can be assessed to the adjacent property owners, the remaining cost of the project can be added to the ad valorem or property taxes of the remaining property owners in the City. Ad valorem taxes for street improvements are excluded from the state mandated levy limits.

Tax Increment Financing

Establishing a tax increment financing (TIF) district is a method of funding infrastructure improvements that are needed immediately using the additional tax revenue to be generated in future years by a specific development. Municipal bonds are issued against this future revenue which is dedicated for a period of years to the repayment of the bonds or to other improvements within the TIF project area. When used appropriately, a TIF can accelerate economic development in an area by insuring that the needed infrastructure is in place without requiring support from the usual funding. This method of financing has already been used successfully in the City of Edina and is expected to be used again in selected areas in the future.

Potential Sources of Revenue

Revenues available from current sources of funding are not always sufficient to meet highway maintenance and construction needs. In order to reduce the potential shortfall of revenue, other sources of funding need to be considered. Two options include impact fees and road access charges.

Impact Fees – Impact fees are assessed to individual developers as property is improved. An attempt is made to determine what impact the additional traffic will have on roadways both near the development and away from it. The cost associated with improving the roadway system sufficiently to handle the additional traffic is assessed to the developer. This type of funding mechanism can be implemented under existing law.

Road Access Charge – A road access charge would be assessed all new development based on the trip generation rate of the new development but without documenting specific impacts. Revenues from this funding source would be used to construct or improve arterial and collector streets in the jurisdiction collecting the tax. New legislation would be required for this type of funding mechanism to be implemented. Cities are in a position to assess these fees because of their zoning and development authority.

Transportation Utility Billing – Under the concept of a municipal transportation utility, all properties would be subject to a periodic fee (i.e., monthly, quarterly), based upon the number of vehicle-trips generated by the type of property. This revenue would then be

used for transportation improvements that produce community-wide benefits including the reconstruction of existing roads and preventive maintenance to reduce deterioration. Such a fund would be especially useful for the maintenance of collector streets which are under the city's jurisdiction, particularly when it is difficult to show enough direct benefit to adjacent property owners to be able to charge an assessment. The periodic nature of the utility billing would also provide a stable source of income to support a regular maintenance program for the entire street system. Such a utility would be administered by individual cities, with each city deciding on their own fee structure. At the present time, this sort of revenue source is not permitted by the state, but efforts are underway to persuade the State Legislature to pass legislation allowing the cities to obtain revenue in this way.

APPENDICES

APPENDIX A

CAPITAL IMPROVEMENTS PROGRAM

**STATE-AID ROADWAY
CONSTRUCTION COSTS**

LINE	YEAR	STREETS	TYPE OF CONSTRUCTION	COST	1999	2000	2001	2002	2003
1	1999	77th Street: Parklawn to Hwy 100	Reconstruct	\$ 1,000,000	\$ 1,000,000				
2	1999	78TH Street: Gleason Rd to Soo Line RR	Reconstruct	\$ 650,000	\$ 650,000				
3	1999	78th Street: Braemar Frontage Road	New Construction	\$ 1,380,000	\$ 1,380,000				
4	2000	Benton Avenue: Hansen Rd to Hwy 100	Mill and Overlay	\$ 34,000		\$ 34,000			
5	2000	Dewey Hill Road: Gleason to Cahill	Mill and Overlay	\$ 51,000		\$ 51,000			
6	2000	Gleason Road: Dewey Hill Road to W. 78th Street	Mill and Overlay	\$ 41,000		\$ 41,000			
7	2000	Valley View Road: Hwy 100 to Wooddale	Mill and Overlay	\$ 60,000		\$ 60,000			
8	2000	Valley View Road: Wooddale to 65th	Reconstruct	\$ 1,000,000		\$ 1,000,000			
9	2001	Valley Lane: Tracy to 66th	Mill and Overlay	\$ 43,000			\$ 43,000		
10	2001	Vernon Ave: Lincoln Dr. to Gleason Road	Mill and Overlay	\$ 78,000			\$ 78,000		
11	2001	West 50th Street: Hwy 100 to France Ave.	Mill and Overlay	\$ 80,000			\$ 80,000		
12	2002	44th Avenue: Hwy 100 to France	Reconstruct	\$ 845,000				\$ 845,000	
13	2002	Brookside: Interlachen to RR tracks	Mill and Overlay	\$ 38,000				\$ 38,000	
14	2002	Wooddale Avenue: Valley View Road to Tower Ave	Reconstruct	\$ 535,000				\$ 535,000	
15	2003	Tracy Avenue: Vernon to TH62	Concrete Rehab	\$ 242,000					\$ 242,000
16	2003	Valley View Road: Tracy to Gleason	Mill and Overlay	\$ 72,000					\$ 72,000
17	2003	West 70th Street: Hwy 100 to France	Concrete Rehab	\$ 283,000					\$ 283,000
18	2003	Wooddale Avenue: Tower Ave to 50th	Mill and Overlay	\$ 54,000					\$ 54,000
19	1999	Computer Avenue & 77th	Signals	\$ 130,000	\$ 130,000				
20	1999	Edinborough Way & 76th	Signals	\$ 130,000	\$ 130,000				
21	2001	Gleason & West 78th Street	Signals	\$ 130,000	\$ 130,000				
22	1999	Parklawn & 77th	Signals	\$ 130,000	\$ 130,000				
23	2000	Vernon & Gleason	Signals	\$ 130,000		\$ 130,000			
24	1999	West 77th Street & TH 100	Signals / Rehab	\$ 804,000	\$ 804,000				
25	1999	TH62 & France Avenue	Signals / Rehab	\$ 369,000	\$ 369,000				
TOTAL STATE AID CONSTRUCTION COST					\$ 4,723,000	\$ 1,316,000	\$ 201,000	\$ 1,418,000	\$ 651,000

APPENDIX B

TRAVEL FORECASTING PROCESS

APPENDIX B

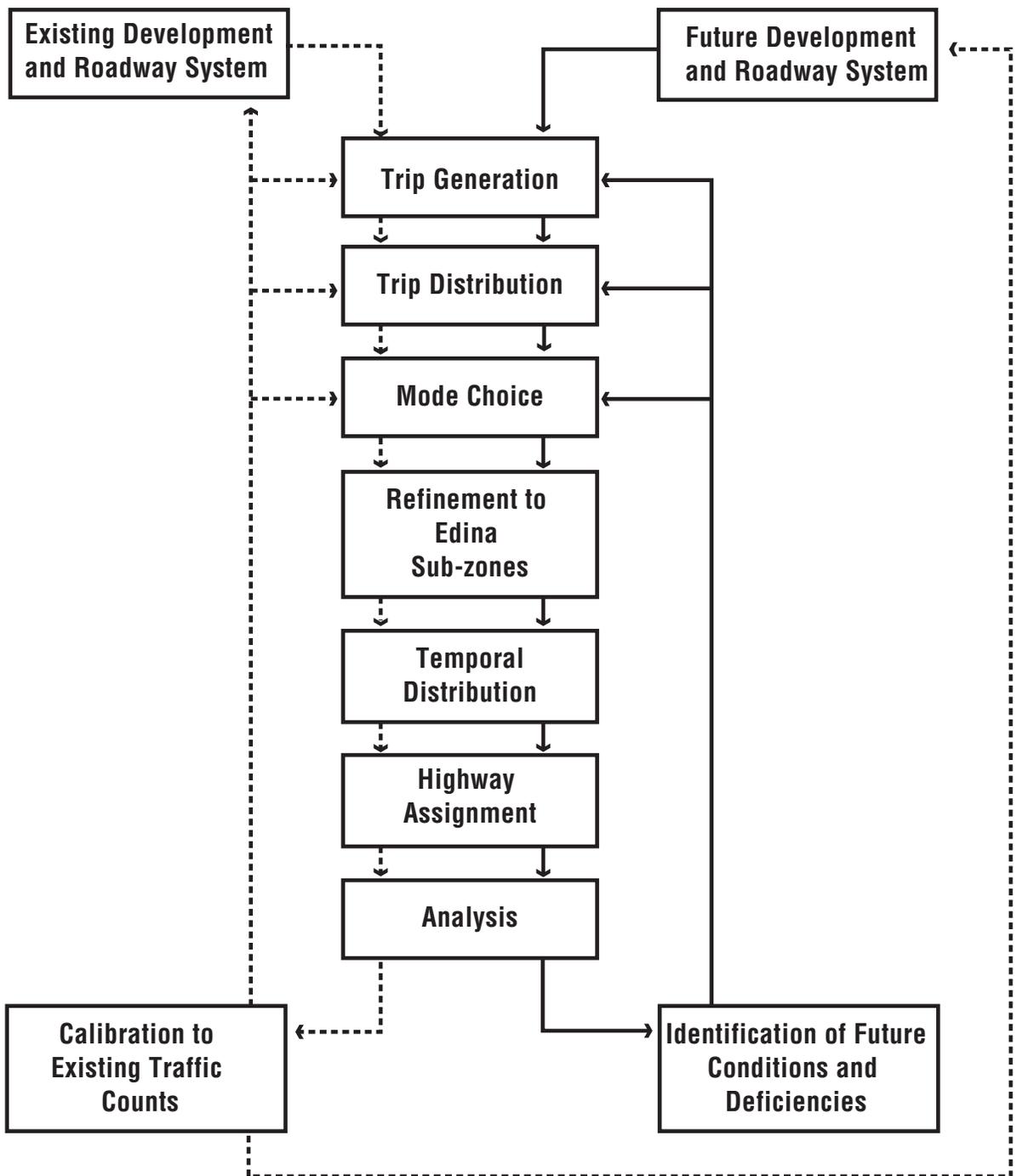
TRAVEL FORECASTING PROCESS

FORECASTING PROCESS

Figure B-1 illustrates the analysis process used to identify deficiencies in the *Transportation Plan* given the level of development anticipated by 2020. The process generally involves using the Metropolitan Council's regional travel forecasting model with refined geographic zones and a greater level of detail in the roadway system within the regional model. Major steps in the process are described below:

- **Development and Roadway System:** Population, household and employment estimates are developed for each transportation zone (TAZ) for the travel forecast model (see Table B-1). Highway network attributes such as location, speed and capacity are determined. The regional network was modified to include all of the arterials and many collector streets in Edina. Figure B-2 shows the refined TAZ system. Edina TAZs are consistent with Metropolitan Council boundaries.
- **Trip Generation:** Estimates of person-trips by purpose are made using the demographic and highway system information.
- **Trip Distribution:** The zone-to-zone movement of each trip purpose is determined based on travel time between zones, trip purpose and the amount of trip activity in a zone.
- **Mode Choice:** The mode of travel (drive alone, carpool or transit) is determined for each trip.
- **Refinement to Edina Sub-Zones:** The trip table was refined to split the regional TAZ-level trips to the refined zones based on socioeconomic data for the refined zones.
- **Temporal Distribution:** The trips are split, by purpose, among six time periods (such as a.m. peak hour or p.m. peak hour).
- **Highway Assignment:** Highway trips for each of the six periods is routed from zone-to-zone along the roadway system using an equilibrium assignment process. This process reflects congested conditions at appropriate times of the day for any given portion of the highway system. The assignments are summed for a daily traffic volume.
- **Calibration to Existing Counts:** An estimate of 1997 trips was assigned to the existing network to calibrate to the existing traffic counts.

- Identification of Future Conditions and Deficiencies: A future network including planned and programmed facilities was developed from the calibrated network and the 2020 trips were assigned. The resulting forecasts are shown in Figure 5.



Prepared by SRF Consulting Group, Inc.

SRF No. 0983117

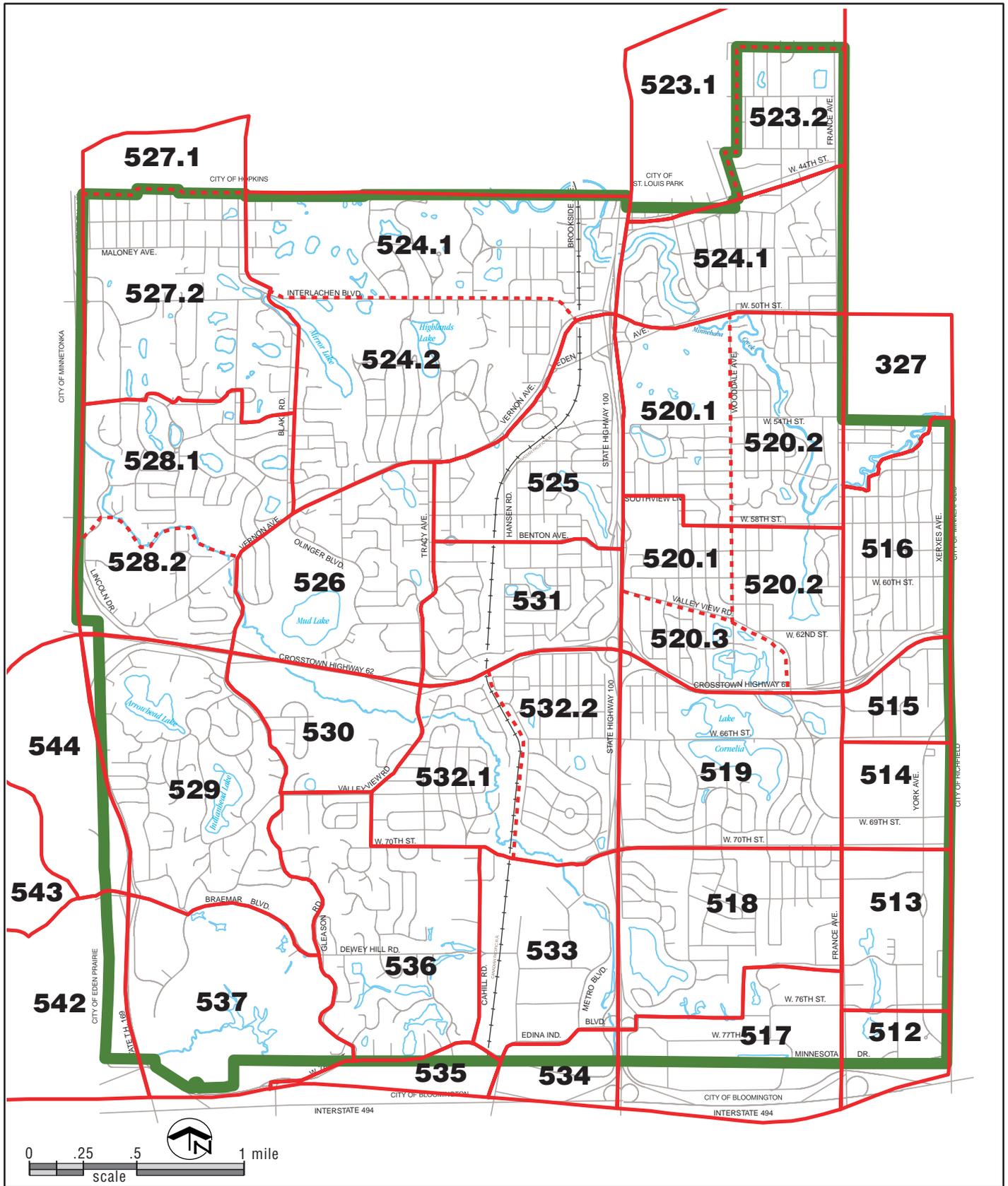
City of Edina Transportation Plan

Figure B-1

March 1999



Travel Forecasting Process



SRF No. 0983117



Traffic Analysis Zones

**TABLE B-1
DEMOGRAPHIC ASSUMPTIONS**

TAZ	Population		Households		Employment	
	1997	2020	1997	2020	1997	2020
327 (1)	268	270	111	110	280	386
512	766	765	575	575	3,974	3,603
513	2,903	2,905	2,000	2,000	3,127	3,191
514	38	130	33	65	6,019	7,156
515	1,642	1,650	993	995	6,210	6,690
516	2,386	2,405	1,013	1,015	192	232
517 (1)	670	675	447	445	3,219	3,716
518	3,393	3,575	1,589	1,670	4,506	4,637
519	1,792	1,805	691	690	3,857	4,658
520	2,849	2,870	1,175	1,175	695	839
521	2,980	3,050	1,214	1,235	1,200	1,433
522	2,763	2,780	957	955	849	1,011
523 (1)	1,642	1,655	600	600	266	322
524	4,887	4,885	2,200	2,200	635	767
525	1,653	2,170	748	940	1,813	2,105
526	1,398	1,485	526	555	79	95
527 (1)	1,925	2,520	863	1,080	18	206
528	2,493	2,510	1,159	1,160	1,271	1,536
529	1,809	1,900	633	660	68	82
530	485	490	154	155	318	386
531	1,739	1,750	577	575	26	31
532	3,222	3,245	1,148	1,150	80	95
533	101	100	54	55	11,532	13,700
534 (1)	-	-	-	-	607	733
535 (1)	-	-	-	-	948	1,145
536	3,216	3,320	1,370	1,405	141	170
537 (1)	87	85	34	35	311	376
542	6	5	2	-	578	700
544 (1)	-	-	-	-	-	-
TOTALS	47,113	49,000	20,866	21,500	52,819	60,000

Notes:

(1) Includes only portion of TAZ in Edina

APPENDIX C

SAMPLE ACCESS CONTROL GUIDELINES

General Comments:

1. This table is intended to guide access to new development and redeveloped sites. It should be considered along with county guidelines where appropriate.
2. Areas marked "Not Permitted" indicate that:
 - a) **direct access** to private residential uses should be prohibited on major collectors and arterials, and
 - b) when **direct access** is requested for higher intensity land uses (individual commercial/multi-family residential, multiple commercial) and the intersecting streets are of different functional classifications, access should be granted from the street with the lower functional classification.
3. The "Minimum Driveway Distance From Intersecting Street" guidelines refer to **full access driveways** . Driveways may be located within these minimum distances but must be approved by the city engineer and should be limited to right turns into and out of the property.
4. Access will not be permitted onto streets within right turn lanes or taper areas.
5. ***The City of Edina reserves the right to review and adjust these guidelines on a case-by-case basis. Departure from the guidelines may be approved by the city engineer.***

Notes:

- (a) Maximum curb cut width is 24 feet unless specific site plan (Internal Design and Access Review) is approved by City Engineer.
- (b) Private Residential includes single-family, two-family, townhome, quadraminium, and manor home dwellings.
- (c) Apply specific design criteria.
- (d) Driveways onto arterials and major collectors should be prohibited if possible. If driveways cannot be prohibited, the number of driveways onto arterials and major collectors should be minimized.
- (e) If the nearest intersecting street is a signalized minor collector, driveways may be located less than 125 feet from the corner, but access should be limited to right turns into and out of the property.
- (f) If the nearest intersecting street is a signalized major collector, driveways may be located less than 220 feet from the corner, but access should be limited to right turns into and out of the property.
- (g) If the nearest intersecting street is a signalized minor arterial, driveways may be located less than 660 feet (low density) or 1,320 feet (high density) from the corner, but access should be limited to right turns into and out of the property.
- (h) Assumes a speed of 40 mph.
- (i) Assumes a speed of 45 mph.

Urban Access Spacing Guidelines

(Urban Conditions as defined by Met Council Blueprint)

Exhibit 7-6
 Access Spacing Guidelines
 Urban

Facilities Requesting Access to County Roadways	Type of Access	Access Spacing Criteria on County Roadway				Collector Streets
		Minor Arterial Roadways Undivided		Minor Arterial Roadways Divided		
		Greater Than 7,500 ADT *	Less Than 7,500 ADT *	Greater Than 7,500 ADT *	Less Than 7,500 ADT *	
Non-Public - Low Volume (< 1,000 ADT) • Residential Driveways • Low Tnp Generating Commercial	Full Movement Access					1/8 Mile (660 ft)
	Partial Access (rights, lefts)			1/8 Mile (660 ft)	1/8 Mile (660 ft)	1/16 Mile (330 ft)
Local Public Streets • Local Residential Streets • Local Minor Collector Streets	Full Movement Access	1/4 Mile (1,320 ft)	1/4 Mile (1,320 ft)	1/4 Mile (1,320 ft)	1/4 Mile (1,320 ft)	1/8 Mile (660 ft)
	Partial Access (rights, lefts)	<i>Not Applicable</i>	<i>Not Applicable</i>	1/8 Mile (660 ft)	1/8 Mile (660 ft)	<i>Not Applicable</i>
Non-Public - High Volume (> 1,000 ADT) • Shopping Center entrances • Large Apt. Complexes • Large Industries, Industrial Park Entrances	Full Movement Access	1/4 Mile (1,320 ft)	1/4 Mile (1,320 ft)	1/4 Mile (1,320 ft)	1/4 Mile (1,320 ft)	1/8 Mile (660 ft)
	Partial Access (rights, lefts)	<i>Not Applicable</i>	<i>Not Applicable</i>	1/8 Mile (660 ft)	1/8 Mile (660 ft)	<i>Not Applicable</i>
Arterial and Major Collector Roadways • Principal Arterials (state highways) • Minor Arterials and Major Collector Roads	Full Movement Access	1/4 Mile (1,320 ft)	1/4 Mile (1,320 ft)	1/4 Mile (1,320 ft)	1/4 Mile (1,320 ft)	1/4 Mile (1,320 ft)
	Partial Access (rights, lefts)	<i>Not Applicable</i>	<i>Not Applicable</i>	Full Access Allowed	Full Access Allowed	<i>Not Applicable</i>



- Access via alternative facility required
- Further variance considered under hardship conditions

- Notes: 1) Measurements for spacing are taken to next access (driveway or street) on the same roadway side for divided minor arterials
 2) Measurements for spacing are taken to next access on either side of road for undivided minor arterials
 3) Existing medians will not be broken (even if the above guidelines would suggest full access is allowed)
 4) Other criteria are also reviewed such as sight distance, speeds, traffic volumes and other elements (vehicle types, land use activity, etc.)

Variations to the above table may be granted where sufficient justification is provided and the spacing minimums shown in Exhibit 7-7 are met.

Source: Hennepin County Transportation Systems Plan (Review Draft, November 1998)

Access Spacing Variances (Urban Conditions)

Facilities Requesting Access to County Roadways	Type of Access	Access Spacing Criteria on County Roadway				Collector Streets
		Minor Arterial Roadways Undivided		Minor Arterial Roadways Divided		
		Greater Than 7,500 ADT *	Less Than 7,500 ADT *	Greater Than 7,500 ADT *	Less Than 7,500 ADT *	
Non-Public - Low Volume (< 1,000 ADT) <ul style="list-style-type: none"> • Residential Driveways • Low Trip Generating Commercial 	Full Movement Access	1/16 Mile (330 ft)	1/16 Mile (330 ft)			1/16 Mile (330 ft)
	Partial Access (rights, lefts)	<i>Not Applicable</i>	<i>Not Applicable</i>	1/16 Mile (330 ft)	1/16 Mile (330 ft)	1/16 Mile (330 ft)
Local Public Streets <ul style="list-style-type: none"> • Local Residential Streets • Local Minor Collector Streets 	Full Movement Access	1/8 Mile (660 ft)	1/8 Mile (660 ft)	1/8 Mile (660 ft)	1/8 Mile (660 ft)	1/8 Mile (660 ft)
	Partial Access (rights, lefts)	<i>Not Applicable</i>	<i>Not Applicable</i>	1/16 Mile (330 ft)	1/16 Mile (330 ft)	<i>Full Access Allowed</i>
Non-Public - High Volume (> 1,000 ADT) <ul style="list-style-type: none"> • Shopping Center entrances • Large Apt. Complexes • Large Industries, Industrial Park Entrance 	Full Movement Access					
	Partial Access (rights, lefts)	<i>Not Applicable</i>	<i>Not Applicable</i>			
Arterial and Major Collector Roadways <ul style="list-style-type: none"> • Principal Arterials (state highways) • Minor Arterials and Major Collector Roads 	Full Movement Access					
	Partial Access (rights, lefts)	<i>Not Applicable</i>	<i>Not Applicable</i>			



- Access via alternative facility required
 - Further variance considered under hardship conditions

Source: Hennepin County Transportation Systems Plan (Review Draft, November 1998)

Exhibit 7-7
 Access Spacing Variance Table

Use Exhibit 7-6

Table 3. Access Classification System and Spacing Guidelines

FUNCTIONAL CLASS	MEDIAN TREATMENT	LAND USE	TYPICAL POSTED SPEED	SUGGESTED ROADWAY SPACING (MILES)				FULL MEDIAN OPENING SPACING (MILES) (1)	SPACING BETWEEN CONNECTIONS (2)	MAXIMUM CONNECTION POINTS PER MILE (3)
				FR	PA	MA	CO			
PRINCIPAL ARTERIAL (FREEWAY)	FULL	RURAL	70	var (gr)	var (gr)	var (gr)	var (gr)	NP	NP	1
		URBAN	60	3-6 (gr)	3-6 (gr)	1-2 (gr)	NP	NP	NP	2
		URBAN CORE	55	2-3 (gr)	2-3 (gr)	1-2 (gr)	NP	NP	NP	4
PRINCIPAL ARTERIAL (OTHER)	FULL	RURAL	65	var	var	4-12	2-6	1	1320	8
		URBAN	≥45	3-6 (gr)	3-6 (gr)	1-2	1/2-1	1/2	1320	8
		URBAN CORE	<45	2-3 (gr)	2-3 (gr)	1/2 - 1	1/4-3/4	1/4	440	24
	NONE	RURAL	55	var	var	8-24	4-12	1	860	12
		URBAN	≥45	3-6 (gr)	3-6 (gr)	1-2	1/2 - 2	1/2	860	12
		URBAN CORE	<45	2-3 (gr)	var	1-2	1/2-2	1/4	440	24
MINOR ARTERIAL	FULL	RURAL	55	var	var	var	2-4	1/2	820	12
		URBAN	≥40	3-6 (gr)	3-6	1-2	1/2-1	1/2	490	20
		URBAN CORE	<40	2-3 (gr)	2-3	1/2	1/4	1/4	275	32
	NONE	RURAL	55	var	var	var	2-4	1/2	820	12
		URBAN	≥40	3-6 (gr)	3-6	1-2	1/2-1	1/2	490	20
		URBAN CORE	<40	2-3 (gr)	2-3	1/2	1/4	1/4	350	24
COLLECTOR	FULL	URBAN	≥40	NP	3-6	1-2	1/2-1	1/4	435	16
		URBAN CORE	<40	NP	2-3	1/2	1/4-3/4	1/8	275	32
	NONE	RURAL	55	var	var	var	2-4	1/2	585	12
		URBAN	≥40	NP	3-6	1-2	1/2-1	1/4	435	16
		URBAN CORE	<40	NP	2-3	1/2	1/4-3/4	1/8	310	32

gr - designates grade separated intersections
var - varies (dependent on density of development)
NA - Not applicable (values would be redundant)
NP - Not permitted

(1) If route has no median control, the spacing refers to the minimum distance between traffic signals

(2) Distances are based upon spacing between connections (major roads, local public streets, and private driveways).

(3) Connections are counted by adding each public and private approach as they occur along the roadway (for example: a full intersection is counted as two connections while a right-in right-out driveway is counted as one)

Source: Minnesota Department of Transportation

APPENDIX D

METROPOLITAN COUNCIL FUNCTION CLASSIFICATION CRITERIA

APPENDIX D

FUNCTIONAL CLASSIFICATION CRITERIA

FUNCTIONAL CLASSIFICATION

Part of the process of developing a thoroughfare plan is determining the function of the components of the system. Functional classification involves determining what role each roadway should perform. Functional classification ensures that non-transportation factors, such as land use and development, are taken into account in the planning and design of streets and highways.

The Metropolitan Council has defined four classes of roadways:

1. Principal arterials
 - Interstate freeways
 - Other principal arterials
2. Minor arterials
 - “A” minor arterials
 - “B” minor arterials
3. Collector streets
4. Local streets

Principal arterials include all interstate freeways and those other roadways which provide for the longest trips. The emphasis is on mobility rather than land access. In the developing area, spacing will vary from three to four miles. The Metropolitan Council defines the metropolitan highway system as made up of the principal arterials in the region.

The minor arterial system serves medium to short trips and provides access to the principal arterials. They interconnect concentrations of commercial or industrial land uses and connect cities and towns of the region to each other and to similar places outside the region. The emphasis is still on mobility rather than land access. In fully developed areas, spacing ranges from 1/2 mile to one mile. In developing areas, one to two mile spacing is adequate.

The Metropolitan Council has defined a subsystem of regional minor arterials designated “A” minor arterials. These are the more important minor arterials from a regional perspective. The region is committed to direct federal funding to the “A” minor arterials. Minor arterials that are not designated “A” minor arterials are considered “B” minor arterials and typically are locally controlled.

Collector streets provide connection between neighborhoods and from neighborhoods to minor business concentrations. Mobility and land access are equally important. Collectors serve short trips and are spaced 1/2 to 1 mile apart in developing areas.

Local streets are those that remain, serving the shortest trips and providing access to adjacent property. They are spaced as necessary.

The Metropolitan Council's functional classification system designation has been adopted for use in the City's roadway system.

PLANNING PRINCIPLES

The assignment of roadways into categories by function is based upon the following sets of principles:

Principal/Intermediate Arterials

Principal and intermediate arterials are generally under the jurisdiction of state and regional agencies. The interstate system, which was developed at the national level, is fully complete in the vicinity of Edina. Improvements such as interchange and lane additions require the approval of the Federal Highway Administration (FHWA), the Minnesota Department of Transportation (Mn/DOT), and the Metropolitan Council.

Minor Arterial Streets

1. Arterial streets are major determinants of land-use patterns. That is to say, the locations of arterials will influence, to a great extent, what the land-use patterns will look like.
2. The spacing of arterials should reflect the density of trip ends in the area. The spacing will vary from one-half mile between arterials to as much as two miles in very sparsely-populated areas.
3. Whenever possible, arterials should be laid out in a grid pattern. At the same time, however, the arterial pattern should be sensitive to prevailing environmental concerns and constraints to create parcels of land that are easily platted, and to create intersections where adjacent legs are at right angles to each other.
4. Arterials should provide continuity, because the primary function of an arterial is to provide for the through movement of traffic.
5. Each link in the arterial system should be designed to perform its specific function within the total transportation system. In other words, the design should match the anticipated load.
6. Arterials should respect the integrity and stability of neighborhoods.

7. Arterials should be fully integrated with existing and planned mass transit systems.
8. Roadway widths are a function of traffic demand not classifications. A roadway is not built to four lanes because it is an arterial, but it is built to that width to accommodate the volume of traffic it is expected to carry (see Table D-1). The length of trips that are served is more a determining factor for roadway classification.

Collector Streets

The following are principles for laying out subdivision streets, including collectors. In this case, the primary function of such streets will be to provide access. A secondary function may include through movement of intra-community travel.

1. Collectors must provide adequate access to abutting parcels.
2. Collectors should be designed to minimize through traffic. That is, the layout of collectors should not promote diversion of traffic from arterials.

**TABLE D-1
TYPICAL ROADWAY CAPACITIES**

Cross-Section	Hourly Lane Capacity	General Maximum Two-Way ADT ⁽¹⁾
Two-lane Urban	550/lane	8,000 10,000
Three-lane Urban	600/lane	14,000 18,000
Four-lane Undivided Arterial	650/lane	15,000 25,000
Four-lane Divided Arterial	850/lane	30,000 41,000
Six-lane Divided Arterial	850/lane	45,000 60,000
Four-lane Expressway	1,100/lane	35,000 60,000
Six-lane Expressway	1,100/lane	48,000 88,000
Four-lane Unmetered Freeway	1,900/lane	65,000 90,000
Six-lane Unmetered Freeway	1,900/lane	97,500 135,000
Four-lane Metered Freeway	2,200/lane	75,000 105,000
Six-lane Metered Freeway	2,200/lane	115,000 160,000

(1) Capacity can vary greatly depending on access control, cross-street volumes, and peaking characteristics. These values reflect potential capacity and not desirable range of operation.

3. The intersections of collectors with arterials should not detract from the efficiency of those arterials. In order to prevent inefficiencies, it is recommended that the spacing between collectors be at least one-quarter mile and in multiples of one quarter mile.

This will permit a minimum 30 mph operation on the arterial should signalization be required.

4. The design of collectors should reflect the function of providing access.
5. The design of collectors should discourage excessive speeds.
6. Collectors should permit the efficient use of land for laying out plats.
7. Collectors should be laid out in order to be compatible with the topography and environmental constraints of the area.
8. The design of the collector system should be compatible with the municipal utility plans for the area.
9. Collector streets should not be used for on-site circulation purposes.
10. The intersections of major collectors with arterials will likely be signalized. Major collectors should not intersect minor arterials at less than one quarter mile spacing. Intersections of major collectors with principal or intermediate arterials should generally be no less than at one half mile intervals.
11. The intersection of two major collectors may be controlled by traffic signals or all way stops.

METROPOLITAN COUNCIL GUIDELINES

The Metropolitan Council has issued its own guidelines in the determination of functional classification. These are published in Appendix F of the Metropolitan Council Transportation Development Guide/Policy Plan and are reproduced in Figure D-1 through Figure D-6.

FUNCTIONAL CLASSIFICATION SYSTEM CRITERIA FOR THE TWIN CITIES REGION

Criterion	Principal Arterial			
	Freeway		Other Principal Arterial	
	Urban	Rural	Urban	Rural
Place Connections	Interconnect the metro centers and regional business concentrations, important transportation terminals and large institutional facilities within the MUSA (see Figure F-1).	Connect the MUSA with urban areas and major cities in Minnesota and other states.	Interconnect the metro centers and regional business concentrations with important transportation terminals and large institutional facilities within the MUSA.	Connect the MUSA with major cities in Minnesota and other states.
Spacing	Fully developed area: 2-3 miles Developing area: 3-6 miles	Permanent Rural and Agricultural Areas : 6-12 miles (radial only).	Fully developed area: 2-3 miles Developing area: 3-6 miles	Permanent Rural and Agricultural Areas: 6-12 miles (radial only)
Management	Maintain at least 40 mph average speed during peak-traffic periods.	Retain ability to meet urban speed objective if and when area urbanizes.	Maintain at least 40 mph average speed during peak-traffic periods.	Retain ability to meet urban speed objective if and when area urbanizes.
System Connections and Access Spacing*	To other interstate freeways, other principal arterials and selected minor arterials. Connections between principal arterials should be of a design type which does not require vehicles to stop. Access at distances of 1-2 miles.	To other interstate freeways, principal arterials, selected minor arterials and major collectors. Access at distances of 2-6 miles.	To interstate freeways, other principal arterials, selected minor arterials and selected collectors. Connections between principal arterials should be of a design type which does not require vehicles to stop. Intersections should be limited to one-half mile with 1-2 miles desired.	To interstate freeways, other principal arterials, selected minor arterials and selected major collectors. Intersections should be limited to several miles.
Trip-Making Service	Trips greater than 8 miles with at least 5 continuous miles on principal arterials. Express transit trips.		Trips greater than 8 miles with at least 5 continuous miles on principal arterials. Express transit trips.	
Mobility vs. Land Access*	Emphasis is placed on mobility rather than land access. No direct land access should be allowed.	Emphasis is placed on mobility rather than land access. No direct land access should be allowed.	Greater emphasis is placed on mobility than on land access. Little or no direct land access within the urban area.	Greater emphasis is placed on mobility than on land access. Little or no direct land access.

Source: Metropolitan Council Transportation Policy Plan, 1997; Table F-1

* The key objective is stated under "Management" heading in this table.

Metropolitan Council
Functional Classification Criteria

FIGURE
D-1

FUNCTIONAL CLASSIFICATION SYSTEM CRITERIA FOR THE TWIN CITIES REGION

Characteristics	Principal Arterial			
	Freeway		Other Principal Arterial	
	Urban	Rural	Urban	Rural
System Mileage	Suggested limits for interstate and other principal arterials at 5-10 percent of system.	Suggested limits for interstate and other principal arterials at 2-4 percent of system.	See "Freeway."	See "Freeway."
Percent of Travel - VMT	Suggested limits for interstate and other principal arterials at 40-65 percent of system.	Suggested limits for interstate and other principal arterials at 30-55 percent of system.	See "Freeway."	See "Freeway."
Intersections	Grade separated.	Grade separated.	Grade separated desirable. At a minimum, high-capacity controlled at-grade intersections.	Grade separated desirable. At a minimum, high capacity controlled at-grade intersections.
Parking	None.	None.	None.	None.
Large Trucks	No restrictions.	No restrictions.	No restrictions.	No restrictions.
Management Tools	Ramp metering, Preferential treatment for transit, Interchange spacing.	Interchange spacing.	Ramp metering, preferential treatment for transit, access control, median barriers, traffic signal progression, staging of reconstruction, intersection spacing.	Interchange spacing, access control, intersections spacing.
Vehicles Carried	25,000 - 200,000	5,000 - 50,000	15,000 - 100,000	2,500 - 25,000
Posted Speed Limit	45-55 mph	55-65 mph	40-50 mph	Legal limit
Right-of-Way	300 feet	300 feet	100-300 feet	100-300 feet
Transit Accommodations	Priority access and movement for transit in peak periods where needed.	None	Priority access and movement for transit in peak periods where possible and needed	None

Source: Metropolitan Council Transportation Policy Plan, 1997; Table F-1

Metropolitan Council
Functional Classification Criteria

FIGURE
D-2

FUNCTIONAL CLASSIFICATION SYSTEM CRITERIA FOR THE TWIN CITIES REGION

Criterion	Minor Arterial ("A" or "B")	
	Urban	Rural
Place Connections	Provide supplementary connections to metro centers and regional business concentrations within the MUSA. Provide interconnection of major traffic generators within the metro centers and regional business concentrations.	Connect the MUSA with cities and towns in Minnesota outside the Twin Cities region. Interconnect rural growth centers inside the Twin Cities region and comparable places near the Twin Cities region.
Spacing	Metro centers and regional business concentrations: ¼ - ¾ mile Fully developed area: ½ miles Developing area: 1-2 miles	Permanent Rural and Agricultural Areas: As needed, in conjunction with the major collectors, to provide adequate interconnection of places identified in "Place Connections" criterion.
System Connections	To most interstate freeways and other principal arterials, other minor arterials and collectors and some local streets.	To most interstate freeways and other principal arterials, other minor arterials and collectors and some local streets.
Trip-Making Service	Medium to short trips (2-6 miles depending on development density) at moderate speeds. Longer trips accessing the principal arterial network. Local and limited-stop transit trips.	
Management	Maintain the following minimum average speed during peak-traffic periods: Metro centers and regional business concentrations: 15 mph Fully developed area: 20 mph Developing area: 30 mph	Retain ability to meet urban speed objective if and when area urbanizes.
Mobility vs. Land Access*	Emphasis on mobility rather than on land access. Direct land access within the MUSA restricted to concentrations of commercial/industrial land uses.	Emphasis on mobility rather than on land access.

Source: Metropolitan Council Transportation Policy Plan, 1997; Table F-1

* The key objective is stated under "Management" heading in this table.

Metropolitan Council
Functional Classification Criteria

FIGURE
D-3

FUNCTIONAL CLASSIFICATION SYSTEM CRITERIA FOR THE TWIN CITIES REGION

Characteristics	Minor Arterial ("A" or "B")	
	Urban	Rural
System Mileage	Suggested limits for principal arterials and minor arterials at 15-25 percent of system.	Suggested limits for principal arterials and minor arterials at 6-12 percent of system.
Percent of Vehicle Miles Traveled	Suggested limits for principal arterials and minor arterials at 65-80 percent of system.	Suggested limits for principal arterials and minor arterials at 45-75 percent of system.
Intersections	Traffic signals and cross street stops.	Cross street stops.
Parking	Restricted as necessary.	Restricted as necessary.
Large Trucks	Restricted as necessary.	Restricted as necessary.
Management Tools	Traffic signal progression and spacing, land access management/control, preferential treatment for transit.	Land access management/control.
Vehicles Carried	5,000-30,000	1,000-10,000
Posted Speed Limit	35-45 mph	Legal limit
Right-of-Way	60-150 feet	60-150 feet
Transit Accommodations	Preferential treatment where needed.	None.

Source: Metropolitan Council Transportation Policy Plan, 1997; Table F-1

Metropolitan Council
Functional Classification Criteria

FIGURE
D-4

FUNCTIONAL CLASSIFICATION SYSTEM CRITERIA FOR THE TWIN CITIES REGION

Criterion	Collector		Local	
	Urban	Rural	Urban	Rural
Place Connections	Interconnect neighborhoods and minor business concentrations within the MUSA. Provide supplementary interconnection of major generators within the metro centers and regional business concentrations.	Provide supplementary interconnection among rural growth centers inside the Twin Cities region and comparable places near the Twin Cities region.	Interconnect blocks within residential neighborhoods and land parcels within commercial/ industrial developments.	
Spacing	Metro centers and regional business concentrations: 1/8-1/2 mile Fully developed area: ¼ - ¾ mile Developing area: ½-1 mile	Permanent Rural and Agricultural Areas : As needed in conjunction with minor arterials, to provide adequate interconnection of places identified in "Place Connections" criterion. In addition, minor collectors should be designated at an average spacing of not less than 4 miles.	As needed to access land uses.	As needed to access land uses.
System Connections and Access Spacing*	Sometimes to interstate freeways and other principal arterials. To minor arterials, other collectors and local streets.	To minor arterials, other collectors and local streets.	To a few minor arterials. To collectors and other local streets.	To a few minor arterials. To collectors and local roads.
Trip-Making Service	Short trips (1-4 miles depending on development density) at low to moderate speeds. Longer trips accessing the arterial network. Local transit trips.		Short trips (under 2 miles) at low speeds. Longer trips accessing the collector or collector and arterial network.	
Mobility vs. Land Access*	Equal emphasis on mobility and land access. Direct land access predominantly to development concentrations.		Emphasis on land access, not on mobility. Direct land access predominantly to residential land uses.	Emphasis on land access not on mobility. Direct land access predominantly to agricultural land uses.

Source: Metropolitan Council Transportation Policy Plan, 1997; Table F-1

* The key objective is stated under "Management" heading in this table.

Metropolitan Council
Functional Classification Criteria

FIGURE
D-5

FUNCTIONAL CLASSIFICATION SYSTEM CRITERIA FOR THE TWIN CITIES REGION

Criterion	Collector		Local	
	Urban	Rural	Urban	Rural
System Mileage	Suggested federal limitations: 5-10 percent	Suggested federal limitations: 20-25 percent	Suggested federal limitations: 65-80 percent	Suggested federal limitations: 63-75 percent
Percent of Travel-VMT	Suggested federal limitations: 5-10 percent	Suggested federal limitations: 20-35 percent	Suggested federal limitations: 10-30 percent	Suggested federal limitations: 5-20 percent
Intersections	Four-way stops and some traffic signals.	Local street traffic should be required to stop.	As required.	As required.
Parking	Restricted as necessary.	Unrestricted.	Permitted as necessary.	Permitted as necessary.
Large Trucks	Restricted as necessary.	Restricted as necessary.	Permitted as necessary.	Permitted as necessary.
Management Tools	Number of lanes, traffic signal timing, land access management.	Land access management.	Intersection control, cul-de-sacs, diverters.	As necessary.
Vehicles Carried Daily	1,000-15,000	250-2,500	Less than 1,000	Less than 1,000
Posted Speed Limit	30-40 mph	35-45 mph	Maximum 30 mph	Maximum 30 mph
Right-of-Way	60-100 feet	60-100 feet	50-80 feet	50-80 feet
Transit Accommodations	Cross-sections and geometrics designed for use by regular-route buses.	None.	Normally uses as bus routes only in non-residential areas.	None.

Source: Metropolitan Council Transportation Policy Plan, 1997; Table F-1

Metropolitan Council
Functional Classification Criteria

FIGURE
D-6