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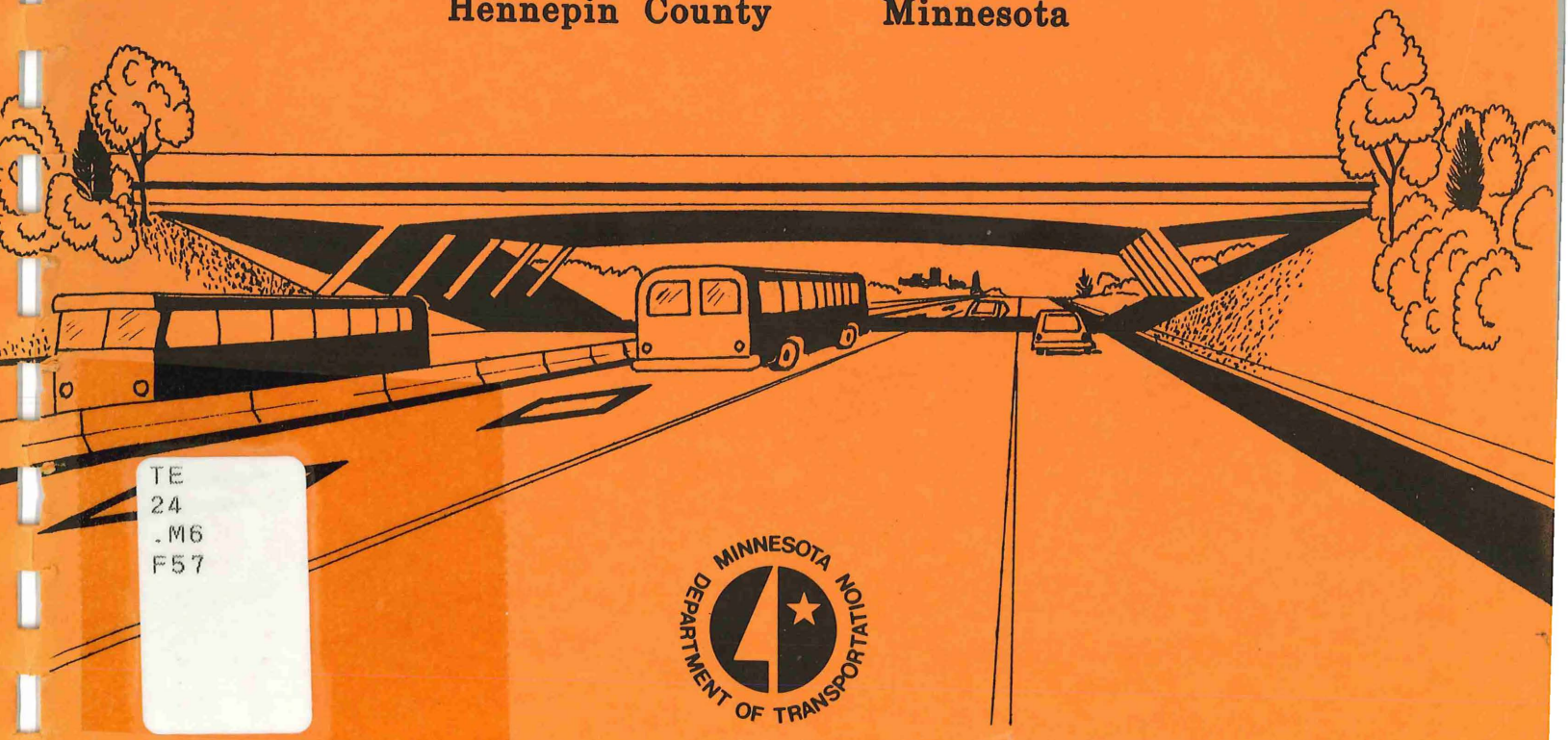
FINAL
ENVIRONMENTAL IMPACT STATEMENT
and
FINAL SECTION 4[f] EVALUATION

US-12/I-394

Between SR-101 and I-94

in Wayzata, Minnetonka, Saint Louis Park,
Golden Valley, and Minneapolis

Hennepin County Minnesota



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MINNESOTA DEPARTMENT OF TRANSPORTATION

FHWA-Mn-EIS-73-09-F
Federal Highway Administration
Region 5

U.S. Highway 12
from SR-101 to I-494
and
Interstate Highway 394
from I-494 to I-94

in Wayzata, Minnetonka, Saint Louis Park,
Golden Valley, and Minneapolis

Hennepin County

Minnesota Project I-394-6(1)226

State Projects 2714 and 2789-01

ADMINISTRATIVE ACTION

FINAL ENVIRONMENTAL IMPACT STATEMENT

AND SECTION 4(f) EVALUATION

U.S. Department of Transportation

Federal Highway Administration

and

The State of Minnesota

Department of Transportation

Submitted pursuant to 42 U.S.C. 4332 (2) (C), and
49 U.S.C. 1653 (f)

This Final Environmental Impact Statement/Section 4(f) Evaluation documents the impacts associated with the preferred alternative for I-394/US-12. The proposed major action involves construction of 10.2 miles of six-lane freeway between Wayzata and Minneapolis. The six-lanes will include reversible lanes east of SR-100 and diamond lanes west of SR-100. Also included are responses to comments received on the Draft Environmental Impact Statement.

This action complies with Executive Order 11990, Protection of Wetlands

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for Francis C. Marshall
Assistant Commissioner
Minnesota Department of Transportation

MAY 17 1982
date

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Director - Office of
Environmental Programs
FHWA Region 5

CONTENTS

	page
Title Sheet	1
Contents	2
Figures	3
Tables	5
Abbreviations	6
SUMMARY	11
PURPOSE OF AND NEED FOR THE ACTION	25
The Existing Transportation Network	27
The Need for the Project	34
Corridor History	56
ALTERNATIVES INCLUDING PROPOSED ACTION	61
Routes Dismissed Before the DEIS	63
The Limited Improvement or TSM Alternative	64
Routes Dismissed After the DEIS	67
The No-Build Alternative	69
Light Rail Transit	71
The Proposed Project	72
AFFECTED ENVIRONMENT	97
Natural Features	99
Social Characteristics	124
Institutions and Services	129
The Economy	139
Land Use Planning	143
ENVIRONMENTAL CONSEQUENCES	153
Air Quality	155
Noise	189
Natural Resources	212
Social, Economic, and Land Use	246
Historic Features	259
Visual Impacts	260
During Construction	262
Secondary Impacts	264
Energy	265
SECTION 4(f) EVALUATION	267
COMMENTS AND COORDINATION	363
List of Recipients of DEIS	365
Written Comments and Responses	368
Summary of Corridor Location Public Hearing	446
Letters from State Historic Preservation Officer	454
APPENDIX	457
Wetland Finding	459
List of Preparers	480
Index	481

FIGURES

number	item	page
1	Index Map	9
2	Location Map	15
3	Existing Highway Network 1980	29
4	Existing Traffic Volumes 1980	38-39
5	Build Traffic Volumes 2000	42-43
6	No-Build Traffic Volumes 2000	46-47
6a	Alternate Corridors	65
7	Typical Sections	73
8	Proposed Geometrics and Profile	76-77
9	Metropolitan Setting	101
10	Geology and Ground Water Hydrology	104-105
11	Generalized Soil Characteristics	107
12	(deleted)	
13	Water Resources	112-113
14	(deleted)	
15	Parks and Recreation	121
16	Neighborhoods	127
17	Schools and Libraries	131
18	Hospitals, Religious Institutions, and Community Centers	133
19	Fire and Police Protection	137
20	Commercial and Office/Industrial Development	141
21	Existing Land Use	145
22	Future Land Use	147
23	Results of 8-Hour CO Analysis	165
24	Results of 1-Hour CO Analysis	167
25	Air Quality Receptor Locations, Build	170-171

FIGURES

number	item	page
26	Air Quality Receptor Locations, No-Build	174-175
27	Project Lead Analysis Results	181
28	Mesoscale Analysis Corridor and CBD Areas	183
29	Noise Analysis (N1 through N7)	197-209
30	Soil Erosion Potential	223
31	Boone Avenue South Flood Plain Encroachment	229
32	Ridgedale Marsh Flood Plain Encroachment	231
33	Impact on Wetland 6	235
34	Impact on Wetlands 11 and 12a	237
35	Impact on Wetlands 17 and 18	241
36	(deleted)	
37	Brookview Golf Course Map	281
38	Theodore Wirth Park Map	285
39	Brownie Lake Parkland Map	295
40	Brookview Golf Course Layout, East-West	301
41	(deleted)	
42	Theodore Wirth Park and Brownie Lake Parkland Layout	305

TABLES

number	item	page
1	Historic ADT on US-12	34
2	Forecast ADT on US-12 or I-394	35
3	1980 accident rates on US-12	49
4	Accident rates on US-12 compared to area freeways	49
5	Accident rates on US-12 compared to I-35W	50
6	Area and classification of each wetland	116
7	Evaluation scores ... for study area wetlands	119
8	Population	124
9	Households	124
10	Employment	125
11	Age Groups	125
12	Minorities	126
13	Air quality backgrounds	163
14	Federal ambient air quality standards	177
15	State ambient air quality standards	177
16	Air quality comparisons for year 1990	187
17	Air quality comparisons for year 2000	187
18	Air quality comparisons for year 2010	187
19	Design noise level/land use relationship - FHWA	190
20	Noise level standards - MPCA	190
21 (N-3)	Existing and future exterior noise levels	191-193
22	Average pollutant concentrations in ... runoff	215
23	Average pollutant concentrations in ... creeks	217
24	Elevations of wetlands, ground water, and grades	226
25	Projected direct wetland impacts of alternate routes	240
26	Residential displacement effects	247
27	Homes for sale by community and price	248
28	Commercial displacement information	249
29	Tax base impacts	252
30	Probable impacts on State Aid to Schools	255
31	Energy analysis	266

ABBREVIATIONS

AASHTO	American Association of State Highway and Transportation Officials
ADT	average daily traffic
BNR	Burlington Northern Railroad
BOD	biological oxygen demand
CAC	Citizens Advisory Committee
CaCl	calcium chloride
CBD	central business district
C-D	collector-distributor (road)
CEQ	Council on Environmental Quality
CFS	cubic feet per second
Cl	chloride
CNW	Chicago and Northwestern (railroad)
CO	carbon monoxide
COD	chemical oxygen demand
COE	Corps of Engineers
CR-	County Road
Cu	copper
dBA	decibels
DEIS	Draft Environmental Impact Statement
DNL	design noise level
DOA	Department of Agriculture
DOT	Department of Transportation
DSR	Design Study Report
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
FEIS	Final Environmental Impact Statement
FHPM	Federal-Aid Highway Program Manual
FHWA	Federal Highway Administration
HC	hydrocarbons
HEW	Health, Education, and Welfare (Department)
HNTB	Howard, Needles, Tammen and Bergendoff
HOV	high occupancy vehicle
I-	Interstate (highway)
ISC	Interstate Study Committee
kg	kilogram
l	litre
LRT	light rail transit

ABBREVIATIONS
(continued)

m^3	cubic meter
MC	Metropolitan Council
MHD	Minnesota Highway Department
MHS	Minnesota Historical Society
mg/l	milligram per litre
Mn/DOT	Minnesota Department of Transportation
MN & S	Minneapolis, Northfield, and Southern (railroad)
MPCA	Minnesota Pollution Control Agency
MPIRG	Minnesota Public Interest Research Group
MPO	Metropolitan Planning Organization
MPRB	Minneapolis Park and Recreation Board
MTC	Metropolitan Transit Commission
NaCl	sodium chloride
NO_3-N	nitrate
NOx	oxides of nitrogen
Pb	lead
PCA	Pollution Control Agency
PMB	Project Management Board
PO_4	ortho phosphorus
ppm	part per million
SEE	social, economic, and environmental (effects)
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SPAR	Systems Planning Analysis Report
SR-	State Road
TAB	Transportation Advisory Board
TAC	Technical Advisroy Committee
TAR	Traffic Analysis Report
TH-	Through Highway
TIP	Transportation Improvement Program
TMC	Traffic Management Center
TSM	traffic systems management
TSP	total suspended particulates
ug	microgram
ug/m^3	micrograms per cubic meter
US-	United States (highway)
USGA	United States Golf Association
VMT	vehicle miles traveled
Zn	zinc

STATE OF MINNESOTA

DEPARTMENT OF TRANSPORTATION

WORK MAP

INDEX MAP

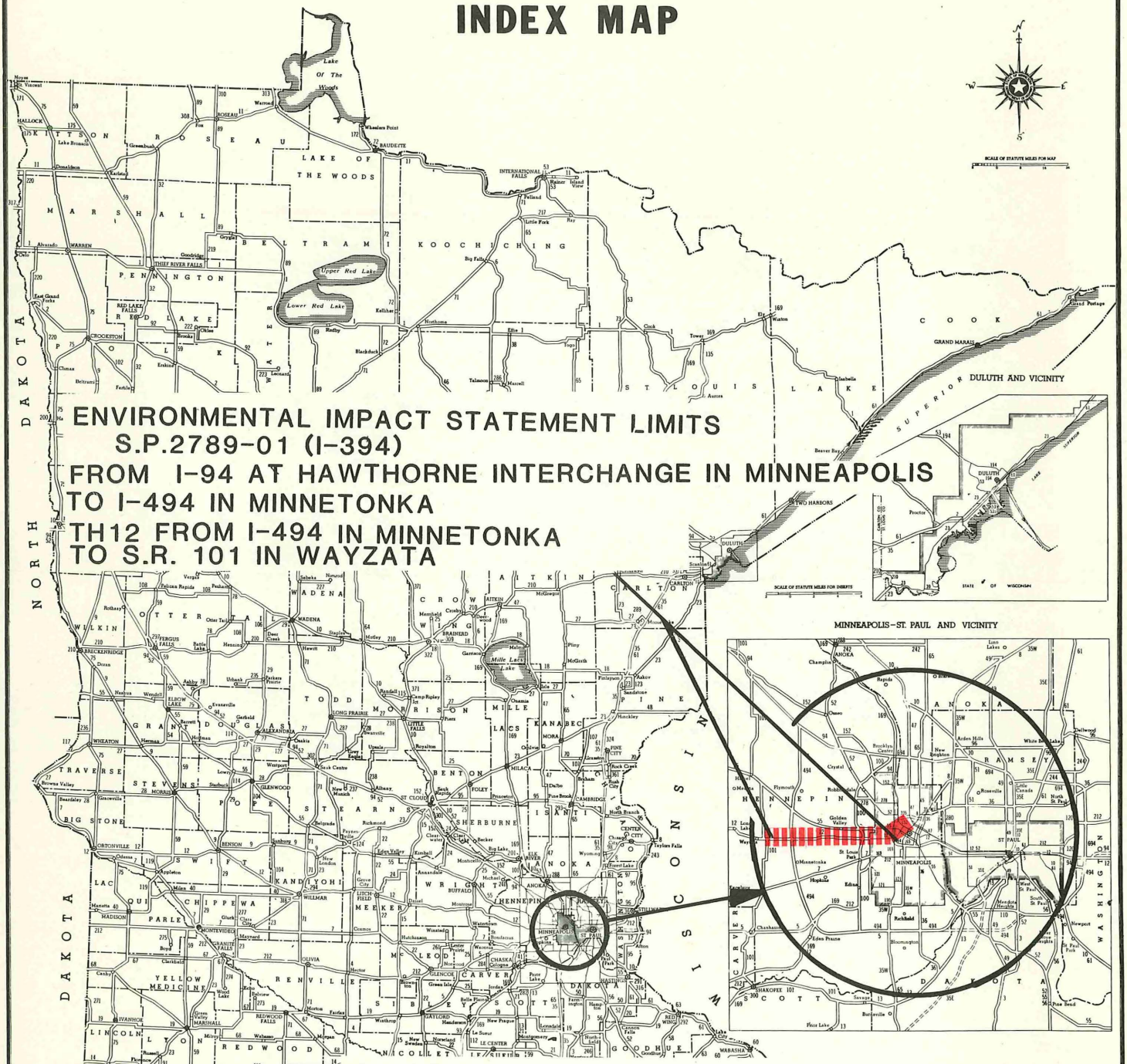

Figure 1

Base Map Prepared By Transportation And Transit Planning And Programming Division Revised January 1,1972

SUMMARY

SUMMARY

Federal Highway Administration

Administrative Action

Environmental Statement

( ) Draft

(X) Final

(X) Section 4(f) Evaluation attached

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THE PROPOSED ACTION

The proposed major action is the construction of 10.2 miles of freeway from the western suburbs to downtown Minneapolis. This freeway will include a 1.5 mile segment of US-12 between SR-101 in Wayzata and I-494 in the second-tier western suburb of Minnetonka, and an 8.7 mile segment of I-394 between there and I-94 at the western edge of the Minneapolis central business district (CBD). The Federal Highway Administration (FHWA) will participate in the funding of the 8.7 mile I-394 segment, up to 90 percent of the cost, as provided by the Interstate program. Federal participation in the funding of the new 1.5 mile US-12 segment has not yet been determined.

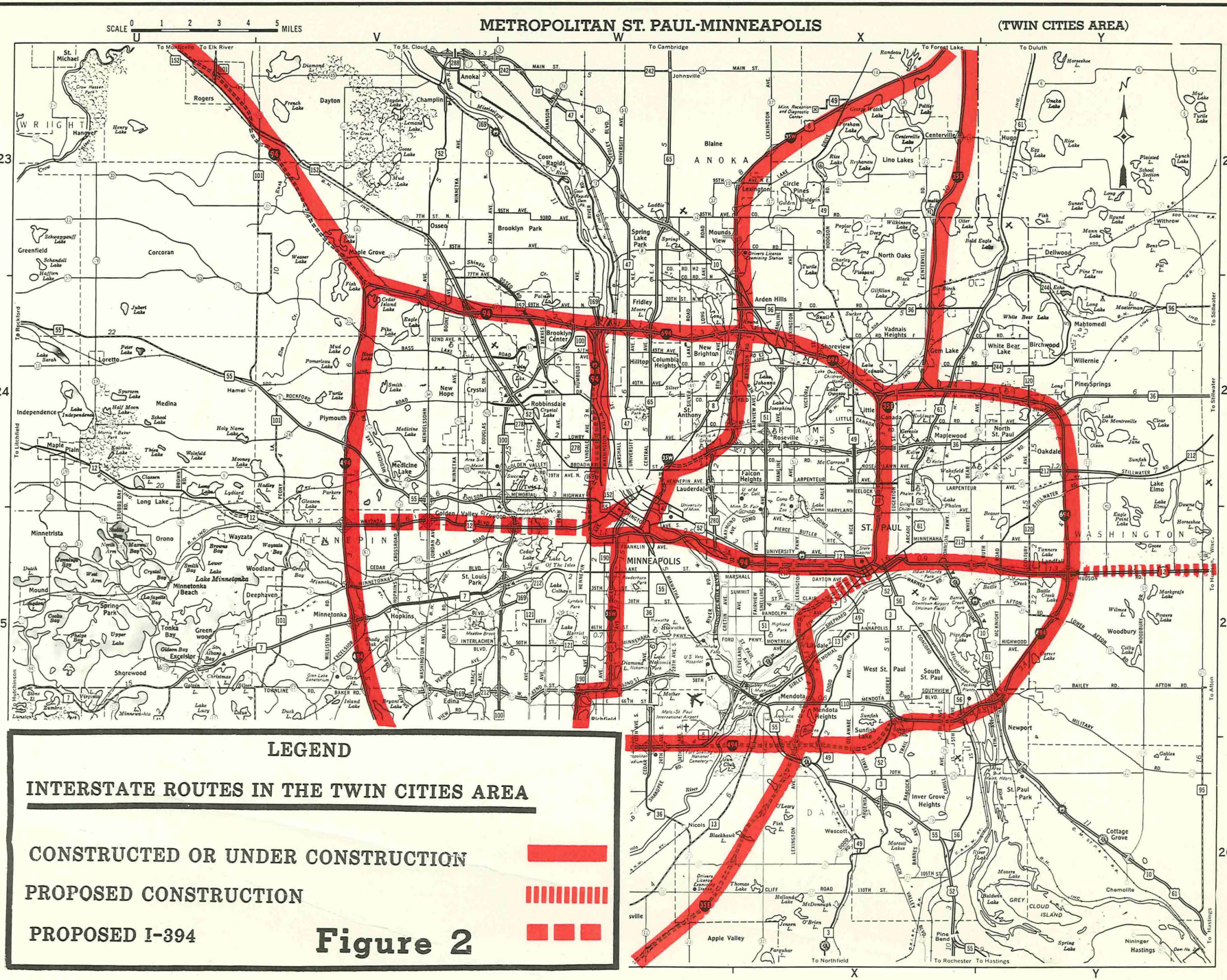
The freeway will follow the east-west alignment of existing US-12, and pass through the western first-tier suburbs of Saint Louis Park and Golden Valley as well as through Wayzata, Minnetonka, and Minneapolis. The Location Map on the next page illustrates the route. The route was identified as Alternate 2 in the Draft Environmental Impact Statement (DEIS).

Between SR-101 and SR-100, the proposed road will be a six-lane freeway with the inside lanes identified as standard diamond lanes for high occupancy vehicles (buses, vanpools, and carpools) during rush hours. Between SR-100 and I-94 near the Minneapolis CBD, the road will be a six-lane freeway with the two inside lanes being reversible and physically separated from the outer lanes. The reversible lanes will operate eastward toward the city in the morning and westward toward the suburbs in the afternoon and evening.

Priority use of the reversible lanes east of SR-100 will initially be given to high occupancy vehicles. If the lanes are significantly underused, management techniques will be employed to allow other vehicles access to the lanes. In any case, a high level of service will be maintained in the lanes to promote ride-sharing.

Cloverleaf-type interchanges will connect I-394 to the principal and intermediate arterials of I-494, CR-18, and SR-100. Other interchanges will be spaced to serve local needs. Collector-distributor (C-D) roads will improve the capacity and safety of many of the interchanges.

LOCATION MAP



LEGEND

INTERSTATE ROUTES IN THE TWIN CITIES AREA

CONSTRUCTED OR UNDER CONSTRUCTION

PROPOSED CONSTRUCTION

PROPOSED I-394

Figure 2

The frontage road system will be improved. Bridges and underpasses for both vehicles and pedestrians will improve traffic circulation, and link neighborhoods and commercial areas on each side of the freeway.

Park-and-ride sites will be built to encourage carpooling, vanpooling, and the use of public transit buses. Ramps will be built at SR-100, I-94, and the Third Avenue Distributor to exclusively serve the reversible lanes. The Traffic Management Center (TMC) will monitor all traffic and meter all of the entrance ramps to provide a smooth traffic flow.

US-12/I-394 will be built to contemporary design standards to promote safety and efficient passage, and to meet the higher environmental standards of today. Through much of the parkland and residential areas, the freeway will be depressed to reduce noise and visual impact. Noise abatement walls or mounds will be built where appropriate.

The 9.6 mile length of I-394 was authorized to be added to the Interstate Highway system on December 13th, 1968. The 8.7 mile segment discussed in this Final Environmental Impact Statement (FEIS) will connect to the Third Avenue Distributor, a 0.9 mile segment in downtown Minneapolis, between I-94 and Washington Avenue. The FEIS for that segment, FHWA-Mn-71-12-F, was submitted to the Council on Environmental Quality (CEQ) on September 19th, 1973.

ACTIONS REQUIRED BY OTHER FEDERAL AGENCIES

Because this project may alter drainage patterns and water quality within the Bassett Creek and Minnehaha Creek watersheds, permits will be required from the U.S. Army Corps of Engineers (COE).

THE MAJOR IMPACTS

Implementation of the proposed action will result in the following impacts:

Transportation

The proposed freeway will allow a significant improvement in the safe and efficient movement of people and goods between downtown Minneapolis and the highly developed western suburbs. The new freeway will be less congested and safer than the existing highway, and will reduce travel times. It will also benefit outlying communities to the west which use the corridor to transport goods to markets and shipping points in Minneapolis and Saint Paul. The new freeway will sever certain existing routes across the corridor, improve others by separating the grades, and alter some local traffic patterns.

Social

Preliminary estimates indicate that approximately 63 homes are likely to be acquired for right-of-way purposes, with another 20 possible. Studies indicate that an ample supply of comparable replacement housing exists to enable the persons and families displaced to relocate in their same communities if they so desire. No competing displacement projects are under way or anticipated in the study area.

Relocation assistance will be provided. No sensitive groups such as the elderly, illiterate, or handicapped will be affected by the proposed project.

Economic

Preliminary estimates also indicate that approximately 37 buildings housing 46 businesses will be acquired for right-of-way purposes. Studies indicate that an ample supply of commercial space is available to accommodate relocation in the same areas. Again, relocation assistance will be provided.

The taking of land, homes, and businesses for highway right-of-way will cause an initial loss of tax base in the study area communities. This initial loss is expected to be offset by a longer-term gain in tax base due to an increase in commercial property values along the highway corridor.

Section 4(f) Lands

The proposed project will require permanently, approximately 0.7 acres from Brookview Golf Course and 2.0 acres from the Brownie Lake parkland. Temporarily, for construction, it will also require about two acres from Theodore Wirth Park and another two from Brownie. Approximately 4.4 acres of existing highway right-of-way adjacent to Wirth Park will be given to the Minneapolis Park and Recreation Board (MPRB) as replacement land.

A Section 4(f) Evaluation documenting that there is no feasible and prudent alternative to the use of these parklands is included in this FEIS.

Construction Impacts

The construction of US-12/I-394 will take an estimated five years and cause major impacts. Construction will be staged, so no one area should be affected for more than two years. The impacts will be those typical of a major urban highway construction project. Some may be more severe because traffic must be maintained.

Air quality will be affected by exhaust and dust. Noise will be generated by trucks and construction equipment. Water quality could be affected by concrete mixing operations, material spills, and erosion. All of these forms of pollution will be minimized, contained, and mitigated as far as possible.

Detours and bypasses will be provided, but traffic will be severely disrupted. Delay and congestion will be unavoidable because of the need to maintain traffic in the corridor during construction. Some motorists may seek alternate routes, some of which will be suitable and others, such as local streets, not. Mn/DOT will make every effort to maintain traffic in an appropriate pattern.

Impacts That Will Be Mitigated

The project will cause adverse noise, visual, wetland, and water quality impacts, but they will be mitigated.

Areas of No Significant Impact

The project will not cause significant adverse impacts on air quality, floodplains, vegetation, wildlife, endangered species, land use, prime and unique farmland, historic and cultural features, or energy use. It will not have significant secondary impacts.

UNRESOLVED ISSUES

The Bryn Mawr Neighborhood Association objects to the Penn Avenue interchange. They propose that we delete the ramps and build only the bridge over I-394, plus a connector road eastward to the Wayzata Boulevard half-diamond interchange, for partial access. This connector would bridge a set of railroad tracks and then pass under I-394. If the City of Minneapolis supports this change, Mn/DOT will consider it.

No other unresolved issues exist. The location, alignment, and geometrics of the freeway have been determined, subject to reevaluation after the design public hearing.

Seven location alternates plus the limited improvement and the no-build alternatives were considered. The limited improvement alternative is also the traffic systems management (TSM) alternate. All of the routes had the Hawthorne Interchange with I-94 as the eastern terminus, and extended westward to I-494.

Alternates 1 through 4 were discussed in the DEIS. The others were studied and dismissed prior to the publication of the DEIS.

The selected alternate, number 2 in the DEIS, follows the existing US-12 corridor. The no-build option (alternate 4) and the limited improvement alternate also would have retained US-12 as the major traffic route of the area, but with only limited impromements, or none. The other routes are shown on the Alternate Routes Map on page 65.

Route Alternates

Six other alternate routes between SR-55 on the north and SR-7 on the south were studied. Each was dismissed for various reasons including adverse social, economic, and environmental (SEE) impacts, operational problems, and excessive intrusion into the parklands surrounding Brownie and Cedar Lakes and along Bassett and Minnehaha Creeks.

The No-Build Alternate

The no-build alternate, number 4, would not solve the existing or future transportation or environmental problems of US-12 and the area it serves. In comparision to the result of constructing Alternate 2, the traffic noise would increase and the air quality would decrease as US-12 became more clogged with the predicted traffic.

The Limited Improvement (TSM) Alternative

The limited improvement or TSM alternative would have been an upgrading of US-12, on its existing alignment and grade, to improve capacity, operation, and safety. It would have minimized right-of-way needs and construction disruption, but good design would

have been compromised and the road would have been inferior in terms of capacity, level of service, safety, and environmental effects. Its capacity would be inadequate beofre the year 2000. For all of these reasons, it was eliminated from further consideration.

The LRT Alternate

The light rail transit (LRT) alternate was studied by the MC at the direction of the state legislature. Five different routes, one of them the I-394 corridor, were examined. The MC recommended, in April of 1981, that only the route along University Avenue between the CBD's of Minneapolis and Saint Paul be studied further for feasibility.

Their report concluded that building any LRT system would be slow and costly; that federal funding was unlikely; and that other monies would be needed. A line in a low-density area such as the I-394 corridor would need an expensive collection and distribution system. For the I-394 corridor specifically, the MC report concluded that buses would be more cost efficient than LRT.

CHANGES MADE FROM THE DEIS

This FEIS has been completely rewritten from the DEIS. The changes between the two documents are too extensive to list. The changes are so extensive because, in the years since the DEIS was written, the EIS process has been refined; the content and format of the document have been more precisely defined; and geometric layouts have been prepared.

Although the details of the project have changed since the DEIS was written, because of the reduction of regular freeway lanes and the addition of diamond and reversible lanes, its scope and impacts have not significantly changed.

The geometrics implied in the DEIS have been refined. In general, the project is now more modest than that described in the DEIS. For example, three- and four-level interchanges have been abandoned in favor of less obstrusive two-level interchanges.

The 1.5 mile segment of US-12 to the west, connecting I-394 to the US-12 freeway segment in Wayzata, has now been added to the discussion. The DEIS study area included this, but did not specifically discuss it. Its construction was implied and its impacts considered. They were and are similar to those on the rest of the project area.

The information in this document has been brought up-to-date to reflect current data and predictions. Comments on the DEIS, at the public hearing, and at many other public meetings, have caused us to clarify certain points and to reanalyze certain issues.

Because of the long delay between the publication of the DEIS and the FEIS, the DEIS was reevaluated for sufficiency in March of 1977, October of 1978, and August of 1981. Mn/DOT determined, and the FHWA concurred, that there had been no significant changes in the proposed project, the study area, nor the impacts; therefore, the DEIS was still adequate and need not be supplemented or rewritten.

PURPOSE OF AND NEED FOR THE ACTION

THE EXISTING TRANSPORTATION NETWORK

The Study Area

The I-394 study area, as defined in the DEIS, is bounded by the SR-55 corridor on the north and the SR-7 corridor on the south, and extends from the Minneapolis CBD on the east to the Lake Minnetonka area on the west. The project corridor is along existing US-12, an east-west route, between SR-101 in Wayzata and I-94 in Minneapolis. This area has one of the major transportation problems of the Twin City (Minneapolis and Saint Paul) metropolitan area. Although the main cause of this traffic problem is the number of trips between the western suburbs and downtown Minneapolis, the problem is compounded by both trips beyond the study area and an increase in local travel within the area. The existing highway network of the study area consists of roads that are classified by the Metropolitan Council (MC), the planning agency of the Twin City area, as principal, intermediate, and minor arterials; and as collectors and local roads. The principal and intermediate arterials are also known as the primary system. The existing highway network is illustrated by the map on page 29.

The Primary System

The primary highway system is designed to serve high-speed regional traffic and to provide linkage to major activity centers within the metropolitan area. SR-55, SR-12, and SR-7 are the primary east-west highways in the study area, providing access to Minneapolis from the western suburbs and from central and western Minnesota. I-494 on the west, CR-18 in the center, and SR-100 toward the east are the primary north-south highways in the area. Although these three do not serve Minneapolis directly, they do carry much of the suburban traffic bound for the city. I-94 is at the east edge of the project. The MC classifies US-12/I-394, I-494, and I-94 as principal arterials, and the others as intermediate arterials.

All of the traffic volumes discussed in this section are 1980 counts.

US-12

From I-94 at the western edge of downtown Minneapolis, US-12 (also commonly called Wayzata Boulevard) extends westward generally along the boundary between Golden Valley and Saint Louis Park, through Minnetonka and Wayzata, and across the state to South Dakota. This highway is the major connector between Minneapolis, the western suburbs, and west-central Minnesota. In Minneapolis, it is a six-lane freeway. To the west, as far as Wayzata, it is a four-lane divided expressway. Around Wayzata, it is a six-lane freeway; beyond, to the west, it is a two-lane rural highway. Traffic volumes between Wayzata and Minneapolis are high; congestion is common, particularly during rush hour; the average daily traffic (ADT) on various segments ranges from 37,300 to 82,500 as of 1980.

SR-55

SR-55 extends westward from the Minneapolis CBD through north Minneapolis and Golden Valley, then northwestward through Plymouth and across the state to North Dakota. Although it serves downtown and north Minneapolis, it does not provide fast and free-flowing service. In the CBD it is located on Seventh and Eighth Streets, a one-way pair with signals at every intersection. In north Minneapolis, it is a divided road with numerous intersections, many signalized. West of the city, it is a four-lane divided expressway with several signalized intersections. Its ADT ranges from 18,800 near I-494 to 34,900 just west of SR-100. East of SR-100, the ADT is less. Because of its stop-and-go traffic near the CBD, some drivers from the SR-55 corridor prefer to enter the city via US-12. In Minneapolis, SR-55 is about a mile north of US-12; this separation increases to about 2.7 miles at I-494 in Plymouth.

SR-7

SR-7 originates near Lake Calhoun in southwest Minneapolis, and extends southwestward through Saint Louis Park, Hopkins, Minnetonka, and Excelsior, then westward across the state until it joins US-12 at the South Dakota border. In the study area, only a part of the route is a four-lane divided expressway. Part of the suburban length has four lanes with no median or divider between the two directions of traffic. In Minneapolis it is on a city

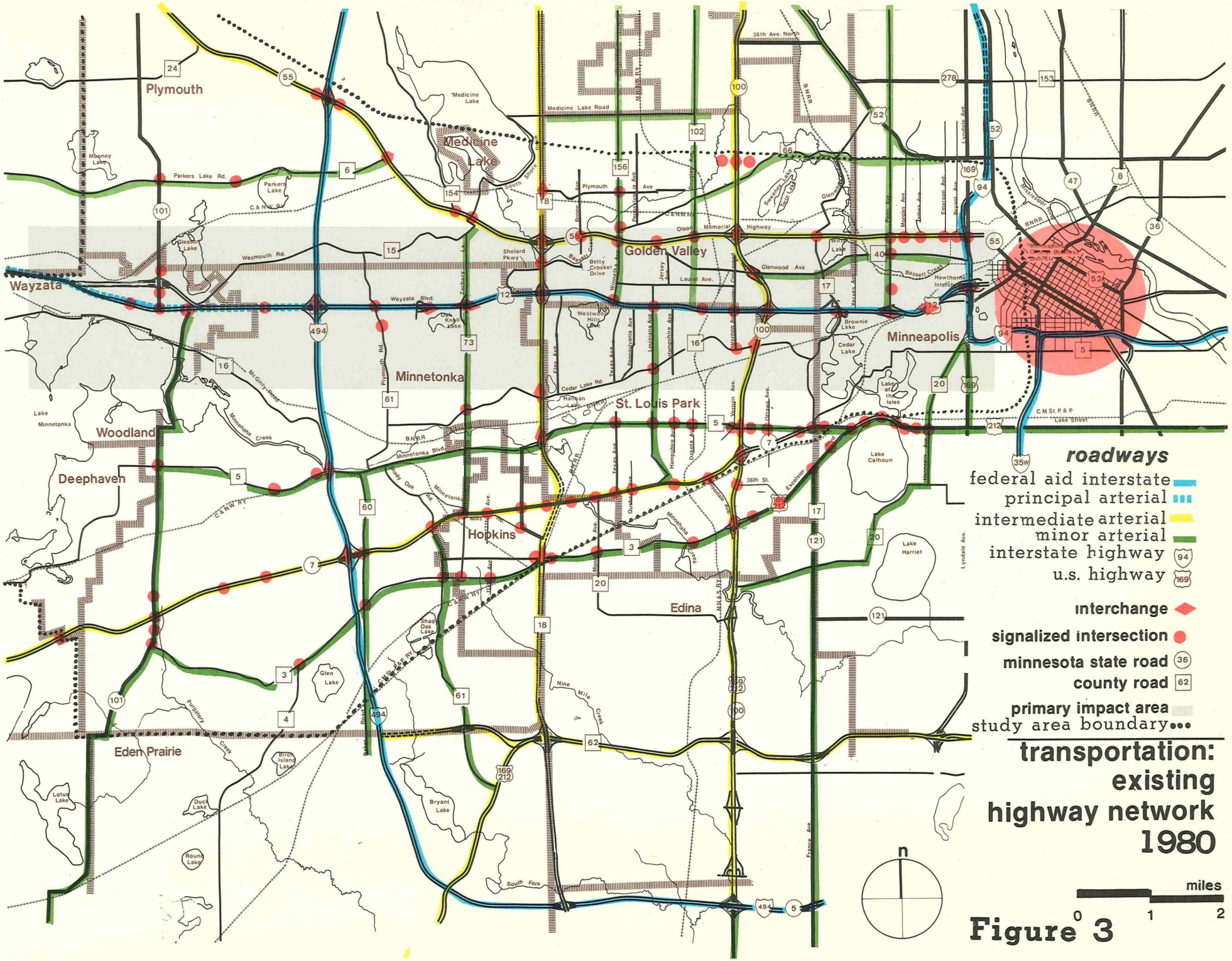

Plymouth
Medicine Lake
Golden Valley
Wayzata
Minneapolis
Minnetonka
St. Louis Park
Woodland
Deephaven
Hopkins
Edina
Eden Prairie
roadways
federal aid interstate
principal arterial
intermediate arterial
minor arterial
interstate highway
u.s. highway
interchange
signalized intersection
minnesota state road
county road
primary impact area
study area boundary
transportation: existing highway network 1980
miles
0 1 2
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Figure 3

street (Lake Street) that provides no free-flow route to either the CBD or to other primary highways. Because of this, many trips that originate along SR-7 also enter the city on US-12. Its highest ADT is 33,500, near I-494, and is less closer to town. East of SR-100, its ADT decreases to 18,300. Spacing between SR-7 and US-12 varies from about 1.5 miles in the city to about 3.3 miles at I-494 in Minnetonka.

I-494

Interstate 494, part of the ring-route around the Twin Cities, is a north-south roadway in the cities of Plymouth and Minnetonka in the western part of the I-394 study area. I-494 in this area is about nine miles west of the Minneapolis CBD. It is a four-lane interstate freeway with a depressed grass median. Traffic volumes are well below capacity, the accident rate is low, and it operates well. The ADT is 35,300 just north of US-12 and 42,300 to the south.

CR-18

Three miles east of I-494, County Road (CR) 18 extends north and south across the western metropolitan area. North of US-12, it is a four-lane divided freeway for seven miles. South of US-12, CR-18 is a freeway for only two miles, then temporarily follows local streets. Soon, CR-18 will be a freeway for its entire distance within the interstate ring-route. On the freeway segment, near US-12, the facility operates well but does become congested during peak traffic hours. It has an ADT of 48,400 to the north and 37,000 to the south of US-12.

SR-100

Another three miles east, SR-100 passes north and south through Golden Valley and Saint Louis Park. It is a four-lane divided expressway, part of an old ring-route that once encircled the then-smaller Twin City metropolitan area. Traffic on SR-100 is extremely heavy, beyond any other highway in the study area except US-12 itself. In the vicinity of US-12, it had a 1980 ADT of 66,500.

Because of the lack of a logical eastern terminus for SR-7, much of its traffic detours along SR-100 to US-12. Hence, this section of SR-100 is overloaded and the US-12/SR-100 interchange has one of the highest traffic concentrations in the metropolitan area.

I-94

At the eastern end of the project, near the CBD, I-94 extends eastward to Saint Paul and northward through Minneapolis. It is an Interstate freeway with at least three lanes in each direction (except through some interchanges) in the city. The eastern segment has been open for years and carries large volumes of traffic; the ADT just east of US-12 is 61,600. The northern segment opened only in 1981 and, as yet, carries a low traffic volume. The next segment to the north is now being built. When opened in 1983 or 84, it will connect to a completed section of I-94 that extends through the northwest suburbs and westward all the way across Minnesota and North Dakota. A pair of connectors from the north segment to the CBD is also being built. When both I-94 and the connectors are completed, the north segment of I-94 will also carry large volumes of traffic.

The Secondary System

The secondary roadway system consists of minor arterials and collectors. The purpose of this system is to collect motorists from local streets and allow them to travel at medium speeds to destinations within the area or to the primary system for destinations beyond the area. Secondary roadways serve local traffic needs and function as a connecting network between communities and major traffic generators in the area. A major problem with this system is the incompatibility between the function of the roadway and the use of the adjacent land. Several of the secondary roadways have evolved from local residential streets to arterial roads with large traffic volumes. Many are serving both as secondary roads and as local streets.

The Local Street System

The function of the local street system is to accommodate vehicular traffic, at low speeds, for short distances within the area and to the secondary or primary network. Although not intended for long trips, the local street system is very extensive and accommodates a large total volume of traffic. The street network provides the ultimate access to almost all of the residences in the study area, and to many of the businesses, schools, parks, and

churches. All streets in the study area not mentioned as part of the primary or secondary systems are considered to be part of the local street system.

The Public Transit System

The public transportation system for the entire Twin City metropolitan area is a network of bus lines operating in mixed traffic on roadways. In the study area, the buses operate mostly on the primary and secondary highway systems, with few routes on local streets. Current transit routes follow the east-west radials from downtown Minneapolis; no north-south routes span the study area.

Neither the MC nor the Metropolitan Transit Commission (MTC) have any plans for a different type of mass transit system, such as a fixed-rail system, in the study area or, for that matter, any part of the twin city area. (A fixed-rail transit line on University Avenue, between the Minneapolis and Saint Paul CBD's, is now being studied.) In this metropolitan area, buses operating on roadways offer more flexibility of service and are more practical and econimical than any other mass transit form. The Twin City metropolitan area has a relatively low population density and is spread over a wide area.

Only about four percent of all person-trips for all 24 hours in the Twin City area are now made by mass transit. The MTC hopes to increase this percentage to between six and ten percent by 1990.

Transportation Demand

Traffic on US-12, the route of I-394, has steadily increased over the years. On the section between SR-100 and downtown Minneapolis, it has more than doubled in the last decade. The following table illustrates the historic ADT on US-12 over the years. The figures represent the maximum volumes within each of the four segments.

TABLE 1: HISTORIC ADT ON US-12

	SR-101 to I-494	I-494 to CR-18	CR-18 to SR-100	SR-100 to I-94
1966	21,150	22,300	29,500	37,800
1968	25,800	25,700	32,300	33,000
1970	27,400	27,300	35,000	41,000
1972	28,510	34,500	47,200	60,800
1974	34,380	32,200	49,400	71,900
1976	36,250	34,700	50,150	76,400
1978	39,900	40,800	53,500	80,800
1980	41,200	43,000	57,500	82,500

The Mn/DOT Office of Systems Planning has forecast the year 2000 traffic for the same section of improved US-12/I-394 in their System Planning Analysis Report (SPAR) M-253 and in their Traffic Analysis Reports (TAR) M-250 and M-250A. They have also forecast the year 2000 traffic on existing US-12, if it were not improved, in TAR M-241. These documents are available for review at the Mn/DOT District Five Office in Golden Valley. The forecasts are summarized below. Again, the figures represent the highest average within each segment.

TABLE 2: FORECAST ADT ON US-12 OR I-394

	SR-101 to I-494	I-494 to CR-18	CR-18 to SR-100	SR-100 to I-94
US-12 if I-394 is not built	48,500	53,800	72,000	102,000
I-394 if built	49,100	54,720	78,720	102,420

The figures on the following pages show the ADT on the major roads in the study area. Figure 4 shows the existing traffic volumes as of 1980. Figure 5 shows the predicted volumes for the year 2000 if US-12/I-394 is built. Figure 6 shows the predicted volumes for the year 2000 if US-12/I-394 is not built, and existing US-12 remains in operation.

These predicted volumes for the build and no-build alternates are also drawn from SPAR M-253 and TAR M-241, respectively.

The Mn/DOT Traffic Management Center, in 1976, studied travel times on US-12 and compared them with travel times on I-35W, a freeway leading to downtown Minneapolis from the south. The average rush hour travel speed on US-12 was 36 miles per hour; the equivalent speed on I-35W was 49 miles per hour. Both speeds were with the peak directional flow of the traffic, averages of both the morning-inbound and evening-outbound flows. The ADT on the segments of US-12 ranged from 31,400 to 76,400, for an average ADT of about 56,700, or 14,175 per lane. The ADT on I-35W ranged from 102,985 to 116,250, for an overall average of about 17,700 per lane on the six-lane portion and 14,175 per lane on the eight-lane section. Per lane, freeway I-35W carries as many or substantially more vehicles as US-12 more than 35 percent faster.

Improving US-12 to a freeway will permit shorter travel times by reducing congestion and eliminating stop-and-go operation. This improvement will also increase capacity by adding the diamond and reversible lanes. They will not only add to the vehicular capacity but will have an even greater impact on the people-carrying capacity of the freeway.

In view of the forecast of future traffic demand, this increase in capacity is essential. US-12 now operates at its capacity for several hours each day, during the morning and evening rush hours, and near its capacity for most of the rest of the day. Increased traffic demand will increase the number of hours that the highway operates at its capacity and traffic is moving at a slow, stop-and-go pace.

Safety

During the five year period from 1976 through 1980, the section of US-12 to be reconstructed had an accident rate of 4.0 accidents per million vehicle miles. Adjusted to take into consideration the more serious accidents that resulted in injury or death, the severity rate was 8.0. This severity rate is weighted to count a property damage accident as one, a personal injury accident as four, and a fatal accident as ten.

During just 1980, this section of US-12 had an accident rate of 3.4 and a severity rate of 7.4. For the same year, Interstate freeways in the Golden Valley District had accident rates that ranged from 0.4 to 3.4; the average was 1.8. The severity rates ranged from 0.9 to 6.6; the average was 3.4. The Golden Valley District of Mn/DOT oversees the highways of Minneapolis and its suburbs; it includes all or large parts of five counties, and totals nearly two thousand square miles.

The actual accident rate along US-12 varies widely along different segments, from 1.5 to 4.8. The table on page 49 shows the ADT and the accident rates by segments, for the year 1980.



Hadley Lake
Gleason Lake
Lake Minnetonka
Wayzata Bay
Grays Bay
Minnehaha Cr.
Minnehaha Creek
Lake Marion
Shavers Lake
Libbs Lake
Lake Louise
Windsor Lake
Bantta Pt.
Cedar Point
Breezy Point
1. E. CIRCLE DR.
2. MINNETONKA BLVD.
3. GRAND AVE.
4. WOOD DALE AVE
5. BYRONDALE AVE.
6. GARDNER ST.
MINNETONKA
1975 POP 38,800
WOODLAND
1970 POP. 544
HOPKINS
1970 POP 13,428
T 118 N R 22 W
32 33
5 4
T 117 N
T 117 N R 22 W
7 8
18 17
T 117 N R 22 W
10 11
14 15
T 117 N R 22 W
Wayzata
Minnetonka
Orchard
Woodhaven
Spring
Valley
Rd.
Blvd.
Ave.
Cir.
Dr.
Ln.
Pl.
Ter.
Ct.
Trl.
Hwy.
Pkwy.
Sq.
Mall
Cv.
Xing
Rte.
Ramp
Loop
Path
Walk
Run
Crst
Hts
Pt.
Bnd
Jct.
Spur
Line
Inc
Ind
Ests
Gdns
Grn
Grv
Mdw
Mdws
Pky
Plz
Sta
Twp
Vly
Vw
Wds
Wy
Xrd
Ctr
Fwy
Hl
Mt
Mtn
Pk
Rdg
Rdge
Rdgs
Rdgmt
Rdgdl
Rdgvw
Rdgwd
Rdgwy
Rdgln
Rdgpl
Rdgtr
Rdgcr
Rdgct
Rdgtrl
Rdgvwy
Rdgwdy
Rdgwdln
Rdgwdpl
Rdgwdtr
Rdgwdcr
Rdgwdct
Rdgwdtrl
Rdgwdvwy
Rdgwdwdy
Rdgwdwdln
Rdgwdwdpl
Rdgwdwdtr
Rdgwdwdcr
Rdgwdwdct
Rdgwdwdtrl
Rdgwdwdvwy
Rdgwdwdwdy
Rdgwdwdwdln
Rdgwdwdwdpl
Rdgwdwdwdtr
Rdgwdwdwdcr
Rdgwdwdwdct
Rdgwdwdwdtrl
Rdgwdwdwdvwy
Rdgwdwdwdwdy
Rdgwdwdwdwdln
Rdgwdwdwdwdpl
Rdgwdwdwdwdtr
Rdgwdwdwdwdcr
Rdgwdwdwdwdct
Rdgwdwdwdwdtrl
Rdgwdwdwdwdvwy
Rdgwdwdwdwdwdy
Rdgwdwdwdwdwdln
Rdgwdwdwdwdwdpl
Rdgwdwdwdwdwdtr
Rdgwdwdwdwdwdcr
Rdgwdwdwdwdwdct
Rdgwdwdwdwdwdtrl
Rdgwdwdwdwdwdvwy

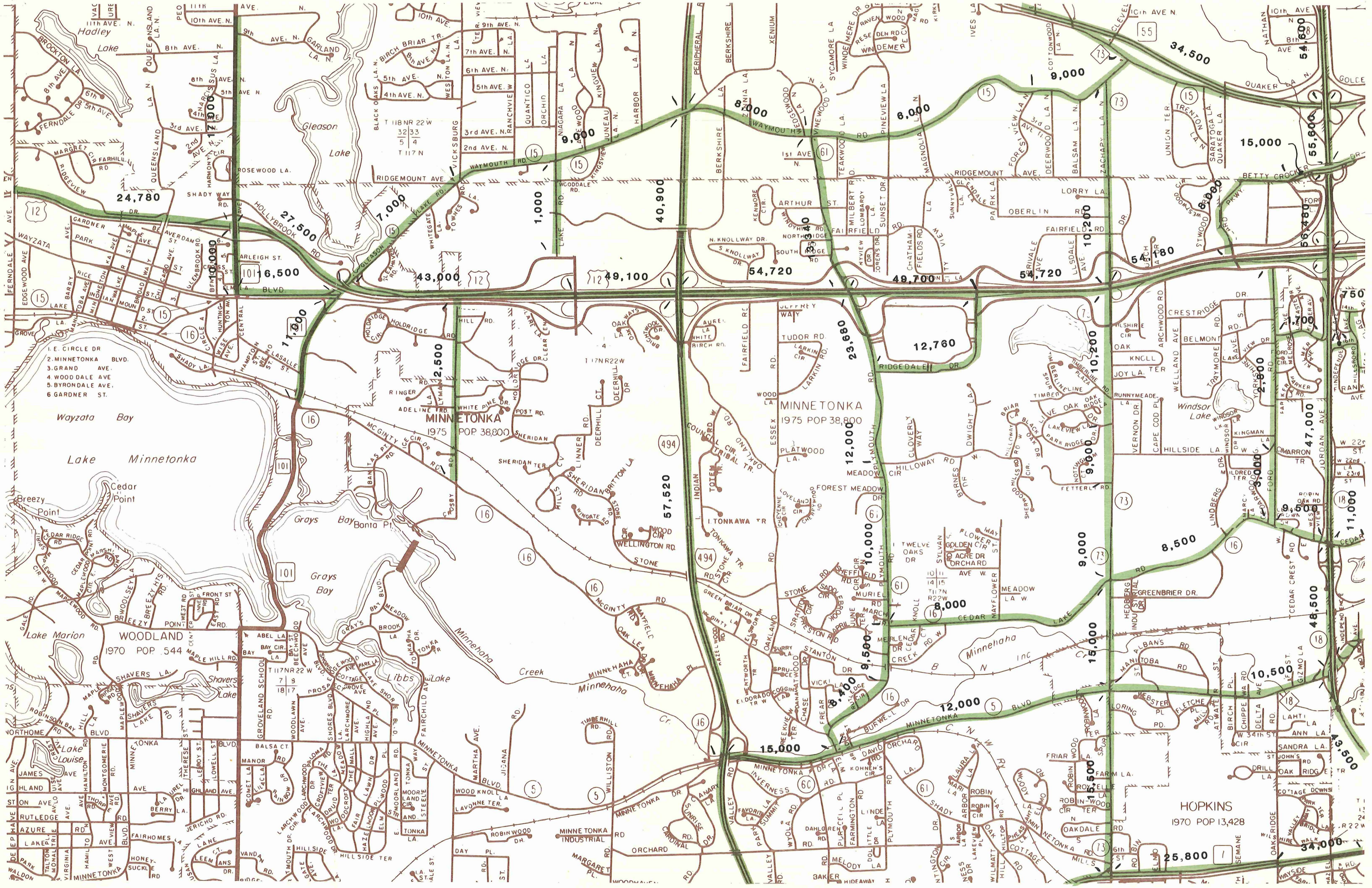
I-394

scale 0 1000'

north

EXISTING TRAFFIC VOLUMES 1980 [ADT]

Figure 4



1. E. CIRCLE DR
2. MINNETONKA BLVD.
3. GRAND AVE.
4. WOODDALE AVE
5. BYRONDALE AVE.
6. GARDNER ST.
Wayzata Bay
Lake Minnetonka
Hadley Lake
Gleason Lake
Grays Bay
Lake Marion
Shavers Lake
Libbs Lake
Lake Louise
Windsor Lake
Minnehaha Creek
MINNETONKA
1975 POP 38,800
WOODLAND
1970 POP 544
HOPKINS
1970 POP 13,428
24,780
27,500
16,500
43,000
49,100
54,720
49,700
54,720
54,180
34,500
9,000
8,000
6,000
15,000
55,600
56,480
12,760
23,680
12,000
10,000
9,000
8,500
8,000
9,500
8,400
15,000
12,000
15,500
25,800
34,000
43,500
10,500
48,500
11,000
9,500
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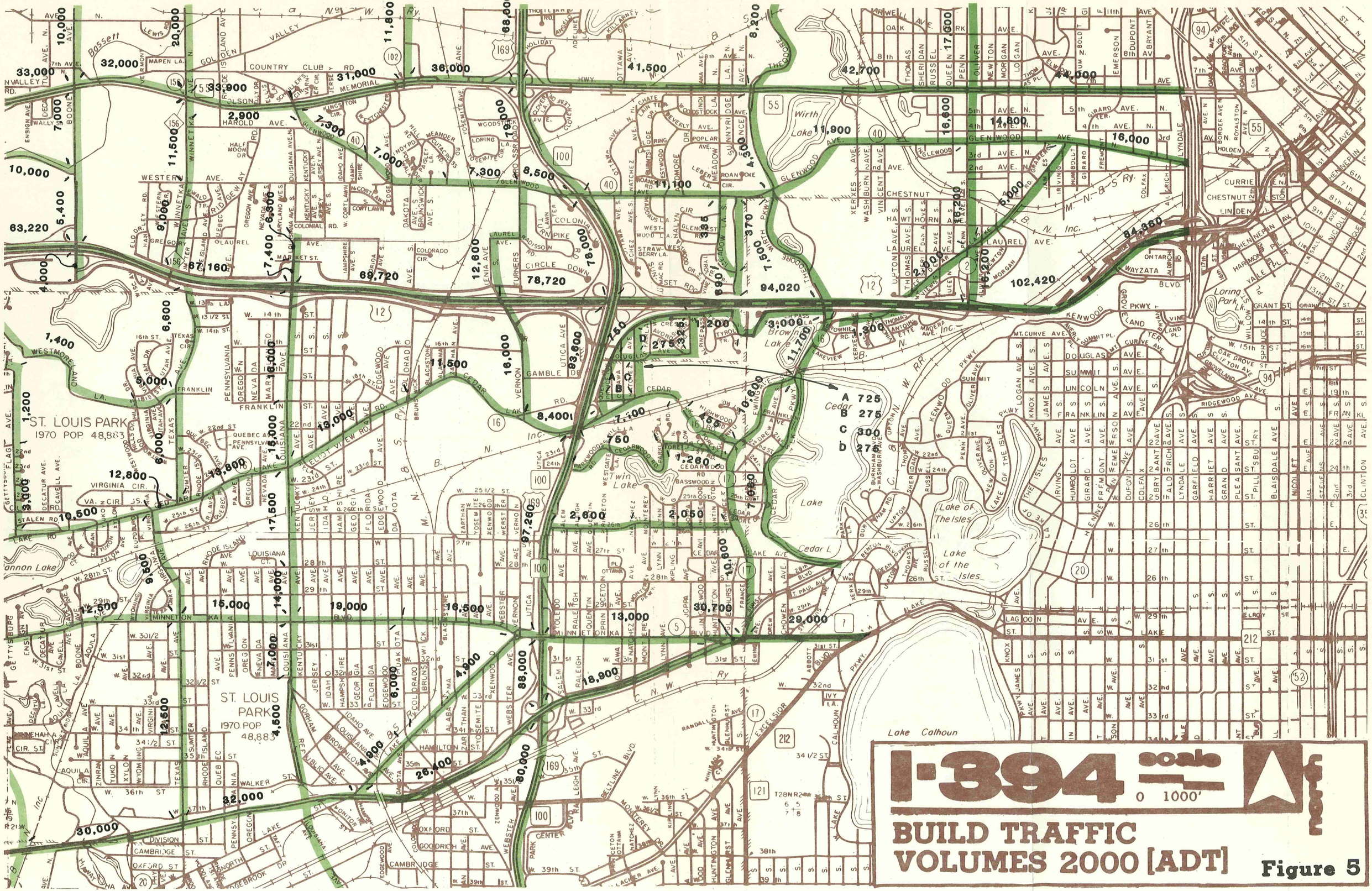
2,500
11,000
10,000



I-394 scale 0 1000'

BUILD TRAFFIC VOLUMES 2000 [ADT]

Figure 5

1. E. CIRCLE DR
2. MINNETONKA BLVD.
3. GRAND AVE.
4. WOODDALE AVE
5. BYRONDALE AVE.
6. GARDNER ST.

MINNETONKA
1975 POP 38,800

HOPKINS
1970 POP 13,428

WOODLAND
1970 POP 544

Wayzata Bay

Lake Minnetonka

Gleason Lake

Windsor Lake

Libbs Lake

Lake Marion

Shavers Lake

Minnehaha Creek

Grays Bay

Cedar Point

Breezy Point

Banta Pt.

T 118 N R 22 W
32 | 33
5 | 4
T 117 N

T 117 N R 22 W
7 | 8
18 | 17

T 117 N R 22 W

WAYZATA BLVD. 53,600 48,500 53,600

HOPKINS CROSSROADS 48,800 46,800 43,000

MINNETONKA BLVD. 15,000 13,000

WAYZATA BLVD. 42,800 42,900 48,500

WAYMOUTH RD. 9,000

RIDGEMOUNT AVE. 12,000

BETTY CROCKER PKWY. 12,000

HOLLYBROOK RD. 27,550

GLEN LAKE RD. 7,000

ARLEIGH ST. 16,500

FAIRFIELD RD. 53,600

RIDGEDALE DR. 13,900

MINNETONKA BLVD. 11,000

OBERLIN RD. 10,100

ARTHUR ST. 12,000

RIDGEMOUNT AVE. 9,700

QUAKER LA. N. 55,200

FORD RD. 56,200

MINNETONKA BLVD. 11,000

MINNETONKA BLVD. 11,000

MINNETONKA BLVD. 11,000

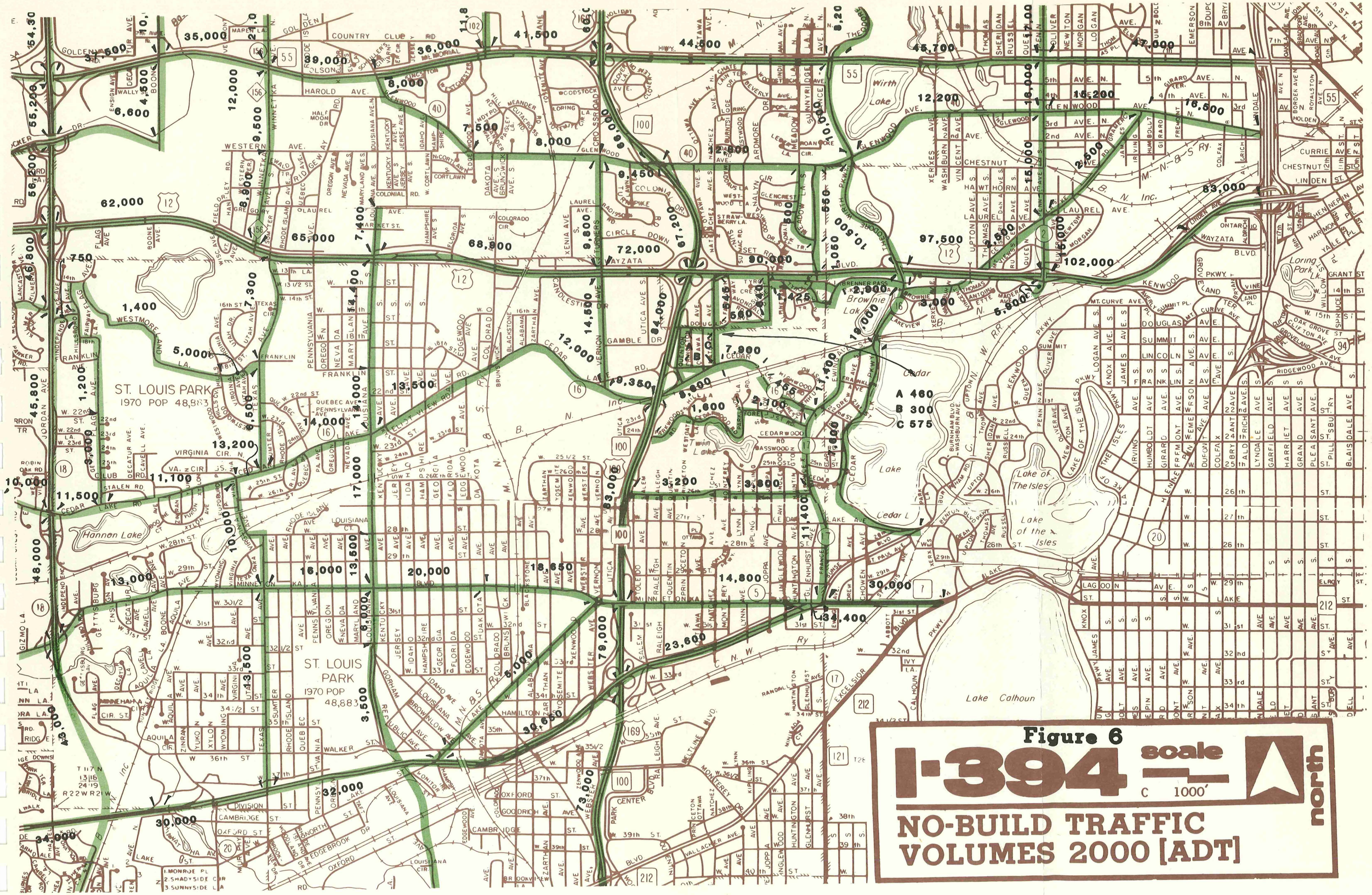

ST. LOUIS PARK
1970 POP 48,883
ST. LOUIS PARK
1970 POP 48,883
Hannon Lake
Twin Lake
Cedar Lake
Lake of The Isles
Lake Calhoun
Brownie Lake
Wirth Lake
Loring Park Lk.
Lake
Cedar
A 460
B 300
C 575
M. N. & S. Ry.
C. N. W. Ry
B. N. Inc.
W. RR
S. Ry.
M. N. 85
I-394
I-394
I-394

TABLE 3: 1980 ACCIDENT RATES ON US-12

	ADT	accident rate*	severity rate*
SR-101 to I-494	39,401	2.5	5.4
I-494 to Plymouth Road	43,000	2.3	4.5
Plymouth Road to CR-18	39,373	2.0	4.1
CR-18 to Pennsylvania Avenue	44,160	2.9	5.5
Pennsylvania Avenue to Colorado Avenue	49,894	4.8	11.3
Colorado Avenue to SR-100	56,556	3.4	7.1
SR-100 to Theodore Wirth Parkway	82,500	1.5	3.0
Theodore Wirth Parkway to I-94	74,801	3.2	6.3

*These accident rates do not include accidents on interchange ramps and loops.

An earlier study, of the years 1974 and 1975, compared the accident rates of US-12 and all freeways in the Golden Valley District. The section of US-12 used in this study was the four-lane expressway between I-494 and Theodore Wirth Parkway, so did not include the freeway segment in Minneapolis. The freeways are representative of the type of highway planned as I-394. The results were as follows.

TABLE 4: ACCIDENT RATES ON US-12 COMPARED TO AREA FREEWAYS

	ADT	accident rate
four- and six-lane rural freeway	20,400	0.74
four- and six-lane urban freeway	50,300	1.80
US-12 (four-lane expressway)	41,000	5.09

It is apparent that existing US-12 is considerably more dangerous than either a rural freeway or an urban freeway with even more traffic.

Another study, made in 1976, compared the safety of the same section of US-12 to another major radial route leading to the Minneapolis CBD, I-35W to the south. I-35W is a six- and eight-lane Interstate freeway that carries almost double the traffic of US-12 when both are averaged for the entire lengths of the sections compared. The section of I-35W used for comparison is 4.5 miles long, from its junction with CR-62 to the downtown exits. The results were as follows.

TABLE 5: ACCIDENT RATES ON US-12 COMPARED TO I-35W

	US-12	I-35W
average ADT	44,380	113,635
property damage accidents	1,115	753
personal injury accidents	519	223
fatal accidents	7	3
accident rate	4.30	1.74
severity rate	8.54	2.97

A comparison of the same two road sections for the three years 1973 through 1975 shows similar results; that is, US-12 is between two and three times more dangerous than its freeway counterpart. Over that three year span, US-12 had four fatal accidents and I-35W had two.

Three of the intersections along US-12 are among the six worst in the Golden Valley District, in terms of numbers of accidents as of 1980. They are the US-12 intersections with Louisiana Avenue, Plymouth Road, and Turners Crossroad. All three are signalized, channelized, and have turn lanes.

One of the most important reasons to improve this highway is to improve its safety and to bring it up to the level attainable only on a controlled access freeway with no at-grade intersections. It seems evident that improving expressway US-12 to freeway US-12/I-394 will reduce accidents and the resultant loss of property, health, and life.

Social and Economic Development

The area to be served by I-394 has developed rapidly and extensively, and future growth is certain. The MC issued, in April of 1977, revised forecasts of population, households, and employment. The revised forecasts for the communities to be served by I-394 are included and discussed in the Social Characteristics section of this report.

population

In summary, Minneapolis and the first tier suburbs of Golden Valley and Saint Louis Park are expected to have a nearly stable population until the year 2000, at least. During this same time, Minnetonka and Wayzata are expected to substantially increase their populations, and the population of Plymouth is expected to almost double.

households

In all six communities, an increase in the number of households is projected. These increases range from less than two percent in Saint Louis Park to about 75 percent in Plymouth.

employment

The number of persons employed is expected to remain stable in Minneapolis, Saint Louis Park, and Wayzata; and increase about ten percent in Golden Valley, 25 percent in Minnetonka, and 35 percent in Plymouth by the year 2000.

The increasing numbers of people, homes, and jobs in the I-394 study area will increase the transportation demand and the need for an improved facility along the I-394 corridor.

Federal Legislation

The Federal Aid Highway Act of 1956 proposed the construction of the National System of Interstate Highways. The I-394 route was added to the system later, in 1968, because of the need for an east-west radial to the west of Minneapolis. Land use planning, by both the local communities and the Metropolitan Council, has been based, in part, on the assumption of eventual completion of this freeway link.

State Legislation

In 1976 the Minnesota Legislature approved the construction of a six-lane highway along the I-394 corridor, within the existing right-of-way insofar as possible. The state law also directed the Commissioner of Highways (now Transportation) to prepare an Environmental Impact Statement and to proceed with other necessary planning. This planning is to consider all feasible and prudent alternate routes and design features without regard to the necessity of further legislative approval. The planning is to consider mitigation of adverse environmental effects, and the recommendations of the Metropolitan Council, the Transportation Advisory Board (TAB), and the Interstate Study Committee (ISC). The TAB is appointed by the MC to advise them on various transportation issues. The ISC was established by the Legislature to study all uncompleted interstate freeways in the Twin City area and to make recommendations to the Legislature regarding their completion; they recommended building I-394. Both groups were comprised mostly of local officials.

The Metropolitan Council Plan

The MC was established by the Minnesota Legislature in 1967 to coordinate the planning and development of the Twin City metropolitan area, which is comprised of seven counties, 50 townships, 138 municipalities, 49 school districts, five regional agencies, and 22 special purpose districts. The Governor has designated the MC as the Metropolitan Planning Organization and the A-95 Clearinghouse Agency, and it also serves as the 3-C Planning Agency for the metropolitan area. The area under the jurisdiction of the MC totals about three thousand square miles and has a population approaching two million.

The MC has developed a plan for the orderly growth of the area. This plan is known as the Metropolitan Development Guide/Policy Plan, and includes a chapter on recommended transportation planning and policies. The Transportation Chapter, published in July of 1976, lists I-394 as a major construction needed to complete the 1990 Metropolitan Highway System. Their plan for this system shows I-394 as a principal arterial to accommodate long trips at relatively high speed. They further identify a principal

arterial as "a fully controlled-access roadway that does not provide direct access to adjacent development - in other words, a freeway."

This same Transportation Chapter also includes a 1990 Transit Plan that calls for express transit service along I-394 to the downtown Minneapolis metro center. This service, the highest level of service planned for the metropolitan area, would provide priority treatment for express transit ranging from metering with special access ramps to, possibly, exclusive lanes for transit. This same highest-level transit service is called for on other, existing, high-volume interstate freeways in the area: I-35W south of Minneapolis, I-35E north of Saint Paul, I-94 east of Saint Paul, and I-94 between the two cities.

West of I-494, the Transit Plan calls for transit moving in mixed traffic.

The Transit Plan calls for the transit vehicles to be buses vanpools and carpools, and states that "No fixed guideway for the exclusive use of transit (buses and automated or semi-automated technologies) is to be provided for regional or sub-regional service." In 1981 the Plan was amended to eliminate this prohibition, for the the purposes of holding a public hearing regarding light rail transit (LRT),

Modal Interrelationships

This freeway will serve personal passenger cars, trucks, vans, intracity buses, and intercity buses. Buses, vanpools, and carpools will have priority access to the freeway and to the reversible lanes. This express transit, operating under preferential conditions on an improved roadway, should attract riders from their private vehicles. Computer matching of potential carpool users, similar to the system already used in the Twin City area, should encourage shared rides. Park-and-ride sites will enable drivers to leave their cars in the suburbs and bus or carpool into the city.

Although not within this highway section, three large municipal parking ramps are proposed adjacent to the Third Avenue Distributor section of I-394, at the edge of the CBD. These garages would also serve as bus transfer stations, encouraging the automobile users to park there and transfer to downtown bus lines and enabling bus riders to conveniently transfer to other lines. The garages would also be within easy walking distance of the CBD. The garages are part of a series of parking ramps the city is building around the perimeter of the CBD to reduce automobile traffic in downtown Minneapolis, with its attendant land use and air quality benefits. These garages would have direct access via ramps to the Third Avenue Distributor section of I-394, northeast of the Hawthorne Interchange.

System Linkage

The original concept for the interstate system in this metropolitan area called for a ring route (I-494 and I-694) around the periphery, radial routes to the Minneapolis and Saint Paul CBD's, and a connection between the cities (I-94). The Saint Paul radials were to be I-35E to the north and south, and I-94 to the east. The Minneapolis radials were to be I-35W to the northeast and south, and I-94 to the northwest. Most of these freeways, but not all, now exist. Those not yet completed are either under construction or still being planned.

Interstate 394 was designated as part of the system in 1968, to serve as the logical western radial from downtown Minneapolis.

The proposed freeway section of US-12 between SR-101 and I-494 will serve as a link between I-394 and an already-built freeway section of US-12 that bypasses the urban area of Wayzata. US-12 leads to the far western suburbs around Lake Minnetonka and is a major route to central and western Minnesota. This highway is one of the most important transportation links between the agriculture of the west and the markets and distribution centers of the Twin Cities. Upgrading the existing highway to a freeway should also relieve some of the traffic pressure on the other two western arterials, SR-55 and SR-7, and on SR-100 between these two roads.

To not build I-394 would subject the western suburbs, and also Minneapolis, to continued and increasing traffic problems. Congestion would increase; traffic would slow and travel times increase; accidents would increase. These adverse effects would apply not only to private cars, but to buses, the only public transportation in the area. Increased congestion and stop-and-go traffic would further increase air pollution and noise levels, even beyond that to be expected just from the increasing number of vehicles.

As traffic continued to increase and congestion on US-12 became worse, more traffic would be forced to other routes, worsening their congestion and introducing increased air pollution and noise problems to new areas. Some traffic would choose to use minor arterials and collectors that were never intended to accommodate long trips or fast traffic.

Failure to provide an adequate transportation system will eventually discourage the interchange of people between the affluent western suburbs and the central city. Ultimately, this would be to the economic and cultural detriment of both. Interstate 394 will be the most essential part of the west suburban/Minneapolis transportation network.

The construction of I-394 will offer the opportunity to reduce these adverse impacts, both those now present and those foreseen for the future. I-394 will be a vastly better highway than existing US-12; traffic will flow more freely, travel times will be reduced, and safety will be improved. Public transportation on the new route will be quicker and more attractive to potential patrons. The free-flowing traffic will reduce air pollution. The noise problem will be mitigated by the inclusion of noise walls and other design features. The noise levels in residential and park areas will be reduced from those presently experienced. I-394 will keep the traffic that might otherwise be forced to use less appropriate minor roads, reducing environmental problems along those routes.

Even prior to 1920, this corridor had a concrete roadway, though only 14 to 16 feet wide. In 1921 it was designated as US Highway 12, and was widened to 27 feet between Minneapolis and CR-18 In 1926 the western end, between CR-18 and Wayzata, was widened to 28 feet. Early names for this road included Superior Boulevard and, later, Wayzata Boulevard.

In 1939 the section from the Minneapolis Northfield and Southern (MN&S) railroad tracks, in Saint Louis Park, and near downtown Minneapolis was reconstructed as a four-lane divided expressway with interchanges at SR-100 and Theodore Wirth Parkway. In 1952 the western end, between the railroad and Wayzata, was rebuilt as a similar expressway. Subsequent improvements have included widening; additional lanes in the Minneapolis segment; turn lanes; traffic signals at major intersections; miscellaneous safety and capacity improvements; and interchanges with new I-494, new Ridgedale Drive, CR-73, upgraded CR-18, Penn Avenue, Wayzata Boulevard, and new I-94. Many of these improvements were, in effect, TSM projects.

By the 1960's, steadily increasing development and traffic along the corridor made it evident that further upgrading to a freeway would be necessary to adequately serve the transportation needs of the area and its residents. In December of 1968, it was added to the Federal Aid Interstate System as I-394.

In March of 1970 the Minnesota Highway Department (MHD), now the Minnesota Department of Transportation, retained the engineering consulting firm of Howard, Needles, Tammen and Bergendoff (HNTB) to study the needs for this project. That June, they submitted to the MHD a comprehensive program direction report which made recommendations regarding scope, procedures, organization, public participation, and personnel. In November, they were again retained to perform a location study, which they submitted to the MHD in March of 1971. That study, entitled "Corridor Location Study: Trunk Highway 394 - Stage 1 - Feasible Corridors", recommended further

study of four alternatives, each of which began at the Hawthorne Interchange with I-94 in Minneapolis and terminated at the US 12/I-494 interchange in Minnetonka. Alternates 5 through 8 were dismissed.

In 1970, the MHD established two committees to provide direction and technical input. The first was the Technical Advisory Committee (TAC), which included representatives from the MHD, FHWA, MC, MTC, Hennepin County Highway Department, and the Hennepin County League of Municipalities. The second was the Administrative Committee, comprised of members from the MHD, FHWA, MC, and the MTC.

By June of 1971 it became apparent that more communication with the public was necessary, so the Administrative Committee proposed the establishment of a Citizens Advisory Committee (CAC) to provide for public input into the decision making process. The CAC was comprised of representatives from the affected cities of Minneapolis, Golden Valley, Saint Louis Park, Minnetonka, Plymouth, and Wayzata, and from the Greater Metropolitan Federation, a twin cities-wide organization of citizens groups.

At the recommendation of the CAC, the Administrative Committee was reorganized in March of 1972 as the Project Management Board (PMB), comprised of representatives of the MHD, MC, MTC, and the CAC.

Also at the recommendation of the CAC, a supplemental transit study of the I-394 corridor was begun early in 1972 by the consulting firm of Simpson and Curtin. Their study was closely coordinated with the highway study. The short-range transit plan was completed in December of 1972, and the long-range plan was completed in July of 1973.

Midwest Planning and Research, Incorporated, a subconsultant to HNTB, submitted a report entitled "TH 394 Corridor Location Study Attitude Survey" to the MHD in November of 1972.

Since the early stages of the project, the highway agencies have attempted to maintain a dialog with the public so that each could be aware of the other's needs and concerns. A community participation program was developed by the MHD to inform the public of the planning and development process leading to I-394, and to identify the public issues and concerns. This was done by public meetings, newspaper articles, telephone interviews, and personal discussion. This first phase was completed in December of 1971.

The second phase was to maintain communication between the public and the highway agencies, and to receive and consider opinions and ideas from the public. To this end, informal meetings were held with representatives from neighborhoods, businesses and civic organizations. Occasional public meetings were held to report progress. In Saint Louis Park, the MHD participated in the publication of a special newsletter regarding I-394 that was mailed to every residence, and in an information booth about I-394 at the City's annual exposition.

The DEIS was completed in December of 1973 and made available the following month. The location public hearing was held on February 27, 1974. After review of the comments, Alternate 2 (the general location of existing US-12) was chosen by the Commissioner of Highways as the preferred alternate.

The public often had misconceptions of what the project really was and what its effect would really be on its neighborhoods. Opposition hardened over the years, and eventually manifested itself as political pressure.

In May of 1975, the Minnesota Legislature imposed a moratorium on all work, including preliminary engineering and environmental studies, on I-394 and certain other highway projects in the Twin City metropolitan area. In April of 1976, the legislature lifted most of the restrictions, allowing work to be resumed considering the recommendations of the MC, the TAB, and the ISC.

In 1978 Mn/DOT began preparing new geometric layouts, this time with the assistance of four Task Forces comprised of citizens and officials representing Minneapolis, Golden Valley, Saint Louis Park, Minnetonka, Plymouth, Wayzata, the Minneapolis Park and Recreation Board, and Hennepin County. Each Task Force was concerned with the details of a separate segment of the route. They provided ideas and opinions that insured that the freeway design was as acceptable as possible to the communities along the route. The Task Forces also relayed the transportation concerns back to the community at large, and formed a valuable link between the citizens and Mn/DOT.

In addition to the Task Force meetings, more than a dozen public meetings were held in schools and other public buildings to explain the proposal to the neighbors and to receive their comments. Neighborhood residents were notified by mail, and hundreds attended the meetings. Despite the communication between the citizens and Mn/DOT, the proposal to build I-394 and how to build it remained controversial.

The various communities had different opinions as to even the basic configuration of the freeway. The key issues were public transit and access to the freeway. They could not reach a consensus. No agreement could be made between the communities and Mn/DOT, or even between the communities.

On December 5th, 1980, Mn/DOT Commissioner Braun referred the I-394 controversy to the Metropolitan Council for resolution. Citing significant disagreement between the various involved communities and agencies over the design of I-394, and the lack of any clear consensus, he asked that they solve the problem by initiating the process described in Minnesota Statutes Chapter 161.17, Subdivision 2. This law gives the responsibility for resolving transportation policy issues and differences in the Twin City Metropolitan Area to the Metropolitan Council. They accepted this responsibility and made a thorough study of the controversy and the problem, including cost-effectiveness, and gave due consideration to public opinion including that expressed at public meetings. On June 25th, 1981, the Metropolitan Council recommended the design described in this report.

Steps yet to be taken include the writing and processing of the State EIS and the Design Study Report (DSR); final detail design; right-of-way acquisition; and construction. Mn/DOT will begin right-of-way acquisition in 1983, and the first phase of construction in 1986.

ALTERNATIVES INCLUDING THE PROPOSED ACTION

The "Corridor Location Study: Interim Report" of November 1973 (a copy of this document is available for review at the Mn/DOT District Five Office) identified seven distinct alternate routes plus the limited improvement and the no-build alternatives. These alternatives were analyzed in relation to traffic service, community opinion, and social, economic, and environmental impact. All but four of these alternates were dismissed before the DEIS was published in January 1974. After the MHD considered the response to the DEIS and to the public hearing of February, 1974, the Commissioner of Highways selected Alternate 2 as the preferred alternate.

The alternate routes are illustrated by Figure 6A, on page 65.

ROUTES DISMISSED BEFORE THE DEIS

A description of the other alternatives and the reasons for their dismissal are discussed in this section.

As a result of the Stage One Study, five of the nine alternatives were dismissed from further study for various reasons. Those dismissed at that time were referred to as Alternates 5, 6, 7, 8, and Limited Improvement. A brief discussion of each follows.

Alternate 5

Alternate 5 had its eastern terminus at the Hawthorne Interchange with I-94 in Minneapolis and extended westward along inplace US-12 to about Penn Avenue. From there it paralleled the Burlington Northern Railroad route southwestward through Minneapolis, Saint Louis Park, and Minnetonka to I-494.

This alternate was eliminated from further consideration after study showed that this corridor would have required the taking of more than 200 homes and would have adversely affected parts of Minnehaha Creek and the proposed linear park system along the creek.

Alternate 6

Alternate 6 also began at the Hawthorne Interchange and followed US-12 to about Penn Avenue, but then turned southwestward along the Chicago and Northwestern Railroad route, between Cedar Lake and Lake of the Isles, to SR-7. It then followed SR-7 westward to I-494, via Saint Louis Park, Hopkins, and Minnetonka.

This alternate was eliminated because of its severe adverse imapcts to the two lakes, the parkland surrounding them, and their residential neighborhoods.

Alternate 7

Alternate 7 began at the Hawthorne Interchange and paralleled the Burlington Northern Railroad westward to SR-100, then followed SR-100 southward to SR-7, then SR-7 wesrward to I-494. This route traversed Minneapolis, Golden Valley, Saint Louis Park, Hopkins, and Minnetonka.

This alternate was dismissed because of its severe encroachment on Cedar and Brownie Lakes and because of potential operational problems.

Alternate 8

Alternate 8 began at the Hawthorne Interchange and extended northwestward through North Minneapolis, then followed SR-55 through Golden Valley and Plymouth to I-494.

This alternate was eliminated because it would introduce an all-new transportation corridor through North Minneapolis and seriously encroach on Theodore Wirth Park and the parklands along Bassett Creek. In addition, this alternate would not serve the more populous western and southwestern commuities as well as the alternatives utilizing US-12 or SR-7.

THE LIMITED IMPROVEMENT OR TSM ALTERNATIVE

The limited improvement or traffic systems management alternative was to upgrade existing US-12, but in such a way as to minimize additional right-of-way requirements. One lane in each direction would have been added to the existing highway. All at-grade intersections and access points would have been closed. Existing interchanges would have been modified to accommodate the additional lanes. New interchanges and cross-overs would have been built at appropriate locations to provide access to adjacent lands. The discontinuous frontage road system that now exists would have been retained.

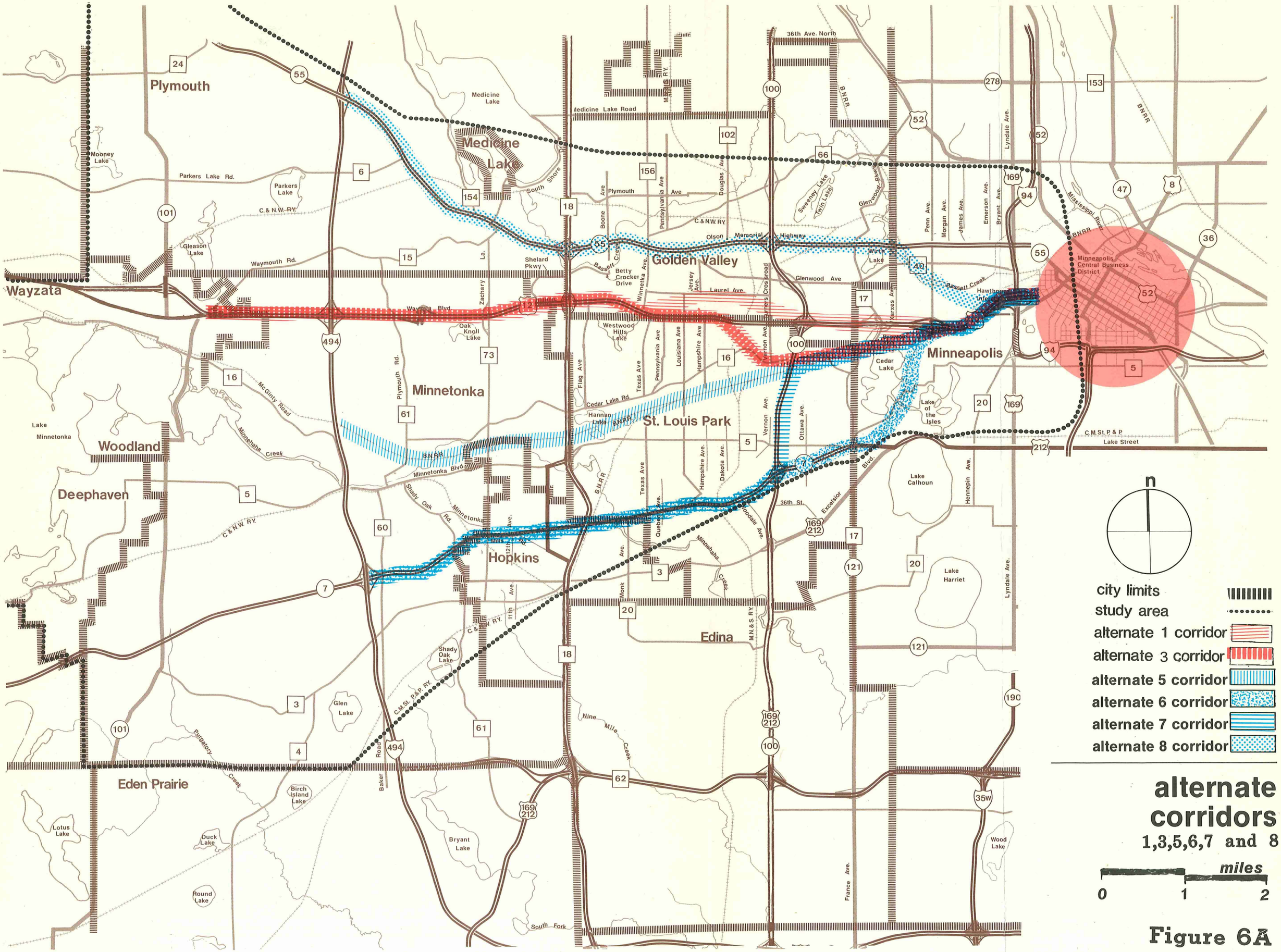

Plymouth
Medicine Lake
Wayzata
Golden Valley
Minneapolis
Minneapolis Central Business District
Minnetonka
St. Louis Park
Woodland
Deephaven
Hopkins
Edina
Eden Prairie
Lake Minnetonka
Mooney Lake
Parkers Lake
Gleason Lake
Oak Knoll Lake
Westwood Hills Lake
Cedar Lake
Lake of the Isles
Lake Calhoun
Lake Harriet
Hannan Lake
Shady Oak Lake
Glen Lake
Birch Island Lake
Lotus Lake
Duck Lake
Round Lake
Bryant Lake
Wood Lake
Wirth Lake
Sweeney Lake
Twin Lake
Medicine Lake Road
Parkers Lake Rd.
Waymouth Rd.
Wayzata Blvd.
Minnetonka Blvd.
Cedar Lake Rd.
36th Ave. North
Olson Memorial Highway
Glenwood Ave
Laurel Ave.
Lake Street
36th St.
Excelsior Blvd.
Bassett Creek
Nine Mile Creek
Minnehaha Creek
Purgatory Creek
South Fork
Mississippi River
B.N.R.R.
C. & N.W. RY.
C.M.St.P.&P. RY.
M.N.&S. RY.
Plymouth Ave
Betty Crocker Drive
Shelard Pkwy
Zachary La.
Plymouth Rd.
McGinty Road
Shady Oak Rd.
Minnetonka Blvd.
Baker Road
Lyndale Ave.
Penn Ave.
Morgan Ave.
James Ave.
Emerson Ave.
Bryant Ave.
Hennepin Ave.
Lake Street
Hawthorne Interchange
Broadway
Glenwood-Hennepin
Boone Ave
Douglas Ave
Pennsylvania Ave
Winnetka Ave.
Jersey Ave.
Xerxes Ave.
Vernon Ave.
Texas Ave
Louisiana Ave
Hampshire Ave.
Flag Ave
Dakota Ave.
Ottawa Ave.
Queen Ave.
Monk Ave.
Goodale Ave.
Minnehaha Creek
Turners Crossroad
Medicine Lake Drive
South Shore Drive
11th Ave.
121st St.
Nine Mile Creek
France Ave.
Lyndale Ave.
Hennepin Ave.
n
city limits
study area
alternate 1 corridor
alternate 3 corridor
alternate 5 corridor
alternate 6 corridor
alternate 7 corridor
alternate 8 corridor
alternate corridors
1,3,5,6,7 and 8
miles
0
1
2

Figure 6A

This alternative would not have provided the capacity, safety, or operational efficiency of the selected alternative. Partly because it would be at the same grade as the surrounding development, it would increase noise and be a visual intrusion. Traffic patterns in the adjacent commercial areas and residential neighborhoods would remain poor because of the random frontage road pattern. This would have had dampening effect on the many businesses along US-12, and hindered police and fire department response to emergencies in the neighborhods. Increasing traffic would have pressured more of it to the local street system, much of it residential. These residents would have been subjected to additional noise and safety problems. Public transit would have been discouraged because of the absence of any priority bus access or park-and-ride sites.

The limited improvement alternative would have cost almost as much as an Interstate freeway, but would not have qualified for Interstate funding.

Because of all these adverse social, economic, and environmental impacts, the limited improvement alternative was eliminated from further consideration.

ROUTES DISMISSED AFTER THE DEIS

Alternate routes 1, 2, and 3 and the no-build option (alternate 4) were further analyzed after publication of the DEIS. The comments on the DEIS and the comments from the public hearing were considered at this time. Alternate 2 was selected as the preferred alternate. Routes 1 and 3, discussed here, were eliminated from further consideration.

Alternate 1

The eastern terminus of alternate 1 was at the Hawthorne Interchange with I-94 in Minneapolis. From there it followed the existing US-12 corridor westward to I-494 in Minnetonka, but had a split alignment between Penn and Winnetka Avenues, a distance of almost four miles. The westbound lanes continued to follow the inplace US-12 corridor to about SR-100, then angled to a new alignment about 1500 feet north of US-12, then angled back down to US-12 at Winnetka. Coming back toward town, the

eastbound lanes followed the US-12 corridor to about Florida Avenue, the angled southward to follow a new alignment approximately following Cedar Lake Road and the Burlington Northern Railroad tracks. These lanes would be as much as 3000 feet south of inplace US-12; the section parallel to the tracks would angle slightly northward and rejoin the lanes at Penn Avenue.

This alternate would displace about 80 homes and 30 apartment units, the Crystal Lake Nursing Home, and about 45 businesses employing nearly 1000 people. Six residential neighborhoods would be physically divided by the freeway. About one-and-one-half acres of parkland and over 85 acres of wildlife habitat would be taken for right-of-way.

Even with noise barriers, this alternate would expose nearly 900 residences to increased noise levels, and over 100 of them to noise levels above the maximum federal standard of 70 dBA for 10 percent of the time.

The separated alignment of the two directions could cause severe operational problems. These problems could include complicated frontage road operation, slow response time for emergency vehicles, higher cost, and longer construction time. This alignment would also complicate and discourage public transit because transit stops and park-and-ride sites could not be located to serve both initial and return trips.

These problems, together with the severe social, economic, and environmental impacts, caused the dismissal of this alternate.

Alternate 3

Alternate 3 would extend from the Hawthorne Interchange to I-494 along the route of inplace US-12, except for following a new three mile long southern alignment between Penn and Hampshire Avenues. Between Penn and Hampshire it would follow the route of the Burlington Northern Railroad and Cedar Lake Road.

One variation of this alternate would intrude on the Blackstone neighborhood. A second cariation would avoid this neighborhood but displace the Honeywell plant in Golden Valley.

This alternate would displace between 60 and 90 homes, about 25 apartment units, and about 40 businesses employing 550 people. The variation that would displace Honeywell would disturb another 1000 employees. Four residential neighborhoods would be divided. More than two acres of parkland and between 55 and 70 acres of wildlife habitat would be taken for right-of-way.

With noise barriers, this alternate would still expose as many as 550 homes to noise levels in excess of the federal standards.

Alternate 3 was dismissed because of its disruption to neighborhoods, parklands, and wildlife habitat; because of the great amount of right-of-way required; and because of the resultant economic impact to the affected communities.

THE NO-BUILD ALTERNATIVE

Alternate 4 was the no-build option, a useful tool in the decision-making process as it allows a comparison of the consequences of either taking an action or of not taking an action. This alternative would leave US-12 basically as it is now. Although minor safety improvements would continue to be made, no major improvements would be made in the foreseeable future.

Traffic on the most heavily traveled section of US-12 (between SR-100 and the Hawthorne Interchange) doubled in the ten years between 1970 and 1980, to an ADT of 82,500. Traffic on all segments of US-12 has increased dramatically, and projections are that traffic will continue to increase. By the year 2000, the segment between SR-100 and the Hawthorne Interchange is expected to have an ADT of 102,000.

This increased traffic on an inadequate road, US-12 as it now exists, would compound congestion. This congestion, along with the additional traffic volume, would increase noise levels and air pollution, probably increase the accident rate, and cause problems of access to adjacent development. Some of the traffic that should logically use the US-12/I-394 corridor would find other less suitable routes on minor arterials, collectors, and even local streets, none of which were designed or intended for long distance travel. Although this seeking out of other routes would relieve some of the traffic and environmental problems along US-12, the adverse effects would merely be displaced to other roads and other neighborhoods that may be even more sensitive to them.

To not build I-394 would not displace any homes or businesses and would not require any parkland or wildlife habitat. The adverse effects of the inadequate transportation facility, however, would cause a decline in the attractiveness of these same properties and much of the adjacent land as well. The traffic problems of congestion and access would eventually have an adverse economic impact on both commercial and residential development, both that adjacent and that development farther away but still within the area dependent on US-12 as the primary transportation corridor.

Noise is even now a problem because of the lack of abatement and the high traffic volumes and congestion. As volumes and congestion increased, noise would increase. More than 1500 homes, as well as all other developed and undeveloped lands along the corridor, would be subjected to increasing noise. This noise, together with increasing air pollution, would cause a further decline in the aesthetics and usefulness of the residential neighborhoods, wildlife habitat and open space, and the parklands.

Alternate 4, the option not to build, was rejected for all of these reasons. A decision to do nothing would not solve any of the many problems now associated with the existing highway, US-12. As traffic increased, the problems and adverse effects would also increase and be intensified.

Early in 1980, the Minnesota Legislature directed the Metropolitan Council to conduct a feasibility study of light rail transit (LRT) in the Twin City Metropolitan Area. The study was conducted by a consultant engineering firm, Sanders & Thomas, Incorporated, in association with the Midwest Research Institute and The Cosmis Corporation. Their study was completed in March of 1981, and the Metropolitan Council published their conclusions and recommendations the following month.

The study was supervised by a Project Management Team composed of representatives of the MC, MTC, AND Mn/DOT. Five alignments in four general transportation corridors were analyzed: west and southwest of the Minneapolis CBD; northwest of the same CBD; northeast of the Saint Paul CBD; and between the two CBD's.

Some strong conclusions were drawn from the study. One was that an access system to collect and distribute passengers to and from an LRT line could be very expensive, particularly where development was not dense. Another was that building an LRT system would be a slow process; that it was unlikely that federal funds would be available; and that new sources of funds for an LRT line would be needed.

In a comparision of LRT with buses, specifically addressing the I-394 corridor, the Metropolitan Council report concluded

> "Under conditions similar to those existing in the West alignment, HOV lanes would be more cost efficient than an LRT line while providing similar levels of accessibility for the residents of the corridor."

The Metropolitan Council later recommended that the HOV lanes take the form of diamond lanes to the west of SR-100 and reversible lanes to the east, between SR-100 and the CBD.

The Metropolitan Council final report recommended that a more detailed study of LRT be made, but only of the one corridor between the CBD's of Minneapolis and Saint Paul. This corridor was judged the one more promising for LRT.

THE PROPOSED PROJECT

Location

The proposed freeway that is discussed in this statement will be located on the present route of US-12, between the Lake Minnetonka western suburb of Wayzata and the west edge of the Minneapolis CBD. The upgraded section of US-12 will extend from the east junction of SR-101 in Wayzata to I-494 in the City of Minnetonka. The I-394 section will extend from there to the Hawthorne Interchange with I-94 in Minneapolis. This east-west route will be about 10.2 miles long, 1.5 miles of it the improved US-12 and 8.7 miles of it the new I-394. The proposed route, geometrics, and profile are shown in Figure 8 on pages 76 and 77.

Lanes and Geometrics

through lanes

The freeway will have at least two continuous general-purpose lanes for mixed traffic in each direction for its entire length.

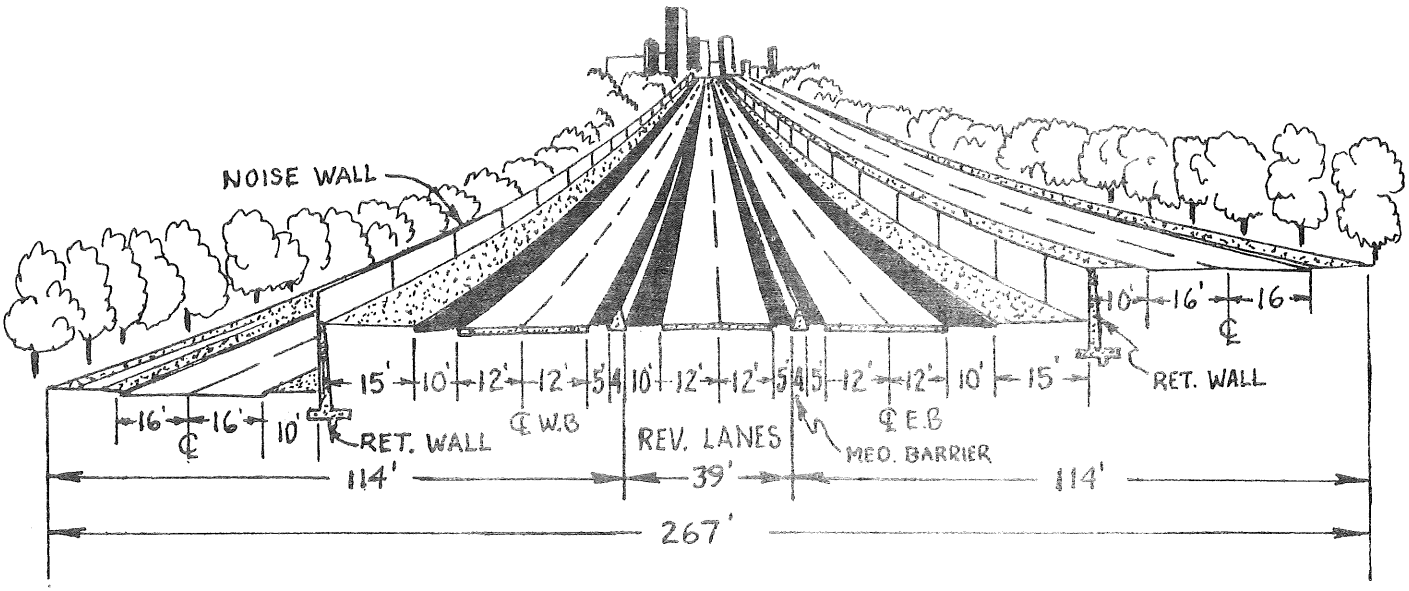
diamond lanes

The western section of the freeway, between SR-101 and SR-100, will have a total of three lanes in each direction. The two inside lanes, next to the median barrier, will be designated as diamond lanes. These lanes, one in each direction, will be for the preferential use of high-occupancy vehicles such as buses, vanpools, and carpools during peak traffic periods. A typical section is shown in Figure 7 on the following page. At the west end, near SR-101, the through lanes and diamond lanes will be transitioned into three conventional through lanes in each direction to match the completed section of US-12 in Wayzata. At the east end, near SR-100, the diamond lanes will be transitioned into reversible lanes.

reversible lanes

The eastern section of the freeway, between SR-100 and the CBD, will have two reversible lanes for the preferential use of the high-occupancy vehicles. These lanes will be in the center, separated by median barriers from the two general-purpose lanes in each direction. A typical section is also shown in Figure 7. At the east end, they will connect to and transition into the Third Avenue Distributor segment of I-394. The reversible lanes will operate inbound toward the CBD in the morning, and outbound toward the suburbs in the afternoon and evening.

I-394 TYPICAL SECTION EAST OF TH.100



I-394 TYPICAL SECTION WEST OF TH.100

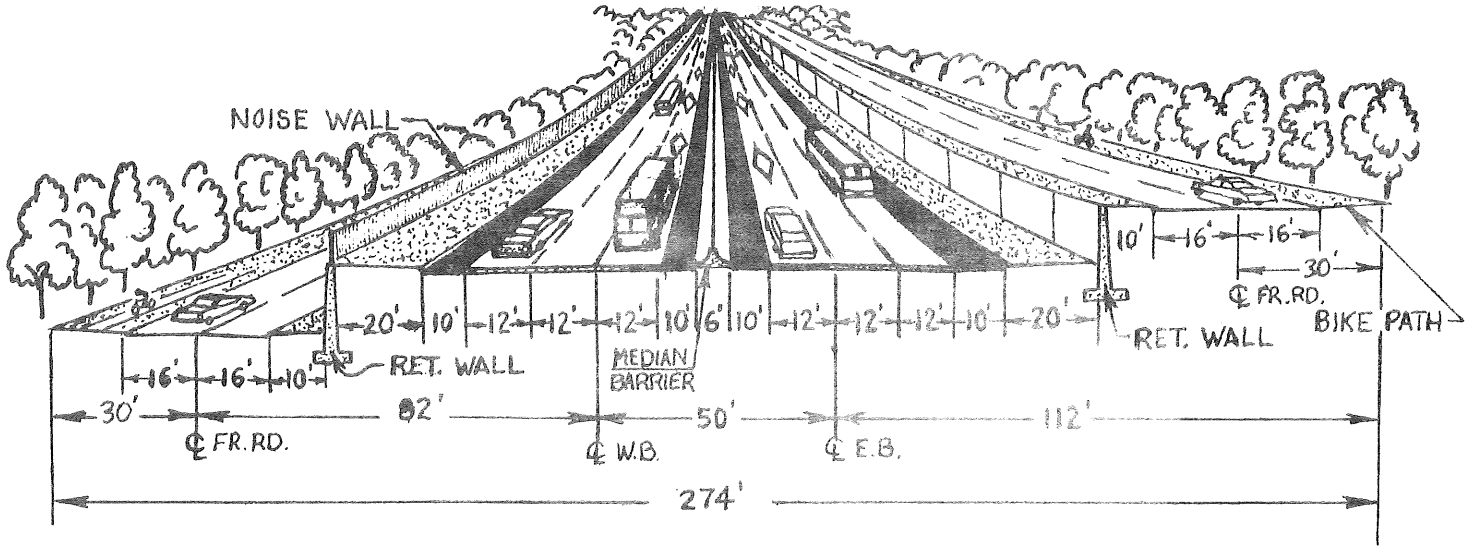
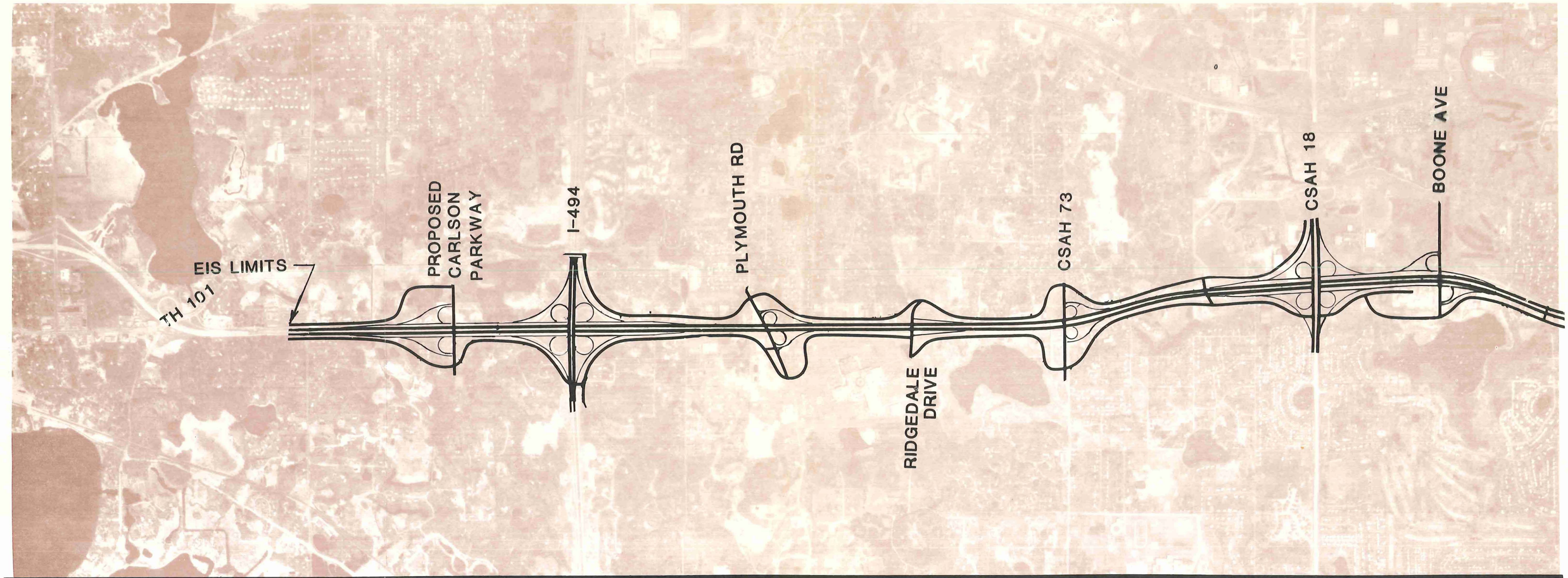
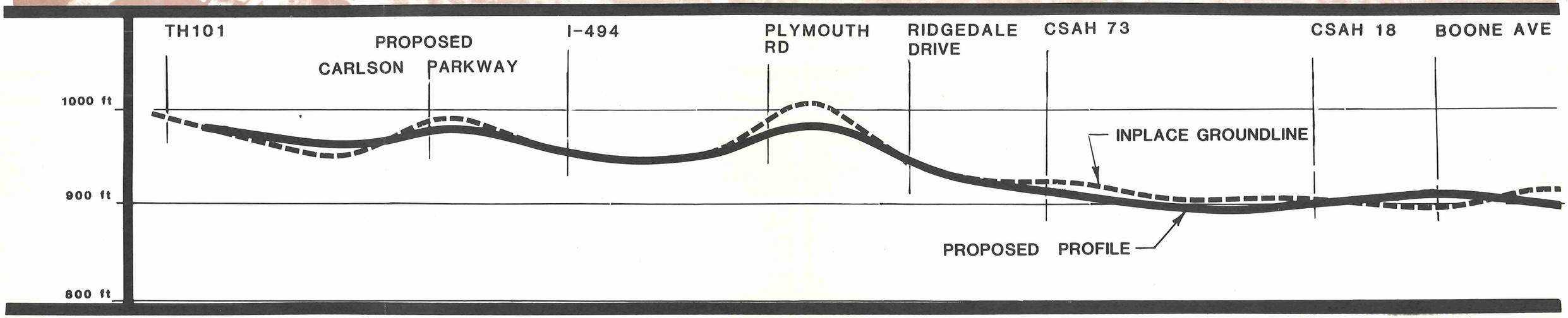
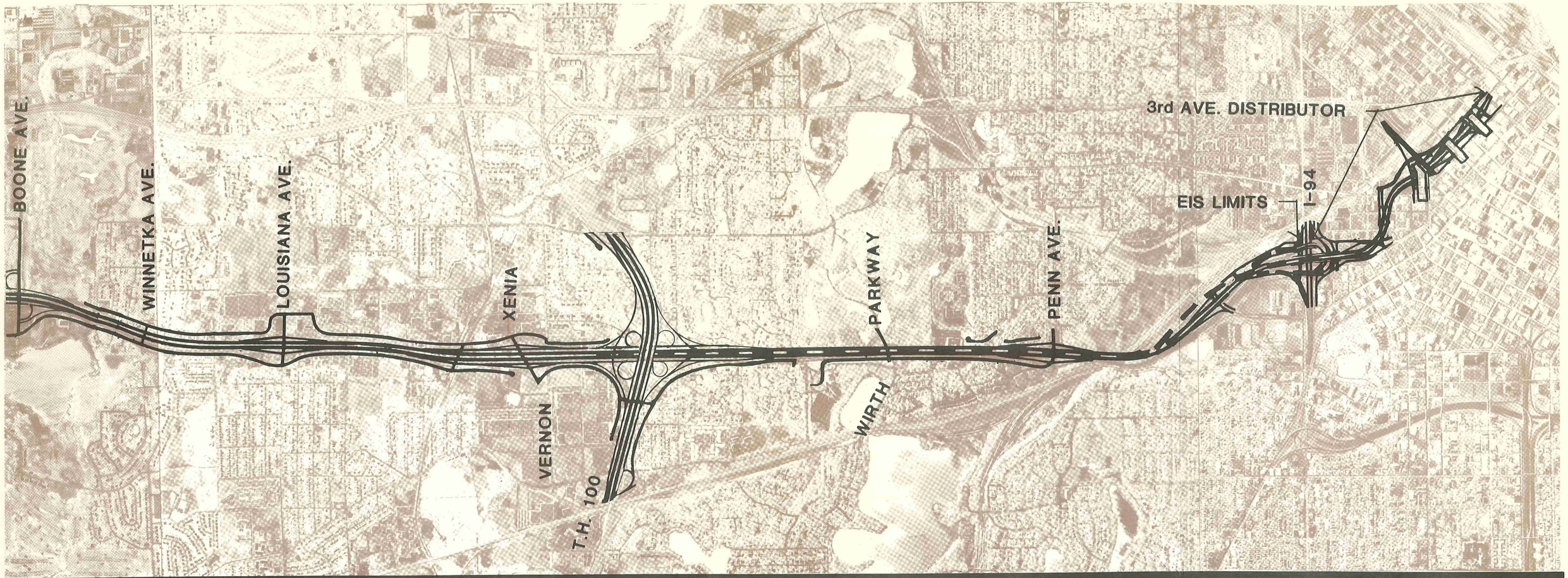


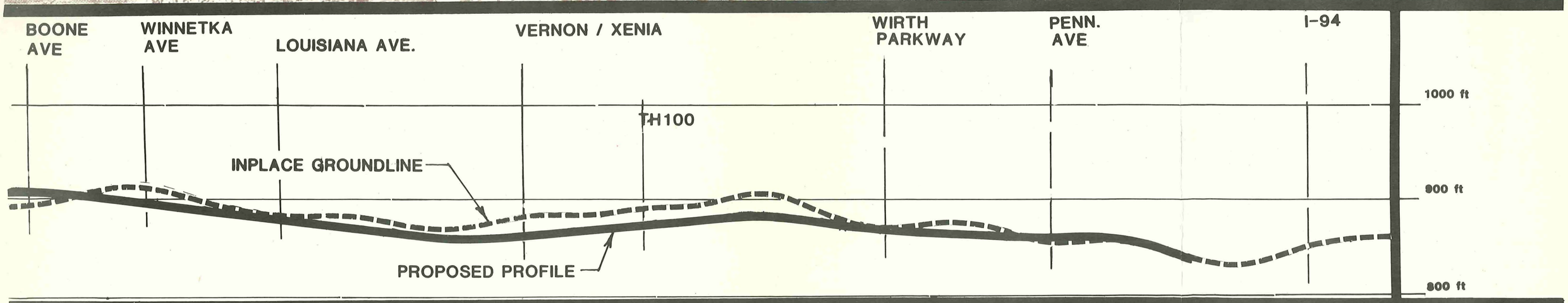
Figure 7




EIS LIMITS
TH 101
PROPOSED CARLSON PARKWAY
I-494
PLYMOUTH RD
RIDGEDALE DRIVE
CSAH 73
CSAH 18
BOONE AVE


TH101
PROPOSED CARLSON PARKWAY
I-494
PLYMOUTH RD
RIDGEDALE DRIVE
CSAH 73
CSAH 18
BOONE AVE
1000 ft
900 ft
800 ft
INPLACE GROUNDLINE
PROPOSED PROFILE





I-394

1":2000' Horiz.
1":100' Vert.

Figure 8

PROPOSED GEOMETRICS AND PROFILE

north

The reversible lanes will also connect to I-94 to the east to serve those destined beyond the CBD. This connection will make the lanes of value to those whose destinations are, among other places, the University of Minnesota, the Midway district, and downtown Saint Paul.

traffic management options

Mn/DOT expects that three persons per vehicle will constitute a carpool for the purpose of using the diamond and reversible lanes. The definition of a carpool can be adjusted according to the demand, and to keep the preferential lanes from becoming congested.

Priority use of the diamond lanes and the reversible lanes east of SR-100 will initially be given to high-occupancy vehicles. If the lanes are significantly underused, management techniques will be employed to allow certain other vehicles access to the lanes. In any case, a high level of service will be maintained in the lanes to promote ridesharing.

compliance

Compliance of carpools and vanpools can be checked and enforced on the reversible lanes by stationing a police or highway patrol officer at any point, as all vehicles on these lanes must traverse the entire length.

C-D roads

Auxiliary lanes for merging and weaving traffic movements will be included with all interchanges. At all cloverleaf-type interchanges, and where interchanges are closely spaced, Collector-Distributor (CD) roads will keep the slower merging and weaving traffic separated from the faster traffic on the through lanes.

Specifically, along US-12/I-394, one pair of C-D roads will serve the Carlson Parkway and I-494 interchanges; another pair will serve the CR-18 and Boone Avenue interchanges; and a third pair will serve the interchanges at Xenia and Vernon Avenues and at SR-100. C-D roads will also be built along the through lanes of SR-100 where it interchanges with I-394, Glenwood Avenue, and Cedar Lake Road.

Right-of-Way

The new freeway will be built on the present US-12 corridor, so will make use of the existing right-of-way as much as possible. The existing right-of-way ranges from 180 to 300 feet, excluding interchanges.

The new right-of-way requirements will be determined by the geometrics, grade, frontage road locations, noise abatement requirements, and interchange configurations. Although these requirements cannot be precisely determined until the final design is underway, a range of from 267 to 350 feet is probable for most of the project length. This range will include the frontage roads, but additional width will be needed for the interchanges. The total right-of-way to be acquired is approximately 133 acres.

Grade

The grade of a freeway has an important effect on its noise and visual impact. A depressed roadway, one that is lower than the surrounding terrain, is quieter and less visible, but is usually more costly and requires more right-of-way than one that is at the same level as the existing ground.

This freeway will be depressed below the elevation of the surrounding terrain for part of its length, particularly through residential neighborhoods and parklands, to make it less obtrusive. However, the areas in which it can be depressed, and the depth to which it can be depressed, will be limited by the water table.

retaining walls

In areas where it is especially desirable to minimize right-of-way, for example to save parklands and residential and commercial property, vertical retaining walls will be built instead of the more customary backslopes or fillslopes.

Interchanges and Access

Access to and from this freeway, including the reversible lanes, will be limited to interchanges and, of course, the two ends. The existing interchanges with intersecting freeways I-494, CR-18, SR-100, and I-94 will be perpetuated with modifications. Local land-access interchanges will be built or rebuilt at nine locations. Access to and

from the reversible lanes will be provided at the diamond lanes of I-394 (west of SR-100), SR-100, Wayzata Boulevard, I-94 to the east, the Third Avenue Distributor to the CBD, and possibly at Vernon and Xenia Avenues.

Many of the interchanges will include separate ramps to give priority access to buses, vanpools, and carpools. Some of the park-and-ride sites will be near the priority access ramps.

Not all of the interchanges connect directly to US-12/I-494. Six of the interchanges connect instead to three pairs of collector-distributor (C-D) roads. The Carlson Parkway and I-494 interchanges connect to one pair; CR-18 and Boone Avenue to the second pair; and the Xenia/Vernon and SR-100 interchanges connect to a third pair of C-D roads.

The interchanges have been planned to accommodate existing traffic and future development. They have been planned jointly with the local communities to meet their present needs and to be compatible with their city planning.

freeway-to-freeway interchanges

The cloverleaf-type interchanges with I-494, CR-18, and SR-100 will be perpetuated but totally reconstructed. The directional interchange with I-94 will be modified.

I-494 will pass over I-394, as it now does with US-12. The interchange will be rebuilt to accommodate C-D roads on I-394.

CR-18 will also pass over I-394, as now. The cloverleaf will be expanded to accommodate the C-D roads on I-394, and to provide better and safer geometrics.

SR-100 will pass over I-394, a reversal of the present situation, so that I-394 can be depressed through the Tyrol Hills residential neighborhoods. The new interchange will also accommodate the reversible lanes on I-394 and the C-D roads on both highways, and provide superior alignment.

The Hawthorne Interchange with I-94 will be modified; the major change will be the addition of the reversible lanes leading to I-94 to the east.

land-access interchanges

The four major interchanges mentioned above do not give access to the areas adjacent to the freeway, but connect to other major highways. Intermediate interchanges are needed to give this access to adjacent areas. The locations and configurations have been determined by traffic and community needs, yet limited by the need for adequate distance between interchanges. The corridor is highly developed, and still developing. Both the commercial and residential neighbors require adequate access.

Nine land-access interchanges will be built. One, at Wayzata Boulevard, now exists but will be modified. Three others, at Ridgedale Drive, CR-73, and Penn Avenue, also now exist but will be totally reconstructed. The other five are at, or near, existing at-grade intersections with US-12. From west to east, the nine are as follows:

Carlson Parkway will be a new road in the vicinity of existing Parkers Lake Road, to the west of I-494. It will bridge over new US-12. The interchange will be a folded diamond, with the ramps in the western quadrants.

Plymouth Road (CR-61), an existing route to the east of I-494, will bridge over I-394. The interchange will be a folded diamond, with the ramps in the eastern quadrants.

Ridgedale Drive will pass under I-394 and have a half-diamond interchange, to the east.

Hopkins Cross Road (CR-73) will bridge over I-394 and have a folded diamond interchange with the ramps in the eastern quadrants.

Boone Avenue will be a new road in the vicinity of I-394, and will pass under the freeway. The interchange will be a folded diamond, with the ramps in the northwest and southeast quadrants.

Louisiana Avenue will bridge over I-394 and have a full diamond interchange.

A bridge over I-394 will connect Xenia Avenue on the north side to Vernon Avenue on the south. This crossroad will connect to the freeway via a full diamond interchange. The existing intersection in this area is at Turners Crossroad on the north and Vernon Avenue on the south.

The existing interchange at Theodore Wirth Parkway will be closed in accord with the wishes of the Minneapolis Park and Recreation Board. The parkway will continue to pass over I-394, on a new bridge.

The existing diamond interchange with Penn Avenue (CR-2) will be reconstructed with the same configuration, with Penn bridging I-394.

The existing half-diamond interchange with Wayzata Boulevard, near I-94 and the CBD, will be slightly modified.

Third Avenue Distributor

The Third Avenue Distributor, beyond the limits of the project being discussed in this FEIS, will constitute the designated eastern end of I-394. Only about a mile long, to the northeast of the Hawthorne Interchange with I-94, it will distribute the traffic into and out of the downtown street network and proposed parking facilities. The FEIS regarding the Third Avenue Distributor was published in 1973.

reversible lane access

The two reversible lanes will be express lanes between the SR-100 area on the west and the area of the Hawthorne Interchange with I-94 and the Third Avenue Distributor on the east. No intermediate access points will be provided.

At the west end, the two reversible lanes will be divided and transitioned into the two inside diamond lanes of I-394 to the west. The cloverleaf-type interchange with SR-100 will include special ramps and loops to give access between the reversible lanes and SR-100 both to the north and the south. Moveable barriers will direct the traffic to the proper lanes and keep it out of the opposing traffic.

At the east end, the reversible lanes will be divided and transitioned into the Third Avenue Distributor segment of I-394, leading to and from the downtown street network and parking facilities. The Hawthorne Interchange will also include special ramps to give access between the reversible lanes and I-94 to the east, but not to the north. A ramp will connect the reversible lanes to Wayzata Boulevard.

Frontage Road System

Frontage roads will parallel the freeway for most of its length, but will not be continuous for the entire distance. These roads will provide access to businesses, public facilities, and residential neighborhoods along the freeway.

By being discontinuous, they will not provide an alternate route to the freeway itself for longer trips. Such use would interfere with the traffic for which they were intended, and bring additional noise and air pollution to the neighborhoods adjacent to the freeway.

Existing roads will be used in some places, and modified or reconstructed in others. Other frontage roads will be new. All frontage roads will be designed for two-way traffic.

west of SR-100

The proposed Carlson Center (described on page 140) will be in the northern quadrants of the I-394/I-494 interchange. The traffic system within the center will be determined by the private developer. The north frontage road will use the existing bridge over I-494, and extend eastward to CR-18 where it will turn northward and end at Betty Crocker Drive. Another segment of the north frontage road will resume at the entrance, on the east side, to Brookview Golf Course, and extend eastward past Xenia Avenue, with a cul-de-sac just west of SR-100.

The south frontage road will begin at Crosby Road near the west end of the project, cross over I-494 on an existing bridge, and extend eastward to Plymouth Road (CR-61). Ridgedale Center, a large regional shopping center, is to the east of Plymouth Road; Ridgedale Drive, inplace, passes around the south and east sides of the center. The frontage road will resume at Ridgedale Drive and continue eastward, passing under CR-18, past Vernon Avenue, then turn south and parallel SR-100 to Cedar Lake Road (CR-16).

In short, the frontage road system and nearby connecting routes will extend more than five and one-half miles from west of I-494 to just west of SR-100. This system will include the Carlson Center roads, Ridgedale Drive, Betty Crocker Drive, and Boone Avenue as well as the actual frontage road themselves. The only physical interruption in this section will be on the north frontage road at Brookview Golf Course; crossovers and the south frontage road will still serve the traffic.

east of SR-100

The south frontage road will resume at the interchange of SR-100 and Cedar Lake Road, and extend northward parallel to SR-100 and eastward parallel to I-394, ending in South Tyrol Hills to the west of France Avenue. It will be connected to the south frontage road to the west of SR-100 by an underpass beneath SR-100. At France Avenue, the south frontage road will resume and extend eastward under Theodore Wirth Parkway to Penn Avenue (CR-2). A loop will give an indirect connection to Wirth Parkway.

There will be no continuous north frontage road to the east of SR-100. The existing sections will be removed in some areas and rebuilt in others, as recommended by the local communities.

Tyrol Hills

The Tyrol Hills neighborhoods, just east of SR-100 in Golden Valley, present a special problem that will be resolved in accordance with the wishes of the neighborhoods and the city. Neither North nor South Tyrol Hills will have direct access to I-394. North Tyrol residents will have access to the transportation network via Glenwood Avenue, east and west. South Tyrol will have access to the transportation network via the frontage road, east and west.

crossovers

The north and south frontage roads will be linked by numerous bridges and underpasses to facilitate traffic movement. Each frontage road will intersect every north-south road that forms a land-access interchange with US-12/I-394: Carlson Parkway, Plymouth Road, Ridgedale Drive, CR-73, Boone Avenue, Louisiana Avenue, Xenia/Vernon Avenues, and Penn Avenue. Each of these crossroads will form a circulation route between the two sides. These do not, of course, include freeways I-494, CR-18, nor SR-100.

Three other crossovers will be built to perpetuate existing traffic routes. These bridges will be at Shelard Parkway, Winnetka Avenue, and Theodore Wirth Parkway. Shelard and Winnetka will permit circulation between the two frontage roads.

ring-road

In the vicinity of CR-18, the frontage roads will connect to existing and new roads to form a ring-road system to serve the extensive development of the area, including the General Mills corporate headquarters and the Shelard commercial and residential complex. This system will cross freeways CR-18 and I-394 on the existing Betty Crocker Drive bridge to the north, on a new bridge at Shelard Parkway to the west, through a new frontage road underpass to the south, and through a new underpass at Boone Avenue to the east. This system includes a new section of Boone Avenue between I-394 and Betty Crocker Drive.

Railroad Bridges

The existing railroad crossing separations with US-12 will be maintained with I-394. A bridge will carry the Minneapolis, Northfield and Southern Railway over I-394 just west of Vernon Avenue in Saint Louis Park, and another will carry I-394 over the Burlington Northern line and the Chicago and North Western line just east of Penn Avenue in Minneapolis.

Transit Facilities

diamond and reversible lanes

The standard transit mode within the Twin City metropolitan area is buses in mixed traffic. No plans currently exist for any other mode in the study area. Along this corridor, however, after the buses have collected the passengers they will be able

to enter the diamond and reversible lanes via priority-access ramps and make an express trip to or from the Minneapolis CBD, or I-94 for more distance destinations. The express lanes will operate at considerably faster speeds than the regular lanes, which should encourage bus patronage.

park-and-ride sites

Park-and-ride sites will be built to accommodate those who want to drive there and then finish their trip by bus. These sites will also serve as a meeting area for those who are in a vanpool or carpool.

Park-and-ride lots now exist in Wayzata, at Ridgedale Center, and at CR-73. Other likely sites along the corridor include the proposed Carlson Center at Parkers Lake Road, and in the vicinity of CR-18, Boone, and Louisiana Avenues. Other sites will be considered. They would not necessarily have to be adjacent to I-394 to serve their purpose. The location and design of these facilities will be coordinated with the MTC.

Safety Features

The US-12/I-394 freeway will meet contemporary safety standards. The designers will consider such traditional concerns as adequate sight distance, moderate grades, and reasonable curvature both on mainlines and on interchange ramps and loops. Adequate weaving distances will be provided, by collector-distributor roads where needed.

In addition, the following specific safety features will be included.

shoulders

Full shoulders, from five to ten feet wide, will be provided on both sides of each set of through lanes and on both sides of the reversible lanes.

clear zone

A variable width clear zone, as called for by AASHTO (American Association of State Highway and Transportation Officials) safety standards, will generally be provided between the right edge of the through lanes and the nearest obstruction such as retaining walls or noise-abatement walls. The ten-foot shoulders will be a part of the clear zone. The purpose of this zone is to allow an out-of-control vehicle to regain control, or to slow or stop, before striking any fixed appurtenance along the road.

Some bridge piers may have to be placed within this clear zone because of the need to space them at reasonable distances. All such piers will have some type of barrier to protect errant vehicles.

barriers

Concrete median barriers between the opposing lanes and between the directional and reversible lanes will separate opposing traffic for the entire length of the freeway. The barrier faces will be shaped to minimize damage and loss of control to vehicles that strike it. They will be similar to what is commonly known as the "New Jersey" barrier.

All bridge piers, heavy sign posts, and other fixed objects that could be hit by errant vehicles will be protected by similar concrete barriers or by plate-beam guardrail. The leading edges of all such barriers will slope down to the ground so that the barrier itself will not be a dangerous obstacle. Energy absorbing devices may be used where appropriate.

Lighter weight sign posts will be of break-away design. If hit by a vehicle, the posts will give way in a planned manner to minimize damage to the vehicle.

lighting

The freeway will be illuminated, possibly for its entire length.

The light standards will be placed so as to minimize the chances of their being knocked down by out-of-control vehicles. Any lights that must be placed in a location where they could be struck will be equipped with a break-away base, so as to minimize damage to the striking vehicle.

Traffic Management

The traffic on US-12/I-394, from SR-101 in Wayzata to the Third Avenue Distributor in downtown Minneapolis, will be surveyed and managed from the existing Traffic Management Center at the edge of the CBD. The entire scope and details of the traffic management strategies have not yet been determined, but they will include a closed-circuit television system, an automated vehicle detector system, and ramp metering.

closed-circuit television system

The TMC staff will be able to observe the entire length of I-394 via a closed-circuit television system consisting of a series of remote cameras mounted on poles at strategic locations to provide continuous coverage. The cameras will tilt and turn, and be equipped with zoom lenses. These adjustments will be made by remote control from the TMC.

The flexibility of this system will enable the TMC personnel to view and investigate accidents and other traffic disturbances, and to quickly dispatch the State Patrol or other emergency help to the scene, if needed.

This system will be similar to the existing television surveillance system that has been operating successfully for several years on I-35W, a radial freeway extending south from the Minneapolis CBD.

vehicle detector system

An extensive system of vehicle detectors will also be incorporated to measure the traffic flow and automatically alert the staff to potential problems as they arise, before they become disruptive. These detectors will be located as needed in the various ramps as well as in the through, diamond, and reversible lanes.

Again, this system will be similar to one which now works most effectively on I-35W.

ramp metering

All entrance ramps to the through lanes will have a metering system to limit and control the rate of traffic entering the system. These meters will normally operate only during peak traffic periods, allowing vehicles to proceed only at intervals which will allow them to merge smoothly with the mainline flows. When mainline traffic begins to become unstable, the TMC staff can alleviate the problem by reducing the flow of entering vehicles at selected access points.

Access to the reversible lanes should not involve any significant wait. Access to the through lanes will be limited by the need to maintain a stable flow, and may be delayed, although queing is not expected to be a problem. The through lanes, as opposed to the reversible lanes, will be permitted to operate at a slower but steady pace during peak hours.

A similar ramp metering system now works well on the section of I-35W mentioned above.

Pedestrian and Bicycle Facilities

crossing the corridor

Pedestrians and bicyclists now cross US-12 on roadway bridges with sidewalks, on pedestrian bridges, along underpasses, at signalized intersections, and at uncontrolled intersections and other convenient locations. Pedestrian and bicycle traffic is generated by the residential neighborhoods and commercial areas that line both sides of the highway, and includes, among others, bus riders, users of the recreational trail systems, and users of the numerous parks near the highway.

New pedestrian facilities will be included in this project to allow the continued free movement of pedestrians and bicyclists across the highway corridor. Specific facilities are outlined below.

on roadway bridges

Sidewalks will be included on the bridges over US-12/I-394 at Carlson Parkway, Plymouth Road, CR-73, Shelard Parkway, Winnetka Avenue, Louisiana Avenue, Vernon/ Xenia Avenues, Theodore Wirth Parkway, and Penn Avenue. These walkways will also extend along the roadways approaching the bridges. The existing bridges at CR-73, Wirth Parkway, and Penn Avenue, all of which will be replaced, now include sidewalks. The Carlson Parkway bridge will replace the existing signalized intersection at Oakland Road, about 500 feet west. The Shelard Parkway site is now an uncontrolled pedestrian crossing. The other four bridges will replace signalized intersections.

Several of the new bridges will be near present or proposed park-and-ride sites, so will serve bus patrons who must cross the freeway by foot to get to their cars. Several will be near the many parks along the corridor, so will serve pedestrians traveling between home and park. The Wirth Parkway bridge will include a separate bicycle trail to be consistent with the separate pedestrian and bicycle paths through the park system.

along underpasses

The existing pedestrian and bicycle route across US-12 at the Ridgedale Drive underpass will be perpetuated by the inclusion of a sidewalk with the new underpass. This route serves Ridgedale center.

The new underpass at Boone Avenue will include a walkway to accommodate pedestrian and bicycle movement across the freeway and to perpetuate the Golden Valley trail system. This walk will extend north, along the new section of Boone Avenue, to Betty Crocker Drive.

The existing sidewalk under US-12 at Wayzata Boulevard will be replaced if it is disturbed by construction. This walk leads to an inplace pedestrian bridge over railroad tracks, and links the parklands of the Parade Grounds and Bryn Mawr Meadows.

pedestrian bridges

The existing pedestrian bridges over US-12 at June Avenue and at Cedar Lake Road will be replaced. The first links North and South Tyrol Hills; the second links the north and south sections of Bryn Mawr.

A new pedestrian bridge may be built near Florida Avenue. Pedestrians now cross US-12 there at a signalized intersection.

The existing pedestrian bridge and sidewalk east of Penn Avenue will be removed by the construction of I-394, so will be replaced. This walkway crosses over the railroad tracks and under US-12, and links the Bryn Mawr neighborhood, the Kenwood neighborhood, and the Bryn Mawr Meadows parkland.

along the corridor

Sidewalks and trails to accommodate pedestrians and bicyclists will be built along some of the frontage and other new roads associated with this project. These walks will replace existing facilities, provide for safe pedestrian movement along the more heavily traveled roads, and perpetuate the recreational trail systems of the various cities.

Walkways will be built along the north frontage road between I-494 and Plymouth Road, and between City View Lane and Ridgedale Drive; they will perpetuate the Minnetonka trail system as well as serve the local businesses. Sidewalks will be built along the south frontage road between Shelard Parkway and Boone Avenue, which includes the segment that passes under CR-18, and along the south frontage road connection that passes under SR-100.

A trail on the north side, between Wirth Parkway and Upton Avenue, will replace the existing frontage road which will be removed. A sidewalk will be built along the three-block north frontage road between Mount View and Queen Avenues, in a residential neighborhood.

The existing Glenwood Avenue bridge over SR-100, which will be replaced, now has a sidewalk. The new bridge will also have a sidewalk to petpetuate this essential pedestrian link across SR-100.

possible additions

Other sidewalks may be needed because of the increased reliance of both vehicular and pedestrian traffic on the frontage road system, but their necessity has not yet been determined. Those under consideration include walks along the following frontage roads: north, between Plymouth Road and City View Lane; north and/or south, between Ridgedale Drive and CR-73, CR-73 and Shelard Parkway, Boone and Louisiana Avenues, and and between Louisiana and Vernon Avenues; south, in Tryol Hills; and south, between the Prudential Building and Penn Avenue.

Environmental Design Features

The entire freeway will be designed so that its impact on the environment will be minimized as much as possible. Many potential adverse environmental effects will be mitigated by specific design features. Some of these mitigation measures are outlined in the following paragraphs.

location

The location of the freeway on the present route of US-12 will make use of existing right-of-way. Careful alignment and geometrics have reduced the need for additional right-of-way and have saved the adjacent land and development to the extent possible.

grade

The freeway will be depressed below the surrounding ground level through Theodore Wirth Park and most of the residential areas. Most of the rest of the freeway will be near the surrounding ground level. Interchanges will have only two levels. These features will lessen the conspicuousness of the freeway, both visually and in terms of noise.

noise abatement

Noise abatement measures will be taken where appropriate, through parklands and residential neighborhoods. Noise abatement walls or earthen mounds will be built to bring the noise levels, adjacent to the freeway, to within FHWA design noise levels in most places. This abatement, in many places, will reduce the noise levels from what is currently being experienced along existing US-12.

Walls will be built in most places, as they will require less right-of-way than mounding. Where right-of-way is less critical, earthen mounds may be built instead. Walls and mounds may also be combined, for aesthetic reasons, where space is available but limited. The locations of the planned noise abatement features are shown on Figure 29 on pages 197 through 209.

The backsides of the walls, facing parklands and residential neighborhoods, tend to be monotonous and austere. Many people consider them to be eyesores, discordant with the setting. To relieve their severe appearance, the side away from the freeway will be appropriately landscaped.

The walls will be designed to make them reasonably attractive, and acceptable to the residents behind them. Where neighborhood residents clearly agree to reject noise abatement walls, they will not be built.

A more detailed discussion of noise abatement is in the Noise Impact section of this document.

landscaping

Landscaping will be done in many places where the freeway without landscaping would cause an adverse visual impact. These places include the freeway boundary with parklands and residential neighborhoods. Some of these boundaries will be marked by noise abatement walls and/or retaining walls that face the park or neighborhood. The adverse effect of these large and monotonous structures will be relieved by the judicious planting of trees, shrubs, and so forth. Other boundaries between the freeway and its neighbors will not be marked by any structure, and the freeway could be visually intrusive. Landscaping of these areas will minimize the intrusion and preserve the character of the park or residential neighborhood.

In other places, landscaping will primarily serve other functions: to control erosion, to reduce maintenance on the steep slopes around bridge abutments, and to screen unwanted views that could be distracting to the motorists. This landscaping will also have, of course, an aesthetic value.

fencing

The fencing that delineates the right-of-way may be vinyl-coated to make it darker and less conspicuous than a bare metal fence. The darker fence would blend better with its suburban setting.

architectural treatment

Large concrete structures such as retaining walls and bridge abutments will receive simple architectural treatments such as grooving or texturing to relieve the monotony of their large, otherwise plain, surfaces.

drainage

A subsurface storm sewer system will be built to drain the freeway and related roads. The system will be designed and sized for greater capacity and control than is provided by the existing open-ditch system. Several detention ponds will be built to reduce peak runoff. Storm sewers will accommodate a 10-year frequency storm, with capacity at low points for a 50-year frequency storm. Detention ponds will be designed so that no significant flood damage potential exists for a 100-year frequency storm.

The local communities will participate in the cost of drainage systems that are designed to also carry storm runoff from their local streets.

At the request of the Minneapolis Park and Recreation Board, I-394 drainage will be diverted from Brownie Lake to a ponding area to be built near Penn Avenue. The ponding area will drain into an existing storm ssewer conduit along Morgan Avenue, and thence into Bassett Creek.

Cost and Participation

The current cost estimate of the US-12/ I-394 project, from the east junction of SR-101 in Wayzata to the Hawthorne Interchange with I-94 in Minneapolis, is $70 million for right-of-way plus $180 million for construction. The estimate was made in 1981, so is based on 1981 costs and does not reflect future inflation.

Federal participation in the cost of some of the features of the project has not yet been determined. This participation will be determined later, after careful analysis.

AFFECTED ENVIRONMENT

The Study Area

The US-12/I-394 study area, as defined in the DEIS, is bounded approximately by the Minneapolis CBD on the east, the Lake Minnetonka area on the west, the SR-55 corridor on the north, and the SR-7 corridor on the south. The study area widens from three miles in Minneapolis to over ten miles in the western suburbs, and extends two miles west of the project site. It is illustrated by the Metropolitan Setting, Figure 9, on page 101.

The Primary Impact Area

The primary impact area, also defined in the DEIS, is an approximately two-mile wide strip along the US-12/I-394 corridor. It, too, extends two miles west of the project. The Metropolitan Setting Figure also illustrates this primary impact area.

The Freeway Corridor

The freeway corridor is along a 10.2 mile segment of US-12, an east-west route between SR-101 in the western suburb of Wayzata and I-94 at the western edge of the Minneapolis CBD. This FEIS is primarily concerned with the project corridor itself, and the lands immediately adjacent.

NATURAL FEATURES

Topography and Land Use

The US-12/I-394 corridor is gently rolling and traverses approximately 10.2 miles of developed urban area interspersed with wetlands and lakes. The west end of the project corridor contains the most relief. Many former wetlands have been filled and are now occupied by buildings, roads and parking lots. Remaining undeveloped sites along the proposed freeway are mainly wetlands and small areas of upland predominated by grasses and forbs.

Climate

The U.S. Weather Bureau at the Minneapolis-Saint Paul International Airport is the official station for recording climatological conditions in the project area. It is located approximately 10 miles southeast of the I-394 corridor. Compiled data shows that the coldest month is January, with mean daily maximum and minimum temperatures of 22.4 and 2.3 degrees (°F). The warmest month is July with mean daily maximum and minimum temperatures of 83.9 and 60.7 degrees

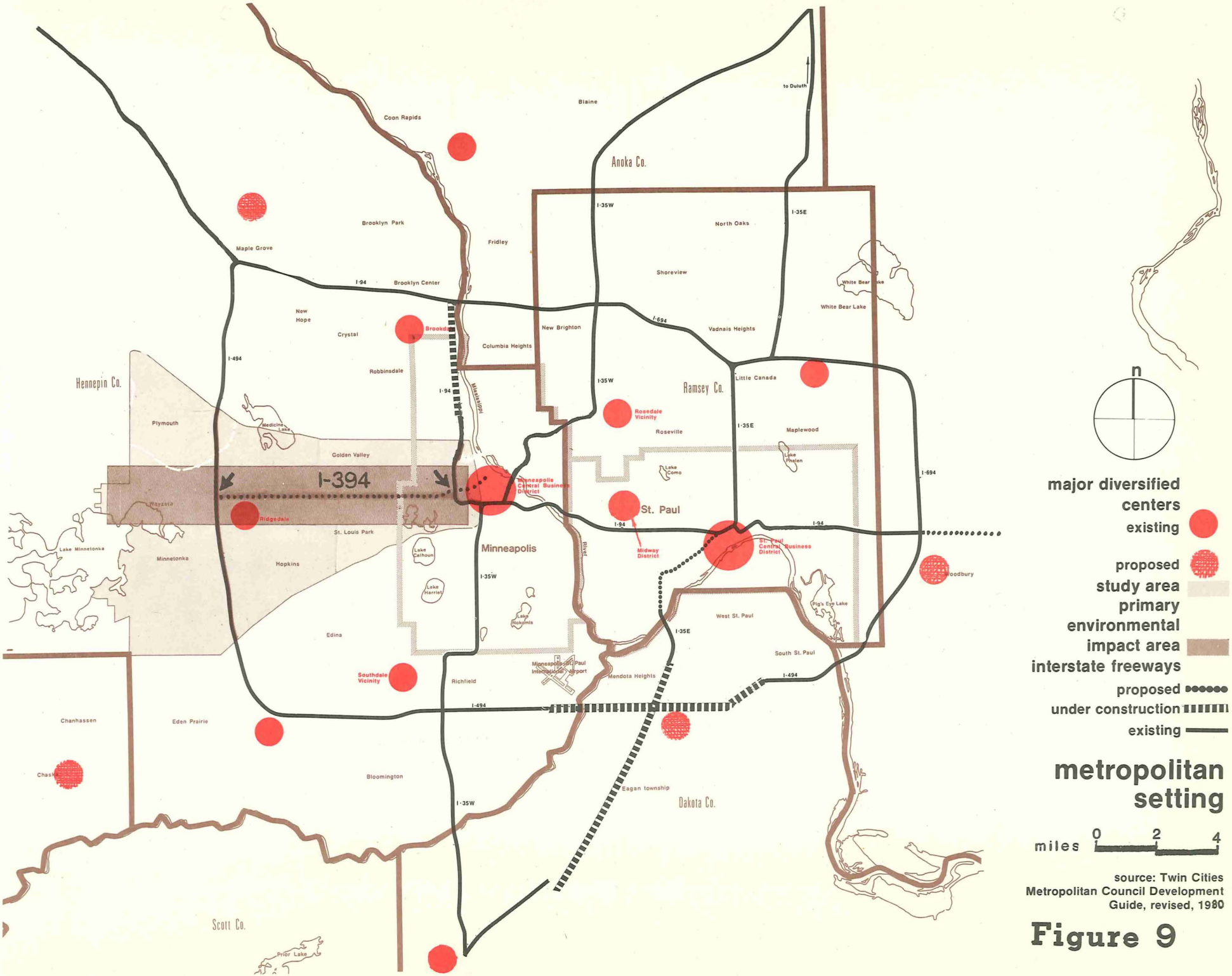
Average annual precipitation in the project area is approximately 25 inches. (Included in this figure is an average annual snowfall of 40.3 inches.) June is the wettest month, with 4.00 inches of precipitation, and January the driest, with .70 inches. Nearly 64 percent of the average annual precipitation occurs from May to September.

Geology and Soils

The entire project area is underlain by layers of sedimentary bedrock having varying porosity and permeability. These layers of bedrock slope toward the center of the Twin Cities area. A similar pattern exists in the north-south direction, creating a saucer shaped bedrock structure known as the Twin Cities Basin. Overlaying the bedrock is unconsolidated sediment known as glacial drift. The I-394 roadway corridor is located on glacial drift which overlies the west flank of the Twin Cities Basin. Figure 10 on pages 104 and 105 provides a cross-sectional view of glacial drift, bedrock, and groundwater table beneath the Twin Cities area. The top of the bedrock structure is delineated by hash marks pointing to the bedrock.

Four major types of glacial drift soils exist in the highway corridor. These include plastic soils, predominantly granular soils, lake soils, and mixed plastic/granular soils. A key in the lower right hand corner of Figure 10 describes each soil type. For more detailed soils information refer to the soil survey for Hennepin County, Minnesota (Lueth, 1974).

Figure 11 on page 107 illustrates some of the characteristics of the soils in the study area.



n

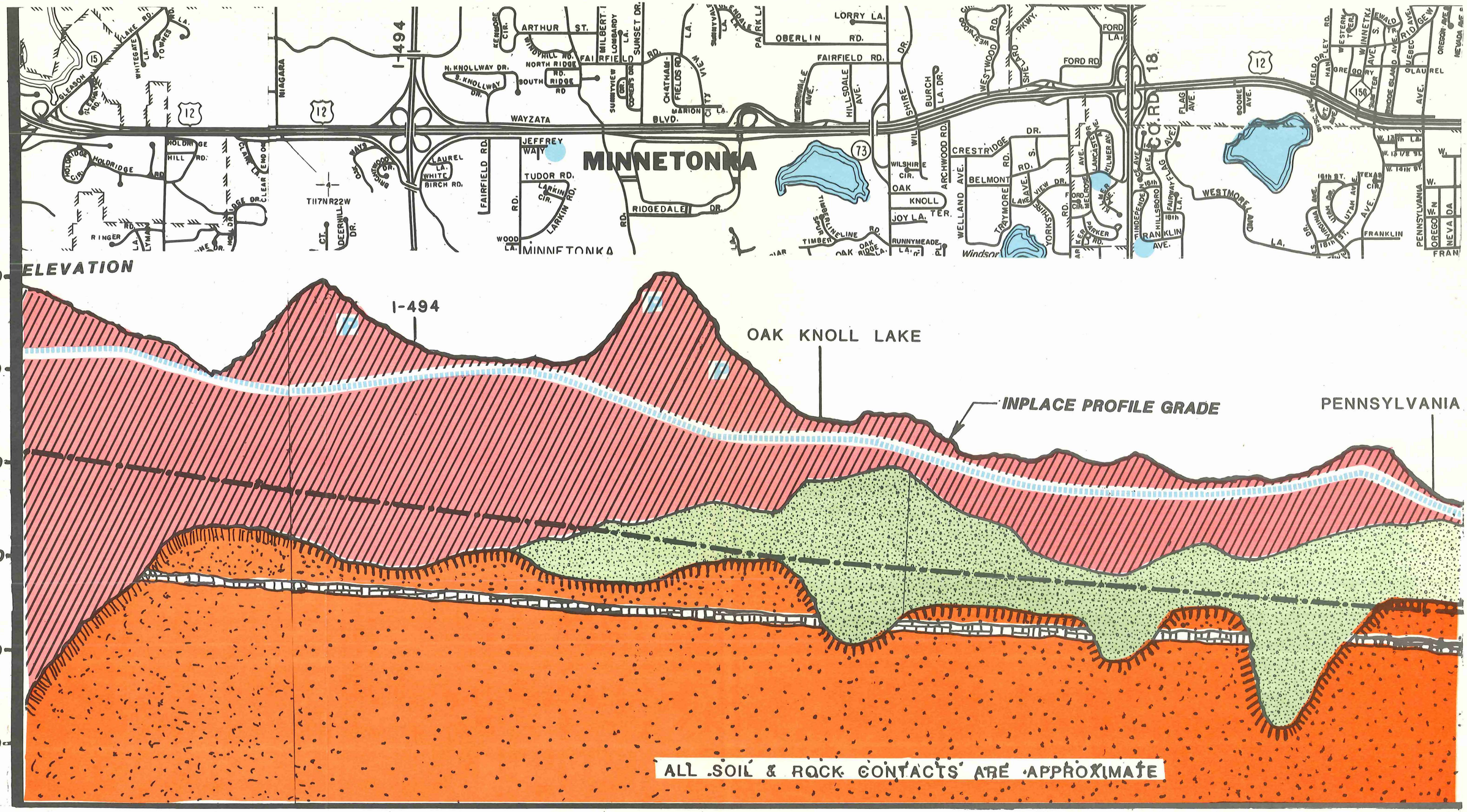
major diversified centers
existing
proposed
study area
primary environmental impact area
interstate freeways
proposed
under construction
existing

metropolitan setting

miles 0 2 4

source: Twin Cities Metropolitan Council Development Guide, revised, 1980

Figure 9

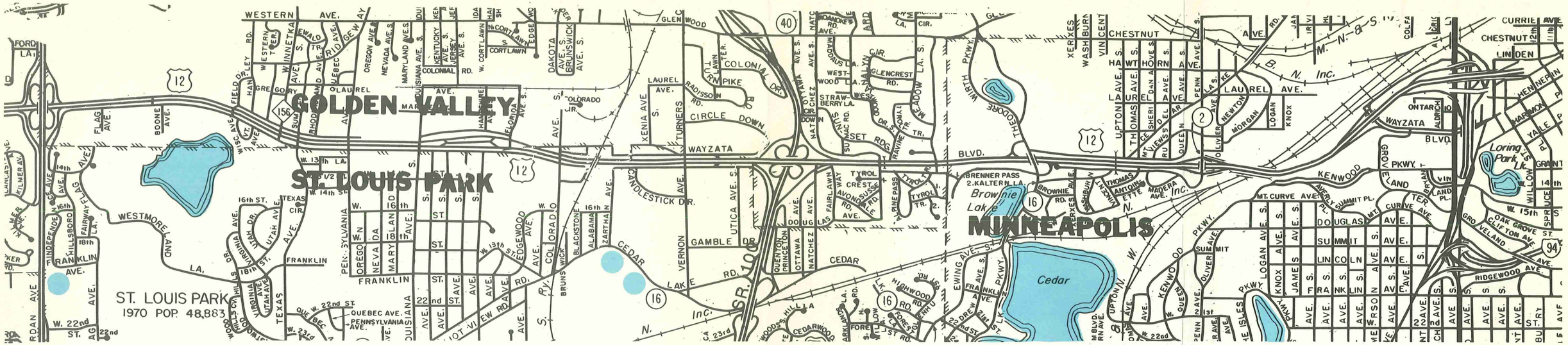


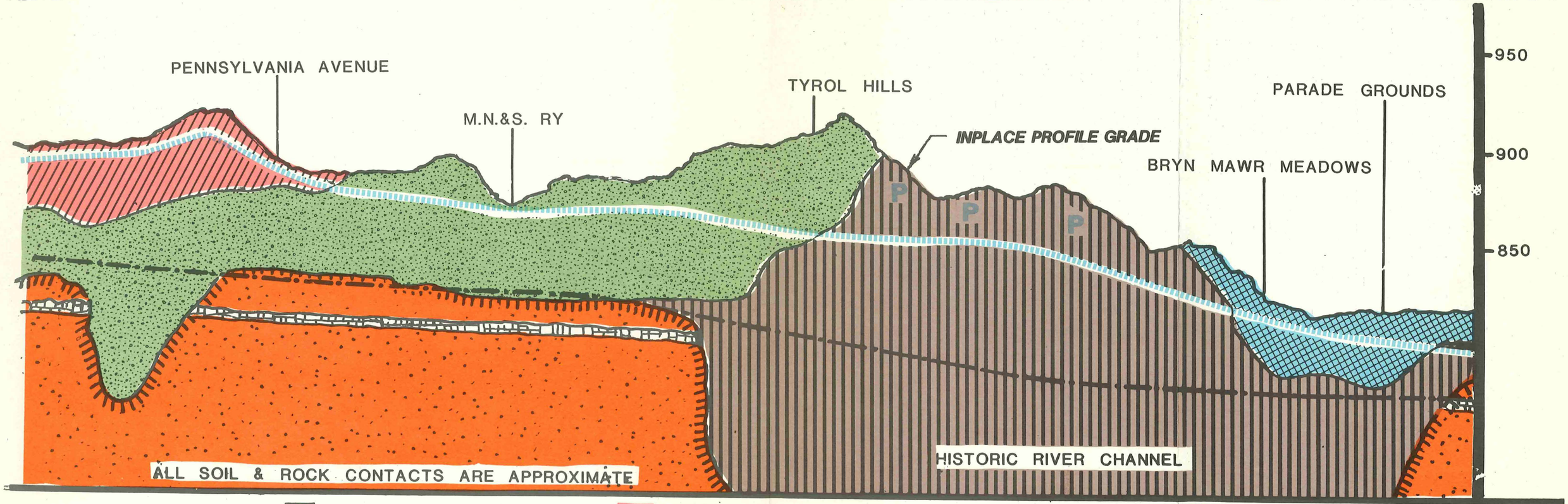
GEOLOGY & GROUND WATER HYDROLOGY

I-394

scale 1"-2000'

north





GEOLOGY & GROUND WATER HYDROLOGY

I-394

scale 1"-2000'

north

Figure 10

texture	slope	drainage
coarse	under 12%	rapid
medium over coarse	under 12%	rapid
medium over coarse	over 12%	moderate to rapid
medium to moderate fine	under 12%	slow to moderate
medium to moderate fine	over 12%	moderate to rapid
variable	under 12%	slow to very slow

ecology: generalized soil characteristics

miles
0 1 2

source: University of Minnesota Agriculture Extension Service, 1980

Figure 11

Groundwater is defined as free water which is stored and moves slowly beneath the land surface. In the project area, two contiguous groundwater systems exist. In the deeper bedrock system, water is stored in porous bedrock layers known as aquifers. The Prairie du Chien Group and Jordan Sandstone (see Figure 10) comprise the Prairie du Chien-Jordan Aquifer which produces 75 percent of the groundwater used in the Twin Cities (Nortvitch, 1973). The St. Peter Sandstone is a less important aquifer which provides groundwater for limited domestic, commercial and industrial use. In general, bedrock beneath the highway corridor is saturated with groundwater. Impervious bedrock usually overlies the deeper bedrock aquifers, separating this system from the shallower near-surface system.

The near-surface groundwater system is located in the glacial drift. Wetlands, lakes, creeks, rivers and springs are usually surface expressions of the groundwater elevation or water table. These water bodies are in equilibrium with the groundwater. The water table lies close to the surface along most of the proposed alignment. Refer to Figure 10. Near-surface groundwater is usually used only for domestic drinking and watering.

Water may also be held above the true water table by underlying plastic soils. This condition is known as perched water. Perched water may be encountered in hilly areas with an abundance of plastic soils.

In general, the bedrock and near-surface groundwater moves toward the Mississippi River. Surface water entering the upper groundwater system will migrate vertically until it reaches the water table and then moves laterally toward the river.

The location of municipal groundwater wells near the proposed alignment are shown on Figure 10. All are deep bedrock wells which draw water from either the Prairie du Chien-Jordan Aquifer or a deeper aquifer. Numerous other wells of varying use and depth exist along the corridor. Most of these non-municipal wells probably draw water from bedrock but some shallow domestic wells draw from glacial drift.

Vegetation and Wildlife

The major remaining areas of natural vegetation and wildlife habitat in the highly urbanized I-394 corridor are mainly associated with lakes and wetlands. The only upland habitat areas adjacent to I-394 are mature oak stands in Theodore Wirth Park and in the northeast quadrants of the US-12/SR-100 and US-12/I-494 interchanges. Wildlife characteristics of wetland areas are discussed in the wetland section. Upland wildlife species include ring-necked pheasants, cottontail rabbits, raccoons, skunks, grey squirrels, and various small mammals, songbirds, amphibians and reptiles. White-tailed deer intermittently use wooded areas and wetland areas; however, residential and commercial development have displaced them from virtually the entire corridor.

Surface Water

water study area

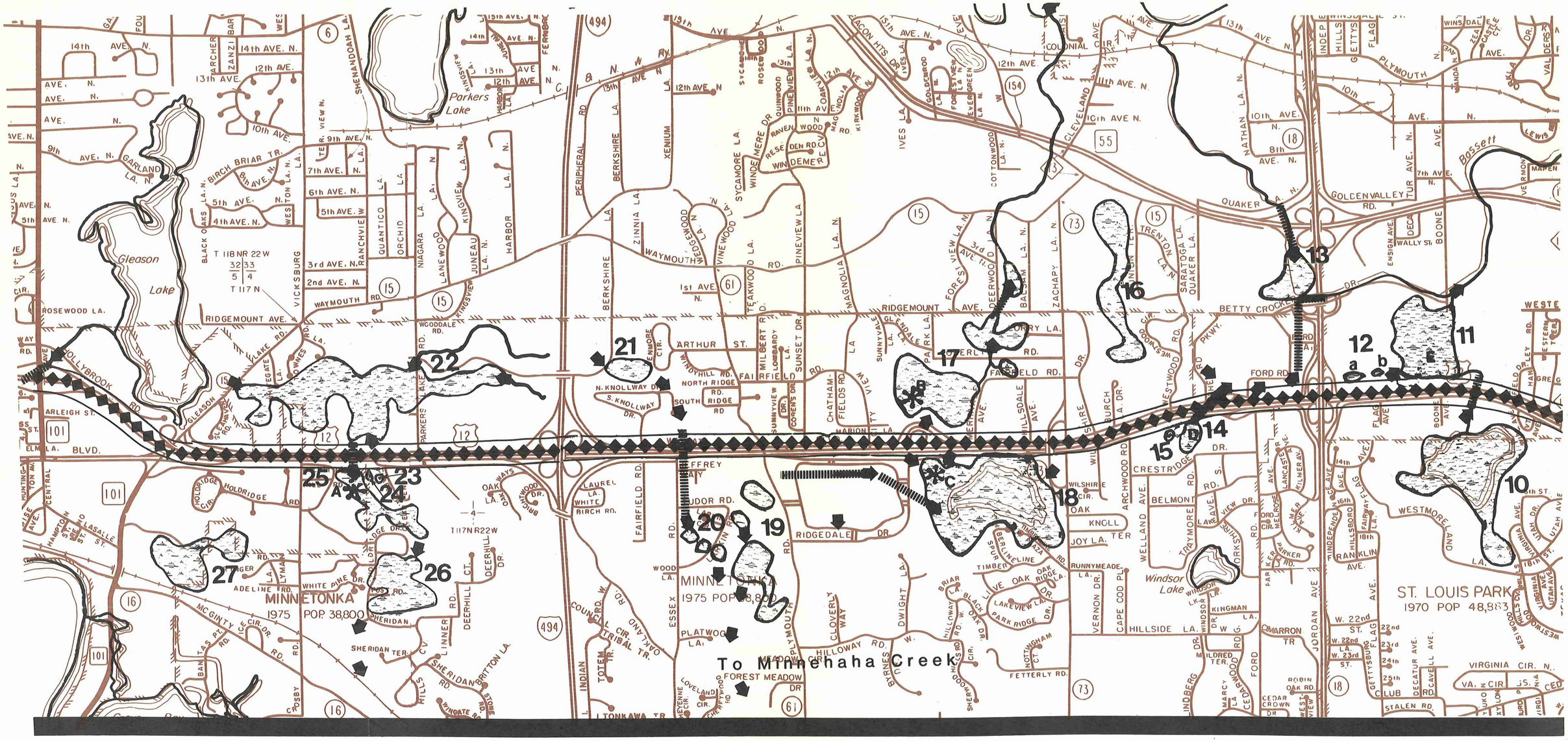
An inventory and evaluation was made of all aquatic areas (i.e., lakes, streams and wetlands) located within 1/2 mile of existing US-12. A U.S. Geological Survey quadrangle map, current aerial photos and direct field observation were used to locate and identify these aquatic areas. The water study area extends for 11 miles along US-12 from Lyndale Avenue in Minneapolis to SR-101 in Wayzata (Figure 13, pages 112 and 113). The mile-wide study area assured that all aquatic areas were examined that could conceivably receive direct drainage from proposed I-394 even if present drainage patterns are altered by construction.

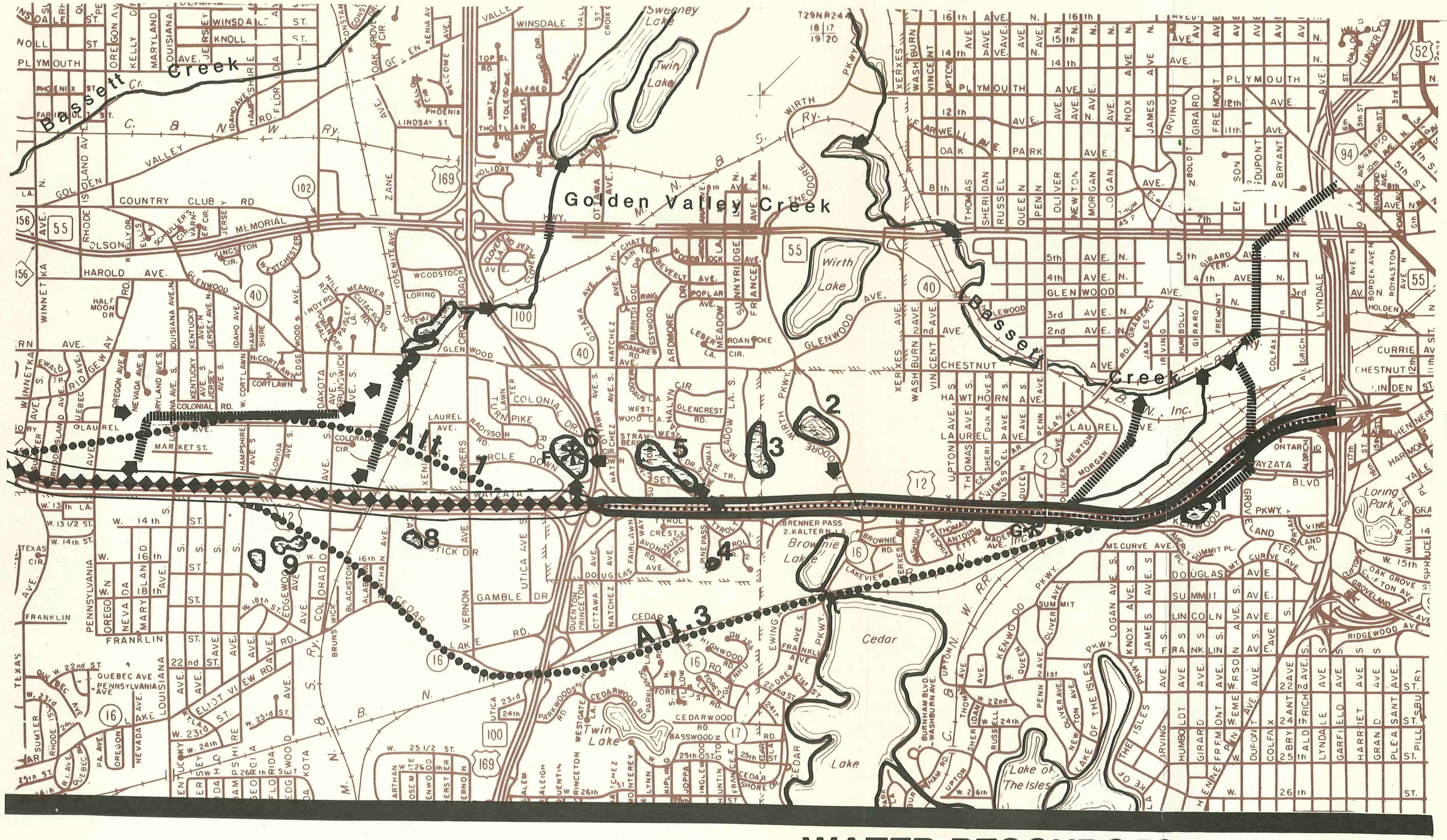
lakes

Three lakes are in the water study area (Figure 13): Gleason Lake (160 acres), Brownie Lake (9 acres), and Cedar Lake (175 acres). Spring Lake, Birch Pond, Westwood Lake, and Ridgedale Marsh are considered wetlands, and discussed in that section.

watercourses

F ive major creeks are in the water study area. Bassett Creek begins about a mile north of Medicine Lake, flows through the lake, and meanders eastward about 12 miles through north Minneapolis to the Mississippi River. Minnehaha Creek meanders eastward about 20 miles from Grays Bay of Lake Minnetonka to the Mississippi, through south Minneapolis. Golden Valley Creek begins in a low area just north of US-12


Gleason Lake
Parkers Lake
Windsor Lake
MINNETONKA
1975 POP 38,800
MINNETONKA
1975 POP 38,800
ST. LOUIS PARK
1970 POP 48,883
To Minnehaha Creek
T 118N R 22W
32 33
5 4
T 117N
T117N R22W
ROSEWOOD LA.
RIDGEMOUNT AVE.
WAYMOUTH RD.
ARLEIGH ST.
ELM LA.
BLVD.
HOLLYBROOK RD.
WOODDALE RD.
ARTHUR ST.
WINDYHILL RD.
NORTH RIDGE RD.
SOUTH RIDGE RD
N. KNOLLWAY DR.
S. KNOLLWAY DR.
FAIRFIELD RD.
MILBERT RD.
SUNSET DR.
CHATHAM-FIELDS RD.
MARION CITY LA.
RIDGEDALE DR.
TUDOR RD.
WOOD LA.
PLATWOOD LA.
FOREST MEADOW DR
HILLOWAY RD.
FETTERLY RD.
CRESTRIDGE DR.
BELMONT RD.
WILSHIRE CIR.
OAK KNOLL JOY LA. TER
RUNNYMEADE LA.
VERNON DR.
CAPE COD PL.
HILLSIDE LA.
LIVE OAK RIDGE LA.
LAKEVIEW CT.
PARK RIDGE DR.
NOTTINGHAM CT.
TIMBER SPUR
BERLINE LINE
KINGMAN LA.
MILDRED TER.
CEDARWOOD RD.
CEDAR CROWN DR
ROBIN OAK RD.
CIMARRON TR
FORD RD.
BETTY CROCKER DR.
GOLDEN VALLEY RD.
QUAKER LA. N.
PLYMOUTH
10th AVE. N.
8th AVE. N.
7th AVE. N.
WESTMORELAND
W. 22nd ST.
W. 23rd ST.
GETTYSBURG
CLUB
STALEN RD.
VIRGINIA CIR. N.
DECATUR AVE.
JORDAN AVE
FLAG AVE
BOONE AVE.
ENSIGN AVE.
WALLY ST.
RANKLIN AVE.
HILLSBORO
INDEPENDENCE
FAIRWAY LA.
WESTERN AVE.
GREGORY
HAMPDEN
LEWIS
VERMONT
MAYEN
WESTE
Bassett
Creek
Valley
Golf
Course
Golden Valley
Golf Course
Golden Valley
Country Club
Golf Course
Golf Course
Golf Course



WATER RESOURCES

I-394

scale 1" - 2000'

north

WETLANDS

Figure 13

between Pennsylvania and Louisiana Avenues, and flows northeast through wetland 7 to Sweeney Lake. An unnamed creek flows north from wetland 17 to the southwest bay of Medicine Lake. Gleason Creek flows beneath US-12 from Gleason Lake southwest to Wayzata Bay to Lake Minnetonka.

Numerous smaller creeks, drainage ditches, culverts and poorly defined flowages occur in the study area. These watercourses may transport drainage from I-394. Their general direction of flow is shown by arrows on Figure 13.

A study of the Flood Insurance maps for the communities along proposed US-12/ I-394 shows that floodplains are associated with both Bassett and Minnehaha Creeks and their tributaries. Only the Bassett Creek floodplain approaches I-394; it will be encroached upon by the highway at three locations, corresponding to wetlands 11, 17, and 18 as illustrated in Figure 13.

Wetlands

The study area contains 27 wetlands (Figure 13) totaling 582.1 acres (Table 6). Wetlands were classified according to Wetlands of the United States (U.S. Fish and Wildlife Service, Circular 39) and Classification of Wetland and Deepwater Habitats. See the Wetland Finding in the Appendix of this document for descriptions of the classification systems.

TABLE 6: Area and classification of each wetland, 1 through 27 (see Figure 13)

Wetland Number	Area (Acres)	Circular 39 U.S. Fish and Wildlife Service (Type)	Classification of Wetlands and Deep-water Habitats of the U.S. (Codes)
1 (Spring Lake)	4	4	PEM5
2 (Birch Pond)	7	4	PEM5
3	6	7	PFO2
4	0.4	5	POW
5	8	4	PEM5
6	7	3	PEM3
7	8	3	PEM3
8	2	5	POW
9	4	3	PEM3
10 (Westwood Lake)	74	4	PEM5
11	43	1/6/7	PSS1
12a	0.8	5	POW
12b	0.3	5	POW
13	25	3	PEM3
14	4	3	PEM3
15	1	3	PEM3
16	34	2	PEM1
17	54	3	PEM3
18 (Ridgedale Marsh)	105	4	PEM5
19	22	2	PEM1
20	2	5	POW
21	5	3	PEM3
22	91	3	PEM3
23	0.6	5	POW
24	0.5	5	POW
25	15	2	PEM1
26	29	3	PEM3
27	31	3	PEM3
	582.1 total		

Wildlife Habitat Evaluation

Wildlife habitat value of each wetland in the study area was evaluated using a technique developed by Larson (1976). The standard for evaluation is maximum wildlife production and diversity. Ten criteria were numerically rated for each wetland to produce a total score for wildlife productivity and diversity. The lowest possible score is 36 and the highest is 108. The ten criteria were type richness, dominant type, size, plant life-form richness, site type, surrounding habitat, cover type, vegetative interspersion, relationship to other wetlands and water chemistry.

The wildlife habitat evaluation scores for all wetlands in the study area are listed from highest to lowest value in Table 7. The 27 wetlands ranged from a high score of 80.5 to a low score of 40.0. To aid analysis of wetland values, wetlands were grouped into four arbitrary categories having similar scores. These were excellent, good, fair to good and poor to fair.

wetlands of excellent value

Wetland 18 (Ridgedale Marsh) and 10 (Westwood Lake) were the only wetlands having excellent value for wildlife. Both are large marshes with extensive areas of open water. This is prime waterfowl habitat used for nesting, feeding and resting during migration. These wetlands are used by mallards, blue-winged teal, wood ducks, Canada geese, grebes, coots, rails, herons, blackbirds, muskrat, mink and raccoon. During August of 1976, 500 to 600 waterfowl were observed on Westwood Lake and 125 to 200 on Ridgedale Marsh. Much larger numbers could be expected during migration periods.

Ridgedale Marsh has extensive beds of submerged aquatic vegetation which make it more valuable for wildlife than Westwood Lake which lacks submergent vegetation. Ridgedale Marsh supports 10 species of aquatic plants, seven of which have fair to excellent value as waterfowl food. Submergent vegetation provides habitat for invertebrates, amphibians and minnows which are food for many wildlife species. Westwood Lake produces a heavy algae bloom which may prevent the growth of aquatic plants because the algae competes for available nutrients and light.

wetlands of good value

Wetlands 11, 16, 22 and 27 have good value for wildlife. Wetland 11 offers many unique benefits to wildlife due to the high diversity of habitat types it contains. Areas of lowland hardwoods and shrubs (including red osier dogwood, elm, maple, willow, aspen, hawthorn, and blackcherry) are interspersed with wet lowland areas of sedge or grass and upland ground cover of stinging nettle and jewelweed. A small remnant strand of mature tamaracks are found near the center of the wetland. This area is utilized by a variety of wildlife for feeding, nesting, shelter, and winter cover. Species include deer, skunk, raccoon, ringnecked pheasants, and a wide variety of songbirds.

The remaining wetlands are composed of a mixture of shallow marsh and upland plants including emergents, shrubs, trees, grass and, during wet years, shallow areas of open water. Compared with other shallow marshes in the study area these wetlands scored higher for wildlife because of their larger size, their greater vegetative interspersion and their surrounding habitats of forest and agriculture. Common wildlife species are ringnecked pheasants, cottontail rabbits, raptors, blackbirds, songbirds and muskrats. Waterfowl use these wetlands for nesting and for feeding and rearing of young when shallow water is available.

wetlands of fair to good value

Two deep marshes (wetlands 1, 5) and five shallow marshes (wetlands 6, 7, 13, 17, 26) have fair to good value for wildlife. These wetlands had medium scores because of their small size, low plant diversity, poor vegetative interspersion and partially urbanized surroundings. These wetlands are used by the same wildlife species as higher valued wetlands. However, their density and variety of wildlife is less. Open water portions of these wetlands can provide rest areas for significant numbers of migrating waterfowl during spring and fall.

wetlands of poor to fair value

The remaining wetlands have poor to fair value for wildlife. Wetlands 19 and 25 are dominated by grass-like meadow plants which support a low diversity of wildlife. Vegetation includes forbs, trees and shrubs.

TABLE 7: Evaluation scores for wildlife production and diversity calculated for study area wetlands (Larson, 1976).

Wetlands	Evaluation Score	Verbal Rating
18 (Ridgedale Marsh)	80.5	Excellent Value
10 (Westwood Lake)	73.0	
11	69.5	Good Value
27	67.5	
22	63.5	
16	62.5	
13	60.0	Fair to Good Value
1 (Spring Lake)	59.5	
5	59.0	
17	58.5	
7	58.5	
26	58.0	
6	58.0	
21	55.5	Poor to Fair Value
24	55.0	
19	55.0	
2 (Birch Pond)	54.0	
25	53.5	
14	51.5	
9	50.0	
3	49.0	
23	44.0	
15	43.5	
8	43.0	
4	42.5	
20	41.0	
12a	40.0	
12b	40.0	

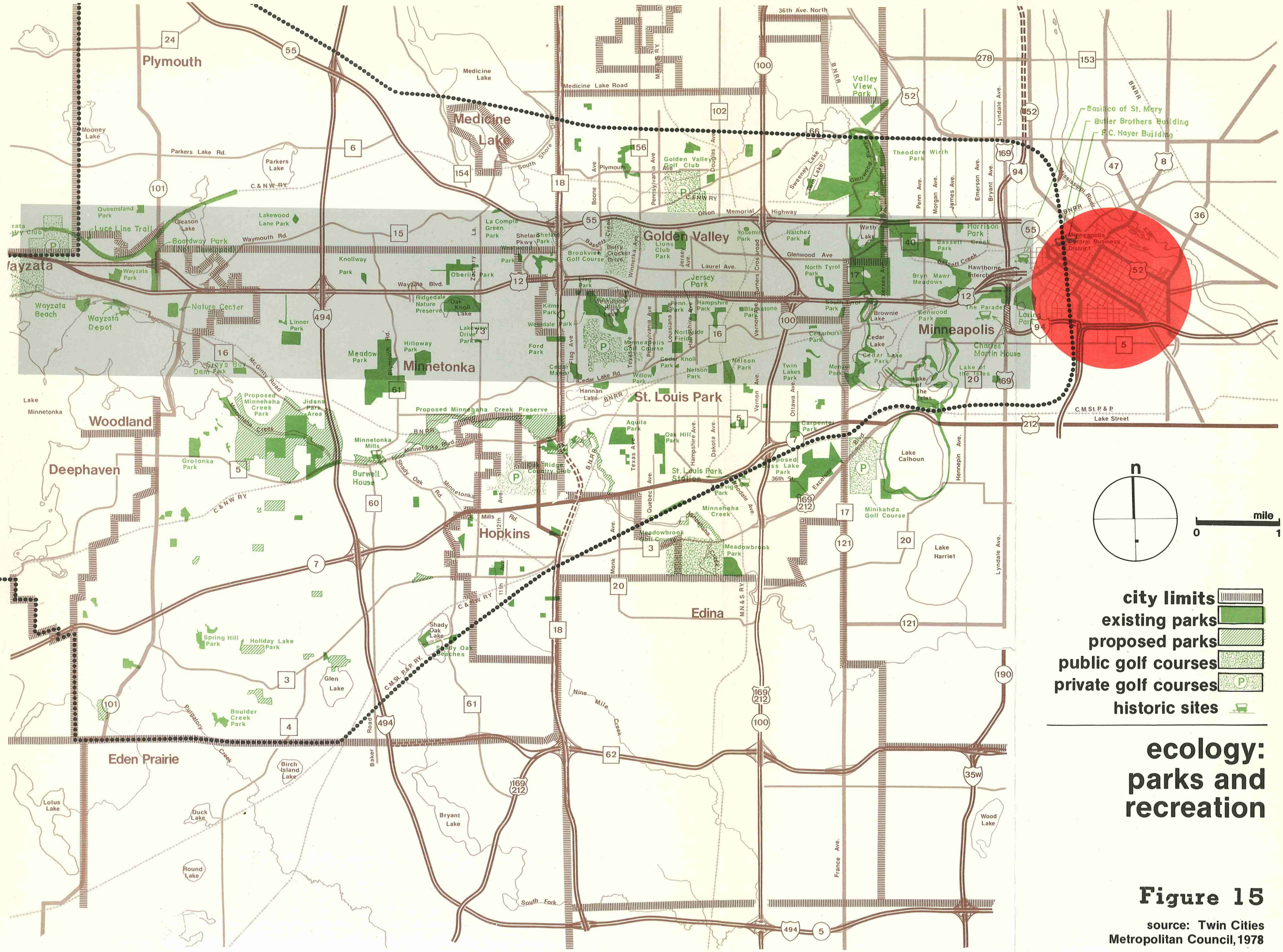
The DEIS lists 142 units of designated open space within the study area. They are of all sizes, and range from natural undeveloped parks to neighborhood playgrounds to complex multi-purpose facilities. The parks are shown on the Parks and Recreation Map, Figure 15 on page 121. Several of these parks are adjacent to the I-394 corridor, or close enough to influence or limit its design.

The Ridgedale Nature Preserve is a natural environment surrounding Oak Knoll Lake (also known as Ridgedale Marsh) in the City of Minnetonka, and the Westwood Hills Nature Center is a similar lakeside area in Saint Louis Park. I-394 will not encroach on either of these areas, as ample right-of-way already exists or can be obtained from private owners.

Bryn Mawr Meadows and The Parade, both in Minneapolis near the Hawthorne Interchange, are athletic fields for softball and other space-requiring sports. The Parade also has a football stadium and tennis courts. These two parks will restrict I-394 to the present US-12 right-of-way in this area.

Brookview Public Golf Course, in Golden Valley, is adjacent to the I-394 corridor. A small strip of the course will be needed for a C-D road and a ramp to the Boone Avenue interchange. This loss will only slightly affect one tee.

Theodore Wirth Park, in Minneapolis, is a large park of about 770 acres with many types of facilities ranging from an 18-hole golf course to secluded woods. The I-394 corridor is at the south edge of the park, on the route of existing US-12. Heavily wooded hills border the highway, and a small pond and large wildflower garden are set in the woods beyond. A small amount of this park will be needed temporarily to build the approach to the new Theodore Wirth Parkway bridge over I-394. The land will be returned to the park after construction. The removal of the north frontage road and the interchange between the parkway and US-12 will allow some of the existing highway right-of-way to be added to the park.


Plymouth
Medicine Lake
Golden Valley
Minneapolis
Minnetonka
St. Louis Park
Hopkins
Edina
Deephaven
Woodland
Eden Prairie
Wayzata
Medicine Lake Road
Parkers Lake Rd.
Waymouth Rd.
Wayzata Blvd.
Laurel Ave.
Glenwood Ave
Olson Memorial Highway
36th Ave. North
Lake Street
Minneapolis Central Business District
Basilica of St. Mary
Butler Brothers Building
F.C. Hoyer Building
Theodore Wirth Park
Golden Valley Golf Club
Brookview Golf Course
Minneapolis Golf Course
Meadowbrook Golf Course
Ridgedale Nature Preserve
Proposed Minnehaha Creek Park
Proposed Minnehaha Creek Preserve
Jidana Park Area
Minnetonka Mills
Burwell House
Spring Hill Park
Holiday Lake Park
Boulder Creek Park
Glen Lake
Shady Oak Beaches
Lake Calhoun
Lake Harriet
Minikahda Golf Course
Meadowbrook Park
Minnehaha Creek
Nine Mile Creek
Bryant Lake
Wood Lake
Lotus Lake
Duck Lake
Round Lake
Birch Island Lake
Shady Oak Lake
Mooney Lake
Parkers Lake
Gleason Lake
Lake Minnetonka
Cedar Lake
Brownie Lake
Twin Lakes
Bassett Creek
Purgatory Creek
South Fork
C.M.St.P.&P. RY.
C.&N.W. RY.
M.N.&S. RY.
B.N.R.R.
Lake Minnetonka LRT Trail
Luce Line Trail
Boardway Park
Nature Center
Wayzata Beach
Wayzata Depot
Linner Park
Oberlin Park
Knollway Park
Lakewood Lane Park
Queensland Park
Wayzata Park
Oak Knoll Park
Kilmer Park
Westwood Hills Park
Jersey Park
Harrison Park
Bryn Mawr Meadows
Kenwood Park
The Parade
Loring Park
Cedar Lake Park
Lake of the Isles
Charles Martin House
Menzel Park
Carpenter Park
Lake Calhoun
Minikahda Golf Course
Lake Harriet
Valley View Park
Sweeney Lake
Wirth Lake
Bryn Mawr Meadows
Hawthorne Interchange
Cedarhurst Park
Nelson Park
Willow Park
Cedar Knoll Park
Hannan Lake
Aquila Park
Oak Hill Park
St. Louis Park Station
Ridgedale Country Club
Proposed Bass Lake Park
Lake Minnetonka
Lake Minnetonka Regional Park
Grotonka Park
Gray's Bay Dam Park
Meadow Park
Hilloway Park
Ford Park
Lakewood Drive Park
Oak Knoll Lake
Shady Oak Rd.
Minnetonka Blvd.
Excelsior Blvd.
Hennepin Ave.
Lyndale Ave.
Penn Ave.
Morgan Ave.
James Ave.
Emerson Ave.
Bryant Ave.
Xerxes Ave.
Vernon Ave.
Ottawa Ave.
Dakota Ave.
Texas Ave.
Quebec Ave.
Monk Ave.
Hampshire Ave.
Louisiana Ave.
Pennsylvania Ave.
Douglas Ave.
Boone Ave.
Penn Ave.
Jersey Ave.
Winnetka Ave.
Zachary La.
Plymouth Rd.
McGinty Road
Baker Road
Vicksburg Ln.
11th Ave.
12th Ave.
Mississippi River Blvd.
France Ave.
Lyndale Ave.
Cedar Lake Rd.
Shelard Pkwy
Shelard Park
La Comple Green Park
Barry Crocker Drive
Lions Club Park
Yosemite Park
Natchez Park
North Tyrol Park
South Tyrol Park
Blaisdell Park
Hampshire Park
Northside Fields
Nelson Park
Willow Park
Twin Lakes Park
Menzel Park
Cedar Knoll Park
Cedar Manor
Ford Park
Westwood Hills Park
Kilmer Park
Oak Knoll Park
Lakewood Drive Park
Hilloway Park
Meadow Park
Gray's Bay Dam Park
Grotonka Park
Jidana Park Area
Proposed Minnehaha Creek Park
Proposed Minnehaha Creek Preserve
Minnetonka Mills
Burwell House
Ridgedale Country Club
Spring Hill Park
Holiday Lake Park
Boulder Creek Park
Glen Lake
Shady Oak Beaches
Shady Oak Lake
Lake Minnetonka
Lake Minnetonka Regional Park
Nature Center
Linner Park
Oberlin Park
Knollway Park
Lakewood Lane Park
Queensland Park
Wayzata Park
Wayzata Beach
Wayzata Depot
Luce Line Trail
Boardway Park
Gleason Lake
Mooney Lake
Parkers Lake
Lotus Lake
Duck Lake
Round Lake
Birch Island Lake
Bryant Lake
Wood Lake
Lake Calhoun
Lake Harriet
Lake of the Isles
Cedar Lake
Brownie Lake
Twin Lakes
Bassett Creek
Purgatory Creek
South Fork
Nine Mile Creek
Minnehaha Creek

Brownie Lake is to the south of the corridor, across from Wirth Park. It is a small lake, surrounded by wooded slopes. Its parkland is a natural open space for passive use. A small strip of the parkland will be needed for the mainline, a frontage road, and the Wirth Parkway bridge. Some additional land will be needed temporarily for construction, especially of the bridge approach, but will be returned to the park.

Other small parklands adjacent or close to the US-12/I-394 corridor are Knollway Drive Park and Oberlin Park in Minnetonka; Shelard Park, Kilmer Lake Park, and "Flag" Park in Saint Louis Park; North Tyrol Park in Golden Valley; and Kenwood Parkway in Minneapolis. All will be completely avoided by careful alignment and design.

A Section 4(f) Evaluation detailing the involvement with Brookview Golf Course, Theodore Wirth Park, and Brownie Lake is included with this FEIS.

New US-12 and I-394 will pass within the corporate limits of the Cities of Wayzata, Minnetonka, Saint Louis Park, Golden Valley, and Minneapolis. Plymouth will also be directly affected due to its proximity to the freeway. Some of the social characteristics of these communities are itemized and briefly discussed here.

Metropolitan Council Projections

The population, household, and employment projections shown in the following tables were developed by the Metropolitan Council staff and issued in February of 1978.

population

The populations of the eastern communities of Minneapolis, Golden Valley, and Saint Louis Park have decreased in the last decade but are expected to be nearly stable through the year 2000. Wayzata has been stable but is expected to grow. Minnetonka has grown steadily, and the trend is expected to continue. Plymouth has grown dramatically in the last decade, and this trend is also expected to continue. By the year 2000, Plymouth is expected to be the largest of these five suburbs.

TABLE 8: POPULATION

	1970	1980	1990	2000
Minneapolis	434,000	370,951	375,000	380,000
Golden Valley	24,246	22,775	23,500	23,000
Saint Louis Park	48,883	42,931	42,800	42,000
Minnetonka	35,776	38,683	42,700	45,500
Plymouth	18,077	31,615	43,500	54,000
Wayzata	3,700	3,621	4,200	4,200

The number of households in all six communities is expected to increase, with the larger increases in the western communities of Minnetonka and Plymouth.

TABLE 9: HOUSEHOLDS

	1970	1980	1990	2000
Minneapolis	161,080	168,859	171,500	174,000
Golden Valley	6,533	7,690	8,400	8,500
Saint Louis Park	15,778	18,055	18,600	18,700
Minnetonka	9,085	13,231	15,000	16,100
Plymouth	4,507	11,039	15,500	19,000
Wayzata	1,264	1,674	1,700	1,800

employment

Employment is expected to stay level in Minneapolis and Saint Louis Park, and increase in the other communities. Again, the largest increases are expected in Minnetonka and Plymouth.

TABLE 10: EMPLOYMENT

	1970	1980	1990	2000
Minneapolis	290,324	272,733	280,000	285,000
Golden Valley	18,985	29,338	30,000	32,000
Saint Louis Park	30,788	33,170	32,000	33,000
Minnetonka	5,736	17,265	20,000	22,000
Plymouth	6,587	19,203(1)	21,000	26,000
Wayzata	2,350	5,151(2)	4,000	5,000

(1) Includes the small adjacent community of Medicine Lake, with an estimated employment of 100 or less.

(2) The MC advises that this figure may well be in error, too high.

Age Distribution

The table below illustrates that the population tends to be oldest in the city and youngest in Golden Valley, Minnetonka, and Plymouth. These percentages are based on 1970 census data (the 1980 data is not yet available). We assume that, on a percentage basis, the younger group has decreased and the older group has increased in the past decade. This assumption is consistent with national trends and is confirmed by numerous school closings.

TABLE 11: AGE GROUPS

	under 18	over 65
Calhoun-Isles*	20%	12%
Golden Valley	40%	5%
Saint Louis Park	32%	9%
Minnetonka	43%	5%
Plymouth	42%	4%
Wayzata	33%	11%

*The Minneapolis community that includes the Bryn-Mawr neighborhood.

Minorities

The table below illustrates the low numbers of minority groups living in the neighborhoods and communities along the freeway corridor. These figures are based on 1980 census data. The minorities are those who identified themselves as other than white, or of Spanish origin, on the census forms.

TABLE 12: MINORITIES

	total population	minority population	percentage
Calhoun-Isles	30,779	616	2.0%
Golden Valley	22,775	857	3.8%
Saint Louis Park	42,931	1,145	2.7%
Minnetonka	38,683	831	2.1%
Plymouth	31,615	1,073	3.4%
Wayzata	3,621	46	1.3%
Hennepin County	941,411	69,045	7.3%

Neighborhoods

The neighborhoods of the study area are illustrated by the Neighborhoods Figure 16 on page 127. The eastern neighborhoods are more compact and have historic boundaries that usually follow existing natural or manmade barriers such as lakes or roads. To the west, many neighborhoods are not as clearly delineated but have been established as a convenient means of referring to a specific geographic area.

All of the residential neighborhoods along the freeway corridor are predominantly middle or upper-middle class. Most of the residences are single-family homes, and most of them are owner-occupied. The Shelard Park area is an exception; as a multiple-use development, all of its residences are multiple family, either rental apartments or privately-owned condominiums.

The Tyrol Hills neighborhoods are characterized by steep hills, ravines, open space, and woods. The Minnetonka neighborhoods have a low density of development, and much open space.

There are no known groups requiring special consideration along the freeway corridor.

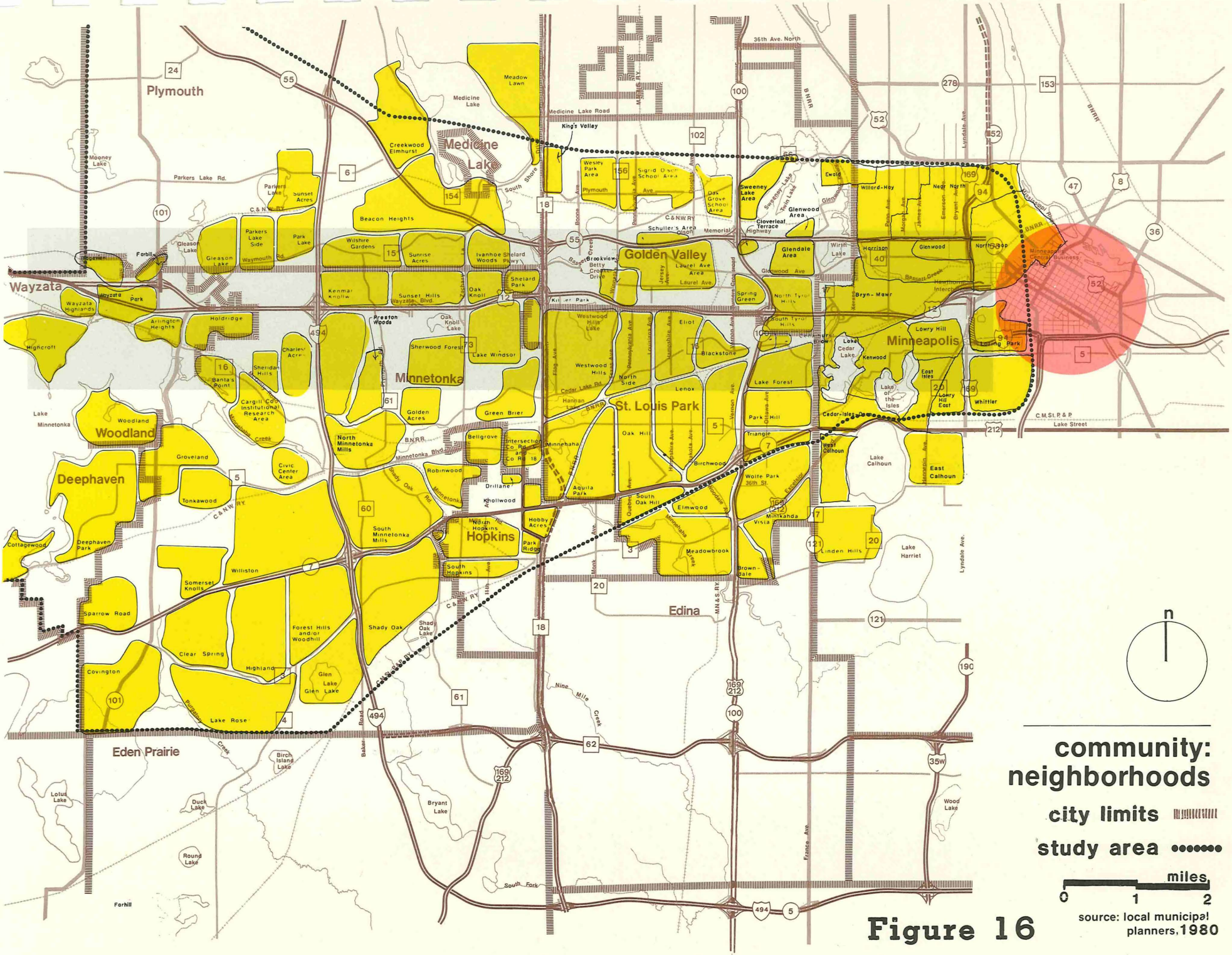

Plymouth
Medicine Lake
Wayzata
Golden Valley
Minneapolis
Minnetonka
St. Louis Park
Woodland
Deephaven
Hopkins
Edina
Eden Prairie
community:
neighborhoods
city limits
study area
miles
0 1 2
source: local municipal planners, 1980

Figure 16

Schools

The freeway corridor spans or borders four school districts. The two districts serving Golden Valley, Minnetonka, Plymouth, and Wayzata are now divided by US-12. This division requires school buses to cross the highway many times, sometimes on bridges but often through at-grade intersections. The total enrollment of the four districts was approximately 61,550 for the school year 1979-80; two-thirds of this enrollment was from Minneapolis. The total is expected to decrease by 14 percent by school year 1982-83.

No schools are adjacent to the freeway corridor. Twenty-one are within about a mile, having a combined enrollment of about 13,000. These twenty-one include fifteen public elementary and junior high, two public high, three private elementary, and one private high school. The schools are shown on the Community Facilities: Schools and Libraries Figure 17 on page 131.

Libraries

Each of the communities along the freeway corridor has public libraries, but none are adjacent to US-12. A new 200-thousand volume regional library near Ridgedale Center is now being built and is to open in 1982. It is intended to serve patrons from all of the western suburbs of Minneapolis, and will benefit by good access to the primary highway system. The libraries are also shown on Figure 17.

Churches

Approximately forty churches are located in the primary impact area. Only two are adjacent to the freeway corridor; neither will be taken nor adversely affected by it. Oak Knoll Lutheran Church is near CR-73; Minnetonka Seventh Day Adventist Church is near Parkers Lake Road. The churches are shown on the Community Facilities: Hospitals, Religious Institutions, and Community Centers Figure 18 on page 133.

Hospitals

No hospitals are along the freeway corridor or even in the primary impact area. The nearest hospitals are shown on Figure 18.

Nursing Homes

Thirteen nursing homes are in the primary impact area, but only two are near the freeway corridor: Hillcrest is on the south side of US-12, west of I-494; Weldwood is on Turner's Crossroad, a block or two north of US-12.

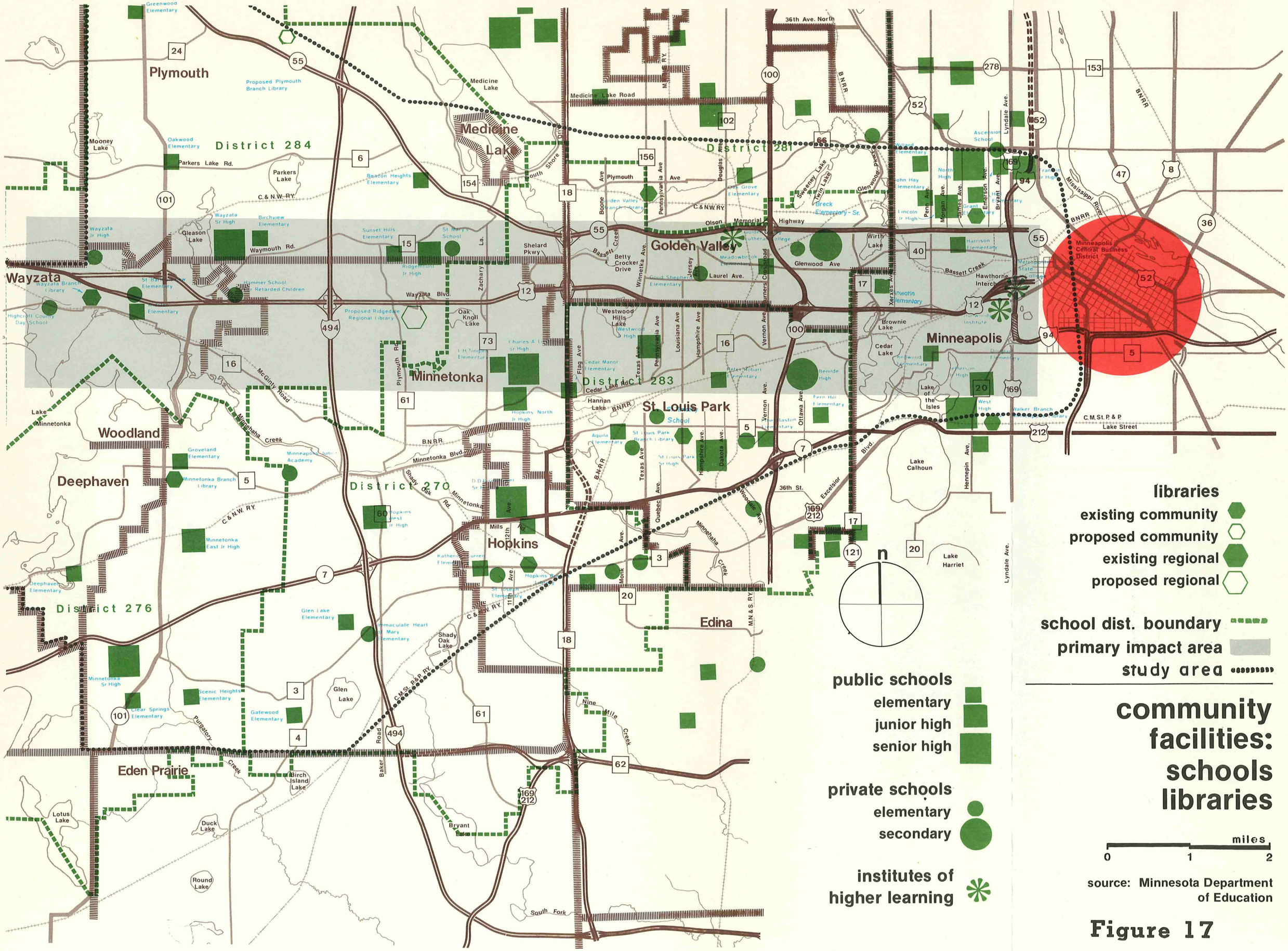
Community and Cultural Centers

Many of the schools, libraries, and churches mentioned above also serve as community centers. Other community and cultural centers along the freeway corridor include the Walker Art Center and the Tyrone Guthrie Theater in Minneapolis; the Brookview Community Center in Golden Valley; the Jewish Community Center and the Westwood Hills Environmental Education Center in Saint Louis Park; and the YMCA and Ridgedale Shopping Center in Minnetonka. These and other community centers are also shown on Figure 18 on page 133.

Parks and Recreational Centers

The parks along the freeway corridor were described under the NATURAL FEATURES section of this report, on page 120, entitled Designated Open Space, and shown on the Parks and Recreation Figure 15 on page 121. To reiterate, the parklands along the corridor are Knollwood Drive Park, Oberlin Park, and Ridgedale Nature Preserve in Minnetonka; Shelard Park, Kilmer Lake Park, "Flag" Park, and Westwood Hills Nature Center in Saint Louis Park; Brookview Golf Course and North Tyrol Park in Golden Valley; Theodore Wirth Park in Golden Valley and Minneapolis; and Brownie Lake, Bryn Mawr Meadows, Kenwood Parkway, and The Parade in Minneapolis.

Other recreational centers along the corridor include the Minneapolis Tennis Club and the Parade Ice Garden in Minneapolis; the Northstar Tennis Club in Saint Louis Park; and the Minnetonka and Oakdale Racquet Clubs and the Tonka Athletic Club in Minnetonka.



libraries

- existing community
- proposed community
- existing regional
- proposed regional

school dist. boundary

primary impact area

study area

public schools

- elementary
- junior high
- senior high

private schools

- elementary
- secondary

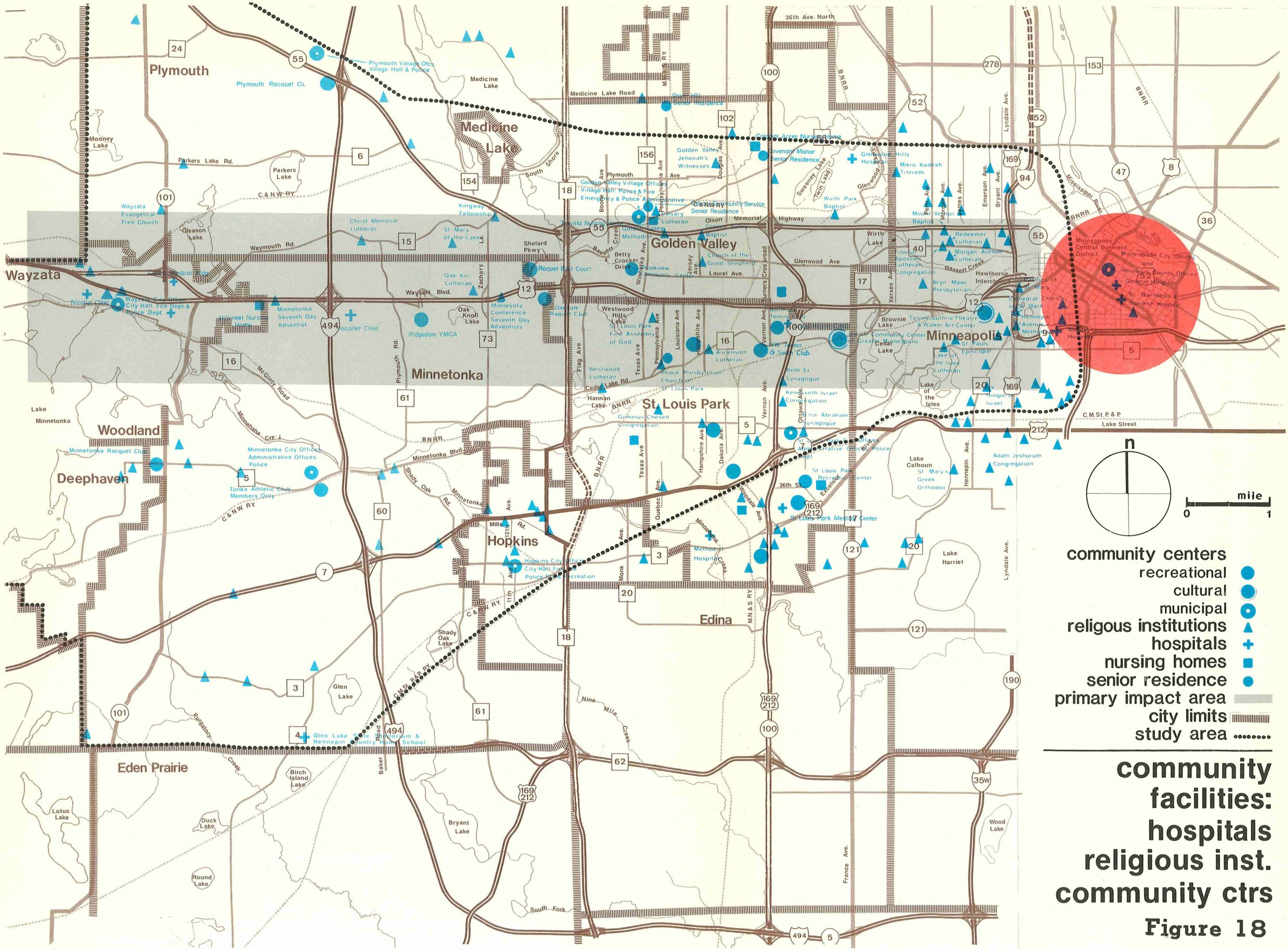
institutes of higher learning

community facilities: schools libraries

miles
0 1 2

source: Minnesota Department of Education

Figure 17


Plymouth
Medicine Lake
Golden Valley
Minneapolis
Minnetonka
St Louis Park
Wayzata
Woodland
Deephaven
Hopkins
Edina
Eden Prairie
Plymouth Village Offices Village Hall & Police
Plymouth Racquet Clb
Medicine Lake Road
Golden Valley Village Offices Village Hall Police & Fire Emergency & Police Administrative
Golden Valley Jehovah's Witnesses
Colonial Acres Nursing Home
Covenant Manor Senior Residence
Glenwood Hills Hospital
Mikro Kodesh Tifereth
Wirth Park Baptist
Olson Memorial Golden Valley Baptist
Golden Valley Methodist
Calvary Lutheran
Christ Memorial Lutheran
St Mary of the Lake
Kingway Fellowship
Gleason Lake
Wayzata Evangelical Free Church
Parkers Lake
Parkers Lake Rd.
Waymouth Rd.
Wayzata Blvd.
Shelard Pkwy
Raquet Ball Court
Oak Knoll Lutheran
Oak Knoll Lake
Oakdale Raquet Club
Minnesota Conference Seventh Day Adventists
Ridgedale YMCA
Nicollet Clinic
Wayzata City Offices City Hall Fire Dept & Police Dept
Hillcrest Nursing Home
Minnetonka Seventh Day Adventist
Westwood Hills Lutheran
St Louis Park First Assembly of God
Westwood Lutheran
Peace Presbyterian Church of St Louis Park
Hannan Lake
Cedar Lake Rd
Gomelus Chesed Congregation
Ascension Lutheran
NW Tennis & Swim Club
Beth El Synagogue
Kenesseth Israel Congregation
Adath Abraham Synagogue
St Louis Park Administrative Offices Police
St Louis Park Baptist
St Louis Park Recreation Center
St Louis Park Medical Center
Methodist Hospital
Minneapolis Central Business District
Minneapolis City Offices and Hennepin County Offices
General Hospital
St Barnabas & Swedish Hospital
Abbott Hospital
Cathedral of St Mary
Cathedral Church of St Mark
Hennepin Avenue Methodist
Temple of Israel
Adath Jeshurum Congregation
St Mary's Greek Orthodox
Redeemer Lutheran
Morgan Avenue Lutheran
Bryn Mawr Presbyterian
Trinity Apostolic Lutheran Congregation
Mount Vernon Baptist
Hawthorne Interchange
Brownie Lake
Cedar Lake
Lake of the Isles
Lake of the Isles Lutheran
St Pauls Episcopal
Tyrone Guthrie Theatre & Walker Art Center
Lake Calhoun
Lake Harriet
Wirth Lake
Glenwood Ave
Laurel Ave.
Lake Street
C.M.St.P.& P.
B.N.R.R.
M.N.& S. RY.
C.& N.W. RY.
Mississippi River
Lyndale Ave.
Hennepin Ave.
Vernon Ave.
Xerxes Ave.
Emerson Ave.
Bryant Ave.
Penn Ave.
Morgan Ave.
James Ave.
Douglas Ave.
Boone Ave.
Pennsylvania Ave
Wirth Lake
Sweeney Lake
Twin Lake
Bassett Creek
Minnehaha Creek
Nine Mile Creek
Purgatory Creek
Shady Oak Lake
Glen Lake
Birch Island Lake
Lotus Lake
Duck Lake
Round Lake
Bryant Lake
Wood Lake
Lake Minnetonka
Mooney Lake
Hilltop
Golden Valley Community Service Senior Residence
Golden Valley Lutheran
Church of the Good Shepherd
Bookview Community Center
Betty Crocker Drive
Turners Cross road
Jersey Ave.
Zachary
Flag Ave
Texas Ave
Louisiana Ave
Hampshire Ave
Dakota Ave
Ottawa Ave.
Quebec Ave.
Woodale Ave.
Monk
Excelsior
36th St.
36th Ave. North
Minnetonka Blvd.
Shady Oak Rd.
Minnetonka Ave.
Mills
12th
11th
Plymouth Rd.
Baker Road
Hennepin Country Home School
Glen Lake State Sanatorium &
Hennepin Avenue Methodist
Minnehaha Creek
McGinty Road
Lake Minnetonka
Tonka Athletic Club Members Only
Minnetonka Racquet Club
Minnetonka City Offices Administrative Offices Police
Hopkins City Offices City Hall Fire Police & Recreation
Ridgedale
Oak Knoll
Lake Minnetonka
Lake Harriet
Lake Calhoun
Lake of the Isles
Brownie Lake
Cedar Lake
Wirth Lake
Medicine Lake
Mooney Lake
Parkers Lake
Hilltop
Glen Lake
Shady Oak Lake
Birch Island Lake
Lotus Lake
Duck Lake
Round Lake
Bryant Lake
Wood Lake
Nine Mile Creek
Purgatory Creek
Minnehaha Creek

Historic Sites

No sites on the National Register of Historic Places are adjacent to the freeway corridor. Nearby sites in the suburban communities along the corridor are the Wayzata Depot; the Saint Louis Park Station, in Jorvig Park; and the Burwell House in Minnetonka Mills, now a part of the city of Minnetonka. All of these sites are at least a mile from the freeway corridor.

In Minneapolis, the Charles Martin House is in the Kenwood neighborhood. Two of three blocks from the I-394 corridor, this site is quite remote because of its high location on Lowry Hill and the lack of nearby street access to the freeway.

These historic sites and others in the vicinity are shown on the Parks and Recreation Figure 15 on page 121.

Fire and Police Protection

Each community along the freeway corridor has its own fire and police departments. Existing US-12 divides the service area in each case. Three fire stations and one police headquarters are within the primary impact area, but none are adjacent to the highway corridor.

The stations and service areas are shown on the Fire and Police Protection Figure 19 on page 137.

The vast majority of the primary study area is protected by a five-minute response time by both fire and police departments. One exception, with a ten-minute response time for fire protection, is the area in Minneapolis that is south of US-12 and west of Cedar Lake. It is served by a fire station north of US-12; the Penn Avenue and/or Wirth Parkway bridges spanning US-12 are essential to maintain this service.

The entire study area is urbanized and is served by the usual urban utilities of electric power, natural gas, phone service, water, and storm and sanitary sewer systems. Minneapolis and Golden Valley obtain their water from the Mississippi River, but the other communities obtain their supplies from wells. Some residential and commercial users have their own wells. The storm sewers ultimately empty into the Mississippi River and Bassett and Minnehaha Creeks. The sanitary systems empty, after treatment, into the Minnesota and Mississippi Rivers.

Although some of these utilities will be relocated, none should be disrupted by the construction or operation of US-12/ I-394.

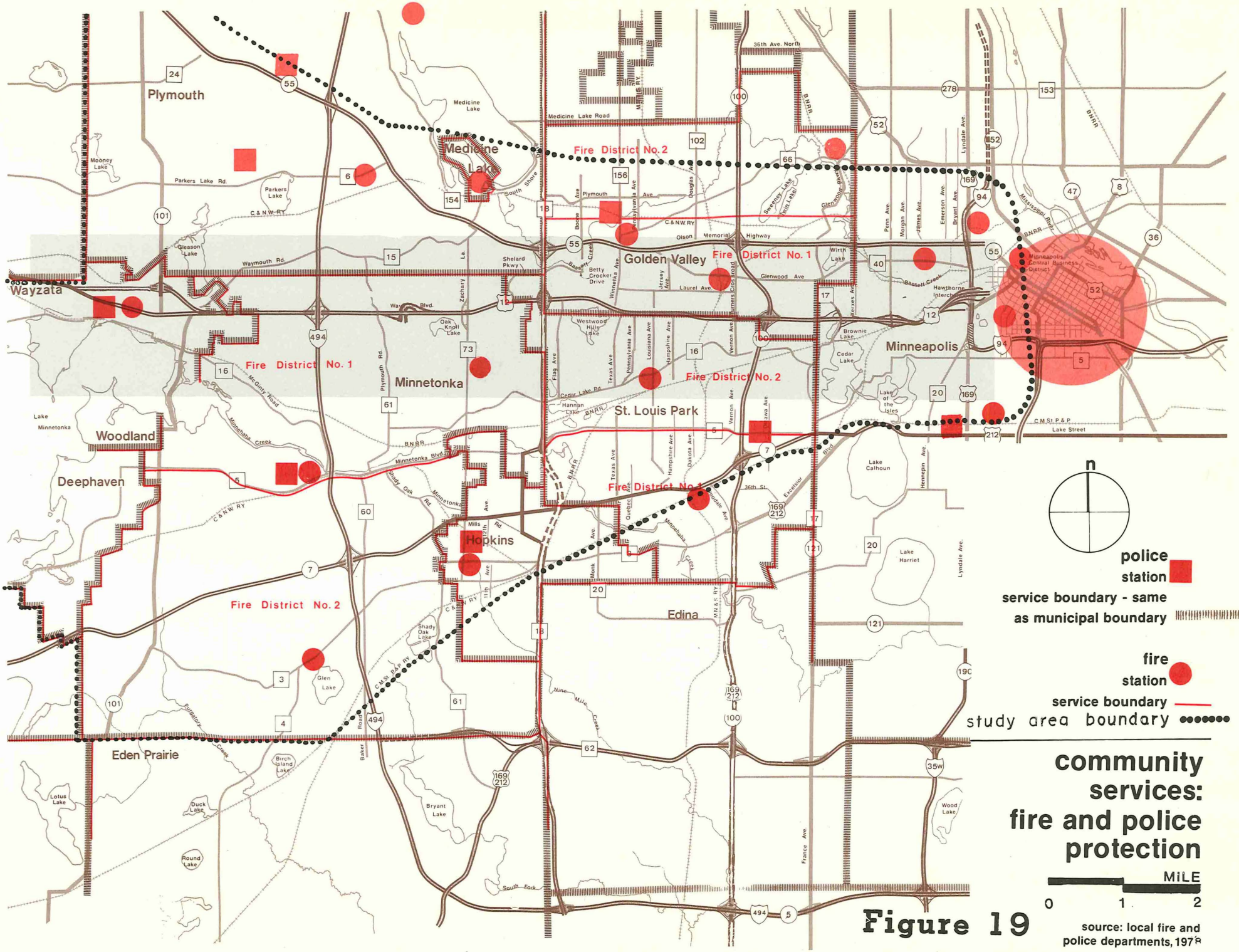

Plymouth
Medicine Lake
Wayzata
Golden Valley
Minneapolis
Minnetonka
St. Louis Park
Woodland
Deephaven
Hopkins
Edina
Eden Prairie
Fire District No. 1
Fire District No. 2
Fire District No. 1
Fire District No. 2
Fire District No. 1
Fire District No. 2
police station
service boundary - same as municipal boundary
fire station
service boundary
study area boundary
community services: fire and police protection
MILE
0 1 2
source: local fire and police departments, 1978

Figure 19

Existing US-12 serves as a major economic corridor. Major office, commercial, and industrial development has occurred along this route in the past twenty-five years. Early development created the demand for more service and amenities, which led to continuing development. The many businesses along US-12 reinforce and serve each other and also serve the nearby residential neighborhoods, the entire western sector of the metropolitan area, and, to some extent, all of the metro area and even beyond.

The major developments are shown on the Commercial and Office/Industrial Development Figure 20 on page 141.

Large Employers

Among the larger individual employers along US-12 are Prudential, Gambles, Honeywell, and General Mills. The North Central Home Office of the Prudential Insurance Company is located along the segment in Minneapolis, and employs more than 1500 people. The Saint Louis Park segment serves the Gamble-Skogmo administrative office with its 1200 employees, and the Honeywell manufacturing facility that employs about 1000 people. The corporate headquarters of General Mills is located along the Golden Valley segment of the corridor; it now employs about 2000 people, with employment eventually expanding to as many as 3500. In addition, about 150,000 people visit this institution each year.

Shelard Park

Shelard Park is a multi-purpose development in Saint Louis Park, in the northwestern quadrant of the US-12/CR-18 interchange. This development includes three prime office buildings, two of eight floors and one of twenty; several large restaurants; a three-theater complex; a 400-unit apartment complex; and a condominium development. Eventually there may be as many as 1500 apartment units on this 88 acre site. A hotel is also planned.

Ridgedale Center

Ridgedale Shopping Center, at US-12 and Plymouth Road in Minnetonka, has four major department stores and about a hundred smaller shops in its approximately one-million square feet. This center is on an 85-acre site with staellite development including three other shopping centers. It is expected to eventually generate as many as 63,500 vehicle trips per day.

Carlson Center

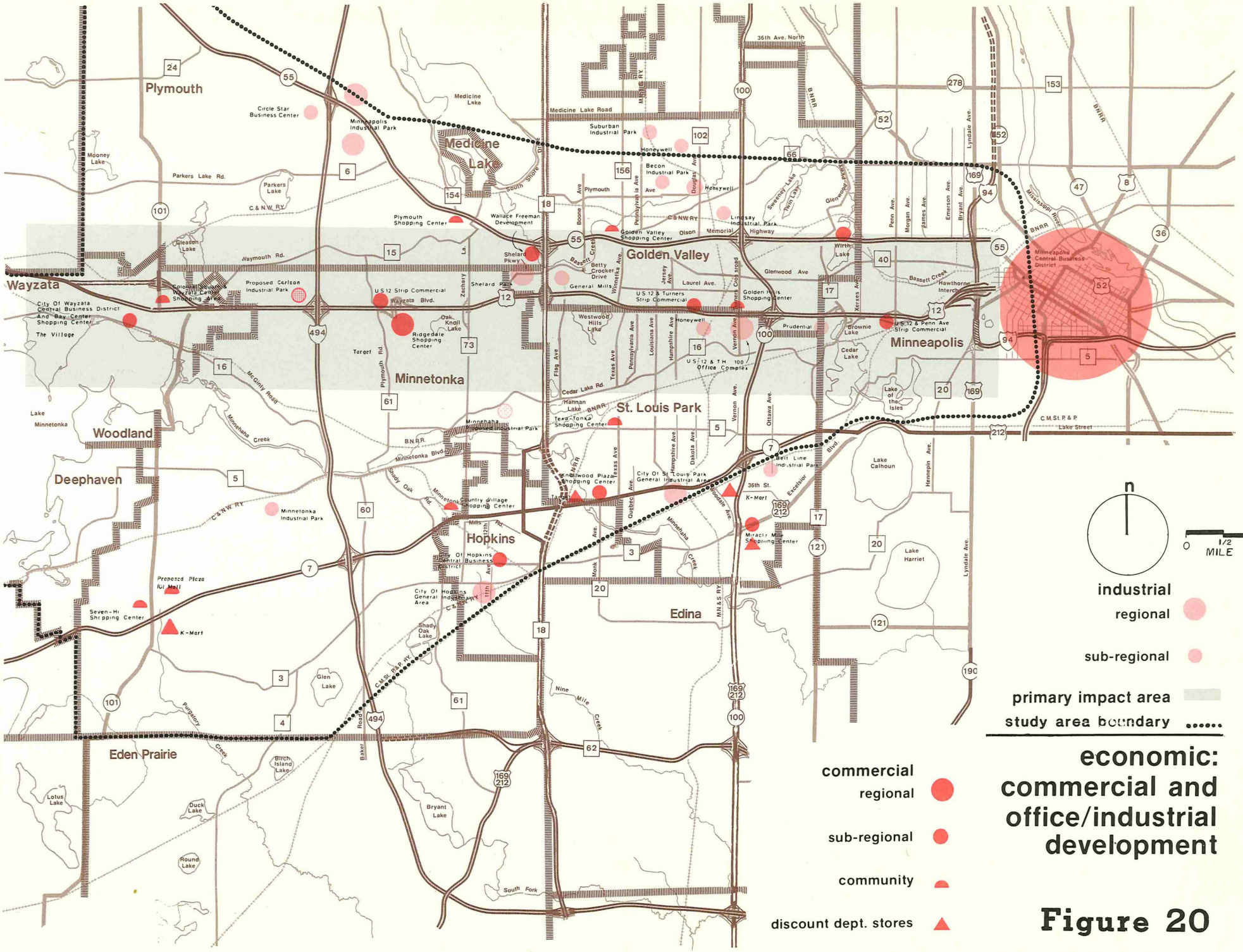
Though not yet built, Carlson Center is planned as a multi-purpose complex on over 300 acres in Plymouth and Minnetonka. It will be adjacent to US-12 on the north side, and on both sides of I-494. The complex will include low, medium, and high-density residential areas as well as office, commercial, recreational, warehouse, and industrial areas. The Carlson Company will have their corporate headquarters there, and also a hotel and conference center.

Smaller Employers

Aside from these large employers and business centers, much of US-12 is lined with many types of offices, shops, restaurants, theaters, service stations, banks, stores, motels, auto dealerships, and other businesses.

Downtown Development

US-12 serves not only the suburbs but, of course, the Minneapolis CBD. Despite the suburban development, the CBD is thriving. Many large new office buildings, hotels, and condominiums are now being planned, built, or completed in the CBD. Two very large developments are also now being built: the Pillsbury-First Bank complex and the City Center. The Pillsbury-First Bank complex covers one city block and is comprised of two atrium-connected office towers, one 22 and one 40 storys tall. The City Center is an office/retail/hotel complex that will cover one and one-half city blocks and will feature a 50-floor office tower. Also, the Hubert H. Humphrey Metrodome, a sixty-thousand seat domed stadium at the east edge of the CBD, will be open in the spring of 1982 for the Twins and the Vikings.



economic: commercial and office/industrial development

Figure 20

Labor Force

Of the six communities directly affected by I-394, Minneapolis, Golden Valley, Saint Louis Park and Wayzata are considered labor import areas because they contain more jobs than labor force. Substantially more people commute into these cities to work than commute out. Plymouth is considered balanced; its employment base is approximately equal to its labor force. Minnetonka is considered a labor export area, with more workers than jobs.

LAND USE PLANNING

Planning and development of the seven county metropolitan area is coordinated by the Metropolitan Council, an agency created for that purpose in 1967 by the Minnesota Legislature. The Legislature also charged the Council with the preparation of a comprehensive development guide for the metropolitan area, and the Governor designated the Metropolitan Council as the official Metropolitan Planning Organization. The Metropolitan Development Guide adopted by the Council consists of policy statements, goals, standards, and programs which serve as a regional plan for the physical, social, and economic development, both public and private, of the area. In most cases, the specifics of the plan are left to the individual communities.

Comprehensive municipal planning is a relatively new activity for the communities, except Minneapolis, in the study area. All of the municipalities, however, have either developed comprehensive plans or are in the process of developing or revising such plans. The Land Use Planning Act of 1976 required that all of the 189 municipalities and townships in the metropolitan area must develop and submit their plans to the Metropolitan Council for a consistency finding with the Development Framework. The Metropolitan Council has the authority to modify these municipal plans if they are not consistent with metropolitan-wide planning.

The Metropolitan Development Guide does call for limiting future urban development to areas where the essential services such as water and sewers are already inplace or planned. The intent is to keep urban development concentrated around the central area where it can be most efficiently served

by the various necessary urban systems, as opposed to letting it spread randomly throughout the entire area. Random urban development spread over an unnecessarily wide area would greatly multiply the cost in both money and natural resources of providing the necessary services such as transit, roads, and sewer systems.

The Existing and Future Land Use Figures 21 and 22 on pages 145 and 147 show development patterns.

Existing Land Use

Currently, less than half of the total study area is either vacant land or farmland. In the older suburbs of Golden Valley, Saint Louis Park, and Hopkins, vacant and agricultural lands account for only about one-fifth of the area. The farm land consists of small truck-farms and hobby farms, not large farms. There is no prime agricultural land within the study area.

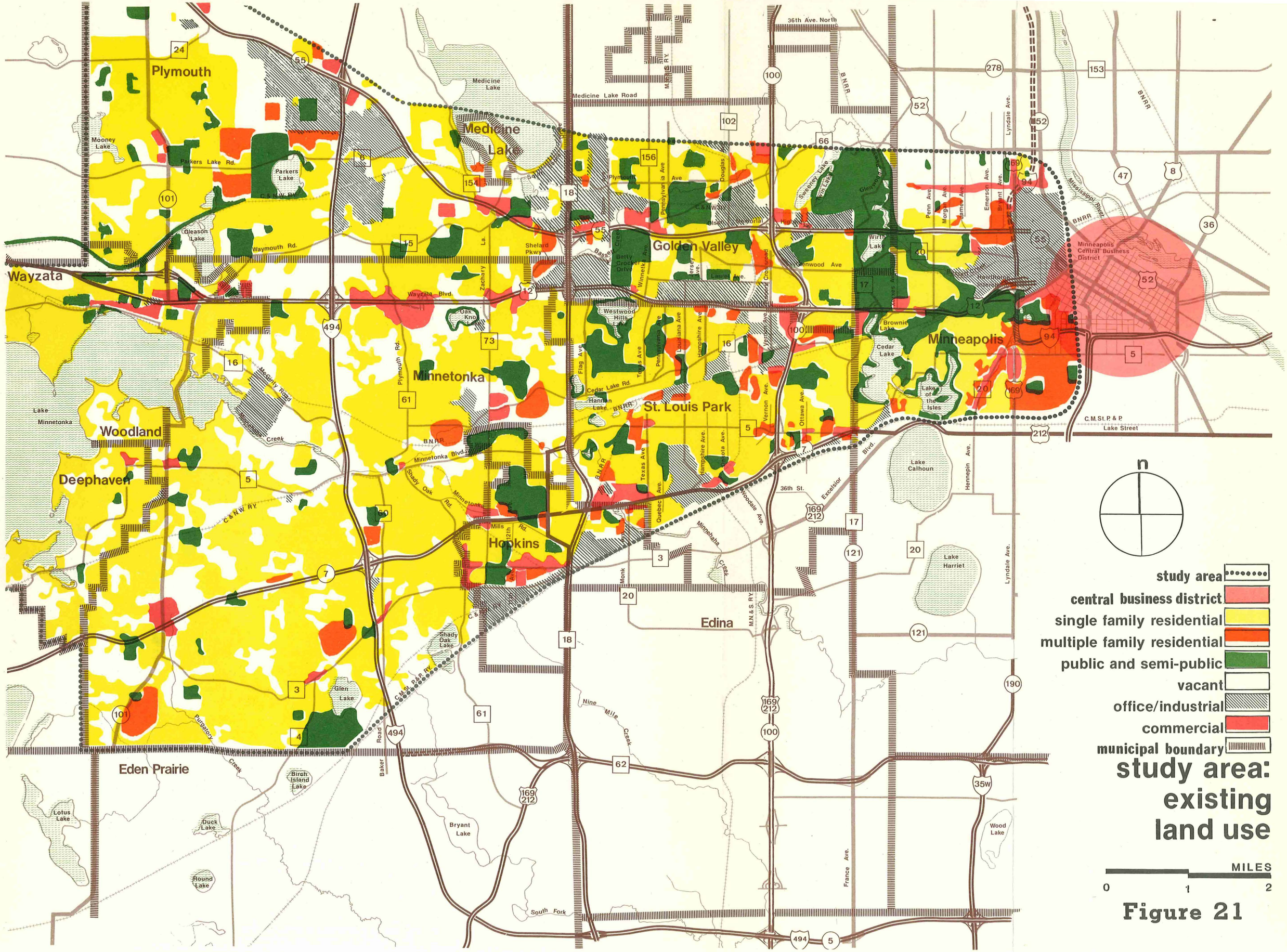
Most of the rural and undeveloped land is in the newer suburbs to the west. It comprises from about three-tenths of Minnetonka to four-tenths of Deephaven and Woodland.

Most of the commercial and industrial land uses in the study area are concentrated along the major transportation arteries: I-494, US-12, SR-100, SR-55, SR-7, and CR-18. Commercial and industrial land use currently comprises about seven percent of the total study area.

Future Land Use

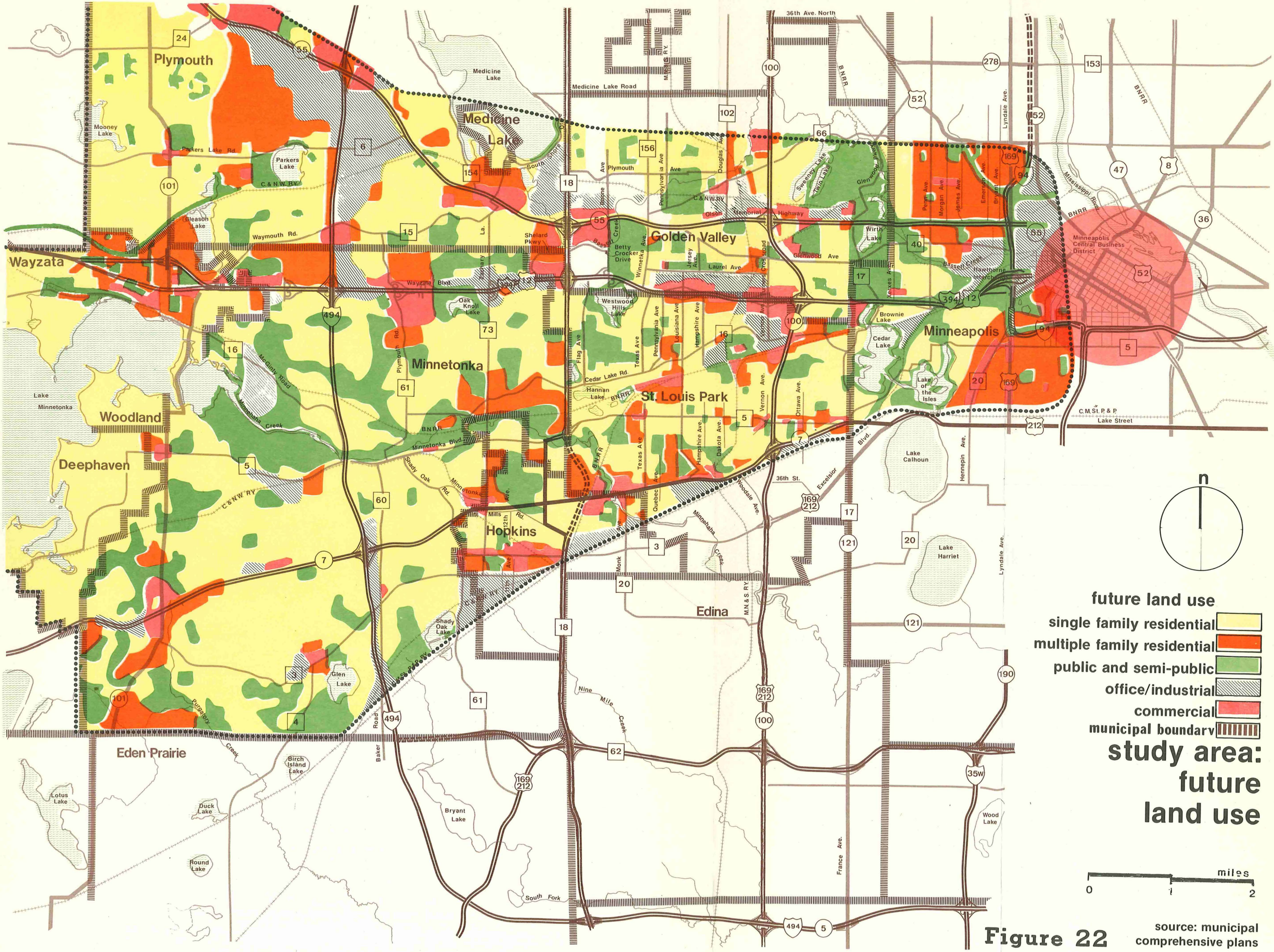
The future land use plans of the various communities generally call for the preservation of existing single-family residential areas, development of multiple-family units near or in conjunction with major activity centers, and continued concentration and expansion of commercial and industrial areas along the major transportation corridors.

The entire study area is already within the Urban Service Area, so will urbanize whether I-394 is built or not. That is what the Metropolitan Council calls for and plans for. Almost all of the urban systems already exist in the area. Urbanization of this area will save resources and money compared to the development of the more



study area: existing land use

Figure 21


Plymouth
Medicine Lake
Medicine Lake Road
36th Ave. North
Mooney Lake
Parkers Lake Rd.
Parkers Lake
C & N.W. RY.
Gleason Lake
Waymouth Rd.
Wayzata
Wayzata Blvd.
Shelard Pkwy
Golden Valley
Betty Crocker Drive
Oak Knoll Lake
Westwood Hills Lake
Minnetonka
Plymouth Rd.
McGinty Road
Minnehaha Creek
Lake Minnetonka
Woodland
Deephaven
Minnetonka Blvd.
Shady Oak Rd.
Hopkins
Mills
12th Ave.
Cedar Lake Rd.
Hannan Lake
St. Louis Park
Flag Ave
Texas Ave
Louisiana Ave
Pennsylvania Ave
Hampshire Ave
Vernon Ave.
Ottawa Ave.
Dakota Ave.
Quebec Ave.
Minneapolis
Brownie Lake
Cedar Lake
Lake of the Isles
Lake Calhoun
Lake Harriet
Wirth Lake
Bassett Creek
Hawthorne Interchange
Minneapolis Central Business District
Mississippi River
BNRR
Lyndale Ave.
Hennepin Ave.
Lake Street
C.M.St.P.&P.
Sweeney Lake
Twin Lake
Glenwood Ave
Laurel Ave
Olson Memorial Highway
Edina
Nine Mile Creek
Monk Creek
Minnehaha Creek
Shady Oak Lake
Glen Lake
Eden Prairie
Purgatory Creek
Baker Road
Birch Island Lake
Lotus Lake
Duck Lake
Round Lake
Bryant Lake
South Fork
Wood Lake
France Ave.
Excelsior Blvd.
36th St.
Jersey Ave.
Winnetka Ave.
Douglas Ave.
Penn Ave.
Morgan Ave.
James Ave.
Emerson Ave.
Bryant Ave.
Xerxes Ave.
Toledo Road
Glenwood Ave
Pennsylvania Ave
Plymouth Ave
Bassett Creek
Shelard Pkwy
Zenith
La.
Oak Knoll Lake
Westwood Hills Lake
Hannan Lake
Cedar Lake
Lake of the Isles
Lake Calhoun
Lake Harriet
Wirth Lake
Brownie Lake
Glen Lake
Shady Oak Lake
Birch Island Lake
Lotus Lake
Duck Lake
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Bryant Lake
Wood Lake
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Minnehaha Creek
South Fork
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Ottawa Ave.
Vernon Ave.
Hampshire Ave.
Texas Ave
Louisiana Ave
Pennsylvania Ave
Flag Ave
Plymouth Rd.
Zenith
La.
Shelard Pkwy
Waymouth Rd.
Gleason Lake
Parkers Lake
Parkers Lake Rd.
Mooney Lake
Medicine Lake
Medicine Lake Road
36th Ave. North
Lyndale Ave.
Hennepin Ave.
Lake Street
C.M.St.P.&P.
BNRR
Mississippi River
Minneapolis Central Business District
Hawthorne Interchange
Wirth Lake
Bassett Creek
Sweeney Lake
Twin Lake
Glenwood Ave
Laurel Ave
Olson Memorial Highway
Golden Valley
Betty Crocker Drive
Jersey Ave.
Winnetka Ave.
Douglas Ave.
Penn Ave.
Morgan Ave.
James Ave.
Emerson Ave.
Bryant Ave.
Xerxes Ave.
Toledo Road
Plymouth Ave
Pennsylvania Ave
Bassett Creek
Shelard Pkwy
Zenith
La.
Oak Knoll Lake
Westwood Hills Lake
Hannan Lake
Cedar Lake
Lake of the Isles
Lake Calhoun
Lake Harriet

remote areas to the west and elsewhere. Concentration of urban development is intended to minimize urban sprawl and to save the valuable open space around the cities.

I-394 and Land Use

The construction of I-394 may accelerate development in both the study area and in areas to the west along US-12. However, since I-394 will be an upgraded replacement on the site of US-12, the generated development will continue to follow the same patterns that now exist, influenced by the existing transportation facilities, consistent with the Metropolitan Council's Development Framework Plan.

The Metropolitan Council supports the construction of I-394 as a necessary transportation facility to serve the rapidly growing western suburbs. The following is an excerpt from the Report of the Physical Development Committee: Referral Report Number 71-73 (Reconsidered) as it was amended and adopted by the Metropolitan Council on May 23, 1974, in response to the publication of the DEIS.

> The Physical Development Committee unanimously passed the following motions and recommends their adoption by the Council:
>
> 1) a) Under its review and comment authority on the EIS for this project and its A-95 review authority, the Council recommends that this project proceed subject to comments contained on pages 13 through 19 of the staff report to the Physical Development Committee.
>
> b) Under the 1974 Metropolitan Reorganization Act, the Council has reviewed this proposal and finds it consistent with the Metropolitan Development Guide.
>
> c) Under Session Laws 1974, Chapter 574, the Council finds a need to provide exclusive lanes for buses and multi-passenger vehicles within this project.

2) There is a need for a freeway between I-94 in Minneapolis and I-494 in Minnetonka and it should be constructed along Highway 12.

3) The Council further recognizes that the I-394 project is included in the Council's 1980 Principal Arterial Plan of the Development Guide and therefore requests the Department of Highways to place high priority upon this project, with the objective of I-394 being operational by 1980.

4) Based on present information the freeway should be financed with Federal Interstate funds but this decision will be reevaluated by the Metropolitan Council prior to July 1, 1975. [This has not changed.]

5) Finding that the recommendations of the Physical Development committee are essentially consistent with the adopted resolution of the I-394 Citizens Advisory Committee.

6) The Metropolitan Council requests the Minnesota Department of Highways, the Metropolitan Transit Commission, the Federal Government and other affected agencies and governments to specifically follow all the Council's adopted policies in the design of Interstate 394, and particularly the Transportation Guide Chapter.

Since the addition of I-394 to the Interstate System in 1968, and especially since the selection of the US-12 corridor for its route in 1974, all of the cities along the route have made their plans on the assumption that US-12 would be upgraded to a freeway. Even those opposed to I-394 in part or in total recognized the need for an improved Highway 12. Civic planning, therefore, including the planning of street systems and the planning of public and commercial development along the corridor, has been done taking into account that the existing highway would eventually be a freeway, whether its designation was to be I-394 or US-12.

Mn/DOT has developed the project in cooperation with city officials, the task forces, and, through public meetings, the citizens themselves. The Metropolitan Council and the Metropolitan Transit Commission have also assisted in the planning.

Mn/DOT has taken into account the preferences of the cities for the locations and the layouts of the land-access interchanges. The cities have reserved space along US-12 for future interchanges at the busy intersections of Plymouth Road, Louisiana Avenue, and Vernon/Xenia Avenues. Carlson Properties, the cities of Plymouth and Minnetonka, and Mn/DOT have all participated in the planning of the Carlson Parkway interchange.

A further example of joint development is the selection of Boone Avenue as the location for a critically needed land-access interchange.* Over the years of project development, Mn/DOT has worked very closely with the City of Golden Valley in identifying their needs and incorporating them into the preliminary plans. Early studies indicated that Winnetka Avenue was the best location for a land access interchange in this area. However, in the course of their land use planning, Golden Valley has determined that Boone Avenue would be a more appropriate location. This interchange will then better serve the needs of the office/commercial complex to

*Other than the freeway-to-freeway interchange at CR-18, there is no access to adjacent development between Louisiana Avenue and CR-73, a distance of about 2.5 miles.

the south and the General Mills, Shelard Park, Brookview Recreation area to the north. Through this cooperative effort, the Boone Avenue interchange will then alleviate a potentially devastating traffic circulation problem within the City of Golden Valley.

Golden Valley made a traffic impact study which included recommendations regarding the frontage road system; most of the recommendations were adopted by Mn/DOT. The location and layout of the frontage road systems in the other cities has also been done with their cooperation to meet their needs.

The Golden Valley Park and Recreation Department and the Minneapolis Park and Recreation Board have had numerous opportunities to review the proposals and have made many recommendations, most of which have been incorporated into the design of the project.

ENVIRONMENTAL CONSEQUENCES

AIR QUALITY IMPACT

Federal Air Quality Requirements

Air Quality is a continuing item of concern at local, state and national levels. The Air Pollution Control Act of 1955, the Clean Air Act of 1963 and the Air Quality Act of 1967 provided technical advice, grants and some controls under the direction of the Department of Health, Education and Welfare (HEW). The 1970 Presidential Reorganization Plan No. 3 put air quality concerns under the direction of the EPA. The 1970 Clean Air Act Amendments expanded the Federal Government's EPA involvement in air quality and required State Implementation Plans (SIP's) from each state to demonstrate how the state planned to meet and maintain the air quality standards.

The 1970 Federal-Aid Highway Act led to the Federal Highway Administration's (FHWA) issuance of Federal Aid Highway Program Manual (FHPM) 7-7-9 air quality guidelines. FHPM 7-7-9 requires that air quality considerations follow certain procedures in order to assure that the planning, location and construction of highways are consistent with the approved SIP.

I-394 Air Quality History

On March 20, 1974, the U.S. Environmental Protection Agency (EPA) reviewed a Draft Environmental Impact Statement (DEIS) for proposed US-12/I-394. Their comments on the DEIS indicated "a potential for significant air quality impacts and violation of the Transportation Control Plan for the Minneapolis Central Business District." After significant changes in the state-of-the-art, Mn/DOT submitted a revised air quality analysis contained in its July, 1977 Air Quality Report. Addendums to this report were sent out in September, 1977 and again in January, 1978.

The 1977 report, with addendums, was reviewed by both the EPA and the Minnesota Pollution Control Agency (MPCA). All

but two issues were resolved in the revised report. Those two issues were:

1. Park-and-ride facilities along with high-occupancy-vehicle-lanes should be considered in the design of the freeway.

2. The analysis contained in the report did not reflect current changes that were taking place in motor vehicle emissions factors.

On December 6, 1979, air quality personnel from Mn/DOT met with air quality personnel from MPCA to discuss the preparation of a new air quality report. Some of the topics discussed during this prior consultation were park-and-ride-sites, critical receptor locations, high-occupancy-vehicle-lanes, time frame of report, and background monitoring data.

In November, 1980, Mn/DOT completed another, more detailed Air Quality Report and submitted it to FHWA for review and comment. Upon completion of their review, FHWA requested submittal of the report to the appropriate air quality agencies (EPA and MPCA). However, further submittal was delayed pending recommendations from the Metropolitan Council on specific matters concerning the overall design of I-394. Also, in February, 1981, EPA published a revised emission rates table (Mobile II). The 1980 Air Quality Report was updated and submitted to EPA and MPCA in October, 1981. Their comments on the Report, along with Mn/DOT's response, are included on the following pages. Briefly, EPA agrees "with the findings of the Air Quality Report that the completion of I-394/US-12 will not violate Ambient Air Quality Standards."

A copy of the Air Quality Report is available for review at the Mn/DOT Golden Valley District Five Office.

In compliance with Minnesota State Regulation APC 19, Permits for Indirect Sources, an application for an indirect source permit will be applied for prior to construction.

The remainder of this air quality section will summarize the methodology and results of the updated 1980 Air Quality Report.

Federal and State ambient air quality standards are listed on page 177 of this section.

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION V
230 SOUTH DEARBORN ST.
CHICAGO, ILLINOIS 60604

REPLY TO ATTENTION OF:

Mr. Richard Braun
Commissioner
Minnesota Department of Transportation
Transportation Building
St. Paul, Minnesota 55155

RE: 74-006-424
(81131)

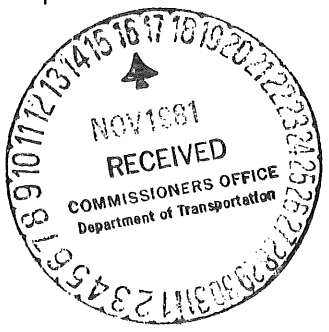
Dear Mr. Braun:

We have completed our review of the Air Quality Report for I-394/US-12, Hennepin County, Minnesota. Your letter of September 29, 1981, requested our comments on the Air Quality Report and the design plans for I-394/US-12.

The Air Quality Report was one of the most thorough analyses we have reviewed. Information on the location and selection of receptors, determination of background concentrations, and the evaluation of future air pollutant levels were all well prepared and well organized in the report. The conclusions which were reached in regard to the potential air quality impacts are appropriate and based upon a reasonable assessment of the data. We agree with the finding of the Air Quality Report that the completion of I-394/US-12 will not violate Ambient Air Quality Standards.

Three design changes have been included as additional mitigative measures to assure attainment of the air quality standards. The exclusive entrance ramps and diamond lanes should encourage car and van pools and reduce traffic volumes. Sites for park-and-ride facilities are still being evaluated at this time. These sites should be easily accessable to the I-394/US-12 and local streets to serve the maximum number of persons. We would appreciate being kept informed on the progress in the selection of the park-and-ride sites.

The only concern which we have in regard to potential air quality effects are those which may occur during construction. The Air Quality Report did not discuss how traffic will be maintained during the construction period, the number of years required to complete the project, or the effects upon air quality during the construction phase. The Supplemental Draft Environmental Impact Statement should include information on these impacts and the detour routes which will be used. An analysis of the air quality for the construction phase may help locate detour routes and avoid adverse impacts at sensitive receptor sites.



We appreciate the opportunity to review this Air Quality Report. Again, our complements to you and your staff for putting together such a thorough analyses. If you have questions in regard to our comments, you may contact Mr. Bill Franz at 312/886-6687.

Sincerely yours,

Barbara Taylor Backley

Barbara Taylor Backley, Chief
Environmental Impact Review Staff
Office of Environmental Review

The proposed project will be constructed in stages and will take approximately 5 years to complete. Staging will be scheduled so that no one section of roadway will be under construction for more than one half of the total construction period. No official detours are anticipated for mainline traffic which will be maintained within the corridor, most likely on one-way frontage roads, during construction.

Fugitive dust (particulates) will be controlled on this project by means of construction adherence to applicable Mn/DOT construction specifications, the project's special provisions, and MPCA regulations. Control measures will include water spraying, calcium chloride applications, and street sweeping.

No significant increase of carbon monoxide concentrations are anticipated during the construction period of this project. A CO analysis was made of the project corridor (along US-12) for the year 1986. It was assumed that mainline traffic would be split using future frontage roads. No violations of the standards were found. No detour will be required due to air quality concerns.

Minnesota Pollution Control Agency

January 5, 1981 82

Mr. Richard Braun, Commissioner
Minnesota Department of Transportation
Transportation Building
St. Paul, Minnesota 55155

Dear Commissioner Braun:

Thank you for providing us the opportunity to review and comment on the Air Quality Report for I-394. Since the Air Quality report and supplements discuss only preliminary designs, the staff is unable to make a final consistency determination.

However, the staff's preliminary determination is that the project would not be inconsistent with the State Implementation Plan provided transit measures (such as high occupancy vehicle lanes and Park/Ride) are included in the design and that the Third Avenue parking facility is completed prior to the completion of I-394. Since the Twin Cities area has been designated nonattainment for carbon monoxide, it is imperative that the proposal include transit measures to insure the attainment of ambient standards.

When it is time to apply for an indirect source permit, both the I-394 project and the Third Avenue Distributor must be included in that application. Please call Susanne Pelly, Transportation Planner, at 296-7739 if you have any questions.

Yours truly,

Louis J. Breimhurst

Louis J. Breimhurst
Executive Director

LJB:jms

cc: David Koski, City Minneapolis
William Crawford, District 5, Mn/DOT
Jim Woodruff, District 5, Mn/DOT
Jim Halvorson, Mn/DOT
Lynn Takemoto, Metropolitan Council
Susanne Pelly, PCA

Phone: 296-7301
1935 West County Road B2, Roseville, Minnesota 55113-2785
Regional Offices • Duluth/Brainerd/Detroit Lakes/Marshall/Rochester
Equal Opportunity Employer

Transit provisions for I-394 are included in the design. Those provisions include reversible lanes and diamond lanes which will give priority to high-occupancy-vehicles such as buses, carpools, and vanpools during peak hours. Also included in the project are park-and-ride sites.

The I-394, Third Avenue Distributor has been designed to accommodate 3 proposed parking facilities. The proposed parking facilities are to be constructed by the City of Minneapolis. The following construction/completion schedule is planned:

1. 5th Street Garage - 1984
2. 7th Street Garage - 1986
3. 4th Street Garage - 1988

Carbon Monoxide Analysis

method of analysis

The EPA's interactive computer dispersion model, HIWAY II, was used in determining carbon monoxide (CO) concentrations at all project receptors. HIWAY II is based on a numerical integration along the line source of a simple Gaussian point-source plume.

rates and adjustment factors for vehicular emissions

Vehicular emission rates and emission adjustment factors were derived from EPA's "Guidelines For Air Quality Maintenance Planning and Analysis, Volume 9 (revised), Evaluating Indirect Source, September, 1978." Emission rates were based on the updated (December, 1977) Modal Emissions Model (Kunselman, 1974). The adjustment factors were based on "AP-42, Mobile Source Emission Factors (1978)." The more recent EPA Mobile II (February, 1981) emission rates were applied to the build alternative receptor (#8) having the highest CO concentrations from the original Mobile I analysis contained in the November, 1980 Air Quality Report. Results from both Mobile I and Mobile II analyses are documented in the report. There are no violations of the standards.

assumptions

Predicting CO concentrations at various locations (receptors) for 1990, 2000 and 2010 required many assumptions. "Worst-case" assumptions were used to assure predictions would be conservative on the

high side. "Worst-case" assumptions included low wind speed (one meter per second), neutral atmospheric stability (class D), and a 20°F ambient temperature. Worst case assumptions were also made for wind angle, traffic volume, traffic speed, signal timing, and percent of cold starts. These factors differ at each receptor, and the assumptions are listed with the individual receptors in the appendix of the 1980 Air Quality Report.

traffic

Forecasted traffic volumes used for the project analysis were prepared by the Traffic Forecast Section of Mn/DOT and are contained in their Systems Planning and Analysis Report, M253. M253 contains the estimated year 2000 traffic volumes with adjustment factors for the years 1990 (0.875) and 2010 (1.125). Also contained in M253 is a factor (0.60) for obtaining high consecutive eight-hour volumes. This factor was applied to given average daily traffic (ADT) counts.

background

Background concentrations are those concentrations which already exist in the area without the influence of the local traffic. Background concentrations must be added to the concentrations expected from the roadway under consideration in order to determine total concentrations at a given location. While background concentrations will, in most cases, be a minor part of one-hour totals, they will in many cases be the major portion of an eight-hour total.

The following background concentrations were added to the results of the US-12/I-394 analysis to obtain the total concentrations shown on Figures 23 and 24. These background concentrations were derived from two separate 14-day monitoring projects conducted during the fall of 1979.

TABLE 13: AIR QUALITY BACKGROUNDS

Year	Section	1-hour	8-hour
1990	West of SR-100 East of SR-100	1.5 ppm* 4.0 ppm	1.1 ppm 2.2 ppm
2000	West of SR-100 East of SR-100	1.4 ppm 3.8 ppm	1.0 ppm 2.1 ppm
2010	West of SR-100 East of SR-100	1.6 ppm 4.3 ppm	1.1 ppm 2.4 ppm

*parts per million.

receptors

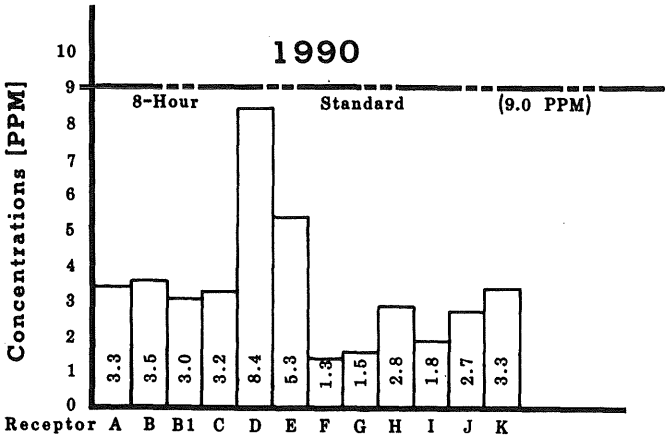
A receptor, as defined for air quality analysis contained in this section, means any reasonable location a person could be expected to occupy for a one or eight-hour period. Build and no-build alternative receptors were analyzed along and within the US 12/I-394 corridor. All receptors were selected at locations where the highest CO concentrations could be expected (critical locations). The air quality study of a proposed project requires the analysis of those locations considered most critical for each alternative. For that reason, receptors considered critical for a no-build alternative may not be considered critical, or may even be removed, under the proposed build alternative. Build and no-build alternative receptors are often selected at different locations.

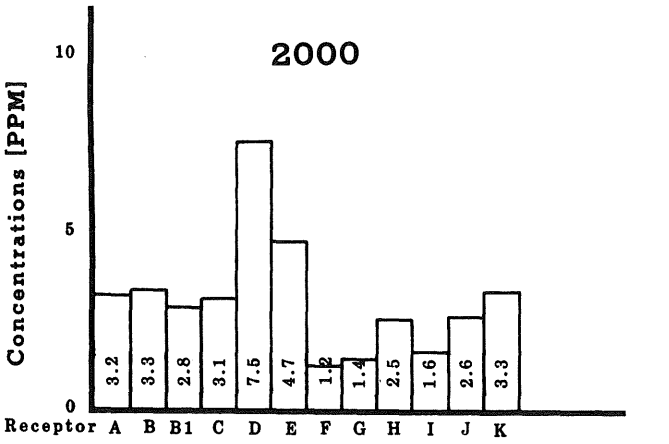
The receptor locations selected for this project analysis can be seen on Figures 25 and 26, on pages 170 through 175.

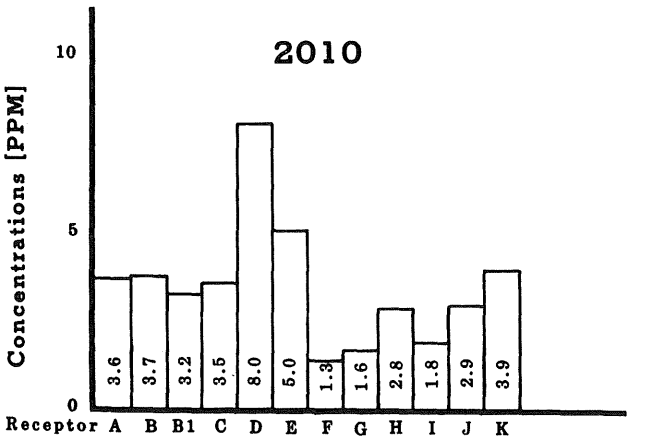
Neither build nor no-build analyses revealed any violations of federal or state standards by 1990. The highest eight-hour CO concentration for the no-build alternative was 8.4 ppm occurring at the intersection of Turners Crossroad and US-12 (receptor D). The highest eight-hour concentration for the build alternative was 7.9 ppm, also occurring at Turners Crossroad and US-12/I-394 (receptor No. 8). Standards for eight-hour concentrations are 9.0 ppm. All one-hour concentrations were well below standards. For results of entire project analysis, see Figures 23 and 24 on pages 165 and 167.

RESULTS OF 8-HOUR CO ANALYSIS★

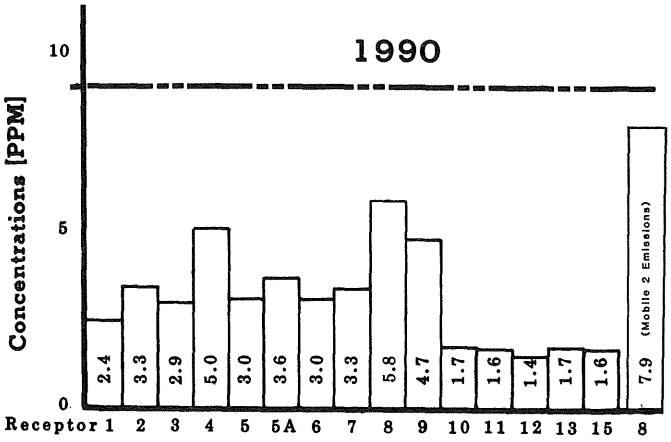
NO-BUILD

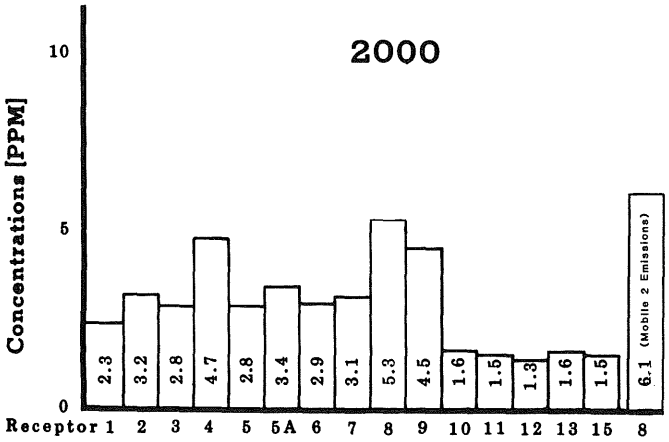


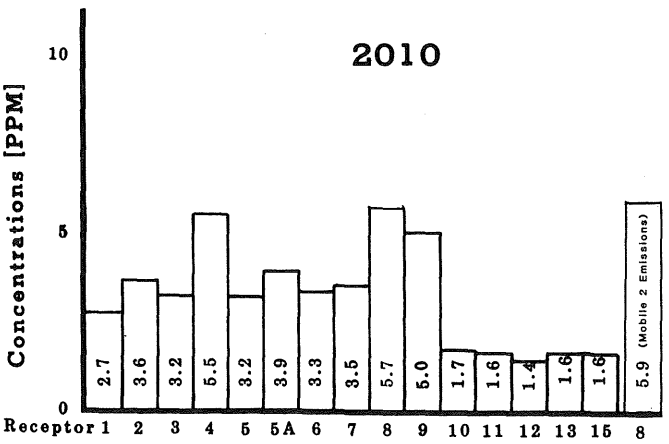




BUILD



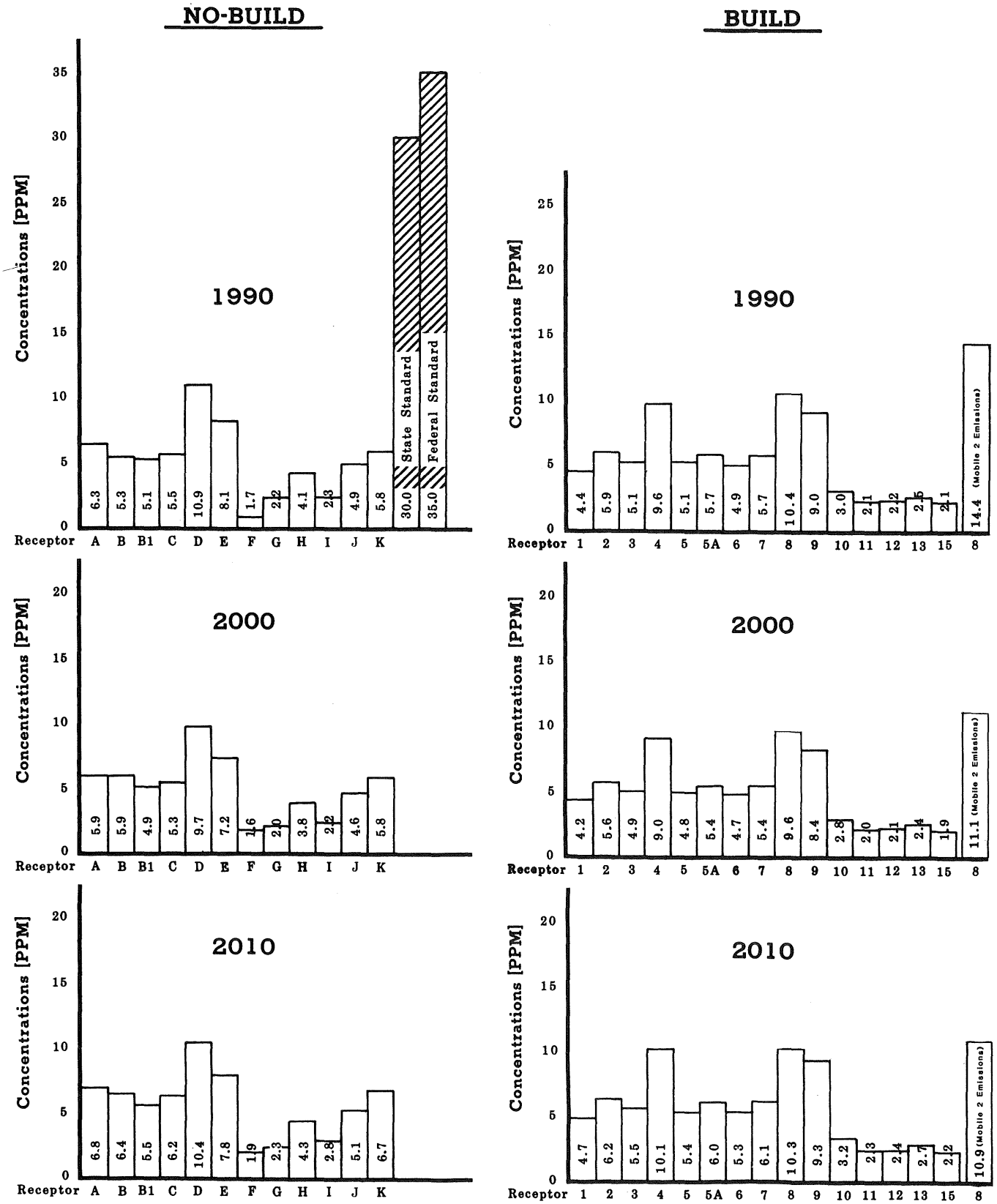




★ Background Concentrations Included

FIGURE 23

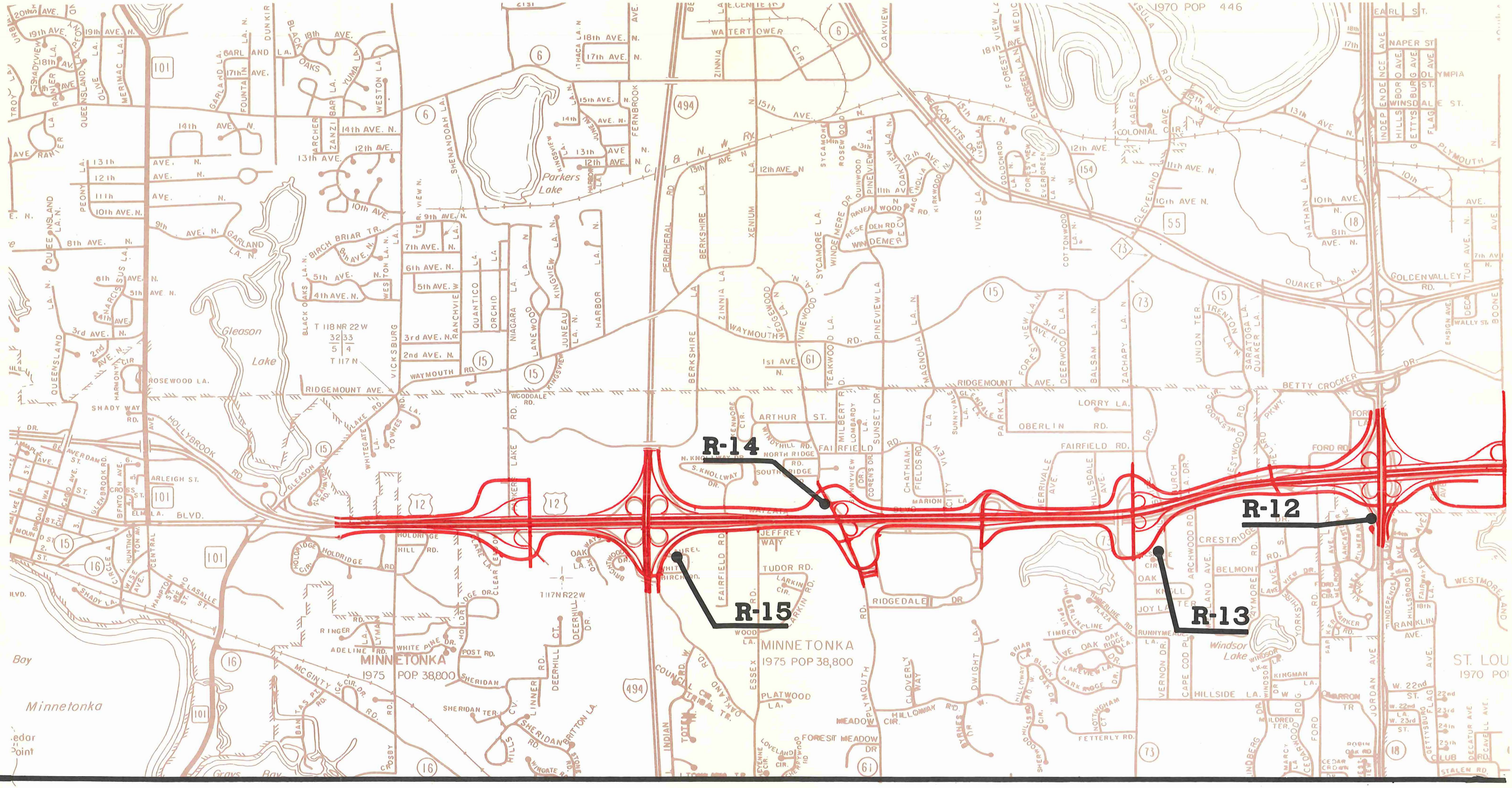
RESULTS OF 1-HOUR CO ANALYSIS★

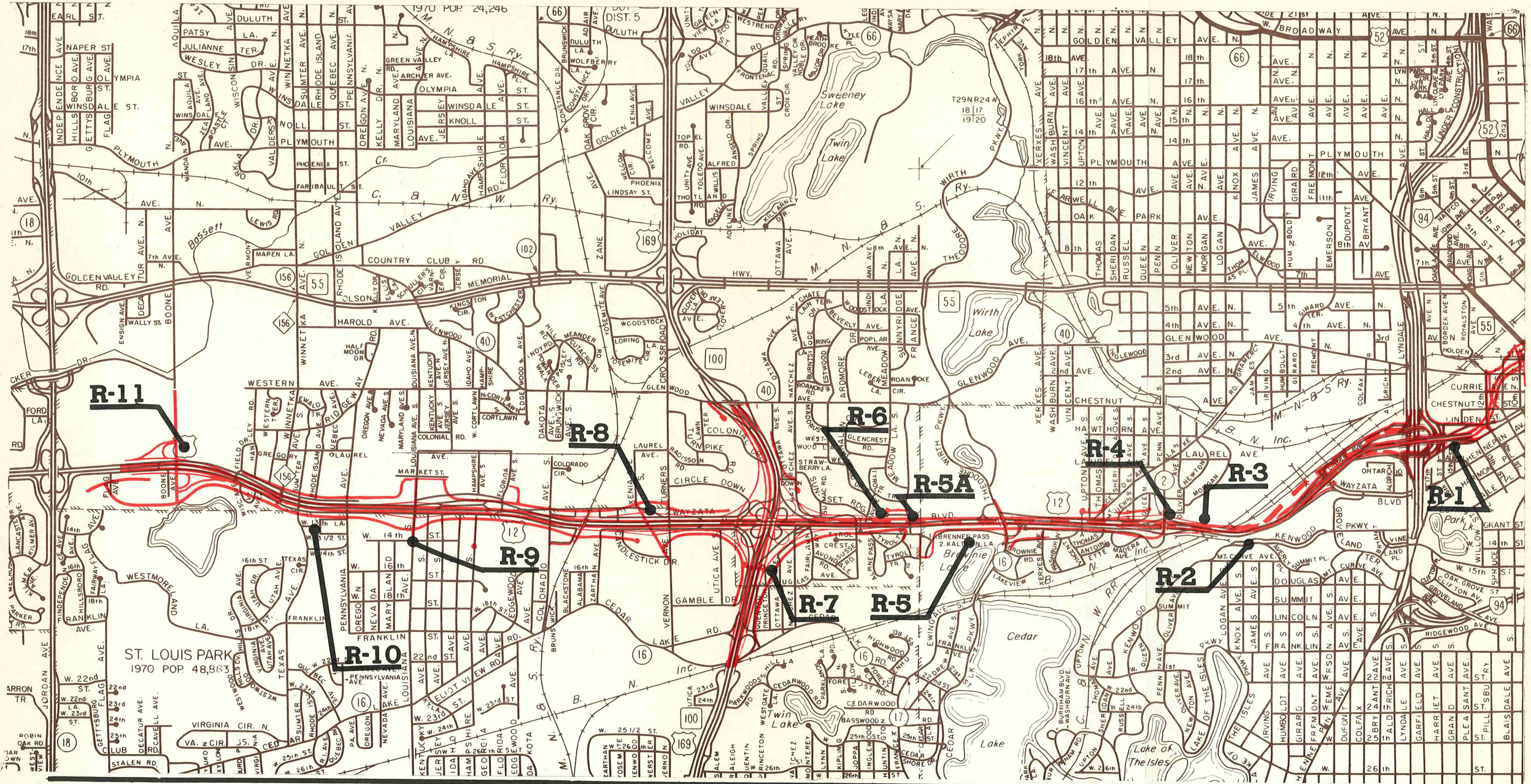


★ Background Concentrations Included

FIGURE 24




R-14
R-15
R-12
R-13
MINNETONKA
1975 POP 38,800
Parkers Lake
Gleason Lake
Windsor Lake
Minnetonka Bay
1970 POP 446
T 118 NR 22 W
32 33
5 4
T 117 N
T 117 N R 22 W
RIDGEMOUNT AVE.
WAYZATA BLVD.
WAYZATA
WAYZATA BLVD.
WAYMOUTH RD.
WOODDALE RD.
SHADY WAY RD.
ROSEWOOD LA.
HOLLYBROOK RD.
HOLDRIDGE RD.
HOLDRIDGE CIR.
HOLDRIDGE HILL RD.
HOLDRIDGE DR.
WHITE PINE DR.
POST RD.
SHERIDAN
SHERIDAN TER.
SHERIDAN RD.
SHERIDAN CIR.
DEERHILL CT.
DEERHILL DR.
ADELINE RD.
RINGER
LYMAN LA.
MC GINTY RD.
MC GINTY CIR.
BANTAS POINT RD.
CROSBY
WHITEGATE LA.
TOWLES
GLEN PARK RD.
GLEASON LAKE RD.
LAKE RD.
ARLEIGH ST.
ELM LA.
BLVD.
GLENBROOK RD.
GLENBROOK AVE.
HUNTINGTON AV.
WISE AVE.
CENTRAL
HAMPTON ST.
LASALLE ST.
CIRCLE A
SHADY LA.
MAPLE AVE.
AVERDAM RD.
MOUND BROADWAY
MOUND ST.
MAYWOOD RD.
MAYWOOD CIR.
ST. ALBANS ST.
ST. ALBANS CIR.
ST. ALBANS BAY
ST. ALBANS



LEGEND

- REVERSIBLE LANES
- TRAFFIC LANE
- RECEPTOR LOCATIONS

Figure 25

AIR QUALITY

I-394

[BUILD]

scale 0 1000' 2000'

north

R-H

R-G

R-F

MINNETONKA
1975 POP 38,800

MINNETONKA
1975 POP 38,800

1970 POP 446

Parkers Lake

Gleason Lake

Windsor Lake

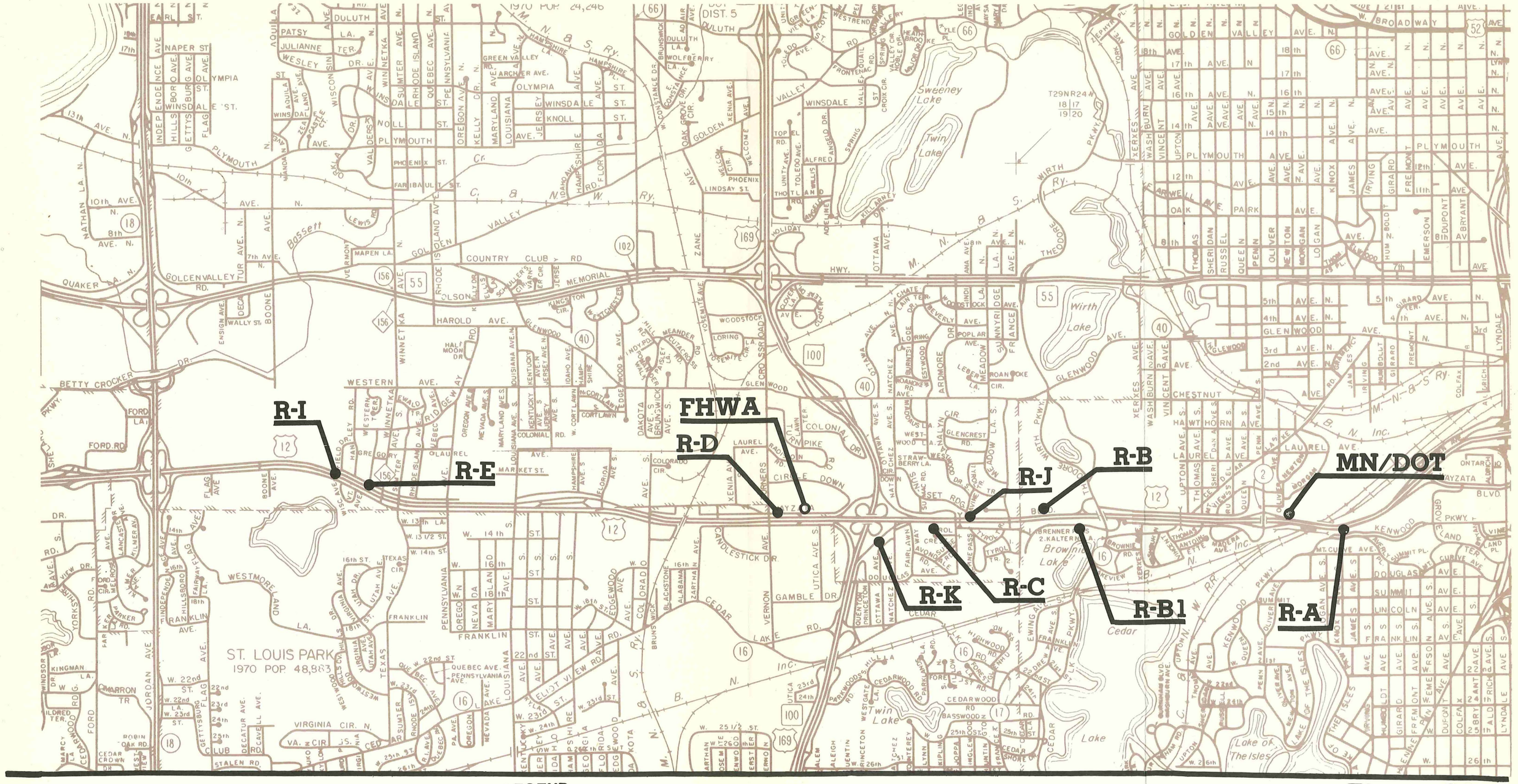
Bay Minnetonka

Grays Bay

T 118N R 22W
32 33
5 4
T 117N

T 117N R22W

ST. LOU
1970 PO



LEGEND

- ○ *MONITOR LOCATIONS*
- ● *RECEPTOR LOCATIONS*

Figure 26

AIR QUALITY

I-394

[NO BUILD]

scale 0 1000' 2000

north

Figure AQ-1

TABLE 14: FEDERAL AMBIENT AIR QUALITY STANDARDS

Pollutant	Standard	
Carbon Monoxide	9 ppm	Maximum 8-hour concentration not to be exceeded more than once per year.
	35 ppm	Maximum 1-hour concentration not to be exceeded more than once per year.
Ozone	0.12 ppm	Maximum 1-hour concentration not to be exceeded more than once per year.
Hydrocarbons	0.24 ppm	Maximum 3-hour concentration (6-9 AM) not to be exceeded more than once per year.
Nitrogen Dioxide	0.05 ppm	Maximum annual arithmetic mean.
Lead	1.5 ug/m^3	Maximum arithmetic mean averaged over a calendar quarter.

TABLE 15: STATE AMBIENT AIR QUALITY STANDARDS

Pollutant	Standard	
Carbon Monoxide	9 ppm	Maximum 8-hour concentration not to be exceeded more than once per year.
	30 ppm	Maximum 1-hour concentration not to be exceeded more than once per year.
Photochemical Oxidents	0.07 ppm	Maximum 1-hour concentration not to be exceeded more than once per year.
Hydrocarbons	0.24 ppm	Maximum 3-hour concentration (6-9 AM) not to be exceeded more than once per year.
Nitrogen Oxides	0.05 ppm	Maximum annual arithmetic mean.

Lead (Pb)

On October 5, 1978, the EPA established a national ambient air quality standard for airborne lead (Pb) concentrations. The standard was set at 1.5 micrograms lead per cubic metre ($ugPb/m^3$) of air, averaged over a calendar quarter. This standard was set to protect the most sensitive part of our population, children, infants up to five years old*.

Currently motor vehicle emissions constitute the major source of lead emissions to the atmosphere. Lead primarily affects red blood cells, the central and peripheral nervous systems, soft tissues such as liver and kidney, and bone.

The EPA has imposed a phaseout of lead additives in gasoline. Compared to the 1975 lead levels, 89 percent of the gasoline will be lead-free by 1985 and 92 percent will be lead free by 1995. With that amount of reduction, lead emissions from the motor vehicle will be insignificant.

project lead analysis

1990 (estimated time of project completion, plus one year) was considered the critical year for the project lead analysis. The results of the 1990 analysis showed minimal amounts of lead concentrations. Future years, such as 1995 or 2000 would be even less.

Although there are no validated line-source models available for estimating lead concentrations along highway corridors, there is a graph-type procedure based on a January 31, 1978 FHWA memorandum**. This procedure was used for the US-12/I-394 build/no-build alternative project air quality lead analyses. The MPCA has reviewed and concurred with this procedure.

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*U.S. Department of Transportation, Memorandum, January 31, 1978.

**FHWA memorandum "Proposed National Ambient Air Quality Standard for Lead" with attachments, January 31, 1978.

background lead concentrations

Two separate analyses must be made to determine total airborne pollutant concentrations at selected receptors. Concentrations resulting from traffic using proposed roadways must be added to concentrations occurring without the influence of those roadways (background concentrations).

Local monitoring is the most accepted means for obtaining background data. The MPCA monitored airborne lead concentrations in the Minneapolis CBD during 1979. Their monitor was located on a roof top between Hennepin and Nicollet Avenues on 3rd Street South. Although not in the project corridor itself, the background data was considered valid for the eastern portion (SR-100 to I-94) of the project.

Information received from MPCA in August, 1980 indicated that the high 1979 quarterly average was 0.75 micrograms per cubic meter (ug/m). Although this included concentrations from local roadways the total amount was used as background. Also, MPCA concurred that a concentration of 0.4 ug/m^3 would be a conservative background estimate for the portion of the project west of SR-100.

Because of the federal phase-out program, the above mentioned background concentrations were reduced by 91 percent to obtain a 1990 background figure.

1990 Lead Background

East of TH 100: $0.75 \times 91\% = 0.07$ ug/m^3
West of TH 100: $0.4 \times 91\% = 0.04$ ug/m^3

receptors

Sixteen receptor sites (eight build and eight no-build) were analyzed along the project route. Receptors were selected at locations that would be subjected to the greatest amounts of lead build up. Care was taken in selecting sites located near high volume intersections, through sections, and areas of environmental interest such as parklands. See layouts on Figures 25 and 26 for receptor locations.

results of project lead analysis

All 1990 project lead analyses for both build and no-build alternatives estimated lead concentrations to be far below the standard 1.5 micrograms per cubic meter as set by the U.S. Environmental Protection Agency. For example, the highest no-build lead concentration (background included) is estimated to be 0.24 ug/m^3 around the Brownie Lake Park area (receptor B1). The highest build concentration is estimated to be 0.33 ug/m^3 around the Brookview Golf Course area (receptor No. 11).

For results of the complete project lead analysis see Figure 27, on page 181.

It is concluded that the area adjacent to the project will not be adversely affected by lead pollution attributable to the motor vehicle.

Total Suspended Particulates (Fugitive Dust)

The seven county Minneapolis/St. Paul area has been designated a non-attainment area for total suspended partiulates (TSP).

At present, Mn/DOT is cooperating with the MPCA in the study of highway related construction as a nontraditional source of fugitive dust. This study will be used to aid the MPCA in their development of control strategies for construction activities. Mn/DOT will assist, wherever possible, in the attainment of the TSP standards. Mn/DOT will comply with MPCA rules and regulations, such as APC 6, in the construction and operation of this facility.

Mesoscale Analysis

The following data was prepared by the Transportation Forecasts Section of Mn/DOT.

The gross emissions (mesoscale) analyses analyzed CO, hydrocarbons (HC), and oxides of nitrogen (NOx) in weighted units of kilograms per day (kg/day). The analysis included both build and no-build alternatives within three geographic areas:

1. Project corridor.
2. Minneapolis Central Business District (CBD).
3. The seven-county metropolitan area.

Geographic areas one and two are pictured in Figure 28, on page 183.

Project Lead Analysis Results

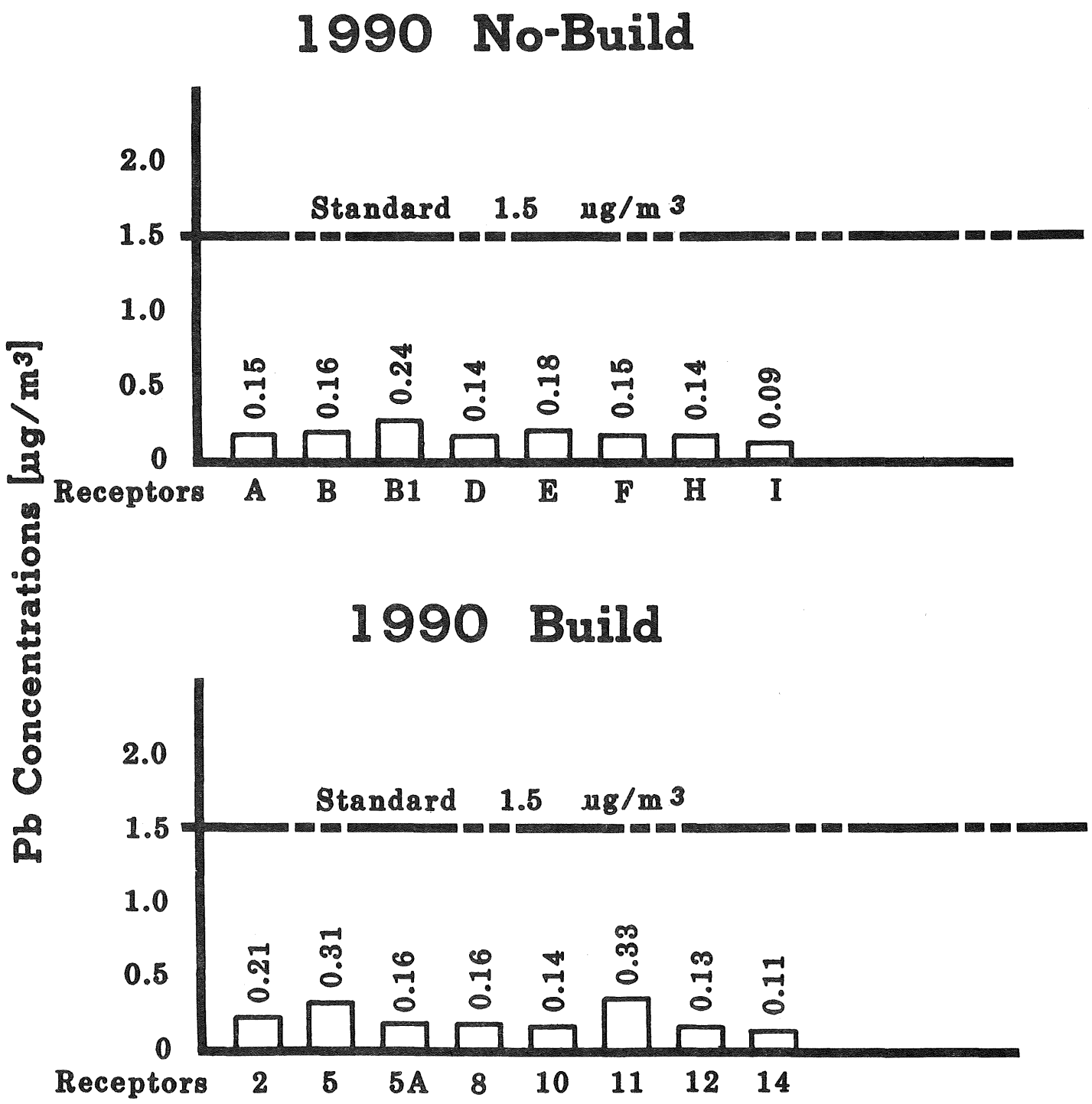
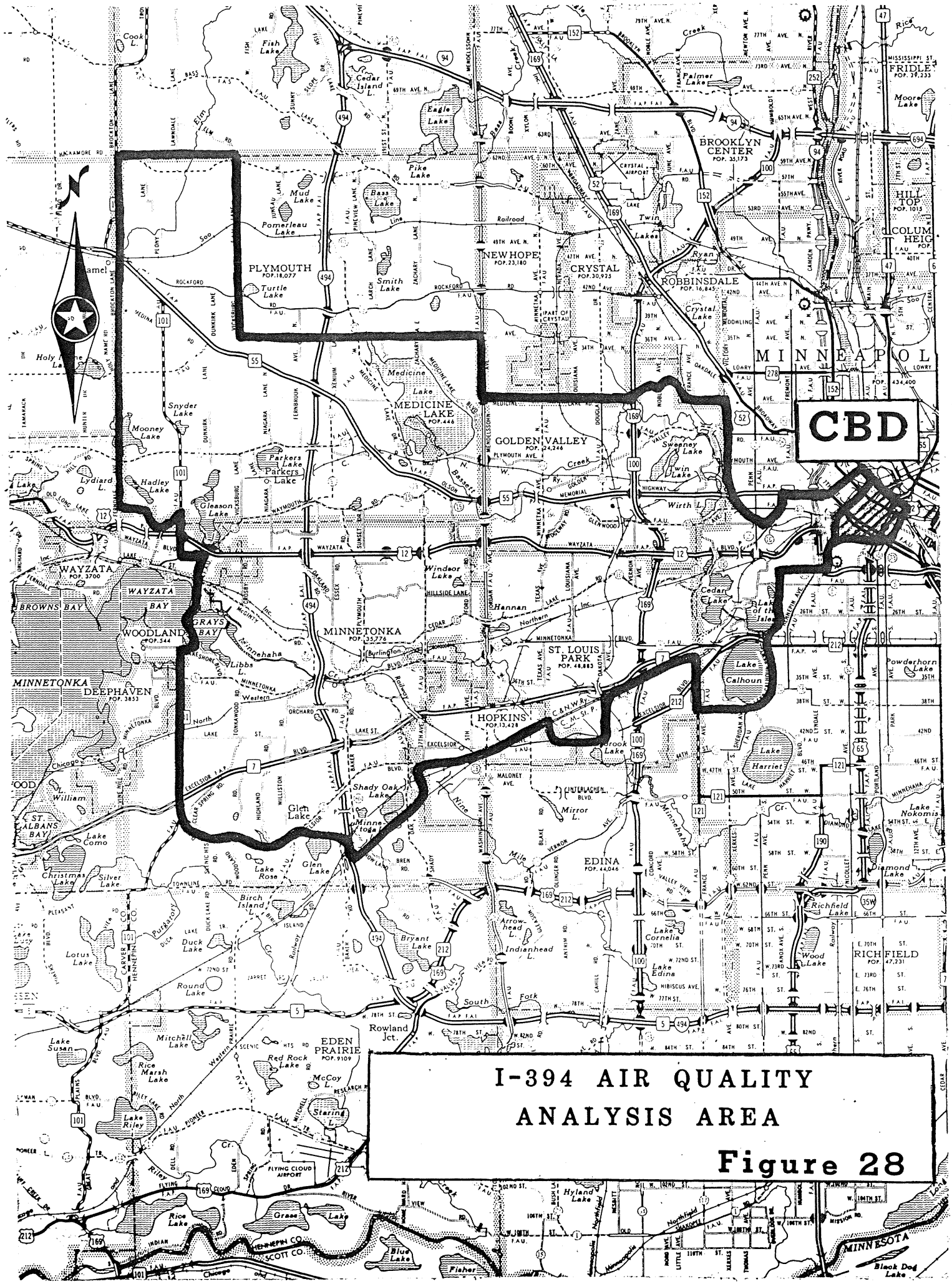


Figure 27


CBD
I-394 AIR QUALITY
ANALYSIS AREA
Figure 28

Emissions were calculated using the SAPOLLUT-SAPLSM pollution package* for the four freeway lanes. The emissions calculations for the reversible lanes were computed manually and added to get total emissions. For the build condition, US-12/I-394 was modeled with the Third Avenue Distributor constructed. For the no-build condition, the present US-12 roadway with no Third Avenue Distributor was modeled.

The emissions were calculated according to vehicular emissions factors published by the U.S. EPA**. The EPA Mobile 1 computer program, which based on this EPA document, was used to make the calculations. Ambient air temperatures used in the calculation are 20°F fall and winter temperatures for CO, and 75°F summer temperatures for HC and NOx. No vehicular inspection maintenance program is assumed in these calculations.

For more information, please refer to the 1980 Air Quality Report.

results

Results of the analysis are shown in Tables 1, 2 and 3 for the years 1990, 2000 and 2010. The results show reductions in HC and CO with the Build alternate. The NOx emissions are higher with the Build alternate except in the CBD where NOx is lower with the Build alternate.

The lowest emissions occur in 1990 compared to 2000 and 2010 for all areas except in the Minneapolis CBD where the HC and CO emissions are lowest in the year 2000. The emissions rates from vehicles will have reached a very low level by 1990. Therefore, there is only a small improvement between 1990 and the year 2000, and no improvement after the year 2000. The expected increases in vehicle miles traveled (VMT) throughout the

*Estimating the Impact on Air Quality due to vehicular emissions resulting from a traffic assignment FHWA, February 1975.

**Mobile Source Emissions Factors: For low altitudes only (EPA-400/9-78-006, March 1978.

period results in higher area emissions in most cases as noted above. However, the area emissions are less than those in 1982 when the Federal Pollutant Standards are to be met. In 1982 the 7-county area emissions of HC are expected to be 116,900 kg/day compared to 57,860 kg/day in 1990, 60,910 kg/day in 2000 and 71,870 kg/day in 2010.

TABLE 16: AIR QUALITY COMPARISIONS

Year 1990 Emissions (kg/day)				
Pollutant	City Area	Build	No-Build	Difference - Build Versus No-Build
HC	Corridor	4,530	4,650	- 2.6%
	Mpls. CBD	352	359	- 1.9%
	7-County	57,860	58,010	- 0.3%
NOx	Corridor	8,630	8,350	+ 3.4%
	Mpls. CBD	234	238	- 1.7%
	7-County	89,510	89,240	+ 0.3%
CO	Corridor	55,200	55,970	- 1.4%
	Mpls. CBD	4,080	4,170	- 2.2%
	7-County	691,320	692,390	- 0.2%

TABLE 17: AIR QUALITY COMPARISONS

Year 2000 Emissions (kg/day)				
Pollutant	City Area	Build	No-Build	Difference - Build Versus No-Build
HC	Corridor	4,870	5,000	- 2.6%
	Mpls. CBD	342	349	- 2.0%
	7-County	60,910	61,060	- 0.2%
NOx	Corridor	9,700	9,380	+ 3.4%
	Mpls. CBD	223	227	- 1.8%
	7-County	99,460	99,160	+ 0.3%
CO	Corridor	57,500	58,300	- 1.4%
	Mpls. CBD	3,680	3,760	- 2.1%
	7-County	712,700	713,800	- 0.2%

TABLE 18: AIR QUALITY COMPARISIONS

Year 2010 Emissions (Kg/day)				
Pollutant	City Area	Build	No-Build	Difference - Build Versus No-Build
HC	Corridor	5,890	6,050	- 2.6%
	Mpls. CBD	359	366	- 1.9%
	7-County	71,870	72,050	- 0.2%
NOx	Corridor	11,740	11,350	+ 3.4%
	Mpls. CBD	234	238	- 1.7%
	7-County	117,360	117,010	+ 0.3%
CO	Corridor	69,580	70,540	- 1.4%
	Mpls. CBD	3,860	3,950	- 2.3%
	7-County	841,000	842,300	- 0.2%

Conclusion

Based on the air quality analysis, Mn/DOT has concluded that proposed US-12/I-394 will be in conformance with the Air Quality Control Plan for Transportation as contained in the revised State Implementation Plan. This conclusion was made because a thorough analysis revealed no violations of either Federal or State established air quality standards. Construction of the proposed facility will aid in the overall reduction of CO and hydrocarbon emissions within the seven county metropolitan area.

This project is in an air quality nonattainment area which has transportation control measures in the State Implementation Plan (SIP) which was approved by the Environmental Protection Agency in June, 1980. The transportation plan is being reviewed by the Federal Highway Administration. The plan will conform to the SIP. The transportation improvement program (TIP) conforms to the SIP. This project was included in the plan and will be included in the TIP, both conforming to the SIP. Therefore, pursuant to 23, CFR 770, this project conforms to the SIP.

This project is consistent with the 1990 Transportation Policy Plan as established and adopted by the Metropolitan Council. Construction and operation of this project will comply with state air quality rules and regulations.

An Indirect Source Permit will be applied for from the PCA prior to construction.

This project is considered to be a Type 1A project (construction or reconstruction of a highway section with full or partial access control) as defined in Federal-Aid Highway Program Manual (FHPM) 7-7-3.

Noise level predictions were obtained for the year 2000 for both the build and no-build alternatives through the use of the FHWA Noise Prediction Model. Existing (or ambient) noise levels were obtained by actual field measurements during the summer of 1978. In Table 21 both the "build" and "no-build" alternative noise levels for the year 2000 are shown, plus the existing noise levels.

The year 2000 noise analysis represents "worst case" conditions for both "build" and "no-build" alternatives. For the daytime predictions, traffic volumes used represent design hourly volume of trucks and the lower of design hourly volume or level of service "C" volumes for autos.

Permitted noise levels vary with the type of land use predominating within an area. Both the Federal government and the State of Minnesota have adopted regulations aimed at controlling noise pollution. The Federal Design Noise Levels are shown in Table 19, as follows:

TABLE 19: DESIGN NOISE LEVEL/LAND USE RELATIONSHIPS----FHWA

Land Use Category	Design Noise Level - L_{10}	Description of Land Use Category
A	60 dBA (exterior)	Tracts of lands in which serenity and quiet are of extraordinary significance and serve an important public need, and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose. Such areas could include amphitheaters, particular parks or portions of parks, or open spaces which are dedicated or recognized by appropriate local officials for activities requiring special qualities of serenity and quiet.
B	70 dBA (exterior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, picnic areas, recreation areas, playgrounds, active sports areas and parks.
C	75 dBA (exterior)	Developed lands, properties or activities not included in categories A and B above.
D	n/a	Undeveloped lands.
E	55 dBA (interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries hospitals and auditoriums.

The Minnesota Pollution Control Agency's (PCA) standards for noise level control are:

TABLE 20: NOISE LEVEL STANDARDS----MPCA

Classification	Land Use	Daytime Noise Level (7 AM to 10 P M)	Nighttime Noise Level (10 PM to 7 AM)
NAC*-1	Residential	L_{10} of 65 dBA	L_{10} of 55 dBA
NAC-2	Commercial	L_{10} of 70 dBA	L_{10} of 70 dBA
NAC-3	Industrial	L_{10} of 80 dBA	L_{10} of 80 dBA

*Noise Area Classification.

MPCA standards are not applicable to Interstate highways. These standards are given only for information.

EXISTING and FUTURE EXTERIOR NOISE LEVELS — Daytime and Nighttime

Table 21

Noise Susceptible Area	Predominant Land Use	Number of Structures or Activity Centers in Area	Assumed Receptor Location (Distances are from Edge of Roadway) Boundary Limits	Distance(ft)	Applicable FHWA L_{10} Design Noise Level	Daytime[1] MPCA Noise Level Standard L_{10}	Daytime[1] MPCA Noise Level Standard L_{50}	Nighttime[1] MPCA Noise Level Standard L_{10}	Nighttime[1] MPCA Noise Level Standard L_{50}	Existing Noise Level in dBA Monitored L_{10}	Existing Noise Level in dBA Monitored L_{50}	Noise Abatement Planned[2]	Future Traffic Noise Levels in dBA-Year 2000 Predicted: Build Alternative, Without Noise Abatement L_{10}	Build Alternative, Without Noise Abatement L_{50}	Build Alternative, With Noise Abatement L_{10}	Build Alternative, With Noise Abatement L_{50}	No Build Alternative L_{10}	No Build Alternative L_{50}	Exception Needed
1	Parkland	2	I-94 to	100-170	70	70	65	70	65	63-74	60-72	YES	73		70		73-75		
	School	1		200	70	70	65	70	65	NONE TAKEN		NO	69	N/A	N/A	N/A	70	N/A	NO
	Residential	42	Morgan Ave.	50-200	70	65	60	55	50	66-67	62-64	YES	72-73		70		67-73		
2	Commercial	4	Morgan Ave. to Thomas Ave.	140	75	70	65	70	65	74	70	NO	70	N/A	N/A	N/A	77	N/A	NO
3	Residential	27	Thomas Ave. to	100-130	70	65	60	55	50	61-74	55-71	YES	70-76	N/A	70	N/A	72-73	N/A	NO
	Commercial	4	Theodore Wirth Pkwy.	90	75	70	65	70	65	74	71	NO	74		N/A		75		
4	Parkland	1	Theodore Wirth Pkwy. to East prop. line of Prudential Life Insurance Company	200-400	70	70	65	70	65	52-62	50-57	YES[3]	59-72	N/A	70	N/A	70	N/A	NO
5	Commercial	1	East prop. line of Prudential Life Insurance Company to France Ave.	200	75	70	65	70	65	59	56	NO	65	N/A	N/A	N/A	70	N/A	NO
6	Residential	45	France Ave. to Cedar Ave. (on T.H. 100)	80-230	70	65	60	55	50	54-70	52-67	YES	69-78	N/A	70	N/A	69-76	N/A	NO
7	Commercial	33	Cedar Ave. to Pennsylvannia Ave.	60-325	75	70	65	70	65	62-68	59-63	NO	61-74	N/A	N/A	N/A	69-73	N/A	NO
8	Commercial	4	Pennsylvannia Ave. to	70-90	75	70	65	70	65	68	62	NO	72	N/A	N/A	N/A	72	N/A	NO
	Residential	19	1/2 block west of Wisconsin Ave.	65-165	70	65	60	55	50	70-72	65-68	YES	72 76		70		71-72		
9	Residential	20	1/2 block west of	80-230	70	65	60	55	50	58-63	53-60	YES	65-75		70		73		
	Commercial	6	Wisconsin Ave. to 16th Ave.	100-150	75	70	65	70	65	63-71	60-68	NO	68-70	N/A	N/A	N/A	69-70	N/A	NO
	Parkland	1	on CSAH 18	700	70	70	65	70	65	58	56	NO	60		N/A		63		
10	Residential	25	16th Ave. to	80-530	70	65	60	55	50	56-70	52-65	YES	63-76		70		64-73		
	Commercial	7	1/2 block east of	100-170	75	70	65	70	65	68	64	NO	68-71	N/A	N/A	N/A	69-70	N/A	NO
	Church	1	Archwood Road	130	70	70	65	70	65	65	62	NO	68		N/A		67		
11	Commercial	10	1/2 block east of	100-150	75	70	65	70	65	58-68	54-64	NO	67-74		N/A		61-70		
	Parkland	1	Archwood Road to 1/2 block	100	70	70	65	70	65	66	62	NO	68	N/A	N/A	N/A	67	N/A	NO
	Vacantland		east of Fairfield Road		NO STANDARDS →					NONE	TAKEN	NO	N/A		N/A		N/A		
12	Residential	6	1/2 block east of Fairfield Road to White Birch Road (on I-494)	300-500	70	65	60	55	50	58-61	55-58	NO	69	N/A	N/A	N/A	68	N/A	NO
13	Residential	32	I-494 to 800 ft. west	100-400	70	65	60	55	50	59-71	56-66	YES	64-74	N/A	70	N/A	63-71	N/A	NO
	Church	1	of Holdridge Ave.	140	70	70	65	70	65	59	56	NO	64		N/A		68		

1. MPCA Standards not applicable to Interstate Highways
2. Final determination to be made later based on cost-effectiveness and public acceptance.
3. 5-6ft. Visual and Noise Barrier

EXISTING and FUTURE EXTERIOR NOISE LEVELS — Daytime and Nighttime

Table 21

Noise Susceptible Area	Predominant Land Use	Number of Structures or Activity Centers in Area	Assumed Receptor Location (Distances are from Edge of Roadway) Boundary Limits	Distance(ft)	Applicable FHWA L_{10} Design Noise Level	Daytime[1] MPCA Noise Level Standard L_{10}	Daytime[1] MPCA Noise Level Standard L_{50}	Nighttime[1] MPCA Noise Level Standard L_{10}	Nighttime[1] MPCA Noise Level Standard L_{50}	Existing Noise Level in dBA Monitored L_{10}	Existing Noise Level in dBA Monitored L_{50}	Noise Abatement[2] Planned	Future Traffic Noise Levels in dBA-Year 2000 Predicted: Build Alternative, Without Noise Abatement L_{10}	Build Alternative, Without Noise Abatement L_{50}	Build Alternative, With Noise Abatement L_{10}	Build Alternative, With Noise Abatement L_{50}	No Build Alternative L_{10}	No Build Alternative L_{50}	Exception Needed
14	Commercial	12	Holdridge Ave. to I-494	100-200	75	70	65	70	65	66-70	60-64	NO	67-70	N/A	N/A	N/A	67-72	N/A	NO
15	Residential	7	I-494 to 300 ft. west of Horn Drive	600-750	70	65	60	55	50	59	57	NO	61	N/A	N/A	N/A	61	N/A	NO
16	Commercial	21	300 ft. west of Horn Drive to CSAH 73	120-170	75	70	65	70	65	67-70	62-65	NO	70-71	N/A	N/A	N/A	68-71	N/A	NO
	Church	1		200	70	70	65	70	65	70	65	NO	70		N/A		68		
	Vacantland				NO STANDARDS →					NONE	TAKEN	NO	N/A		N/A		N/A		
17	Vacantland		CSAH 73 to CSAH 18		NO STANDARDS →					NONE	TAKEN	NO	N/A	N/A	N/A	N/A	N/A	N/A	NO
	Commercial	11		100-400	75	70	65	70	65	59-72	56-67	NO	64-70		N/A		66-72		
	Parkland	1		300	70	70	65	70	65	62	59	NO	65		N/A		66		
18	Commercial	1	CSAH 18 to Boone Ave.	350-700	75	70	65	70	65	63	60	NO	62-66	N/A	N/A	N/A	67	N/A	NO
19	Parkland	1	Boone Ave. to	100-150	70	70	65	70	65	62-66	57-62	YES	71-72	N/A	70	N/A	69-71	N/A	NO
	Commercial	1		170	75	70	65	70	65	70	67		72		70		71		
	Residential	8	Rhode Island	100-280	70	65	60	55	50	69-70	64	YES	71-72		70		67-71		
20	Commercial	29	Rhode Island to Circle Downs Road	100-200	75	70	65	70	65	62-69	56-63	NO	67-73	N/A	N/A	N/A	66-73	N/A	NO
21	Residential	10	Circle Downs Road to Glenwood Ave. (on T.H. 100)	80-200	70	65	60	55	50	56-59	54-56	YES	73-77	N/A	70	N/A	69-75	N/A	NO
22	Residential	34	Glenwood Ave. to	100-210	70	65	60	55	50	58-70	56-64	YES	69-75	N/A	70	N/A	69-75	N/A	NO
	Parkland	1	France Ave.	150	70	70	65	70	65	60	57	YES[4]	65		63		69		
23	Parkland	1	France Ave. to Xerxes Ave. (Theodore Wirth Park)	90-140	70	70	65	70	65	65-66	60	YES	70-78	N/A	70	N/A	68-75	N/A	NO
24	Commercial	1	Theodore Wirth Park to 1/2 block west of Upton Ave.	100	75	70	65	70	65	71	68	YES[5]	73	N/A	70	N/A	74	N/A	NO
25	Residential	17	1/2 block west of Upton Ave. to	90-180	70	65	60	55	50	62-74	59-67	YES	71-74	N/A	70	N/A	71-78	N/A	NO
	Parkland	1	Logan Ave.	160	70	70	65	70	65	63	59	YES[3]	68		68		73		
26	Railroad Yards		Logan Ave. to	150-400	NoStand.	80	75	80	75	NONE TAKEN		NO	64-73	N/A	N/A	N/A	73	N/A	NO
	Commercial	1	I-94	320	75	70	65	70	65	72	68	NO	72		N/A		72		

4. Park is in between residential neighborhoods and is listed separately for State EIS purposes only
5. Barrier height needed for the adjacent residential receptors

It should be noted that although state noise standards exist, they are technically not applicable to Interstate highways due to action by the 1981 State Legislature. Although discussions contained in this section consider only the FHWA Design Noise Levels (DNL), achievement of state standards will be considered on a case-by-case basis and may be incorporated into the project if cost-effective and desirable. Any such analysis will be documented in the Final Noise Report, which will be prepared during the detail design phase of project development.

Anticipated Impacts

Existing land use along the project corridor is a mixture of residential, parklands, commercial, industrial and small amounts of undeveloped lands. For purposes of analysis, the corridor was divided into 26 areas of generally homogenous land use, as depicted in Figure 29 (N1-N7) and Table 21.

In each area, the measured existing noise level is shown as well as the year 2000 predictions for both the "build" and "no-build" alternatives. It should be noted that predicted noise levels are usually higher than actual measured noise levels because "worst case" conditions are used for predictions. Thus, the impacts noted under both the "build" and "no-build" conditions tend to be overstated.

build alternative

Under the "build" alternative, where warranted, and cost-effective noise abatement will be provided in residential and park areas to reduce noise levels to or below applicable FHWA DNL's. However, no abatement is planned in commercial or industrial areas. The area-by-area analysis is reflected in Table 21. The Final Noise Report, which will be prepared at a later date, will reflect specific noise abatement requirements to be included in the project.

In the event it is found that applicable DNL's cannot be achieved, requests for "exceptions" will be documented in that report. However, at this time, it appears that no exceptions will be required.

no build alternative

Under the "no-build" alternative noise levels throughout the corridor will tend to increase, and in many cases, will exceed applicable standards. No noise abatement would be provided under this alternative. The results of this analysis are shown in Table 21.

Exceptions to FHWA Design Noise Levels

As mentioned previously, under the "Build" alternative with planned abatement, it appears that noise levels throughout the corridor will be in compliance with applicable FHWA Design Noise Levels. Exceptions may be requested on the basis of excessive cost, unfeasibility, or the public not wanting abatement structures. This will be studied in more detail and documented in the Final Noise Report, which will be prepared prior to construction.

Construction Noise

Construction activities are expected to last approximately 5 construction seasons. Although no one area should be exposed to construction noise for the full 5 years, each area will probably be impacted from time to time during each of those years. Most of the construction noise impacts will affect residents and businesses within the cities of Minneapolis, Golden Valley, Minnetonka, Wayzata and Saint Louis Park where I-394 will be depressed for much of its length. Throughout the project length, activities such as earth moving, trucks hauling, pile-driving, and grading operations will contribute to the construction noise impact.

There may be certain areas where the proposed noise abatement barriers can be constructed early in the construction stage to help alleviate the construction noise impact. This will be studied during the design stage and these areas identified in the Final Noise Analysis Report.

All of the affected municipalities have adopted noise control ordinances which will also help to minimize the impact. Most are similar to Saint Louis Park's ordinances which is basically a nuisance ordinance limiting hours of noisy construction to between the hours of 6:30 AM and 10:30 PM, Monday through Saturday, and no construction on Sunday without City approval. Minneapolis,

I-394

scale ft 0 250 500

north

NOISE ANALYSIS

Fig. N1

1978 AMBIENT NOISE LEVEL	(00)
2000 PREDICTED NOISE LEVEL	00
AREA BOUNDARIES	
AREA IDENTIFICATION NUMBER	00
PLANNED NOISE ABATEMENT	

C.S.A.H. 15

63 67 70 68 69 70 66 69 67 65

Parkers Lake Rd.

14

71 68 70 69 70

13

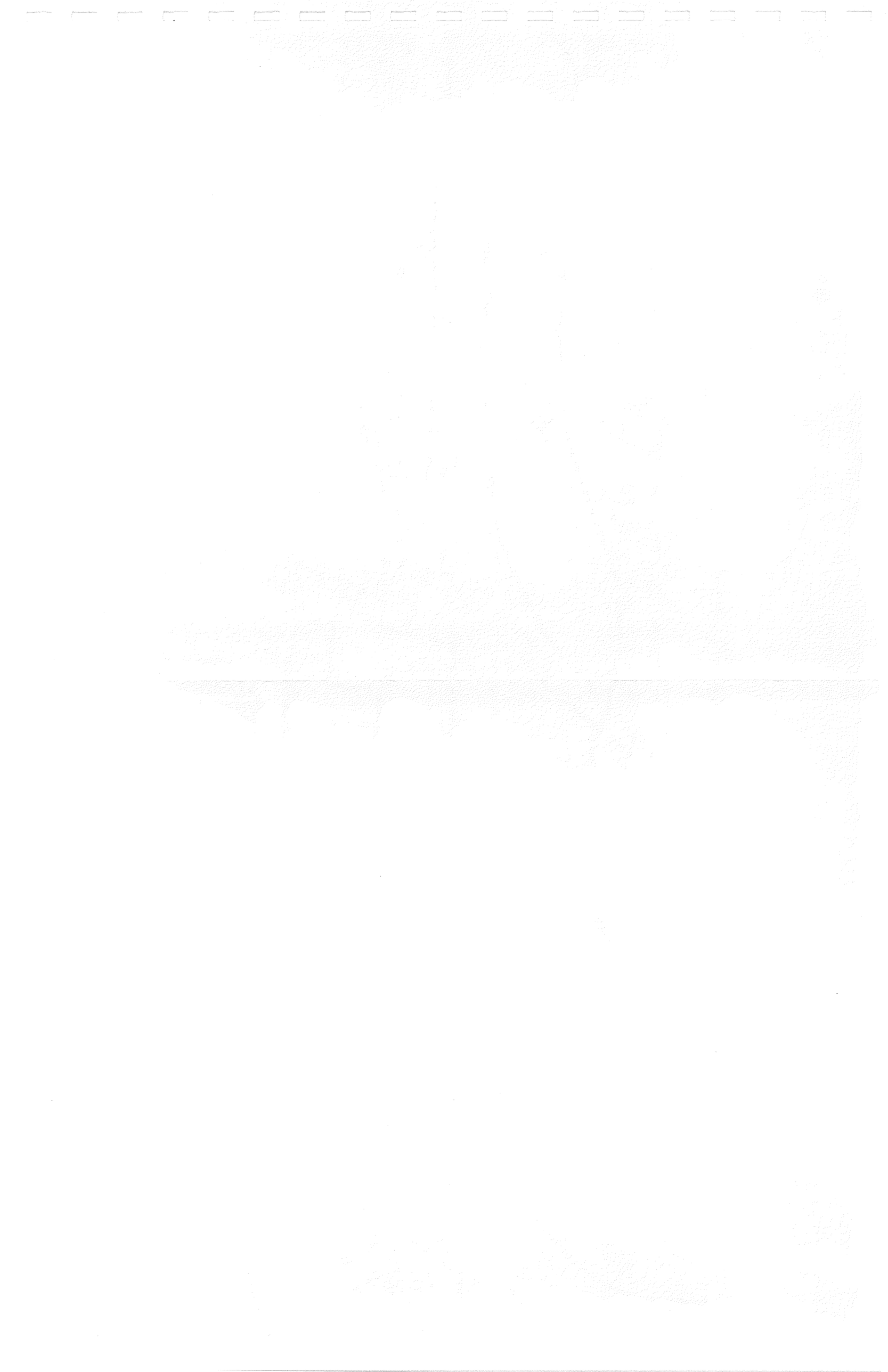
59 64 52 63 64 69 68 63 70 65 70

Holdridge Circle

Crosby Rd.

Linner Rd.

I-494



61
59
N. Knollway Dr.
15
71
69
71
67
Fairfield
Sunset Dr.
54
70
71
69
70
68
16
12
Fairfield Rd.
66
Essex Rd.
68
71
61
67
58
60
67
Plymouth Rd.
11
Ridgedale Dr.
58
69
I-494

I-394

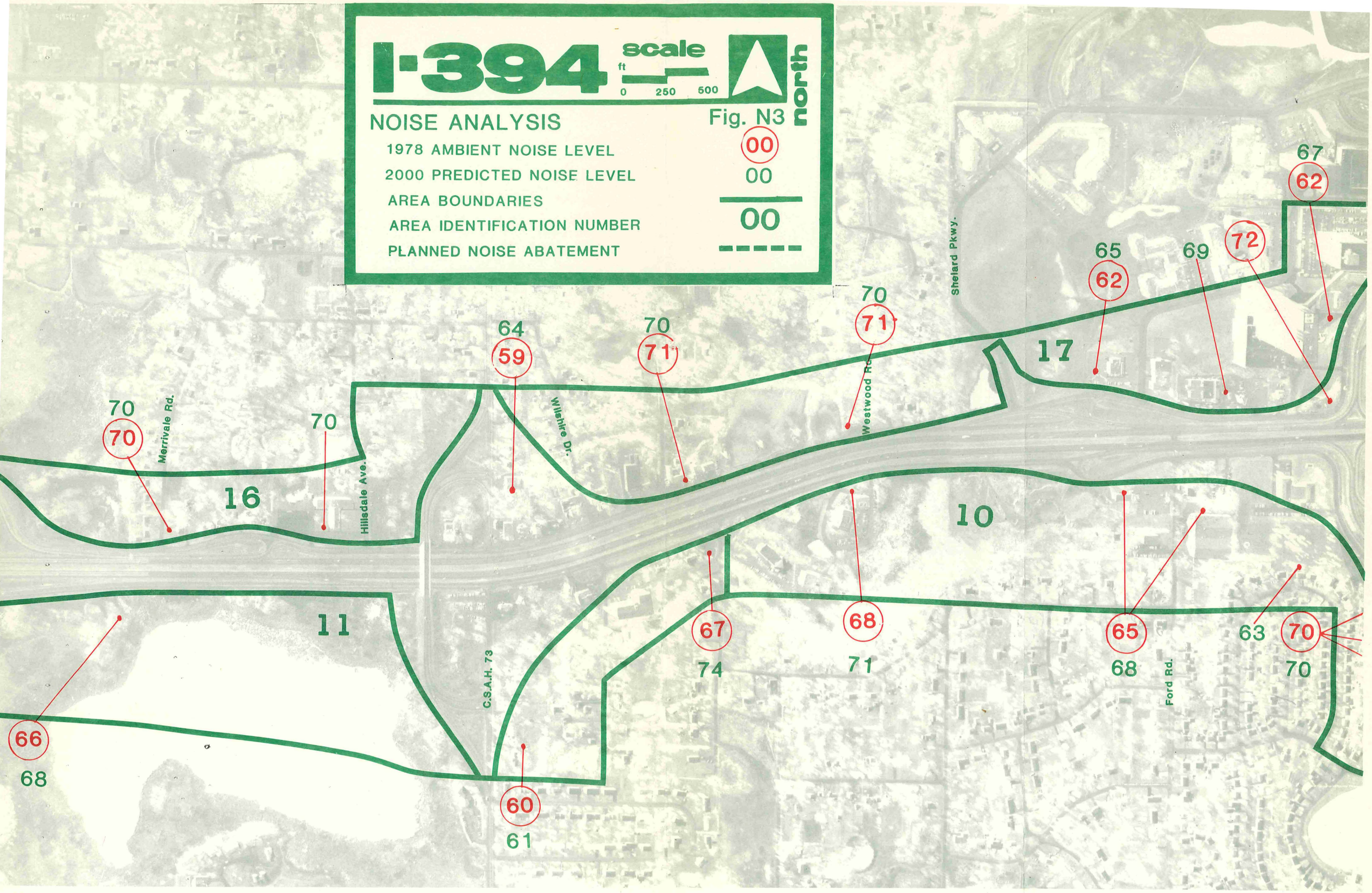
scale ft 0 250 500

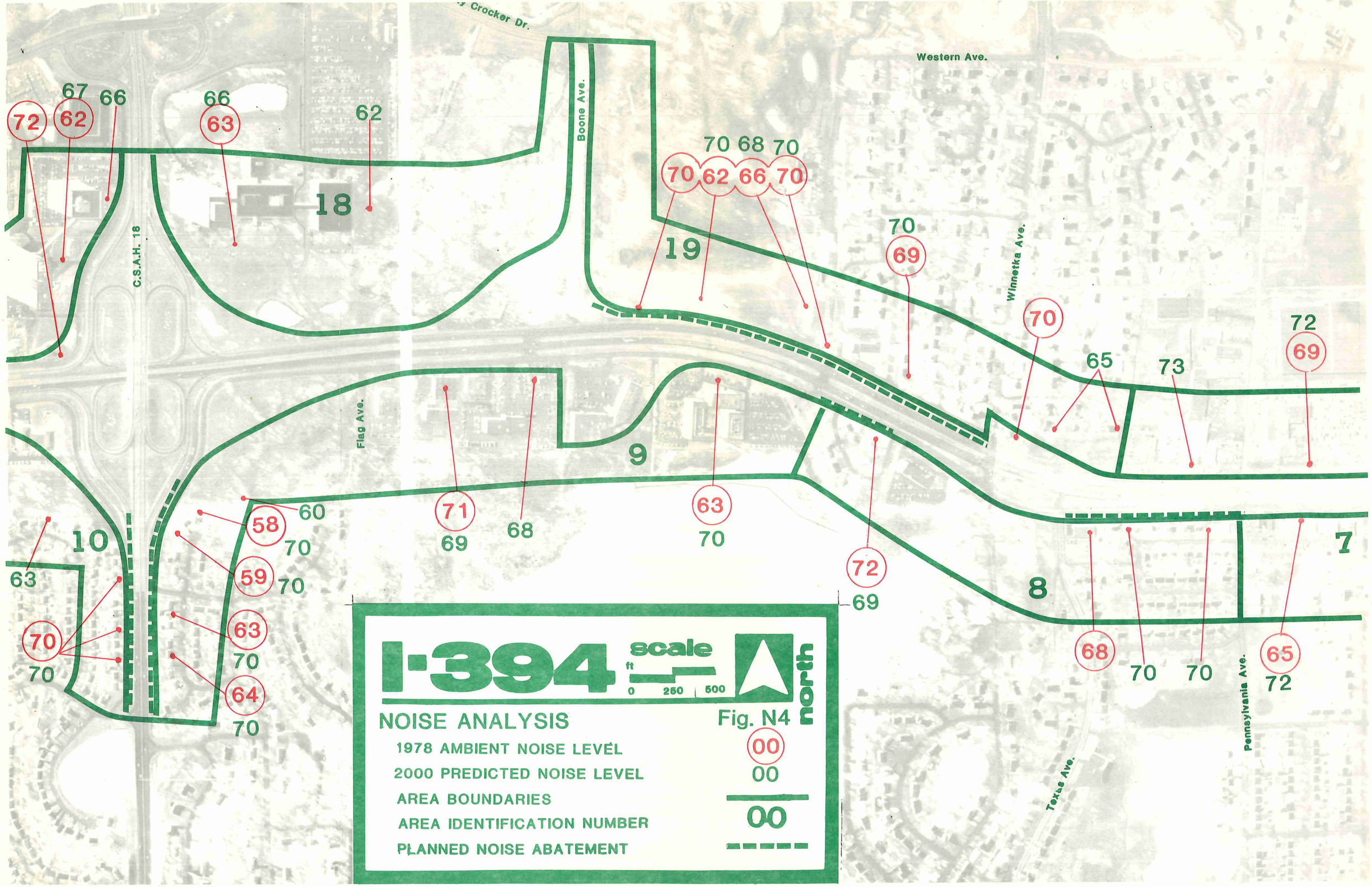
north

NOISE ANALYSIS

Fig. N2

1978 AMBIENT NOISE LEVEL	00
2000 PREDICTED NOISE LEVEL	00
AREA BOUNDARIES	———
AREA IDENTIFICATION NUMBER	00
PLANNED NOISE ABATEMENT	- - - - -


I-394
scale
ft
0 250 500
north
NOISE ANALYSIS
Fig. N3
1978 AMBIENT NOISE LEVEL
00
2000 PREDICTED NOISE LEVEL
00
AREA BOUNDARIES
AREA IDENTIFICATION NUMBER
00
PLANNED NOISE ABATEMENT
Merrivale Rd.
Hillsdale Ave.
Wilshire Dr.
Westwood Rd.
Shelard Pkwy.
Ford Rd.
C.S.A.H. 73
16
17
10
11
70
70
70
64
59
70
71
70
71
65
62
69
72
67
62
66
68
60
61
67
74
68
71
65
68
63
70
70



Crocker Dr.
Western Ave.
Boone Ave.
C.S.A.H. 18
Flag Ave.
Winnetka Ave.
Pennsylvania Ave.
Texas Ave.
18
19
9
10
8
7
72
67
62
66
66
63
62
70
68
70
70
62
66
70
70
69
70
65
73
72
69
71
69
68
63
70
72
69
58
60
70
59
70
63
70
64
70
63
70
70
68
70
70
65
72
I-394
scale
ft
0
250
500
north
NOISE ANALYSIS
Fig. N4
1978 AMBIENT NOISE LEVEL
00
2000 PREDICTED NOISE LEVEL
00
AREA BOUNDARIES
AREA IDENTIFICATION NUMBER
00
PLANNED NOISE ABATEMENT

I-394

scale ft 0 250 500

north

NOISE ANALYSIS

Fig. N5

1978 AMBIENT NOISE LEVEL	(00)
2000 PREDICTED NOISE LEVEL	00
AREA BOUNDARIES	———
AREA IDENTIFICATION NUMBER	00
PLANNED NOISE ABATEMENT	- - - -

Glenwood Ave.

T.H. 100

Turners Crossroad

Xenia Ave.

Circle Down

Market St.

Florida Ave.

W.14th St.

Colorado Ave.

W.16th St.

Vernon Ave.

Louisiana Ave.

20

7

67 (63)

71 (68)

73 (62)

68 (65)

73 (66) 58

73 70 (65) 59

65 (67)

68

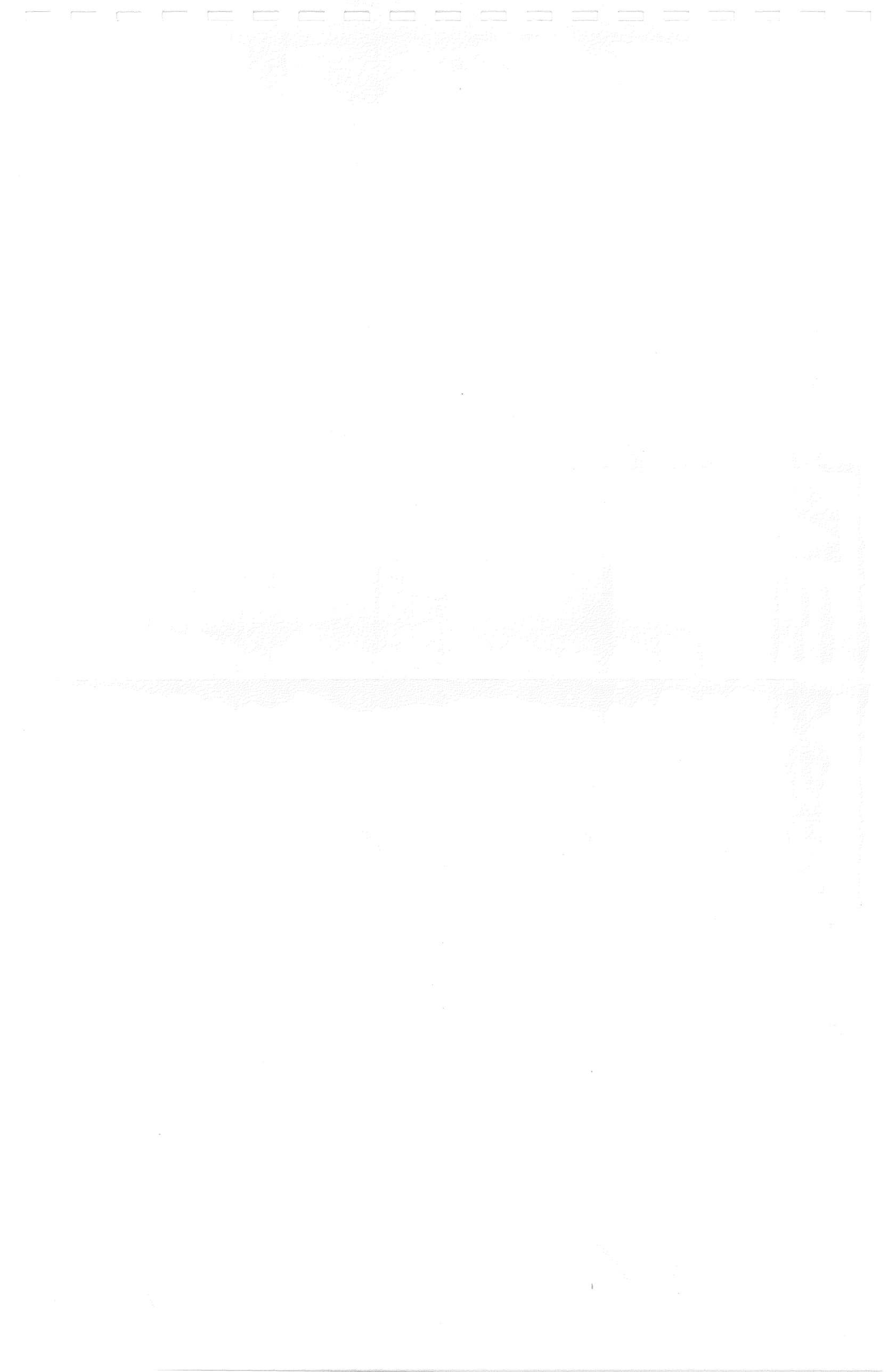
64

70

68

63 (68)

61 (64)



I-394

scale ft 0 250 500

north

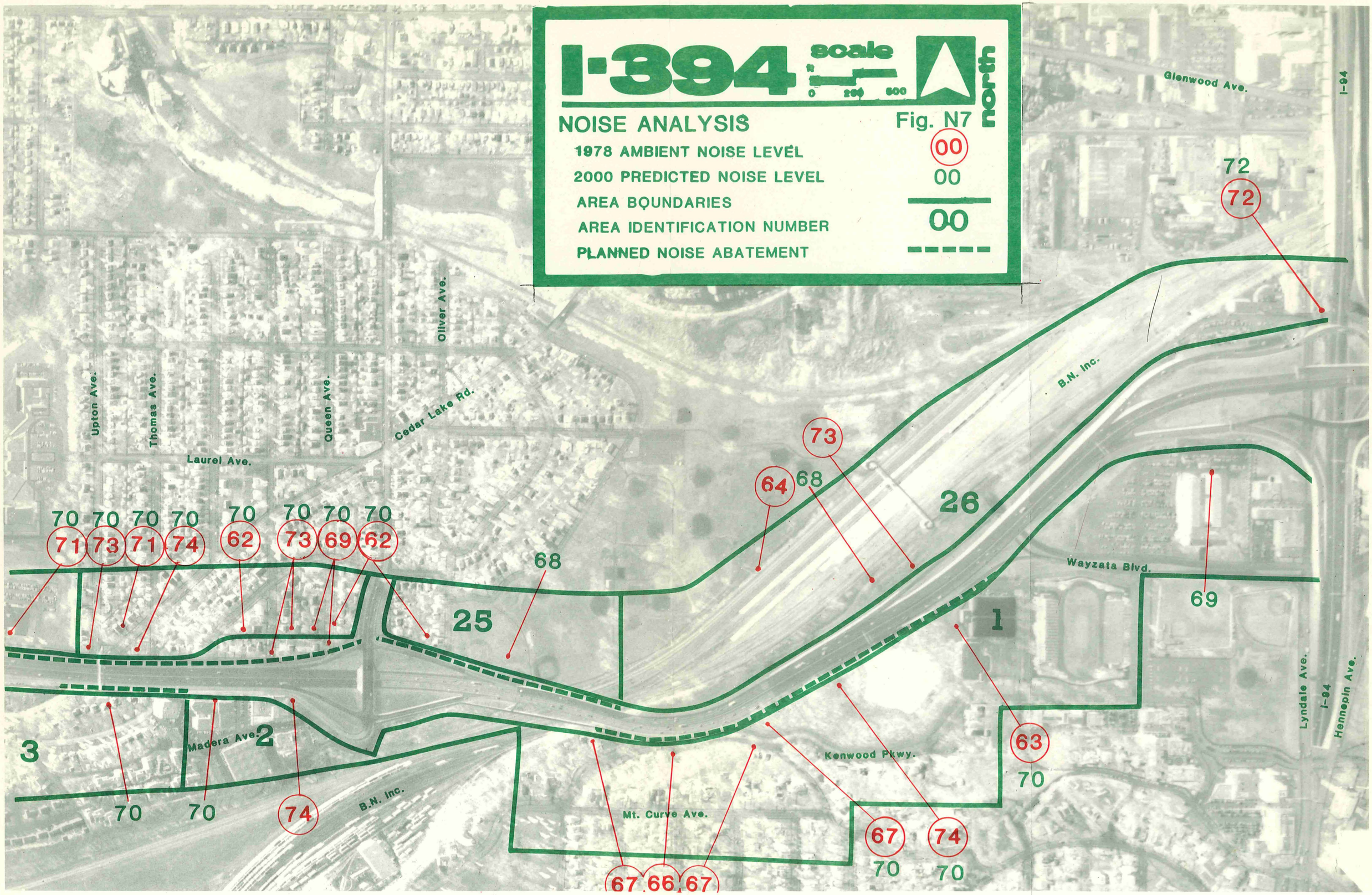
NOISE ANALYSIS

Fig. N6

1978 AMBIENT NOISE LEVEL	00
2000 PREDICTED NOISE LEVEL	00
AREA BOUNDARIES	
AREA IDENTIFICATION NUMBER	00
PLANNED NOISE ABATEMENT	

Glenwood Ave.
T.H. 100
Parkview Ter.
Theodore Wirth Pkwy.
Sunset Ridge
Tyrol Trail
Cedar Lake Rd.
Avondale Rd.
June Ave.
Douglas Ave.
T.H. 100

21 22 23 24 3 4 5 6 7


I-394
scale
0 250 500
north
NOISE ANALYSIS
Fig. N7
1978 AMBIENT NOISE LEVEL
2000 PREDICTED NOISE LEVEL
AREA BOUNDARIES
AREA IDENTIFICATION NUMBER
PLANNED NOISE ABATEMENT
00
00
00
Glenwood Ave.
I-94
72
72
Oliver Ave.
Upton Ave.
Thomas Ave.
Queen Ave.
Cedar Lake Rd.
Laurel Ave.
B.N. Inc.
73
64
68
26
70 70 70 70 70 70 70 70
71 73 71 74 62 73 69 62
68
25
Wayzata Blvd.
69
1
Lyndale Ave.
I-94
Hennepin Ave.
3
Madera Ave.
2
63
70
Kenwood Pkwy.
70 70 74
B.N. Inc.
Mt. Curve Ave.
67 74
70 70
67 66 67

on the other hand, has a very rigid noise control ordinance which essentially limits the hours of construction to between 7:00 AM and 6:00 PM. This ordinance also sets decibel limits on certain activities such as jack hammering and pile driving. State forces will give full cooperation to the city inspection forces in enforcing these ordinances.

Coordination With Local Officials

Mn/DOT has furnished all Cities, Counties and Regional Development Commissions in Minnesota with copies of "The Audible Landscape." This handbook provides guidance for land use planning, plat layout and building design for compatible development near traffic noise. Additional copies are available upon request.

Proposed plats for land adjacent to all Minnesota state highways are submitted to the Department for review prior to plat approval. When potential for noise impact is identified in the review process, it is noted in the review comments to insure that the approving authority is aware of an existing or potential noise impact on proposed noise sensitive areas. A Mn/DOT strategy will discourage incompatible development along a highway by disclaiming any responsibility for protecting this development from noise impacts. This strategy is consistent with FHPM 7-7-3 (May 24, 1976) which disclaims federal noise abatement responsibility (in most instances) for development planned after the date of public knowledge of a highway project.

Drainage

Proposed I-394 will be located within the Bassett Creek and Minnehaha Creek Watersheds (Figure 13, pages 112-113). Neither creek is crossed by the alignment. Approximately 80 percent of surface runoff from US-12 flows north into the Bassett Creek Watershed, while the rest moves south into the Minnehaha Creek Watershed.

Bassett Creek and Minnehaha Creek Watersheds

The Bassett Creek Watershed is approximately 43 square miles and is mostly urban. The creek's source is approximately one mile north of Medicine Lake. Bassett Creek discharges into Medicine Lake, outlets from the south end of Medicine Lake and meanders approximately 10.5 miles until it enters an underground conduit in Minneapolis. The creek is conveyed by conduit for 1.5 miles to its final outlet into the Mississippi River.

Minnehaha Creek Watershed is approximately 184 square miles and contains numerous wetlands and extensive urban development. Minnehaha Creek meanders for approximately 20 miles from its source, in Lake Minnetonka, to the Mississippi River.

drainage modification

The direction of drainage flow from US-12 is shown in Figure 13. US-12/I-394 will have essentially the same drainage patterns with several modifications. These include improvement of existing storm sewers, construction of ponds to contain highway runoff, and diversion of I-394 runoff from Brownie Lake. Construction of storm sewers and ponding areas is essential to accommodate runoff that will be generated by I-394. New storm sewers will be built along Colorado Avenue and Louisiana Avenue. The storm sewers near Colorado and Louisiana Avenues will discharge into wetland 7 (a series of ponds) which outlet into Sweeney Lake. (Figure 13). Storage ponds will serve to reduce peak flows of I-394 runoff and to settle suspended sediment.

diversion of I-394 from Brownie Lake

At the request of the Minneapolis Park Board, runoff from I-394 will be diverted from Brownie Lake. Potential impacts of highway runoff on Brownie Lake were previously analyzed and discussed in the I-394 Water Resources Assessment, which is available for review at the Mn/DOT District 5, Golden Valley office.

To accomplish diversion of I-394 runoff from Brownie Lake, the runoff will be channeled to Pond G near Penn Avenue (Figure 13). This pond will be constructed to reduce peak flows of highway runoff. The pond will outlet into an existing conduit along Morgan Avenue and then into Bassett Creek.

Water Quality

Street surface runoff has been identified as a significant contributor of water pollutants, especially heavy metals (Sartor and Boyd 1972, Pitt and Amy 1973, Shaheen 1975). The major pollutants which have been found in highway runoff include the following:

pollutant sources

1. Particulate matter generated by erosion during construction, winter sanding activities, accumulation of dust, litter, and wear of the roadway itself.

2. Chloride from the application of highway deicing chemicals.

3. Pollutants associated with motor vehicle emissions and the wear of tires and mechanical parts.

   a) Metals such as lead, zinc and copper.
   b) Petroleum product residues such as rubber, grease and oil.

4. Other pollutants.

   a) Pesticides and herbicides.
   b) Plant nutrients such as nitrogen and phosphorous.

These other pollutants result from the normal accumulation of dust and dirt on paved surfaces. Many of the pollutants such as nutrients, oxygen-demanding substances and pesticides adhere to or are associated with particulate matter (Sartor and Boyd, 1972).

quality of freeway runoff

The impact I-394 runoff will have on receiving waters, such as Bassett Creek and Minnehaha Creek, is reflected by the average concentrations of pollutants in the runoff and volume of runoff produced. Table 22 shows the concentrations of suspended solics, BOD, COD, ortho-phosphorus, nitrate, chloride, lead, copper and zinc in freeway runoff and in urban stormflow from typical urban surroundings. We anticipate that the average concentrations of pollutants in the runoff from the roadway surface and surrounding right-of-way would be most similar to those obtained in St. Paul, Minnesota, and Milwaukee, Wisconsin study sites.

TABLE 22

Average Pollutant Concentrations in Urban Stormflow and Freeway Runoff (mg/l)									
Runoff Source*	Total Suspended Solids	BOD	COD	Ortho P hosphorus (PO_4)	Nitrate (NO_3-N)	Chloride (CL)	Lead (Pb)	Copper (Cu)	Zinc (Zn)
Urban Stormflow[1] Windsor, Ontario	390	16.9	-	.39	.85	-	-	-	-
Urban Stormflow[1] Racine, Wisc.	179	89.6	-	-	-	-	-	-	-
Urban Stormflow[2] Lincoln, Nebraska	828	22.1	156.4	.16	.85	-	-	-	-
Freeway I-94[2] St. Paul, MN	79	16.0	54	-	.43	11	.410	.027	.140
Freeway I-794[3] Milwaukee, Wisc.	138	-	105	.31	-	63	1.50	.10	.35
Freeway (Hwy. 45)[3] Milwaukee, Wisc.	396	-	120	.48	-	229	.78	.08	.39

*Winter samples not represented.

[1]Huber, W.C. 1979. Urban Rainfall-Runoff-Quality Data Base. EPA-600/8-79-004.

[2]Pederson, D.H. 1979. Unpublished data, Minnesota Department of Transportation, Water Quality Unit.

[3]Envirex, 1981. Characteristics of Runoff from Operating Highways. FHWA/RD-81/045.

The preceeding table provides some evidence suggesting that freeway runoff contains lower concentrations of suspended solids, oxygen demanding substances and nutrients, such as orthophosphorous, than urban runoff. Comparing the pollutant concentrations found in runoff from the Saint Paul freeway to runoff from the Milwaukee sites shows that concentrations of these parameters from Saint Paul are lower. It is expected that runoff from I-394 will be more similar to the Saint Paul site than the Milwaukee site becasue of geographic and design similarities.

quality of Bassett Creek

The average concentrations of pollutant constituents in freeway runoff and urban stormflow may also be compared to the average concentations of pollutant constituents in Bassett Creek. Bassett Creek will receive much of the runoff from I-394. Table 23 shows average concentrations of total suspended solids, BOD, COD, chloride, lead, copper and zinc for Bassett Creek in the I-394 corridor.

quality of Minnehaha Creek

Water quality data for Minnehaha Creek is less comprehensive than that available for Bassett Creek. Available data is indicated in Table 23. Minnehaha Creek will receive indirect runoff from I-394. Drainage from I-394 will enter a series of wetlands and ponds prior to discharge into the creek.

MPCA classification

The Minnesota Pollution Control Agency classifies Bassett Creek as 2B, 3C, 4A, 4B, 5 and 6. The classification system is based on use and maintenance of the ambient quality of receiving waters. The six major uses are:

1. Domestic Consumption.
2. Fisheries and Recreation.
3. Industrial Consumption.
4. Agriculture and Wildlife.
5. Navigation and Waste Disposal.
6. Other uses.

Minimum chemical and biological quality standards are denoted by the letters A through D. Classification A is most restrictive (represents highest quality receiving waters) and D is least restrictive. Minnehaha Creek which will also receive indirect runoff from I-394, is classified the same as Bassett Creek. Applicable water quality standards are given in Table 23.

TABLE 23

Average Pollutant Concentrations in Bassett and Minnehaha Creeks (mg/1)

Sample Site	Total Suspended Solids	BOD	COD	Chloride (Cl)	Lead* (Pb)	Copper* (Cu)	Zinc* (Zn)
Bassett Creek[1] near intersection of Golden Valley Rd. and Theodore Wirth Parkway	19.5	30.3	25.1	67.0	.05	.05	.02
Bassett Creek[1] near Boone Avenue	27.7	3.4	21.8	74.3	.12	.05	.01
Minnehaha Creek[2] at Hiawatha Avenue	9.7	-	-	64.8	-	-	-
MPCA Water Quality Standards for Bassett Creek	-	-	-	250	.05	.01	-

*Average Concentration less than indicated value.

[1]Minnesota Department of Transportation, Water Quality Unit. 1980. Water Quality Base Line Data for Bassett Creek.

[2]E.A. Hickok and Associates - Water Quality Data for 1978-1970.

operational impacts

I-394 will increase the amount of runoff generated in the project corridor by increasing the area of impervious surface. The pollutant load delivered to Bassett Creek and other receiving waters will probably not increase significantly because the concentrations of pollutants generated by freeway surfaces are comparable to or less than that of stormflow from the surrounding urban watershed.

minimization of harm-ponding areas

Ponding areas will be provided for highway drainage prior to discharge into receiving waters. Ponding areas provide the best means of reducing peak runoff volumes from I-394 and improving water quality through sedimentation. Sedimentation of particulates in ponds can remove up to 65 percent of the suspended solids, 50 percent of the BOD, 47 percent of the total phosphate and 62 percent of the lead (Whipple, 1980).

de-icing salt

De-icing salt applied by Mn/DOT, District 5, is typically 98 percent soldium chloride (NaCl) and 2 percent calcium chloride (CaCl). Approximately 8 tons per lane mile of de-icing salt would be applied to I-394 each winter.

de-icing salt impacts on biota

Sodium Chloride is a fairly benign pollutant and can be tolerated by most organisms at very high concentrations. Lethal concentrations were noted in fish when concentrations reached 8000 mg/l (Clemens and Jones, 1954), in fish fry at a level of 3800 mg/l (Edminister and Gray, 1948) and in invertebrates at 3000 mg/l (Anderson, 1948); Clemens and Jones, 1954). Concentrations of 2000 mg/l have been shown to affect development of fish eggs (Doudoroff and Katy 1953). Much lower concentrations (50 mg/l) are thought to change the species composition of aquatic plants (Peterson 1974).

Mn/DOT research has shown that concentrations of chloride seldom exceed 250 mg/l in stormflow from an urban freeway. Snowmelt runoff contains much higher chloride concentrations, which are dependent on flow rate. At flow rates less than .04 CFS (cubic feet per second) the median chloride concentration is 7000 mg/l. At flow rates greater than 0.1 CFS the median chloride concentration is 850 mg/l (Howard 1981). This data shows that chloride concentrations decreases as flow rate increases. Ponding

areas will collect and hold the initial low flows of snowmelt events. Thus, high chloride concentrations will be diluted in storm water ponds prior to discharge to receiving waters.

minimizing harm from de-icing salt

Limiting the amount of salt applied to highways will minimize the amount of salt which can enter surface waters. Mn/DOT instituted a program which reduced the amount of salt used on state highways without sacrificing the safety of motorists. Since 1970 there has been a 42 percent decrease (5 year average) in the amount of salt applied to highways in the Minneapolis-Saint Paul area. I-394 will receive minimum amounts of de-icing salts to maintain safe driving conditions.

impacts on heavy metals on biota

Heavy metals contained in urban runoff and freeway runoff could be potentially toxic to aquatic biota. However, not enough is known regarding the toxicity of heavy metals to completely assess their effect on aquatic ecosystems. There is evidence indicating that the mineral content (hardness) of surface waters limits toxicity of heavy metals to fish (Lloyd, 1960; Warren, 1971). The mean lethal concentrations of lead, copper and zinc to rainbow trout increase as a function of water hardness (EPA, 1972). In other words, the harder the water the higher the dosage of heavy metals required to cause mortality of rainbow trout. Because surface waters adjacent to the I-394 corridor are quite hard (100-150 mg/l total alkalinity), it is unlikely that heavy metals in highway runoff will be toxic to fish.

hazardous spills

Should a spill of hazardous or toxic materials occur, it is imperative that the spill be contained prior to entering sensitive receiving waters. To insure this, highway runoff will be directed into ponding areas, with outlet controls, so that spills can be contained. Where wildlife mitigation ponds are proposed, highway runoff will first be directed to a sediment removal basin/spill containment pond, before entering the wildlife pond.

construction impacts

Degradation of water quality during construction of I-394 can occur from three primary sources:

1. Wastewater from concrete mixing operations.
2. Accidental spills of petroleum products or other substances.
3. Erosion of exposed earth during runoff events.

In order to minimize impacts from the first two sources, Mn/DOT enforces pollution control measures described in Standard Specification 1717 for Highway Construction concerning air and water pollution. However, erosion from exposed soil during construction is probably the most potentially serious source of pollution.

pesticides

The term pesticides implies any substance used to destroy or repel any pest. Pest, referred to previously, includes plants, animals, insects, etc. Pesticides used by the Mn/DOT are generally limited to herbicides (weed control chemicals).

Herbicides are used along highway right-of-ways to control noxious weeds (control of noxious weeds is required by law) and as a tool in vegetation management. Herbicide use is limited to spot spraying (identifying the target and using the proper herbicide on the target). The main herbicides used are 2, 4-D for broad-leaf weeds, 2, 4D, and 2, 4 DD for brush control, Picloram for Canada thistle and Dalapon for cattails. All herbicides are applied by or under the supervision of a licensed pesticide applicator. Due to the limited amount of herbicide use and because many of these herbicides bio-degrade, the impact on aquatic areas will be negligible.

soils and erosion control

A detailed analysis of soils within approximately 4,000 feet of I-394 was conducted. Two sources of information were used in making this analysis they were: the Hennepin County Soil Survey and Direct Field Observation of the US-12 alignment.

erosion potential

Figure 30 on page 223 depicts areas of natural erosion potential. Steep slopes and soils of a texture and structure which are likely to erode are shown in solid tones. Many soils in the I-394 corridor become easily eroded when the slope is greater than 6 percent. Subsoils in the I-394 corridor are generally less permeable than the surface soils. Increased exposure of the less permeable subsoils will result in increased potential for runoff and erosion.

Dashed lines on Figure 30 outline potential cut and fill areas that will likely produce erosion problems. These areas will receive special treatment to prevent erosion on steep slopes during and after construction.

erosion control

Permanent, temporary and administrative controls will be used to minimize erosion. Permanent control measures include items such as replacement of topsoil, seed, sod and rock riprap. Seed, sod and topsoil are used to reestablish vegetation after construction. Vegetative cover is the best permanent means of controlling and reducing erosion in large exposed areas. Permanent erosion control measures are included in the construction plans by the designer and it is the project engineer's responsibility to see they are implemented. Temporary controls of erosion include items such as bale ditch checks, earth diversions, bale diversions, and temporary sediment basins. Mn/DOT specification 1803.5 defines erosion control procedures and responsibilities. Also the contractor will be required to submit an erosion control plan prior to construction.

Ground Water

ground water quality impacts

Ground water quality is dependent upon the quality of water entering the system and upon physical and chemical characteristics of the drift or bedrock through which the ground water moves. Granular soils allow relatively free movement with minimal infiltration or adsorption of pollutants. An increase in fine grained material reduces movement and increases the filtering capabilities of the soil. Plastic soils tend to restrict or inhibit movement.

As noted in the Water Quality section of this document, the concentration of pollutants generated by the freeway surface of I-394 will not increase significantly from concentrations in runoff from existing US-12. Runoff from I-394 which enters the ground water system would be similar in quality to that which already enters the system.

Of the pollutants present in highway runoff, deicing salt has the potential of being present in high concentrations of shallow ground water near the alignment. Studies, however, have indicated that these high concentrations generally are not detected more than 50 feet from the roadway. High concentrations of sodium chloride are very rarely detected 100 feet from the area of application.

Since I-394 is an urban design roadway and most of the wells adjacent to I-394 are either deep bedrock wells or more than 100 feet from the alignment, the potential for contamination of wells by deicing salts and other highway pollutants is low. Only in the Holdridge area of Wayzata are there shallow drift wells within 100 feet of the road surface. Soil borings in this area indicate the presence of predominantly plastic soils. The soils will help to inhibit the entrance and movement of highway runoff into the ground water.

dewatered zones

To prevent unsafe driving conditions, frost heave and early roadway deterioration, engineering standards require ground water to be at least five feet below road grade. For this project, noise level standards require the lowering of the existing grade along sections of I-394. This grade reduction will bring the grade of I-394 to the ground water in numerous locations. These areas will need to be dewatered.

Potential impacts of dewatering include the reduction of the water level in nearby lakes and wetlands and in shallow wells adjacent to the alignment. These potential impacts have been analyzed in the study area. Table 24 illustrates available data regarding surface elevations of wetlands and lakes identified in the study area, ground water elevations and the elevations

LEGEND

SLOPES (6 to 35%) WITH ERODIBLE SOILS

CUT AND FILL AREAS LIKELY TO ERODE
IF PRESENT GRADE IS RETAINED

WATER RESOURCES
I-394
scale ft 0 4,000

north

SOIL EROSION POTENTIAL

Figure 30

of proposed grade adjacent to these water bodies. This information, as well as data from soil borings taken along the alignment, indicate that dewatering will have a minimal impact upon the surface elevations of most wetlands in the study area. Wetlands with surface elevations below elevation of the proposed grade will not be affected by dewatering. Elevations of wetlands 3, 8 and 9 are above elevation of ground water. These wetlands are apparently perched and will not be affected by dewatering. Construction of the frontage road adjacent to wetland 10 will be two feet above the wetland which is at 889 feet. Elevation of I-394 at this location is 913 feet. Dewatering will probably not be needed at this location. Dewatering is also not being planned adjacent to wetlands 11, 12a and 12b. A perched ground water condition presently exists between wetlands 17 and 18. The relationship between these wetlands and the ground water is not expected to be significantly altered with construction of I-394. Only wetlands 19a, 19b and 20 have the potential of being affected by dewatering, however, soil borings indicate the presence of plastic soils in the area which will reduce effects of dewatering.

The potential that dewatering may affect water levels in shallow wells close to I-394 is minimal. According to available information, water wells adjacent to areas which may need dewatering are deep bedrock wells. Areas where shallow drift wells are adjacent to the road should not require dewatering.

Dewatering would be accomplished by providing additional gravity storm sewer systems or increasing the capacity of the freeway drainage system. The extent and location of all dewatered zones will be determined prior to construction of I-394.

TABLE 24

Elevations of wetlands 1 through 27, adjacent ground water and proposed grade (in feet).

Wetland Number	Wetland Elevation	Ground Water Elevation	Existing Grade Elevation	Proposed Grade Elevation
1	816	N/A	840	840
2	844	N/A	880	873/869*
3	874	864(2)	906	883
4	852	N/A	909	909/882*
5	841	N/A	898	905/879*
6	854	867	880	874
7	849	870	881	869.5
8	879	870	881	868.5
9	879	870	887 to 890	8 80/894*
10	889	889	895 to 900	8 89 to 913
11	889	890	893	910
12a	889	890	894	910
12b	889	890	8 94	911
13	889	906	904 to 909	898 to 900
14	898	N/A	9 03	903
15	898	898	904	906
16	898	901	910	910
17	914	917	9 20 to 930	926 to 965
18	916	917	920 to 930	921 to 965
19a	997	993	1004	1003/984*
19b	952	913	956 to 970	955 to 971
20	953	950	9 55	955
21	949	951	957	956.5
22	941	N/A	970	973/965*
23	940	N/A	949	957/949*
24	940	N/A	9 49	955/949*
25	940	N/A	947	954/947*
26	940	N/A	947	954/947*
27	940	N/A	930	977

N/A information not available.

*split grade

(2) Ground water elevation in the area varies from 840 to 868.

Floodplains

The US-12/I-394 project has been examined for floodplain involvement in accordance with Executive Order 11988.

National Flood Insurance Program maps and contour mapping were examined for the cities of Minneapolis, Saint Louis Park, Golden Valley, Minnetonka, and Wayzata.

Construction of the I-394 project will result in three encroachments into the designated floodplains of Bassett Creek, but none into the Minnehaha Creek floodplains. The first encroachment is located in Golden Valley, north of the proposed Boone Avenue Interchange (see Figure 31 on page 229). The construction of the westbound on and off ramps of the interchange and the extension of Boone Avenue South, north to Betty Crocker Drive, will result in a 2100 foot encroachment into the Bassett Creek floodplain.

The second encroachment is located in Minnetonka, south of I-394, along the north edge of Ridgedale Marsh (see Figure 32, on page 231). The construction of a frontage road will result in an encroachment into the floodplain associated with Ridgedale Marsh.

The third encroachment is located in Minnetonka, north of I-394, in the northeast quadrant of the Ridgedale Drive interchange (again, see Figure 32). Reconstruction of this interchange will result in the placement of 750 cubic yards of fill into the floodplain associated with wetland 17.

Each of these floodplains is also a wetland. The benefits of these wetland-floodplains were discussed in the previous section.

Mainline I-394 does not encroach into any floodplain. The only alternative to avoid floodplain encroachments is to not build the westbound half of the Boone Avenue interchange, the north extension of Boone Avenue South, the frontage road between Ridgedale Drive and CR-73, and the Ridgedale Drive Interchange. This would cause loss of access to I-394, and considerable indirection of travel. This is not a practicable alternative.

Furthermore, these floodplain encroachments are not significant for the following reasons:

I. No significant potential for termination of a transportation facility which is needed for emergency vehicles or provides a community's only evacuation route.

A. The roadway grade profile of I-394 is above the 100-year flood elevations.

B. The roadway profile of Boone Avenue South shows that the southern end of the avenue under I-394 will be 2 feet under water in the 100-year flood. This is not significant because other transportation routes are available for emergency vehicles, such as I-394, CR-18, and Betty Crocker Drive.

C. The roadway profile of the I-394 frontage road through Ridgedale Marsh is above the 100-year flood elevation. The 100-year flood elevation of the Ridgedale Marsh is 919.5. The low point of the frontage road through the marsh is above the 100-year flood.

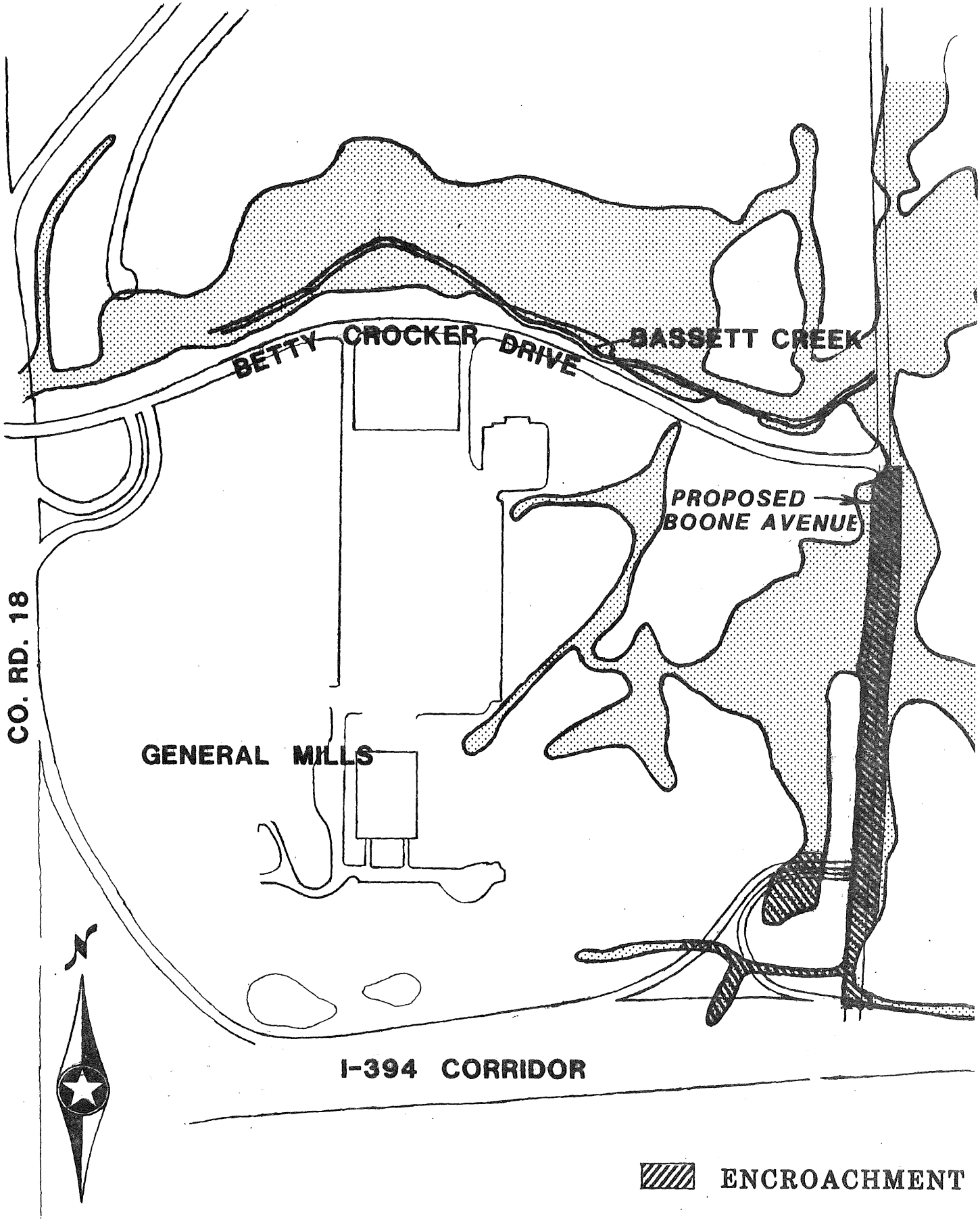
D. The roadway profile of the Ridgedale Drive interchange adjacent to Wetland 17 is also above the 100-year flood.

II. No significant adverse impact on natural and beneficial floodplain values will result.

A. Contractors will adhere to Mn/DOT erosion control specification (1803.5) and to any additional contractural erosion specifications to minimize impacts to Ridgedale Marsh (wetland 18) and the Boone Avenue South floodplain.

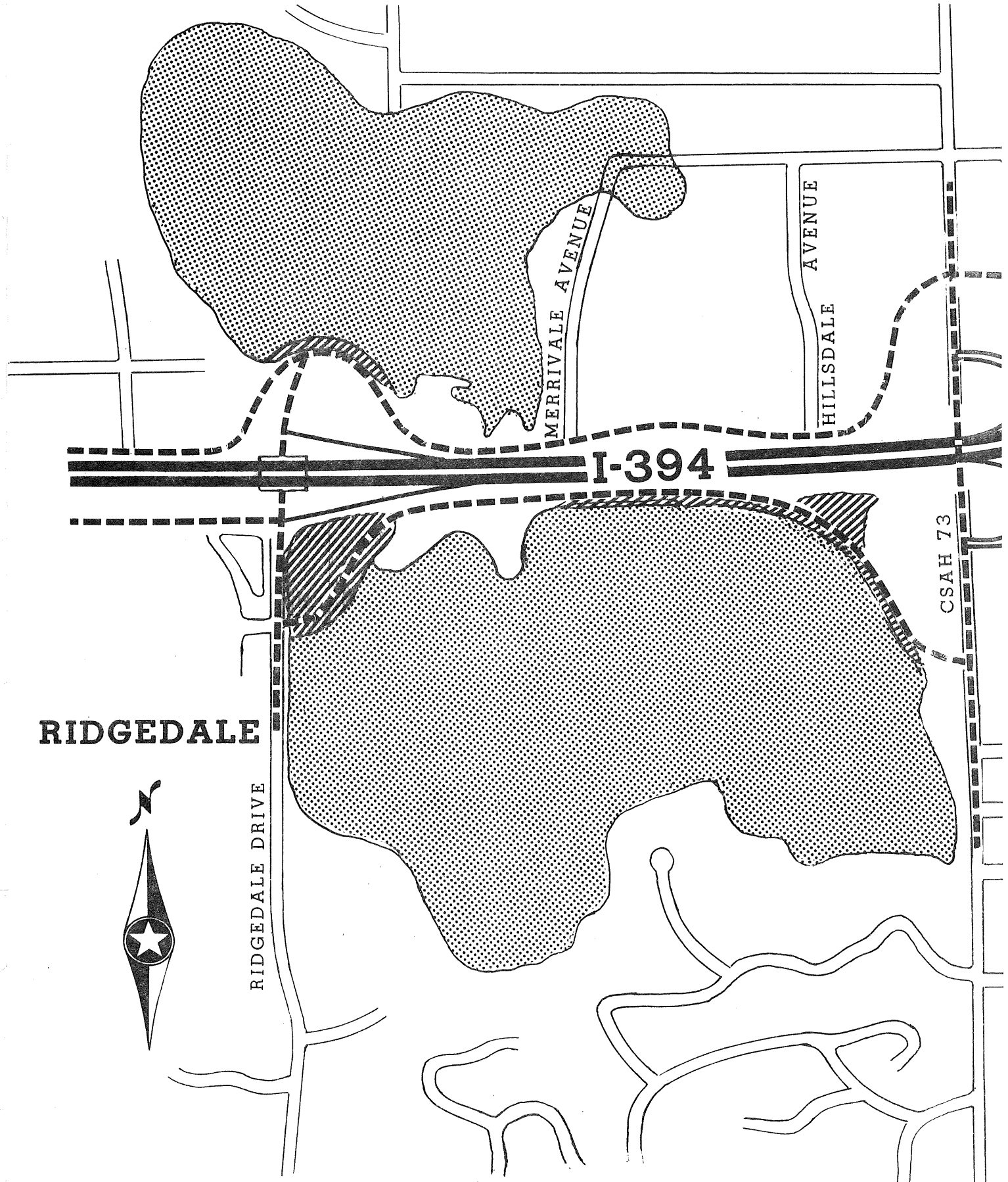
B. All disturbed areas shall be seeded (except sodded areas) with the appropriate seed and mulched.

C. Wetland impacts at Ridgedale Marsh (wetland 18) and the Boone



BOONE AVENUE SOUTH
FLOOD PLAIN ENCROACHMENT

Figure 31



RIDGEDALE MARSH & VICINITY
FLOOD PLAIN ENCROACHMENT

FLOOD PLAIN (100 YEAR)

ENCROACHMENT

Figure 32

Avenue South floodplain will be adequately mitigated. (Refer to Wetland Section, Measures to Minimize Harm).

III. No significant risk, such as increased flooding of property or hazard of life will result from this project.

A. Approximately 2,200 cubic yards of fill will be placed in the Boone Avenue South floodplain. This is equivalent to 1.38 acre feet of lost flood storage. Mn/DOT plans to construct several ponds west of Boone Avenue South to provide flood storage equal to or greater than that lost.

B. Approximately 3,300 cubic yards of fill will be placed in the Ridgedale Marsh floodplain. This is equivalent to 2.04 acre feet of lost flood storage.

Because of the lack of feasible space to provide compensating storage at Ridgedale Lake, Mn/DOT plans to provide flood storage on the north side of I-394 and Ridgedale Drive. The flood storage pond(s) will be equal to or greater in storage capacity than that lost at Ridgedale Marsh.

C. Approximately 750 cubic yards of fill will be placed in wetland 17. This is equivalent to 0.47 acre feet of lost flood storage.

Mn/DOT plans to provide flood storage on the north side of I-394 and west of Ridgedale Drive. The flood storage pond will be equal to or greater in storage capacity than the combined storage lost at Ridgedale Marsh and wetland 17.

IV. The proposed construction of Boone Avenue South, the I-394 frontage road through Ridgedale Marsh, and the Ridgedale Drive interchange through wetland 17 should not support potential incompatible floodplain development because the cities of Golden Valley and Minnetonka have zoning ordinances that regulated floodplain development.

Based on the above assessment, the proposed construction of Boone Avenue South, the Ridgedale Drive interchange and the I-394 frontage road through Ridgedale Lake are not expected to have any significant impact on a community's only evacuation route; are not expected to have any significant impact on natural and beneficial floodplain values; are not expected to significantly increase the risk of flooding; and are not expected to support incompatible floodplain development.

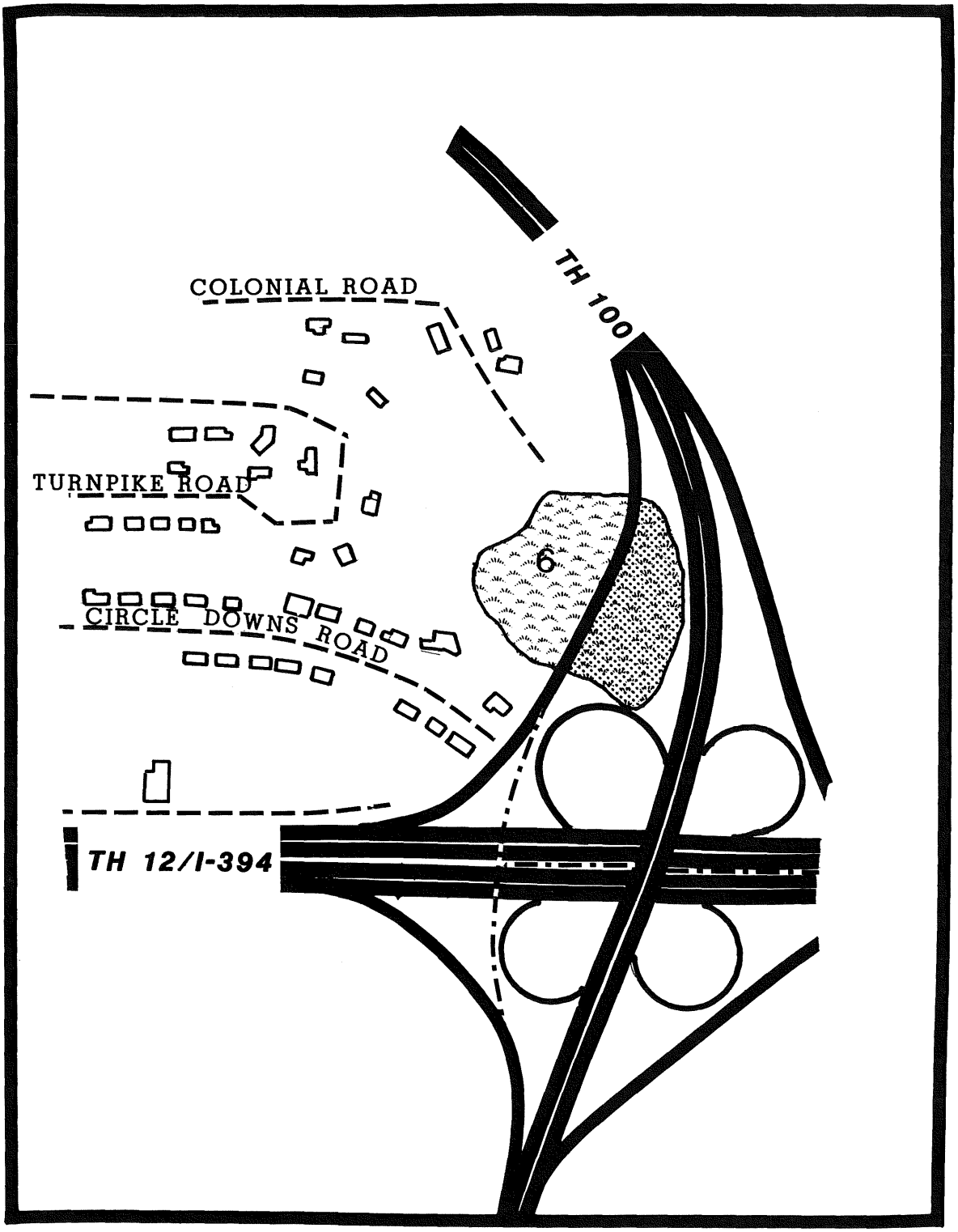
Wetlands

Of the study area's 27 wetlands totaling 582.1 acres, portions of only five wetland basins will be filled by the construction of US-12/I-394. A total of 18.2 wetland acres will be filled.

A separate Wetlands Finding has been prepared and is included in the Appendix of this document. Letters from the U.S. Fish and Wildlife Service and Minnesota Department of Natural Resources are included in that section. The wetlands are also inventoried in the Natural Features discussion of the AFFECTED ENVIRONMENT section of this document.

Wetland 6, a seven-acre type-3 wetland will have up to 4.9 acres filled as a result of constructing the I-394/SR-100 interchange (Figure 33 page 235). The remaining wetland, plus some additional upland area, will be used for stormwater storage. This will change the wetland classification from a type 3 emergent marsh to a type 5 open water pond. Considerable fluctuation in water level is expected due to reduced size and increased runoff. Wildlife use by resident and nesting species will decrease, while seasonal use by waterfowl will increase.

Wetland 11 is a highly diverse, 4] acre, type 1, 6, 7 wetland. Construction of the Boone Avenue South extension and interchange will fill 10.9 acres of this wetland (Figure 34 page 237). The area to be filled is dominated by elm, cottonwood, maple, dogwood and hawthorn. The unique stand of tamarack will not be disturbed. This wetland offers very good habitat for a variety of wildlife species such as deer, raccoon, skunk, ring-necked pheasant, and a variety of songbirds. Removal of approximately 25 percent of the



I-394 WETLANDS IMPACT

WETLAND

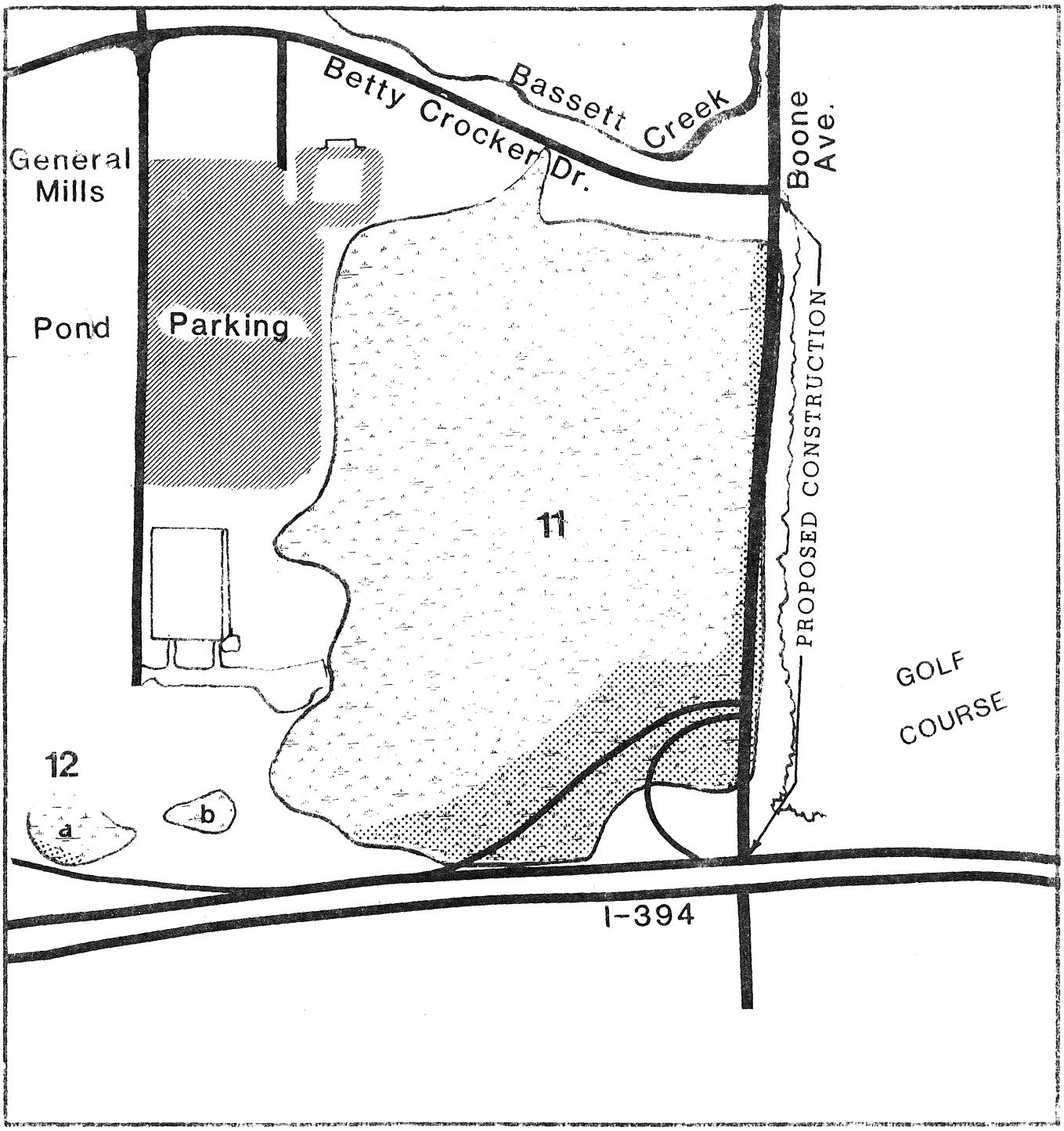
AREA OF FILL

PRIVATE RESIDENCES

WETLAND # 6

NORTH

Figure 33



I-394 WETLANDS IMPACT

WETLAND

ENCROACHMENT

WETLANDS # 11 & 12a

Figure 34

NORTH

available habitat will reduce but not eliminate the wildlife value of the remaining wetland. Stormwater storage ponds may be constructed in this wetland, to replace lost floodplain storage. These ponds would be designed to increase the wildlife diversity of the remaining wetland. Valuable stands of tamarack, red maple, hawthorn, and black cherry will be preserved. Pond construction will be limited to areas of stinging nettles and red-osier dogwood.

Wetland 12a is a type 5, 0.8 acre man-made pond (Figure 34). This wetland receives some use by waterfowl, primarily Canada Geese, which nest throughout the General Mills property west of wetland 11. Approximately 0.03 acres of the southwest corner of the pond will be filled. Waterfowl use of the pond should not be affected by this small encroachment.

Wetland 17 is a 54 acre, type 3 cattail marsh. Construction of the Ridgedale Drive interchange will affect less than 0.1 acre of this wetland (Figure 35, page 241). Excavating a wildlife pond in this wetland will increase the habitat diversity and offer greater wildlife habitat for waterfowl.

Wetland 18 is the 105 acre Ridgedale Marsh, a type 4 cattail marsh. This wetland offers the best wildlife habitat within the project corridor. Species which use this wetland include, raccoons, muskrat, ringnecked pheasants, herons, egrets, and numerous species of waterfowl and songbirds. Construction of a frontage road between Ridgedale Drive and CR-73 will impact 3.2 acres of cattail fringe (Figure 35). Approximately 1.0 acre of this impact will be from the construction of a stormwater retention pond between the proposed frontage road and an entrance ramp to I-394. Due to limited space, this pond will be designed solely for stormwater retention, sediment removal and spill control.

TABLE 25

Projected Direct Wetland Impacts of Alternate Routes*

(estimated to the nearest tenth acre)

Wetland Number	Circular 39 Type	Total Acres	Acres of Encroachment Alt. 1	Alt. 2	Alt. 3
6	3	7	4.9	4.9	-
9	3	4	-	-	.6
11	2/6	42	10.9	10.9	10.9
12a	5	0.8	.1	.1	.1
17	3	54	.1	.1	.1
18	4	1 05	3.2	3.2	3.2
Cedar Lake	5	195	-	-	2.5
Brownie Lake	5	9	-	-	.4
		Totals	18.2	18.2	17.8

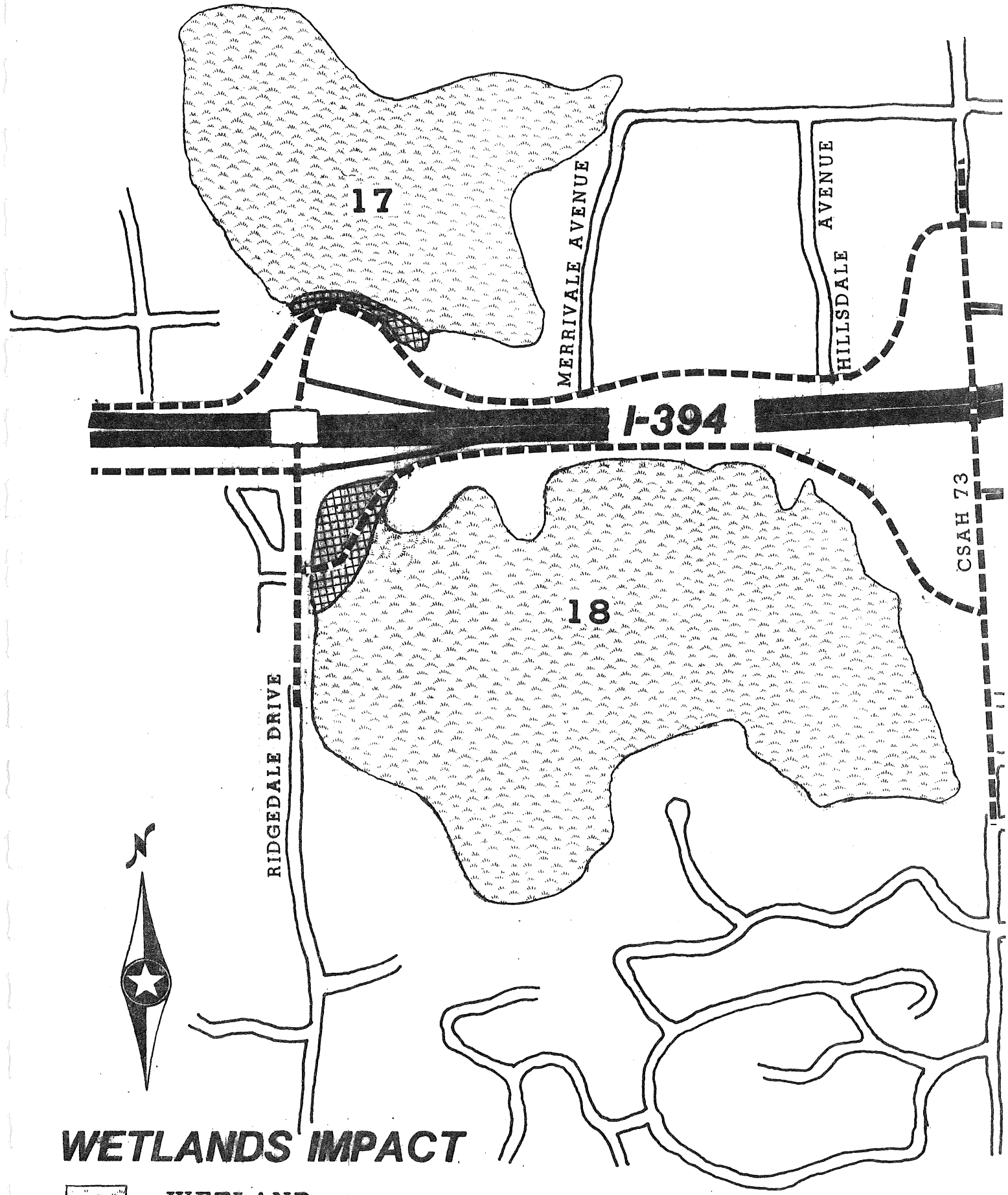
*Refer to Figure 13 for location of alternate routes and the Alternatives section of this report for a discussion of them.

measures to minimize harm

I. Stormwater retention and wetland mitigation ponds will be constructed. Seven ponding areas are planned to store and treat highway runoff and/or mitigate for wetland impacts (Figure 13).

A. Ponding complex A will be excavated within and adjacent to wetland 25, which is a 15 acre type 2/3 emergent marsh. Water presently flows from wetland 22 through this marsh into wetland 26 and eventually into Minnehaha Creek. Two or three dual purpose ponds could be excavated to provide stormwater detention as well as being designed to diversify wildlife habitat. Ultimate size and design of the ponds will not be known until the detail design phase.

B. Ponding complex B would be excavated within wetland 17, which is a 54 acre, type 3 emergent marsh. This wetland is densely vegetated with cattails and has virtually no open water. Excavating several small (less than 0.2 acre) open water basins, with variable shorelines and depths, will increase the value of this wetland as wildlife habitat.



WETLANDS 17&18
Figure 35

C. Pond C will be a small stormwater storage basin to be excavated within the northeast loop of the Ridgedale frontage road. This area is presently a type 3 portion of Ridgedale Marsh which is a 105 acre overall type 4 emergent marsh. Due to space limitations within the loop, this pond will be designed only for storage of runoff.

   The U.S. Fish and Wildlife Service recommends that ditching be done in the dense cattail portion of Ridge-Marsh, in order to enhance wildlife habitat. This measure will be explored during detail design and implemented if feasible.

D. Pond D will be excavated within wetland 14, a four acre type 3 emergent marsh. This wetland is densely vegetated with cattails and has no open water. Design of the pond will strive for 50 percent open water and 50 percent emergent vegetation. This will be a dual purpose pond, designed for both stormwater detention and wildlife habitat.

E. One or more ponds will be excavated within wetland 11, a 43 acre type 1/6/7 wetland. The ponds will be designed to replace lost flood storage, retain and treat stormwater, and add diversity to an already good area of wildlife habitat. An effort will be made to preserve areas of unique or valuable vegetation, such as tamarack, hawthorn and red maple.

F. Pond F will be located northwest of the US-12/SR-100 interchange in wetland 6. This wetland is presently a densely vegetated 7 acre type 3 emergent marsh with no open water. Due to the extensive fill that will impact this wetland (4.9 acres) and the small amount of space available for stormwater storage, this pond will be designed only for storage.

G. If drainage is diverted from Brownie Lake to the east, Pond G would be excavated between US TH-12 and the Burlington-Northern railroad tracks near Penn Avenue in what is presently an upland area. Due to the small available space at this location, this pond would be designed only for storage.

II. Highway fill-slopes will be constructed 4:1 or steeper adjacent to impacted wetlands (6, 11, and 17, 18) to minimize wetland encroachment.

III. Temporary erosion and sedimentation control measures will be used throughout construction, including bale ditch blocks, earth or bale diversions, and temporary sedimentation basins. Permanent measures will be initiated as early as practicable and will include replacement of topsoil, seeding, sodding, and placement of riprap.

IV. It is anticipated that considerable quantities of excess excavated materials will be generated by the construction of I-394. Disposal of excess material into wetlands will be avoided unless it is to mitigate for wetland and wildlife habitat losses (i.e., creating nesting islands) or is done in accordance with Guidelines for Disposal of Excess Excavated Material. These guidelines are a procedure developed by Mn/DOT, in consultation with the U.S. Fish and Wildlife Service, to determine if there is no practicable alternative to disposal of excess material in wetlands and other sensitive areas. Since quantities of excess material and locations of disposal areas will not be known until construction of I-394 (in 1986), it is not possible to make a definitive statement that excess materials will not be placed in wetlands; however, it is not anticipated that wetlands will be filled.

vegetation

The I-394 corridor is heavily developed and only three major areas of upland vegetation (mature oak) are located adjacent to existing US-12. Construction limits will be set so that there will be no effect upon these relatively undisturbed woodlots. Only a few small, scattered stands of trees will be removed during the construction of I-394. Of these, the most significant will be the removal of approximately 11 acres of a mixture of lowland hardwoods and disturbed wetland by the construction of the Boone Avenue interchange and extension of Boone Avenue South. For further discussion, refer to the Wetlands Impact Section and the analysis of impacts to wetland number 11.

wildlife

The major wildlife impacts are associated with the loss of wetland habitat, which has been discussed in the wetland section of this document.

Wildlife associated with the undisturbed upland areas should not be affected. Overall impacts to wildlife will be slight, taking into consideration the wetland mitigation to be accomplished by this project.

endangered species

The proposed project is located within ranges of the Arctic and American Peregrine Falcon as outlined in the U.S. Fish and Wildlife Service Red Book. The Mn/DOT Wildlife Biologist has determined that the proposed project will not adversely affect the species or their habitat because, though both species migrate through the state, neither currently nests in the Twin City area.

Interstate 394 is aligned to follow the existing US-12 corridor. Using the present transportation corridor will minimize the negative social and economic impacts of the freeway on the adjacent neighborhoods and communities. These negative impacts will include the displacement of residences and businesses; loss of tax base; reduced revenue sharing and state aid to schools; some disruption of neighborhoods, businesses, and public services; and more serious, but temporary, disruption during construction. These impacts will be balanced by a transportation facility that will be more efficient in terms of saving both time and fuel, will provide better access to the adjacent neighborhoods and businesses, and will provide easier travel between the western suburbs and the Minneapolis CBD. Also, reduced noise levels and improved air quality are positive factors.

A detailed study of the social, economic, and land use characteristics of the area, and the impact of I-394 on these characteristics, has been written and is available for review at the Mn/DOT Golden Valley District Office. This study has been the primary source for the following assessment.

Displacement

The Relocation Office staff of the Mn/DOT Golden Valley District made and published a Relocation Study. That study, available for review at the district office, is the primary source for this discussion of residential displacement, commercial displacement, and the relocation program.

The exact properties to be taken by the project cannot be precisely known until the alignment has been finally established and the final design is under way. The numbers of properties to be taken is given in this document as a probable range, and even this range must be taken as an approximation at this time.

Residential Displacement

Between 63 and 83 residences will be taken by this project, displacing an estimated 169 to 224 persons. Golden Valley will be the most severely affected, but even its possible loss of 101 persons represents less than one-half of one percent of its population.

The following table shows the probable loss of residences and persons to each of the four communities.

TABLE 26

Residential Displacement Effects

US-12/I-394 Study Area

Effect	Community				
	Minne-apolis	Golden Valley	Saint Louis Park	Minnetonka	Total
Number of Displaced Residences (maximum)	16	34	14	19	83
(minimum)	15	25	10	13	63
Estimated Persons per Residence*	2.2	2.9	2.4	2.9	
Estimated Persons Displaced (maximum)	35	101	33	55	224
(minimum)	33	74	24	38	169
Displaced Persons as a Percent of City Population** (maximum)	0.01%	0.44%	0.08%	0.14%	
(minimum)	0.01%	0.32%	0.05%	0.10%	

*Persons per residence equals population divided by number of housing units.
**1980 population.

It does not appear likely that the freeway project will displace an inordinate number of minority group, low income, or elderly persons. Statistically, the residences to be taken might include one minority group household and five homes occupied by elderly persons. Observation of the neighborhoods confirms that no especially sensitive groups will be unduly disrupted. Judging from the homes to be taken, it seems unlikely that many low income families will be affected.

Because the freeway will follow the existing transportation corridor, the displacement will occur at the edge of the neighborhoods, minimizing the effects on the neighborhoods.

According to figures (shown in the table below) from the Greater Minneapolis Area Board of Realtors, sufficient replacement housing exists within the neighborhoods to accommodate the families that will be displaced. Although the vacancy rate is low and the housing market is considered tight, more than 3000 homes were offered for sale in the neighborhoods and communities adjacent to the freeway corridor during the first eight months of 1981. More than half of these were sold. They were available in every community and price range, averaging from $71,777 in Saint Louis Park to $113,097 in the Cedar-Isles-Loring neighborhood of Minneapolis. The average sale price in the Minneapolis area was $80,332 for this time period.

The distribution of these homes by community and price is shown in the following table.

TABLE 27

HOMES FOR SALE BY COMMUNITY AND PRICE

neighborhood or community	Offered for sale	actually sold	lowest selling price	highest selling price	average selling price
Cedar-Isles-Loring(1)	314	166	$26,500	$ 426,500	$113,097
North (2)	1013	570	17,000	91,000	52,915
Saint Louis Park	591	398	11,500	179,000	71,777
Golden Valley	324	166	35,077	2,735,000	110,126
Minnetonka and Hopkins	929	492	13,000	265,000	96,438
Plymouth	956	446	14,000	319,605	107,785
Totals	4127	2238			

(1) Includes the portion of the Bryn Mawr neighborhood south of US-12.

(2) Includes the portion of the Bryn Mawr neighborhood north of US-12.

Commercial Displacement

Approximately 46 commercial operations in 36 buildings will be displaced by the freeway. The three suburbs will be about equally affected; Minneapolis will lose only two businesses.

Most of the businesses to be moved are service firms that do only retail or both retail and commercial business. Eleven are primarily commercial, and two are manufacturers. Most are small. Twenty-nine have ten or fewer full-time employees; only four have more than twenty such employees.

The following table shows the distribution and details of the 46 businesses.

TABLE 28

Commercial Displacement Information for I-394 Corridor*

Item of Information	Community				
	Minneapolis	Golden Valley	Saint Louis Park	Minnetonka	Total
Type of Establishment					
Retail, Personal Service	-	13	5	8	26
Wholesale, Commercial	1	3	6	1	11
Manufacturing	-	-	-	2	2
Other	1	-	2	4	7
Total	2	16	13	15	46
Primary Area Served					
Neighborhood	-	2	-	1	3
Local Community	-	7	5	4	16
Metropolitan Area	1	5	4	4	14
State or larger area	1	1	4	1	7
Unspecified**	-	1	-	5	6
Number of Full-Time Employees					
5 or less	-	6	4	7	17
6-10	-	6	4	2	12
11-15	1	1	3	2	7
16-20	-	-	-	-	-
21 and more	1	1	2	-	4
Unspecified*	-	2	-	4	6

*Source: Data generated by district during relocation needs survey of tenants or property owners.

**Includes vacant properties.

Three of the businesses serve primarily their immediate neighborhoods. Their loss will inconvenience their clients and cause hardship on the businesses themselves. The great majority of the displaced commercial operations draw their clientele from the larger community. While their displacement and relocation may cause short-term disruption to business and client alike, it will cause no discernable effect on the area economy. Due to the relatively strong job market in the Twin City area, long term job loss will be minimal.

Relocation Program and Benefits

The Minnesota Department of Transportation is required by both state and federal law to provide prompt and equitable relocation services and payments to all persons and businesses displaced by State or Federal Aid highway construction.

The Golden Valley District Office has a well trained and experienced relocation staff to provide these services. The district office is relatively accessible to the project, so all relocation contacts will originate from there. The address of the office is 5801 Duluth Street; it is about two miles north of the freeway corridor. If necessary, an on-site field office will be opened to serve as a public information center.

Residents will be informed of their eligibility to receive payments such as moving expenses, appraisal fees, housing supplements, closing costs, interest differentials, and so forth. Business proprieters will be appraised of payments such as moving expenses, loss of property, feasibility studies, discontinued business payment, searching fees, and appraisal fees. These payments and the eligibility requirements to receive them are explained in the booklet entitled "Relocation Assistance" which will be available to all interested parties.

As the time nears for negotiations with landowners, the relocation staff will personally contact and counsel all occupants of the affected residences and businesses concerning their potential relocation benefits.

Tax Base

One of the major impacts a major transportation facility can have is the reduction of the tax base of the communities through which it passes. Purchased right-of-way is permanently removed from the tax rolls.

In the case of I-394, as many as 83 residential properties and 36 commercial buildings will be taken. Tax loss analysis was performed for taxes payable in 1980. Examination of Table 29 on the following page reveals that the aggregate tax loss associated with this project is more than $385,000. More meaningful than the dollar amounts are the figures in the last two columns. These indicate, in percentage, tax loss impacts for each taxing district. The maximum tax loss for any such district is slightly less than one percent.

TABLE 29

Tax Base Impacts Associated with US-12/I-394 Right-of-Way

	Tax on Displaced Property	Total Receipts (000)	Local Property Tax Revenue (000)	Loss as % of Total Receipts	Loss as % of Local Property Tax Revenues
Cities					
Minneapolis	$ 13,594[a]	$245,021[b]	$ 57,906[b]	0.005%	0.023%
Golden Valley	20,976[a]	6,186[b]	2,216[b]	0.339	0.946
Saint Louis Park	24,976[a]	15,929[b]	3,800[b]	0.157	0.657
Minnetonka	8,539[a]	20,458[b]	3,510[b]	0.042	0.243
School Districts					
Special No. 1	$ 15,229[a]	$140,405[c]	$ 59,321[c]	0.011%	0.026%
270*	109,075[a]	24,288[c]	14,053[c]	0.449	0.776
283	34,681[a]	16,746[c]	9,215[c]	0.207	0.376
284	6,206[a]	14,797[c]	7,471[c]	0.042	0.083
Hennepin County	$104,007[a]	$779,208[c]	$110,103[c]	0.013%	0.094%
Other**	$ 48,277[a]				
Total	$385,560				

Sources: [a]Property taxes accruing to the various entities were taken directly from the property tax statements of the affected properties in the Hennepin County Finance Office.

[b]Report of the State Auditor of Minnesota on the Revenues, Expenditures and Debt of Cities in Minnesota for the fiscal year ended December 1979. October, 1980. pp. 12, 16, 20, less borrowing.

[c]Report of the State Auditor of Minnesota on the Revenues, Expenditures and Debt of the Local Governments in Minnesota for fiscal years ended during the period of July 1978 to June 30, 1979.

Notes: *Includes data from former districts 274 and 275.
**Includes such as Metropolitan Council, Watershed Districts, Mosquito Control, etc.

In most cases lost tax revenues constitute a small percent of total receipts. In two cases the loss approaches one half of one percent. In other cases losses are less. The City of Golden Valley and the Hopkins-Golden Valley School District (270) would experience reductions of 0.34 percent and 0.45 percent of total receipts respectively.

The last column expresses these losses as a percent of locally raised property tax revenues, excluding special assessments. Again, the City of Golden Valley and School District 270 are most heavily impacted. Losses in these cases approach one percent of locally raised tax revenue (0.95 and 0.78 percent respectively). Saint Louis Park, and School District 283 would experience losses on the order of one half of one percent of locally raised tax revenues (0.66 and 0.38 percent respectively).

This discussion represents a worst case analysis. That is, it assumes all residential and commercial property owners displaced would leave the community in which they are presently located.

Frequently, the loss of tax base through right-of-way acquisition is offset by increases in the value of the remaining property, development attracted to the area by the transportation improvement, and redevelopment of an area. Communities most likely to benefit from an influx of development are those on the western end of the project, e.g., Plymouth, which would lose no property to the project.

The Minnesota Legislature found it was "desirable to improve the revenue raising and distribution system in the seven county Twin Cities area (Minnesota Statutes 473F.01) and to increase the likelihood of orderly urban development by reducing the impact of fiscal considerations on the location of ... highways ..." (Minnesota Statutes 473F.01(3)), and enacted the Metropolitan Revenue Distribution Act. Briefly, this act provides that a portion of the marginal tax revenue resulting from new development in a municipality be shared with other municipalities in the

Metropolitan region. Some portion of tax revenue resulting from commercial/industrial development generated by I-394 would flow back to the communities mentioned above. Such redistribution will attenuate but not eliminate the negative fiscal impacts to the communities which will lose property to the project.

State Aid to Schools

Some residents were concerned that state aid to local schools could be adversely affected through a reduction in the number of school aged children in the school districts. To analyze this, the number of school age children subject to displacement was estimated. The estimation formula determinates the number of residences to be displaced in each district, applies an average person per residence figure, and then multiplies this by the proportion of the population which is of school age. This procedure results in an estimate of the number of school age children likely to be displaced by the project.

The state guarantees a dollar amount per pupil unit, which varies from year to year. The allocation formula, however, requires that local effort be counted for part of this figure. The actual amount received per pupil in each district, therefore, is variable. Table 30 shows the amount of revenue that would have been lost in 1979 using the amount of aid received in the districts in 1979 as a basis.

Table 30 shows the amount of aid which would have been lost if each displaced student left the district, and if the district lost the full dollar amount it had received on a per pupil basis. This would be a maximum amount and therefore would overestimate losses suffered by each district. It represents the "worst case."

In all cases maximum losses as a result of this project would be less than one-fourth of one percent of state aid received. Since the estimation formula assumed that all displaced residents would leave the school district, any who relocated in the same district would reduce this impact.

TABLE 30

Probable Impacts on State Aid to Schools in I-394 Study Area

Statistic	School District			
	001 Minneapolis	270 Hopkins Golden Valley	283 Saint Louis Park	284 Wayzata
Estimated Number of School Children Displaced*	8-9	16-22	5-7	8-12
District Envollment 6/30/79	44,250	8,722	6,301	6,866
Estimated Percent of District Enrollment Displaced	0.02%	0.18-0.25%	0.08-0.11%	0.12-0.17%
District Revenue (000)	$140,045	$24,288	$16,746	$14,797
Amount Provided Through				
1. Local Tax (000)	$59,321	$14,053	$9,215	$7,471
2. County Aid (000)	-	61	39	24
3. State Aid (000)	53,798	7,327	5,506	5,460
4. Federal Aid (000)	16,904	771	598	238
State Aid Received Per Pupil	1,216	840	874	795
Estimated Loss of State Aid (maximum)	$10,944	$18,480	$6,118	$9,540
Estimated Loss of State Aid as Percent of State Aid Received	0.02%	0.25%	0.11%	0.17%

*Estimate of school children displaced based on 1975 Hennepin County figure of 22% of population. Other financial and enrollment figures are for year ending June 30, 1979, and are found in the Report of the State Auditor of Minnesota on the Revenues, Expenditures and Debt of the Local Governments in Minnesota, April 1980. p. 76.

Revenue Sharing

A concern has been expressed that residential displacement associated with the project would result in significant adverse impact on receipt of federal revenue-sharing funds. The nature of the federal allocation process is such that addressing this issue with an acceptable degree of precision is impossible. Funding levels are determined by a complex formula, the factors of which include not only population, but local tax effort, personal income levels, and intergovernmental transfers as well. The process employs these figures for every unit of government when determining funding shares. The relative nature of this process makes it impossible to precisely determine changes for one unit of government without simultaneously calculating equivalent statistics for each county and city in Minnesota.

Disruptions

Any freeway has the potential to disrupt neighborhood activities, business activities, and community services by limiting accessibility, increasing traffic levels in residential neighborhoods, or in some other manner altering existing traffic and social patterns. This section will discuss some of the potential long term disruptions associated with this project. Short term construction disruptions are discussed in the Construction Impacts section on page 262.

neighborhood disruptions

The Bryn-Mawr neighborhood of Minneapolis is currently divided by US-12. Replacement of the existing pedestrian crossing over the freeway at Cedar Lake Road will continue the possibility of social interaction in this neighborhood. As currently planned, access to the Bryn Mawr neighborhood from I-394 will be provided at Penn Avenue. The existing access to US-12 at Theodore Wirth Parkway will be closed and the connection between the Parkway and Cedar Lake Road will be severed.

Projected traffic volumes on these streets are shown in Figure 5. Penn Avenue (CR-2) will carry slightly more traffic than it now carries, which could cause some disruption. However, a much greater increase in volume is expected if I-394 is not built. South of I-394, volumes on Cedar Lake Road will decrease from present

levels primarily because the connection with Theodore Wirth Parkway will be eliminated. A new frontage road on the south side of I-394 will connect Penn Avenue and the Parkway, and will border a portion of the Bryn Mawr neighborhood.

The Tyrol Hills neighborhoods in Golden Valley may experience some minor traffic disruption due to changes in local circulation. They will have less direct access to and from I-394 than they now have with US-12. Golden Valley hired a consultant to study this problem. The access to North and South Tyrol Hills will be essentially what the City of Golden Valley has recommended. The existing pedestrian bridge over US-12 at June Avenue will be replaced.

business disruptions

The project will not cause significant loss of access to businesses along the freeway. The project will remove the direct access that many businesses now have on US-12, but access will be provided by interchanges and frontage roads. In most cases access should be improved due to reduced congestion. The major commercial areas will all have very good access.

Another disruption will be to the Brookview Golf Course and recreation area. The loss of direct access to I-394 will affect overall accessibility to the golf course, its recreation facilities, and community center. The project will also require the relocation of one tee. This is discussed in more detail in the Section 4(f) Evaluation attached to this report.

disruption to public services

The project will have an overall beneficial impact on access to community cultural centers, and to the provision of public services. The project will provide separated grade crossings and thus relieve congestion on many local streets, facilitating access to community centers, etc.

temporary disruption due to construction

During construction, Mn/DOT intends to maintain traffic within the existing corridor and no detours are planned. Congestion and delays can be expected during peak periods but construction staging will be planned to minimize this as much as possible. A certain amount of driver confusion and disorientation can also be expected as existing access points are either closed or modified. However, this can also be minimized by proper signing. A public information program to help motorists cope with detours and alternate routes may be implemented.

neighborhood access

The proposed freeway will have a generally beneficial effect regarding access to facilities and services. By reducing congestion and travel time, accessibility to the many social and cultural attractions of Minneapolis and Saint Paul will be increased, particularly for residents nearer the western end of the project. However, for residents near the eastern end of the project, access to the downtown area may be less convenient. Residents in the North and South Tyrol Hills neighborhoods may experience reduced access. Currently these residents have access to US-12 at two or three points between Penn Avenue and SR-100. Under the proposed interchange system, no direct access to the freeway will be provided between Penn Avenue and SR-100. Residents of North and South Tyrol Hills, and to a lesser extent Cedarhurst, may need to follow a less direct route to travel to destinations in the Minneapolis CBD.

Land Use and Planning

This project has been found by the Metropolitan Council to be consistent with the long range land use planning of the metropolitan area. The project may intensify development in the corridor, particularly commercial development near intersections in the western portion of the corridor. This type of development is already planned for in the communities' comprehensive plans and any development attributable to I-394 would be consistent with those plans. The primary impact area is entirely within the Metropolitan Urban Services Area, so provision of public services and utilities to the corridor area is planned and will pose no problem.

The communities along US-12 to the west of this freeway project are, for the most part, beyond the Metropolitan Urban Services Area. To examine potential land use impacts, local planners or planning consultants of the cities in this area were interviewed. The general consensus was that the project would have either no impact or slight beneficial impact. The cities of Wayzata, Mound, Minnetonka Beach, Spring Park, and Long Lake are nearly fully developed and their planners did not anticipate any further growth regardless of I-394. The planners of the remaining communities, with the exception of Orono, felt any resulting growth would be fully consistent with their land use plans. Many considered additional growth desirable. The City of Orono staff expressed concern about the possibility of increased development pressures associated with the project. While a strong zoning ordinance to control growth exists, they felt that the project may bring increased development pressure.

prime and unique farmland

No prime and unique farmland will be taken for the construction of US-12/I-394.

IMPACTS ON HISTORIC FEATURES

No sites on the National Register of Historic Places exist in the freeway corridor or adjacent to it. Although several such sites do exist in the study area, including one in the primary impact area, none of them will be affected by the project.

The Minnesota Historical Society (MHS) has been consulted and a letter from the State Historic Preservation Officer (SHPO) is included in the Appendix of this FEIS. The Society's review of the US-12/I-394 corridor has not revealed the existence of any historic or archaeological sites of significance for present or potential inclusion on the National Register. If any sites or artifacts of possible archaeological value are revealed during construction, operations will be suspended and the Preservation Officer will be notified so that he can determine the significance of the findings and, if appropriate, remove them.

VISUAL IMPACTS

The View Of The Freeway

Freeway US-12/I-394 will follow the route of existing US 12, so its visual impact will not equal that of a new freeway on a new route. Through much of the residential area and parkland, it will be lower than the surrounding land, so less obtrusive than the existing highway. Noise abatement walls along some of these same areas will also visually shield the freeway. The walls will be attractive; the backsides, facing the neighborhoods and parklands, will be landscaped to enhance their appearance. Retaining walls that face away from the freeway will also be designed to be attractive, with landscaping where necessary. The fences along the right-of-way may be vinyl clad to make them less obtrusive. The designers of the walls and landscaping will consult with the communities and park authorities to consider their wishes regarding appearance.

Even where clearly visible from the surrounding area, the freeway will be more attractive than the existing road. It will have a more unified appearance, fewer random elements, more clearly defined primary elements, better landscaping, and a neater relationship with the areas through which it passes. A design guide is being prepared to ensure that it will be aesthetically pleasing, coherent, and compatible with the surrounding areas.

The mitigation of the adverse visual effects of freeway elements, including bridge abutments, retaining walls, noise abatement walls, and fences is discussed in more detail on pages 93 and 94. That discussion considers the elements that face the freeway itself, as well as those that face the neighborhoods along the freeway.

The View From The Freeway

The view from US-12/I-394 will be essentially the same as that from existing US-12, as it will follow the same route. The lowered grade and the noise abatement walls along part of the route will limit the view to the side. These features will exist primarily along residential neighborhoods and parklands, so the most attractive views to the side of the

road will be the ones which will be lost. Much of the route is in rolling terrain, so the more distant landscape will still be visible. The minimum width between noise abatement or retaining walls will be 115 feet, which may create a sense of enclosure to the motorist. The walls will not be continuous for any great length, but intermittant, which will relieve the sense of enclosure.

The better design of the freeway itself will have a positive visual affect on the motorist. Simplicity, clear delineation of the highway elements, and design continuity will all be of help to the driver. Appurtenances such as lights and signs will be visually prominent, so will receive special design attention.

The straight alignment that comprises most of US-12 is not considered to give as interesting a forward view as that provided by a curved alignment. A gently curving alignment provides a landscape background to the roadway in the foreground. A straight alignment provides only a view of the road ahead, as far as the driver can see. On a heavily traveled commuter route such as this, the distant view ahead is probably less important than on, say, a tourist route. On US-12/I-394, most motorists will be so familiar with the route they will be virtually unconscious of the view. The heavy traffic will not permit much attention to the view, in any event. The nearly straight alignment will be beneficial with the series of interchanges, as it best accommodates the merging, lane change, and weaving movements.

A few landmarks will still be prominent to help orient the motorists. They will include the large buildings and complexes at Ridgedale, Shelard, General Mills, Turner's Crossroad, and Prudential. Eastbound motorists will still be treated to a dramatic view of the skyline as they approach Minneapolis.

CONSTRUCTION IMPACTS

The reconstruction of US-12 to freeway US-12 and I-394 will take, it is estimated, about five years. The construction will cause major impacts, but because the freeway will be built in stages, the impacts on any one area should not last more than two construction seasons. The impacts will not be unusual, but common to most urban highway construction projects. Some of the impacts may be more severe because of the need to maintain traffic in the corridor during construction.

The impacts on air quality, noise, water quality, and traffic are discussed below.

Air Quality

The freeway construction will have a negative impact on air quality. The air pollution will include the exhaust from construction equipment and trucks, and dust raised by these vehicles and the wind.

Due to air quality concerns, no traffic will be detoured outside the corridor. Traffic will be maintained within the corridor, on one-way frontage roads where possible, during construction.

Figitive dust (particulates) will be controlled by means of adherence to applicable Mn/DOT construction specifications, special provisions, and MPCA regulations. Control measures will include watering, calcium chloride applications, and street sweeping. Temporary connections and detours will be paved. Right-of-way to be landscaped will be seeded or sodded as soon as possible to reduce dust and wind erosion.

No significant increase of carbon monoxide concentrations are anticipated during the construction of the project. A CO analysis was made of the project corridor for the year 1986, assuming that mainline traffic would be split and on future frontage roads where possible. No violations of the air quality standards were predicted.

Noise

Construction noise will come mainly from the normal operation of trucks and heavy equipment, which could generate unusual or excessive noise. However, most such noise will be either brief or intermittent.

No uniquely sensitive noise receptors are known to be close to the freeway corridor.

The hours of construction activity can be limited in sensitive areas, when and where appropriate, to minimize the noise impact. Minneapolis, Golden Valley, and Saint Louis Park have ordinances that limit the hours that noisy construction activities can take place. These impacts are also discussed in the Noise section on page 196.

Water Quality

The freeway construction will have the potential for a negative impact on water quality. The water pollution could include wastewater from concrete mixing operations, accidental spills of petroleum products or chemicals, and runoff water muddied by erosion.

Wastewater and spills will be carefully controlled in accord with Standard Specification 1717 for Highway Construction, as published by Mn/DOT.

Erosion is a more serious potential source of water pollution. The contractors will be required to submit and obtain approval for an erosion control plan prior to construction. Temporary erosion controls can include bale ditch checks, earth diversions, bale diversions, and temporary sediment basins. Mn/DOT Specification 1803.5 defines erosion control procedures and responsibilities. Finally, insofar as possible, bare slopes will be stabilized and seeded or sodded concurrently with grading operations.

Traffic

A traffic control plan will be developed prior to construction. Mn/DOT's intent is to maintain traffic in the existing corridor.

Increased congestion and temporary driver confusion can be expected as travel patterns are altered and existing access points are either closed or modified. However, the traffic control plan will include provisions for adequate signing and strategies for maintaining a safe flow of traffic. A public information program to help motorists copy with detours and alternate routes may be implemented.

Although the adverse traffic impacts are unavoidable, Mn/DOT will make every effort to minimize them by enforcing all applicable standards and by cooperating with the affected communities to the fullest possible extent.

SECONDARY IMPACTS

Land Use

Development along the highway corridor may accelerate and intensify when US-12 is reconstructed from an expressway to a freeway, as proposed. The difference in the development will be in degree, not in kind. Highway 12 is now a major transportation corridor. Intense commercial development has occured along its path over the past thirty years. Further development is called for and planned for by both the individual communities and by the Metropolitan Council.

Traffic Movement

Because US-12 is now a major traffic corridor, its reconstruction to a freeway will not cause any adverse secondary impacts on traffic movement. To the contrary, the primary effect of the improved road will be to improve the traffic flow of an existing commuter and commercial route. By improving the highway between the western suburbs and the Minneapolis CBD, the project will alleviate congestion and reduce travel times within an existing transportation corridor. Some local traffic patterns will be modified, especially in areas where the direct access to the highway will be eliminated. However, the new travel patterns should prove to be both more efficient and safer.

Mass Transit

US-12/I-394 will include provisions for the preferential treatment of buses, vanpools, and carpools. These provisions will include preferential access ramps, diamond lanes, and reversible lanes.

At this time, no other form of mass transit is being considered for this corridor. A discussion of a Light-Rail-Transit (LRT) system is included in the "Alternatives" section of this report.

Transit systems, such as LRT, will continue to be studied by the Metropolitan Council. Although the recent study on LRT concluded that the I-394 corridor would be better served by a highway, new innovations could make such a system more desirable for the western suburbs in the future.

ENERGY IMPACTS

An energy analysis has been conducted to compare the energy cost of building and operating the US-12/I-394 freeway to the energy cost of not building the freeway and maintaining traffic on existing expressway US-12.

Constructing this 10.2 mile six-lane freeway (including the diamond and reversible lanes) will require a substantial one-time energy expenditure for materials, equipment, and construction operations during the year 1986 through 1990. These energy expenditures will be balanced by the reduced fuel consumption of the vehicles that will use the freeway with its more freely flowing traffic.

Not constructing the freeway will forego the energy expenditure of the construction project. However, based on an estimate of future needs we assume that the highway would also require two 2-inch overlays to maintain the roadway, and approximately two million (1974) dollars of intersection and signalization revisions to improve the capacity of the four lanes. Any energy saving (by not building I-394) would be offset by the increased fuel consumption of the many vehicles that will use the highway with its far more congested traffic.

The following table shows the results of the energy analysis in terms of equivalent daily energy consumption for the twenty year time period from 1990 to 2010. The energy costs of building the freeway and improving existing US-12 are included, of course, although those costs would be expended prior to the twenty years analyzed.

TABLE 31

ENERGY ANALYSIS

energy consumption by source	Equivalent Daily Consumption	
	US-12/I-394 freeway built	freeway not built; US-12 improved
direct consumptions		
vehicle fuel	2.775×10^9 Btu	3.878×10^9 Btu
indirect consumptions		
vehicle maintenance and replacement	2.740×10^9 Btu	2.874×10^9 Btu
construction	0.7298×10^9 Btu	0.015×10^9 Btu
roadway maintenance	0.016×10^9 Btu	0.103×10^9 Btu
Total Energy Daily Average	6.2608×10^9 Btu	6.870×10^9 Btu
Total Energy per Day in terms of Barrels of Crude Oil	1079 barrels	1184 barrels

In the calculations, the US-12/I-394 roadway was assumed to have a useful life of twenty years, and the bridges and other structures a useful life of fifty years. The energy to build the freeway was apportioned, on a daily basis, over these lifespans.

The nine or ten percent energy benefit of building the freeway is not conclusive, considering the state of the art of the calculations. It suggests that building the freeway will ultimately save energy. It does not suggest that building the freeway will be a waste of energy.

The energy study was done using the California Department of Transportation procedure "Energy Mod 3" with a minor revision made in the indirect energy construction portion. The computations are available for review at the Mn/DOT Golden Valley District Office.

SECTION 4(f) EVALUATION

CONTENTS

	page
contents	269
list of displays	271
abbreviations used	271
THE US-12/I-394 PROJECT	272
Description	272
Need	273
Status	275
Park Involvement	276
THE SECTION 4(f) LANDS	279
Brookview Golf Course	279
Theodore Wirth Park	280
Brownie Lake	293
AFFECT OF THE PROJECT ON THE SECTION 4(f) LANDS	299
Brookview Golf Course	299
Theodore Wirth Park	303
Brownie Lake	308
MITIGATION OF ADVERSE AFFECTS	311
Brookview Golf Course	311
Theodore Wirth Park	311
Brownie Lake	313
ALTERNATIVES	315
Route Alternates	315
No-Build Alternate	316
Limited Improvement Alternate	317
Design Alternatives	317
COORDINATION WITH PARK AUTHORITIES	319
CONCLUSION	336
APPENDIX	338
Discussion of Noise Analysis	338
Discussion of Air Quality Analysis	341
Tamarack Bog Study	347
Comments Received on Draft Section 4(f) Evaluation	353

DISPLAYS

	page
Brookview Golf Course Map	281
Theodore Wirth Park Map	285
Brownie Lake and Parkland Map	295
I-394 Layout at Brookview Golf Course	301
I-394 Layout at Theodore Wirth Park and Brownie Lake	305
Photographs of Brookview Golf Course	283-284
Photographs of Theodore Wirth Park	287-288
Photographs of Brownie Lake and Parkland	297

ABBREVIATIONS

ADT	average daily traffic
BNR	Burlington Northern Railroad
CBD	central business district
C-D	collector-distributor (road)
CO	carbon monoxide
CR-	county road
dBA	decibels, A-scale weighted
DEIS	Draft Environmental Impact Statement
DSR	Design Study Report
FEIS	Final Environmental Impact Statement
FHWA	Federal Highway Administration
I-	Interstate (highway)
MC	Metropolitan Council
Mn/DOT	Minnesota Department of Transportation
MPO	Metropolitan Planning Organization
MPRB	Minneapolis Park and Recreation Board
Pb	lead
ppm	parts per million
SEE	social, economic, and environmental (effects)
SR-	state road
TMC	Traffic Management Center
ug/m^3	micrograms per cubic meter
US-	United States (highway)
USGA	United States Golf Association

THE US-12/I-394 PROJECT

Description

The proposed project is the construction of just over ten miles of freeway from the western suburbs to downtown Minneapolis. A map of the route, showing its relationship to the communities, other major roads, and parklands, is in Figure 15 on page 121.

This freeway will include a 1.5 mile segment of US-12 between SR-101 in Wayzata and I-494 in the second-tier western suburb of Minnetonka, and an 8.7 mile segment of I-394 between there and I-94 at the western edge of the Minneapolis central business district (CBD). At this point the project will meet the Third Avenue Distributor, the approved but not-yet-built eastern terminus of I-394. About one mile long, it will link the freeway to the downtown street network and parking facilities.

The freeway will follow the east-west alignment of existing US-12, and pass through the western first-tier suburbs of Saint Louis Park and Golden Valley as well as through Wayzata, Minnetonka, and Minneapolis.

Between I-494 and SR-100, the proposed road will be a six-lane freeway with the inside lanes identified as standard diamond lanes for the preferential use of high-occupancy vehicles (buses, vanpools, and carpools) during rush hours. Between SR-100 and I-94 near the Minneapolis CBD, the road will be a six-lane freeway with the two inside lanes being reversible and physically separated from the outer lanes. The reversible lanes will operate eastward toward the city in the morning and westward toward the suburbs in the afternoon and evening.

Priority use of the reversible lanes east of SR-100 will initially be given to high-occupancy vehicles. If the lanes are significantly underused, management techniques will be employed to allow other vehicles access to the lanes. In any case, a high level of service will be maintained in the lanes to promote the philosophy of ride-sharing.

Cloverleaf-type interchanges will connect I-394 to the principal and intermediate arterials of I-494, CR-18, and SR-100. Other interchanges will be spaced to serve local needs. Collector-distributor (C-D)

roads will improve the capacity and safety of many of the interchanges. The frontage road system will be improved. Bridges and underpasses for both vehicles and pedestrians will improve traffic circulation and link neighborhoods and commercial areas on each side of the freeway.

Park-and-ride sites will be built (but not within any park) to encourage car- and van-pooling and the use of public transit buses. Ramps will be built to exclusively serve the reversible lanes. The Traffic Management Center (MTC) will monitor the traffic and meter the entrance ramps to provide a smooth traffic flow.

US-12/I-394 will be built to contemporary design standards to promote safety and efficient passage, and to meet the higher environmental standards of today. Through much of the parkland and residential area, the freeway will be depressed to reduce noise and visual impact. Noise abatement walls or mounds will be built where warranted and desired by the local community.

Need

The project is needed to serve both present and future traffic efficiently and safely.

the existing road

The existing road, US-12, is now a four-lane divided expressway for most of its length. The eastern two-mile segment, between Theodore Wirth Parkway and the Hawthorne Interchange with I-94, is a six-lane divided freeway that does not meet the design standards of today. The lane drop at Theodore Wirth Parkway encourages traffic to use the parkway as a commuter route for which it was neither intended nor designed.

Cl overleaf interchanges connect US-12 to I-494, CR-18, and SR-100. Four other interchanges link US-12 with Ridgedale Drive, CR-73, Theodore Wirth Parkway, and Penn Avenue. Numerous access points, crossovers, and at-grade intersections exist along the four-lane segment. Five of these intersections, at major crossroads and access points, are signalized.

The existing road is not depressed but is at the same level as the surrounding terrain for almost all of its length. No noise abatement features, such as walls, exist.

traffic demand

In 1978, the average daily traffic (ADT) on US-12 ranged from 39,900 west of I-494 to 80,800 east of SR-100. In 1968, the comparable volumes were 25,800 and 33,000. During these ten years, the traffic increase ranged from about 50 percent at the west end to nearly 150 percent at the east end, between SR-100 and downtown Minneapolis.

During the peak morning and afternoon traffic periods, 68 percent of the traffic east of SR-100 moves in one direction and 32 percent in the other. West of SR-100, the directional split is less pronounced and does not exceed a 60/40 ratio.

The Minnesota Department of Transportation (Mn/DOT) has predicted traffic volumes for the year 2000. The ADT on US-12/I-394 is expected to approach 50,000 west of I-494 and increase toward town to about 100,000 east of SR-100.

These predictions indicate a need for two through lanes in each direction plus two diamond lanes west of SR-100 and two reversible lanes east of SR-100. This configuration should provide a level of service "D" on the regular lanes and a level of service "B" on the diamond and reversible lanes.

safety

During the four-year period from 1976 through 1979, the section of US-12 to be reconstructed had an average rate of 3.8 accidents per million vehicle miles. Adjusted to take into consideration the more serious accidents that resulted in injury or death, the severity rate for this same period was 7.3.

During 1980, this section of US-12 had an accident rate of 3.4 and a severity rate of 7.4. For the same year, Interstate freeways in the Golden Valley District had accident rates that ranged from 0.4 to 3.4; the average was 1.8. The severity rates ranged from 0.9 to 6.6; the average was 3.4. The Golden Valley District of Mn/DOT oversees the highways of Minneapolis and its suburbs; it includes all or large parts of five counties, and totals nearly two thousand square miles.

In 1978, three of the at-grade intersections along this section of US-12 were among the eight worst, in numbers of accidents, in the Minneapolis and suburban area. Two of these intersections were signalized; the other has since been signalized.

During the 1976-1979 period, twelve fatal accidents occurred on this section of US-12. Four of these accidents occurred in 1979.

Reconstructing US-12 as a controlled-access freeway with no at-grade intersections will almost certainly reduce accidents and the resultant loss of property, health, and life.

systems planning

Interstate 394 was designated as part of the Interstate system in 1968, to serve as the western radial from downtown Minneapolis. It will connect I-94 at the edge of the CBD to I-494, a part of the ring route around the cities, in the western suburbs. A short (1.5 mile) length of existing US-12 to the west of I-494 will be rebuilt as a six-lane freeway; this will link I-394 to the existing three miles of six-lane US-12 freeway around the City of Wayzata, and transition the two inside lanes into diamond lanes. US-12 leads to the far western suburbs around Lake Minnetonka and is a major route to central and western Minnesota.

At its eastern end, the freeway will connect to the Third Avenue Distributor portion of I-394, which will distribute the traffic to and from the downtown street system.

The Metropolitan Council (MC), the Metropolitan Planning Organization (MPO) for the Twin Cities area, lists I-394 as a major construction needed to complete the 1990 Metropolitan Highway System. Their plan calls for this route to be a freeway to accommodate long trips at relatively high speeds.

Status of Project

The Draft Environmental Impact Statement (DEIS) was completed in December of 1973 and made available the following month. The location public hearing was held on February 27th, 1974. After review of the comments, the general location of existing US-12 was chosen by the Commissioner of Highways as the preferred alternate.

In May of 1975, the Minnesota Legislature imposed a moratorium on all work, including environmental studies, on I-394 and certain other metropolitan-area highway projects. In April of 1976, the legislature lifted most of the restrictions, allowing work to be resumed on the Final Environmental Impact Statement (FEIS).

The DEIS included a Section 4(f) Statement that concluded that I-394 could avoid Wirth Park and the Brownie Lake parkland, and did not discuss Brookview Golf Course. Because it is not now feasible and prudent to completely avoid either Wirth Park or the Brownie Lake area, or Brookview Golf Course, Mn/DOT prepared a new Draft Section 4(f) Evaluation to bring the data up-to-date and to give more specific information regarding the impacts and mitigation. This Draft Evaluation was circulated for comment in September, 1981.

On December 5th, 1980, Mn/DOT Commissioner Braun referred the I-394 controversy to the Metropolitan Council (the MPO) for resolution. Citing significant disagreement between the various involved communities and agencies over the design of I-394, and the lack of any clear concensus, he asked that they solve the problem by initiating the process described in Minnesota Statutes Chapter 161.17, Subdivision 2. This law gives the responsibility for resolving transportation policy issues and differences in the Twin City Metropolitan Area to the Metropolitan Council. They accepted this responsibility and on June 25th, 1981, recommended the design described in this report as the solution.

Steps yet to be taken include the processing of this FEIS and Section 4(f) Evaluation for the selected corridor, the general route of existing US-12, defined as Alternate 2 in the DEIS; the writing and processing of a Design Study Report (DSR); final design; right-of-way acquisition; and construction. We hope to begin right-of-way acquisition in 1983, and begin the first phase of construction in 1986.

Park Involvement

All of the parkland that will be affected by US-12/I-394 is immediately adjacent to existing US-12. The parkland will be involved simply because the new road on the existing location will require a wider right-of-way to accommodate the diamond and reversible lanes, C-D roads in some places, and to meet contemporary design standards for safety.

at Brookview Golf Course

The north C-D road and the westbound off-ramp leading to the Boone Avenue interchange will require a strip of the Brookview (public) Golf Course property alongside existing US-12. The property is now a small part of the back tee of the second hole. Its taking will not seriously interfere with the operation of the golf course.

Maps and layouts of Brookview are on pages 281 and 301.

at Theodore Wirth Park

A small amount of parkland will be used temporarily to build the north approach to the new Theodore Wirth Parkway bridge over I-394. This property will be returned to the park after construction.

In addition, the removal of the inplace north frontage road and the interchange between US-12 and Wirth Parkway will allow some of the existing highway right-of-way to be added to the park.

Maps and layouts of Wirth Park are on pages 285 and 305.

at Brownie Lake

A small strip along the north edge of this parkland will be needed for the mainline, a frontage road, and part of the Wirth Parkway bridge. Some additional land will be needed temporarily for construction, including that of the south approach to the new Theodore Wirth Parkway bridge. This property will be returned to the park after construction.

Maps and layouts of the Brownie Lake area are on pages 295 and 305.

other parklands

Several other parks directly adjacent or very close to the existing US-12 right-of-way will be avoided completely by careful alignment and design. They are Knollway Drive Park, Oberlin Park, and Ridgedale Nature Preserve in Minnetonka; Shelard Park, Kilmer Lake Park, "Flag" Park, and Westwood Hills Nature Center in Saint Louis Park; North Tyrol Park in Golden Valley; and Bryn Mawr Meadows, Kenwood Parkway, and The Parade (including Spring Lake) in Minneapolis.

Mn/DOT does not plan to intrude into any of these properties or to do any construction beneath their surfaces. They also do not plan any construction beneath the surfaces of the three parks discussed in this report (Brookview Golf Course, Theodore Wirth Park, and Brownie Lake) other than that associated with work specifically described in this report.

On the basis of available data, it does not appear that the grade of the freeway will intersect the water table at any point in the park areas. No significant changes in the water table or groundwater quality are anticipated. Further information is in the Natural Resources section of the FEIS, and also in the Water Resources Assessment. The latter document may be reviewed at the Mn/DOT Golden Valley District Office.

at Spring Lake

Eastbound I-394 will use an existing bridge adjacent to Spring Lake in The Parade. To help abate traffic noise, we will replace the existing low, opening railing with a higher, solid barrier railing or wall on the bridge, alongside the lake. This will also prevent debris from the highway from falling to the parkland, and minimize salt spray into the lake. This improvement will be coordinated with the MPRB to ensure compatibility with their park plans.

THE SECTION 4(f) LANDS

Brookview Golf Course

location, size and type

Brookview Golf Course is located in the city of Golden Valley, between US-12 on the south and SR-55 on the north. Its east and west boundaries are within Winnetka and Boone Avenues. Its size is approximately 147 acres. Brookview is a public golf course with associated recreational facilities, and is of regional significance. A map of Brookview Golf Course and its facilities (Figure 37) is on page 281, and two pages of photographs follow.

ownership and jurisdiction

The city of Golden Valley owns and has jurisdiction over Brookview Golf Course.

existing facilities

Brookview has an 18-hole golf course, a 9-hole par-3 golf course, and a driving range. Associated facilities include an outdoor swimming pool, a clubhouse with locker rooms, a pro shop, a snack bar, community meeting rooms, and the offices of the Golden Valley Park and Recreation Department.

usage

The Golden Valley Park and Recreation Department estimates that, in 1979, 38 to 40 thousand rounds were played on the 18-hole course, and 10 to 12 thousand rounds were played on the 9-hole course. These patrons came from throughout the metropolitan area, but particularly from the western suburbs.

No figures are available for the swimming pool use, but we assume that most of its patrons came from the community.

During the winter, the Brookview grounds are used by cross-country skiers, most of whom are from the community.

planned facilities

Golden Valley has no plans, at this time, to add or significantly change the facilities at Brookview Golf Course. The 9-hole course was constructed and opened for the 1979 season. Minor modifications may be made, such as constructing water hazards and filling low, boggy areas.

relationship to other parks

Over 50 municipal and privately-owned public golf courses exist in the Twin City metropolitan area. The nearest is Meadowbrook, about three miles southeast of Brookview.

Brookview Recreation Area is a separate park adjacent to Brookview Golf Course. It is 33 acres in size and serves as a playground, playfield, and open space.

access

Most patrons travel to Brookview Golf Course by private automobile. Access from either US-12 or SR-55 can be made at Winnetka Avenue, then by local streets. Winnetka intersects with the highways at-grade; both intersections are signalized. Direct access to and from US-12 may also be made via Field Drive; this intersection is not signalized and will be closed when I-394 is built.

clauses affecting title

No known restrictions, covenants, or conditions affect the title of Brookview Golf Course.

Theodore Wirth Park

location

Theodore Wirth Park is in the cities of Minneapolis and Golden Valley, only about two and one-half miles from the center of downtown Minneapolis. The main part of the park is between Xerxes Avenue on the east, France Avenue on the west, CR-66 (Golden Valley Road) on the north, and US-12 (Wayzata Boulevard) on the south. A western extension leads to the shorelines of Twin and Sweeney Lakes.

SR-55 (Olson Memorial Highway) passes east and west through the center of the park. US-12 passes east and west at the south edge of the park. A map of Wirth Park and its facilities (Figure 38) is on page 285, followed by two pages of photographs.

At approximately 750 acres, Theodore Wirth Park is the second largest Minneapolis park. Only the parkland surrounding and including Lake Calhoun is larger, but most of its size represents the lake itself. Wirth Park includes about 39 acres of water, but has the largest land area of any Minneapolis park.

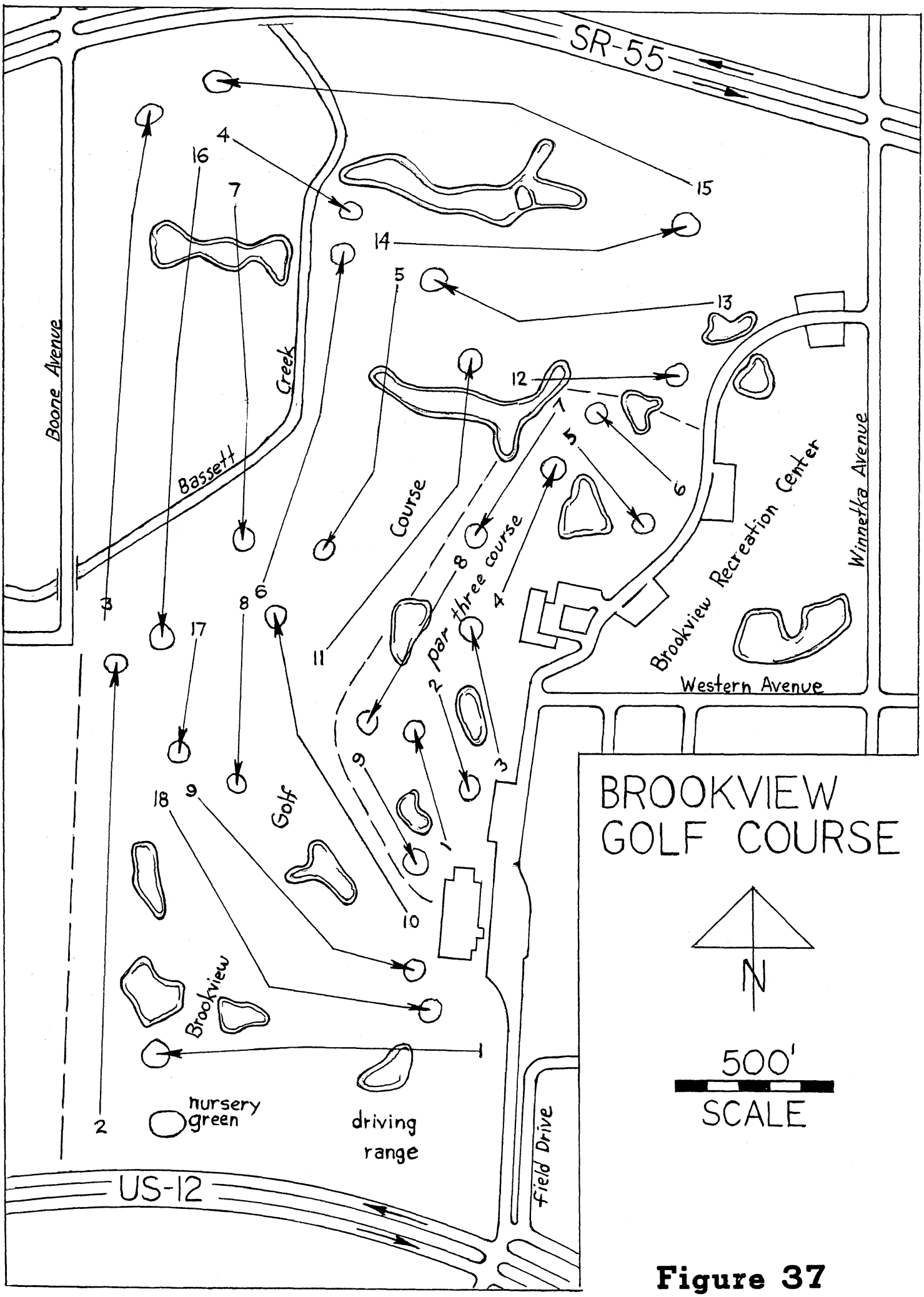
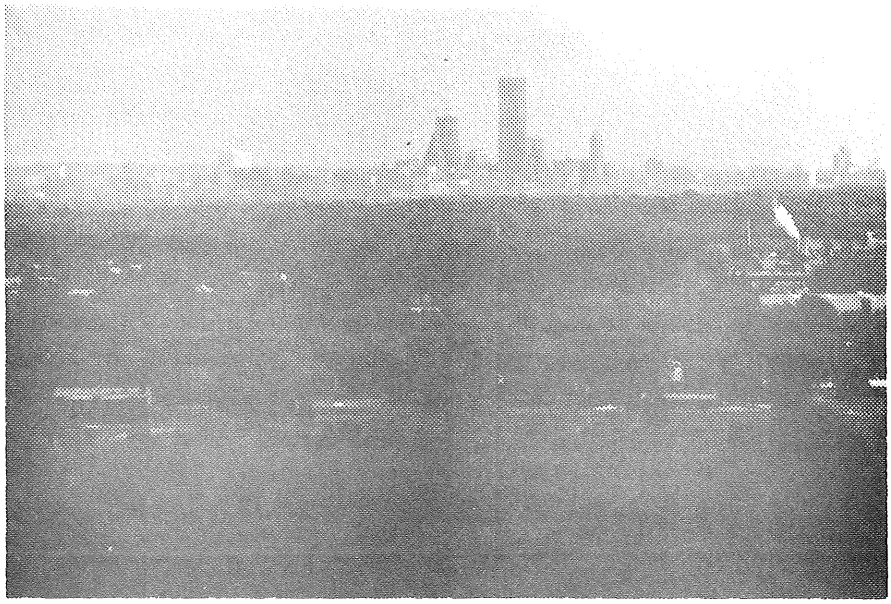

SR-55
Boone Avenue
Creek
Bassett
Course
Golf
Brookview
par three course
Brookview Recreation Center
Winnetka Avenue
Western Avenue
US-12
Field Drive
nursery green
driving range
BROOKVIEW GOLF COURSE
N
500'
SCALE

Figure 37

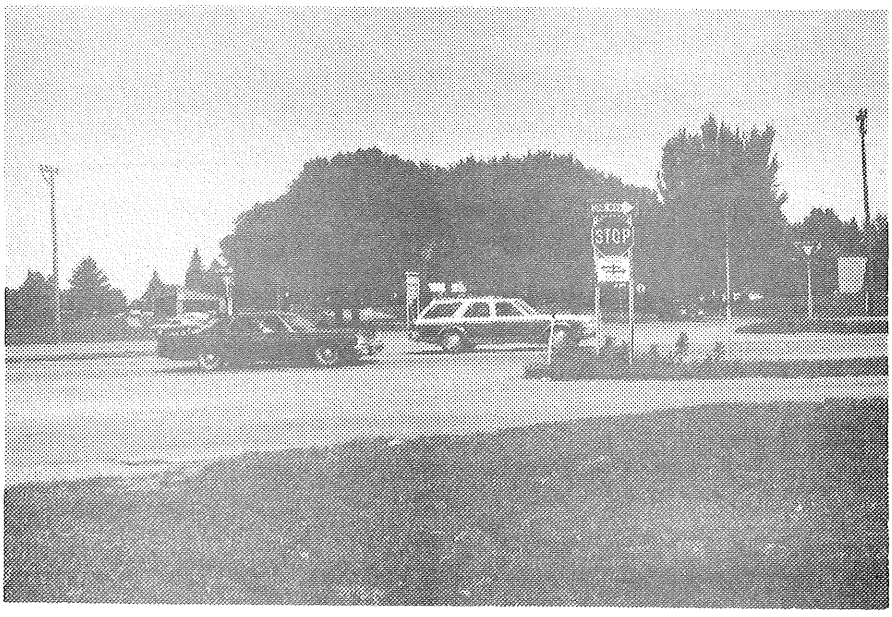
BROOKVIEW GOLF COURSE



from Shelard Tower

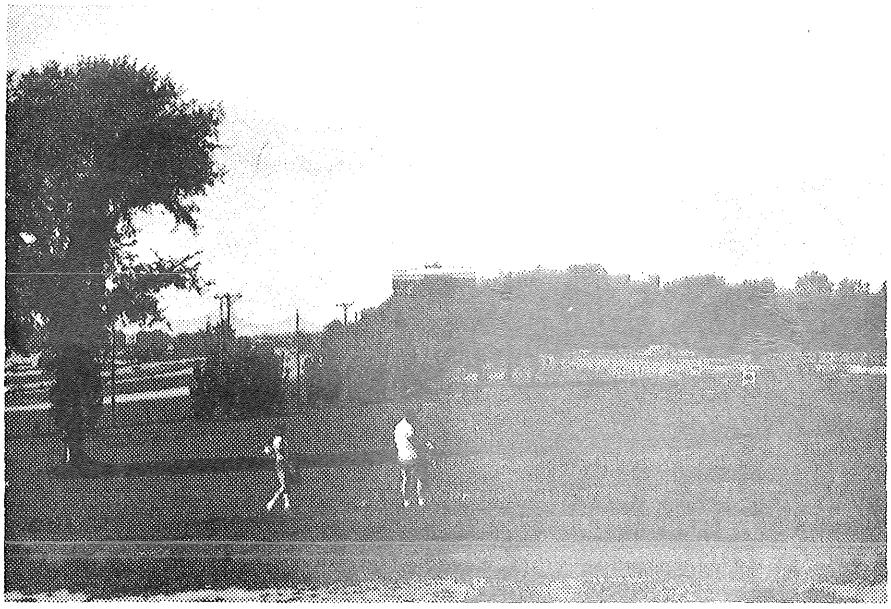


driving range and US-12
with General Mills'
lawn in the foreground



Field Drive entrance

BROOKVIEW GOLF COURSE



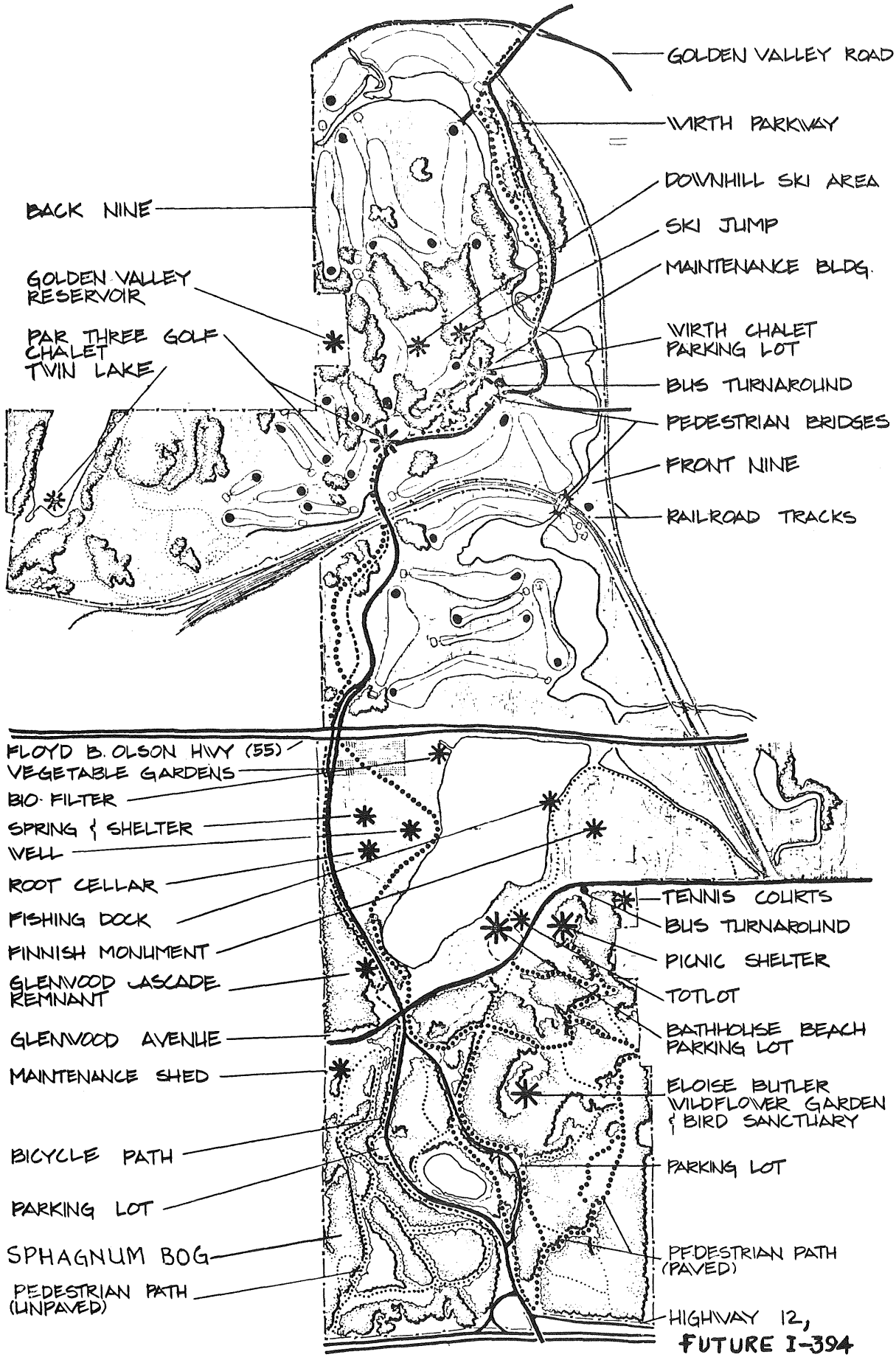
driving range



second tee

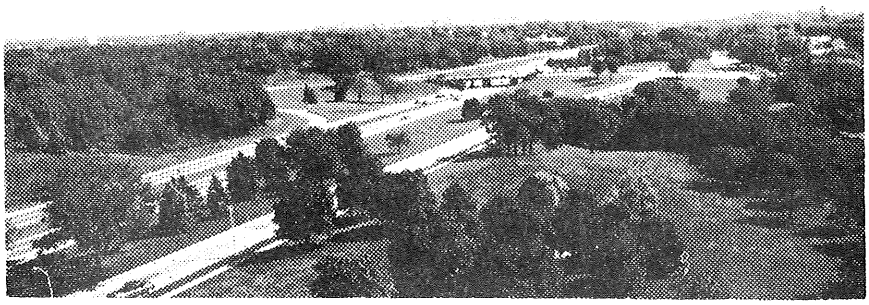


second fairway

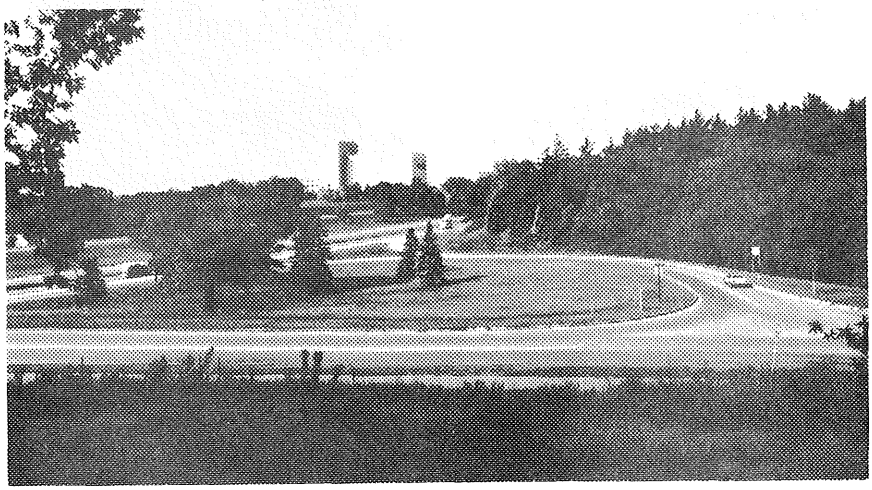


WIRTH PARK ~ EXISTING FACILITIES

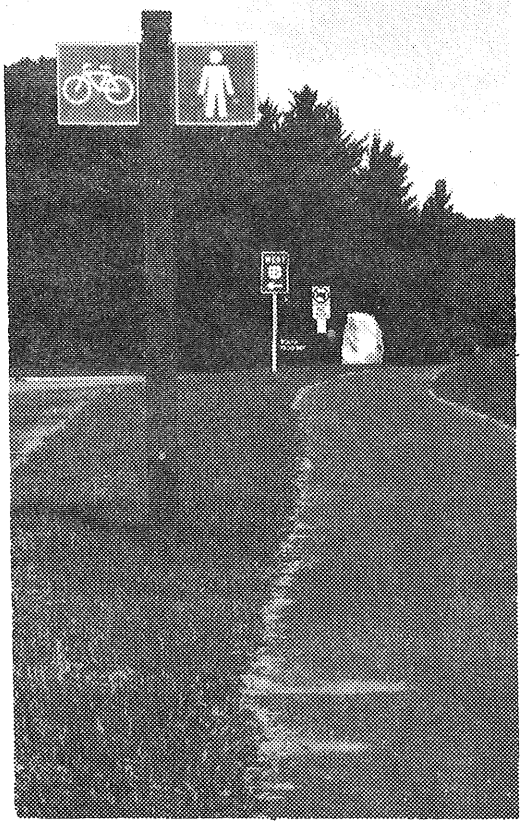
MINNEAPOLIS PARK & RECREATION BOARD **Figure 38**



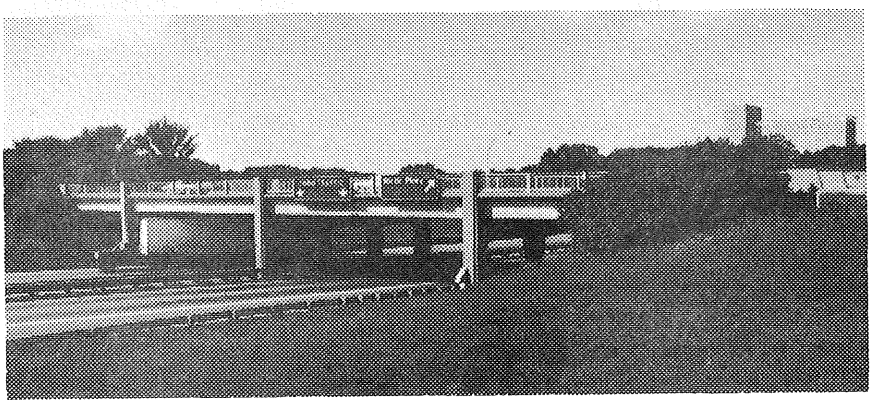
Wirth Park and US-12
from Prudential



loop in northwest quadrant of
Wirth Parkway/US-12 interchange



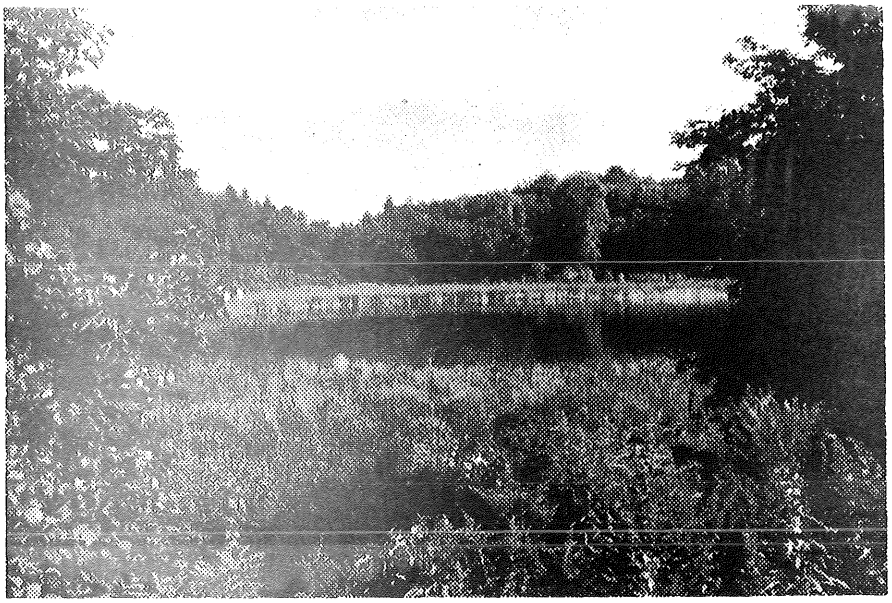
Wirth Parkway and trail system



Wirth Parkway bridge over US-12



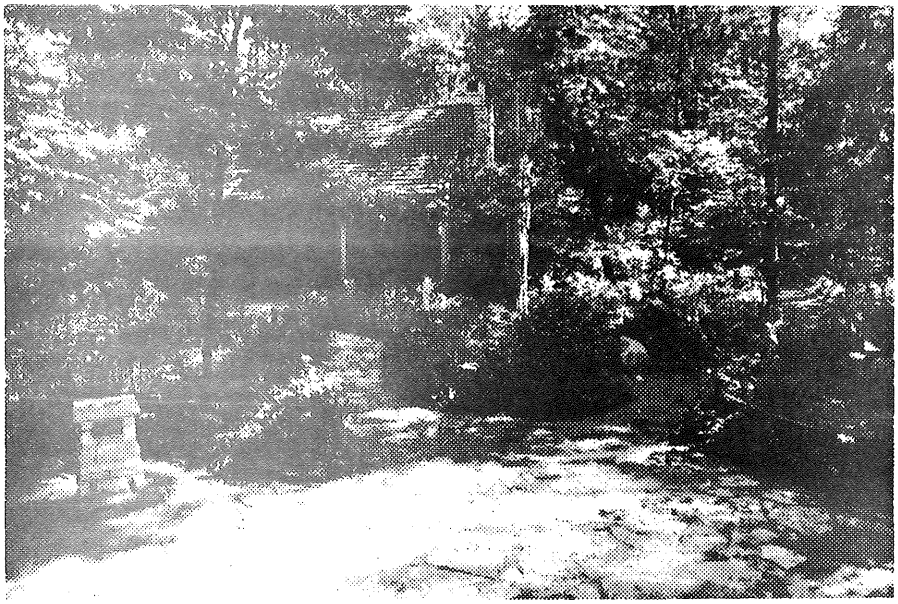
the sphagnum bog



Birch Pond



Eloise Butler
Wildflower Garden:
The Prairie Garden



Eloise Butler
Wildflower Garden:
The Woodland Garden

type

Theodore Wirth Park is a large multi-purpose open space that accommodates many recreational facilities within a hilly and forested natural setting. It includes all of Theodore Wirth Lake and Birch Pond, and portions of Bassett Creek and Twin and Sweeney Lakes. Wirth Park is visited by persons from throughout the metropolitan area, and is part of the Twin City Metropolitan Area Regional Open Space System.

ownership and jurisdiction

The City of Minneapolis bought the land for Theodore Wirth Park in 1890. The Minneapolis Park and Recreation Board (MPRB), an elected agency that is independent from the city council and mayor, now owns and has jurisdiction over the park.

facilities

The facilities in Theodore Wirth Park include the parkway; walkways and bike paths; an 18-hole golf course; a 9-hole, par-3 golf course; a clubhouse and chalet; a ski jump; a swimming beach on Wirth Lake; a wildflower garden; and a bird sanctuary.

usage

Theodore Wirth Park is used by people from throughout the metropolitan area as well as by nearby residents. Usage includes walking, hiking, and jogging; bicycling; golfing; picnicing; sunbathing, swimming, canoeing, boating, and fishing; and nature study. Winter activities also include sledding and tobogganing; cross-country and downhill skiing; ski jumping; and ice fishing.

The latest available usage figures, dating from 1977, are as follows. Forty thousand rounds of golf were played on the 18-hole course, and 31 thousand rounds on the 9-hole course. Downhill ski lessons were given to 1481 persons, and 434 persons took cross-country ski lessons. Another 2200 persons used the downhill slopes and 1500 the cross-country facilities.

An estimated 128 thousand persons used the picnic grounds and swimming beach, and 55 thousand the Eloise Butler Wild Flower Garden.

Twenty-nine percent of all park users were not residents of the City of Minneapolis. Of those who used just the trail system, fifty-four percent were non-residents.

relationship to other parks

Theodore Wirth Park encompasses some two and one-half miles of the western portion of a 52-mile parkway system that almost encircles the City of Minneapolis. This parkway system leads to many other parks, including three other municipal golf courses, and follows such geographic features as six additional lakes, Minnehaha Creek and Falls, and the Mississippi River.

The Minneapolis park system totals 5500 acres, 1400 of which are water. Theodore Wirth Park is the largest single land mass in the Minneapolis system. While many of the facilities of Wirth Park are available elsewhere in the park system, Wirth Park is strategically located adjacent to some of the lower-income neighborhoods of the City. It provides outdoor recreation experience close to many who could not reach further-out regional parks.

Wirth Park also contains certain areas that are unique in the metropolitan area. They include the wildflower garden, the sphagnum and tamarack bog, and the esker separating Twin and Sweeney Lakes. The garden and the bog are described later, under "unusual characteristics." The wide range of topographic relief within Wirth Park supports an unusually wide range of plants in close association.

The nearest public golf courses are Meadowbrook, five miles southwest in Saint Louis Park (but owned by the MPRB), and Brookview, three miles west in Golden Valley.

The 9-hole par-3 golf course and the ski jump are the only facilities of their kind in the Minneapolis park system. The metropolitan area, however, has several other public 9-hole courses and two other ski jumps. One of the jumps is operated by Hennepin County and the other by the City of Saint Paul.

access

Theodore Wirth Parkway, formerly called Glenwood Parkway, is the primary access route through the park. This two-lane parkway essentially runs north and south, the long way through the park. Most of the features and facilities of Theodore Wirth Park are reached via this parkway. Most of the paths either parallel the parkway or have their access points along it.

As mentioned, Theodore Wirth Parkway is a part of a parkway system that nearly encircles the city of Minneapolis. It is, therefore, possible and practical to get to Theodore Wirth Park by following the parkway system from almost anywhere in the city. The entire system serves commuters as well as park patrons.

Access to Theodore Wirth Parkway within the park may also be made through an interchange with US-12 or through at-grade intersections with Glenwood Avenue, SR-55, or Golden Valley Road. All four of these roads pass through the park in an east-west direction, but only Glenwood offers any direct access to the park. One final access point is Plymouth Avenue, which begins at the parkway and extends eastward into north Minneapolis.

Adequate parking spaces are provided throughout the park. Pedestrians and bicyclists gain access to the park by walks and paths that generally parallel the parkway.

Thi s park may also be reached by bus. All of the east-west routes mentioned above (Golden Valley Road, Plymouth, Glenwood, SR-55, and US-12) offer bus service.

Much of Theodore Wirth Park is bounded by railroad tracks, residences, or other private property. The east and west edges, especially, are not defined by roadways. This tends to limit access to the park to its internal roadway system, Theodore Wirth Parkway.

Existing US-12 now has three lanes in each direction between Theodore Wirth Parkway and downtown Minneapolis. The third lanes are on the outside and exclusively lead to and from the parkway. The MPRB believes that the outbound lane, in particular, has a substantial negative effect on the parkway because of the high volume of commuter traffic that exits to the parkway. This use of the parkway by commuters would not occur to the same degree if the exclusive outbound lane did not exist.

clauses affecting title

No known restrictions, covenants, or conditions affect the title of Theodore Wirth Park.

Federal funds from HUD were used to acquire 24 residential lots to the north of the Eloise Butler Wildflower Garden. These lots are far from the US-12/I-394 corridor, and will not be affected by the highway project.

Theodore Wirth Park has rugged terrain and much of the park is heavily wooded. The natural features bring a sense of wilderness very close to the center of Minneapolis.

The Eloise Butler Wildflower Garden was established in 1907. This is a 13 acre plot within the park that has one of the nation's largest collections of native wild flowers. It also serves as a bird sanctuary. This garden has two distinct parts, the woodland garden and the prairie garden. The woodland garden is set in a horseshoe-shaped glen with wooded hills on three sides and an introduced bog at the center. The prairie garden is a rolling open upland area set on three hills. This garden is east of Wirth Parkway, in the hills above Birch Pond. It is no closer than 1000 feet from the centerline of inplace US-12.

A mature sphagnum bog lies at the extreme west edge of the park, about 700 feet north of US-12. This is the only native swamp/bog complex in Minneapolis. Features of the bog are mature tamarack trees and carnivrous plants such as the pitcher plant and the sundew. This bog is used for environmental eduction, nature hikes, and class study by the University of Minnesota Botany Department, the MPRB, the Minneapolis and Golden Valley public schools, and the Minnesota Environmental Science Center.

present and future traffic

Recent traffic volumes for the roads in the area of Theodore Wirth Park and Brownie Lake, counted in 1980, are shown on Figure 4 on pages 38 and 39. Predicted traffic volumes for the same roads, for the year 2000, are shown on Figure 5 on pages 42 and 43. The year 2000 figures assume that I-394 will be built as now planned. A final map, Figure 6 on pages 46 and 47, shows the predicted traffic volumes for the year 2000 if the freeway is not built.

Brownie Lake

location

Brownie Lake and its surrounding parkland is in the city of Minneapolis, immediately south of Theodore Wirth Park but separated from it by highway US-12. Brownie's other borders are Cedar Lake Parkway on the east, the Burlington Northern Railroad tracks on the south, and the Prudential Insurance Company office property on the west.

A map of the Brownie Lake area (Figure 39) is on page 295, followed by a page of photographs.

size

The Brownie Lake area totals about 27.5 acres, including the lake itself which has an area of about 10 acres. Brownie is the uppermost park of the Chain of Lakes, a system of lakes and surrounding parklands that total over 14-hundred acres.

type

Brownie Lake is a small lake set in a fairly deep bowl and largely surrounded by wooded slopes. It is essentially a natural area.

ownership and jurisdiction

The Minneapolis Park and Recreation Board owns and has jurisdiction over Brownie Lake and the surrounding land, as it does over Theodore Wirth Park and the Chain of Lakes. The Minnesota Department of Natural Resources (DNR) shares jurisdiction of the lake itself; its role and concerns regarding all lakes in the freeway corridor is discussed in the FEIS.

facilities

Brownie Lake is essentially a passive park with only limited facilities. Aside from the walkway and parkway that define its east edge, its only specific recreational facility is a fishing dock, accessible by foot from the frontage road to the north.

usage

Although Brownie Lake would not be a major attraction by itself, its proximity to Wirth Park and the Chain of Lakes causes it to be patronized by persons from throughout the metropolitan area. Usage includes walking, hiking, jogging, bicycling, picnicking, sunbathing, canoeing, fishing, and nature study. Winter activities include cross-country skiing and ice fishing.

The MPRB has estimated that Brownie Lake was fished for approximately 4700 man-hours during a recent summer season.

relationship to other parks

As mentioned, Brownie Lake is a part of the Chain of Lakes, a system of four interconnected lakes, plus Lake Harriet, and their surrounding parklands. Brownie is the uppermost of the four lakes connected by channels; the others are Cedar Lake, Lake of the Isles, and Lake Calhoun, each of which is far larger than Brownie. One can travel into Brownie from the larger lakes by canoe. Larger boats may travel between the three lower lakes when the water level is sufficiently high.

The flow of the water is from Brownie into the others. When lake levels are low, water from the Mississippi River may be pumped via Bassett Creek and a conduit into Brownie, thence into the Chain of Lakes. When lake levels reach their maximum, water flows by gravity from Calhoun, the lowermost lake, into Harriet via an underground conduit. When Lake Harriet fills, its excess water flows by open channel into Minnehaha Creek and eventually the Mississippi.

T he Brownie Lake area is the link between Theodore Wirth Park to the north and the rest of the Chain of Lakes to the south. Wirth Park and the other lakes are far larger and more used than Brownie; but the Brownie area is the essential link that provides continuity between these western Minneapolis parks.

Because Brownie Lake is the headwater of the Chain of Lakes, its importance and significance cannot be overstated. What affects Brownie Lake affects the entire Chain of Lakes.

South of US-12, Theodore Wirth Parkway becomes Cedar Lake Parkway alongside Brownie Lake. To the south, this road skirts Cedar Lake and then, renamed, extends all the way around each of the other lakes; Isles, Calhoun, and Harriet. These roads are all a part of the extensive parkway system that almost encircles Minneapolis and links many of the city's larger parks.

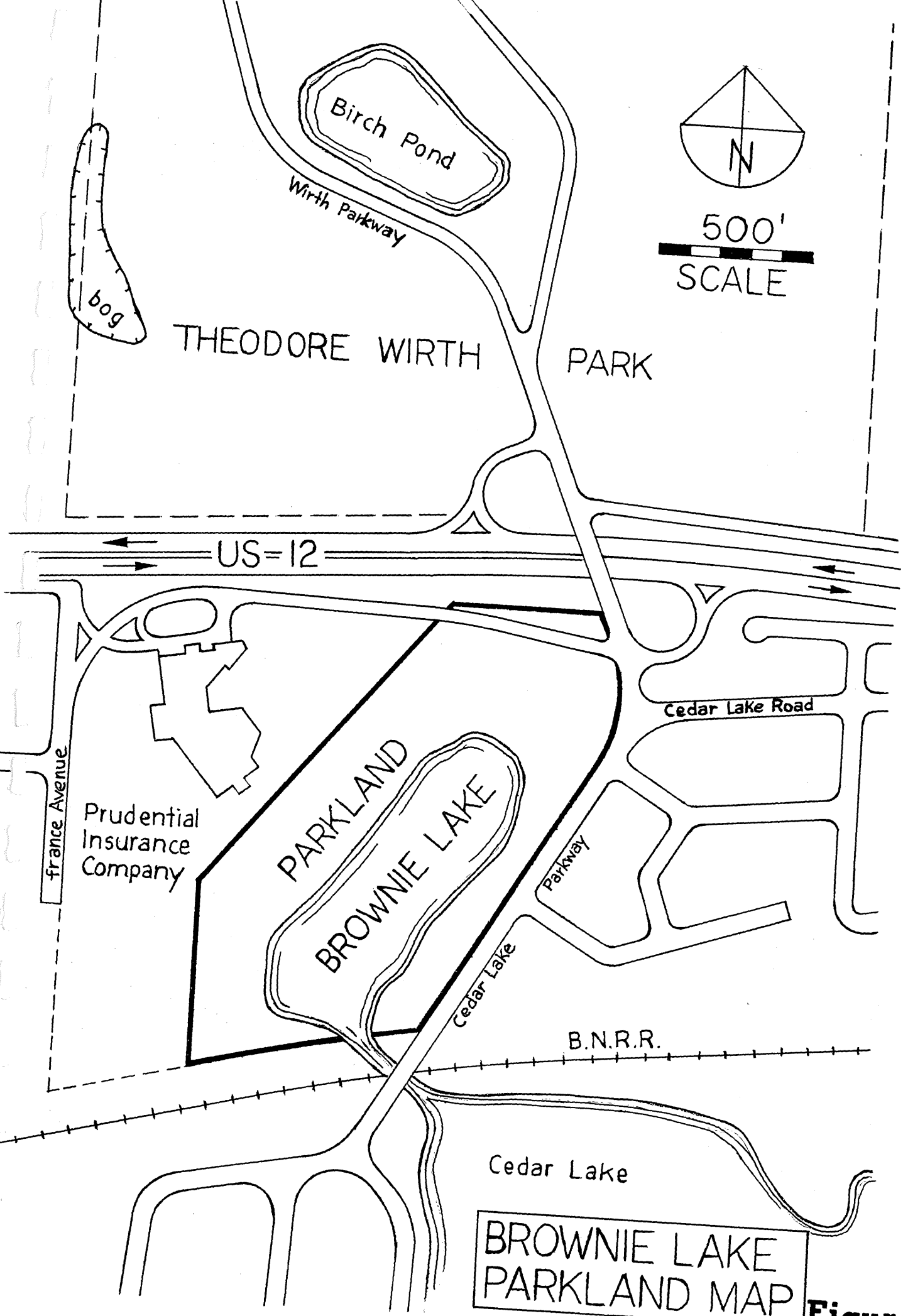
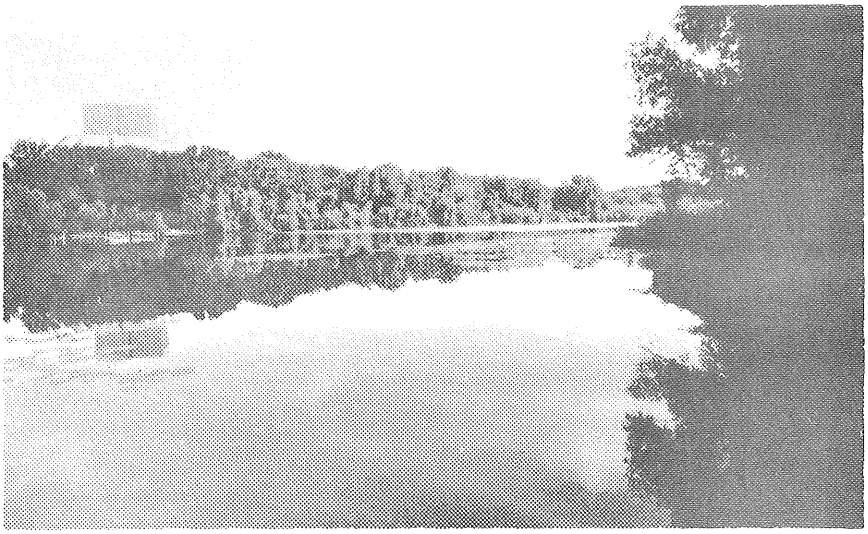
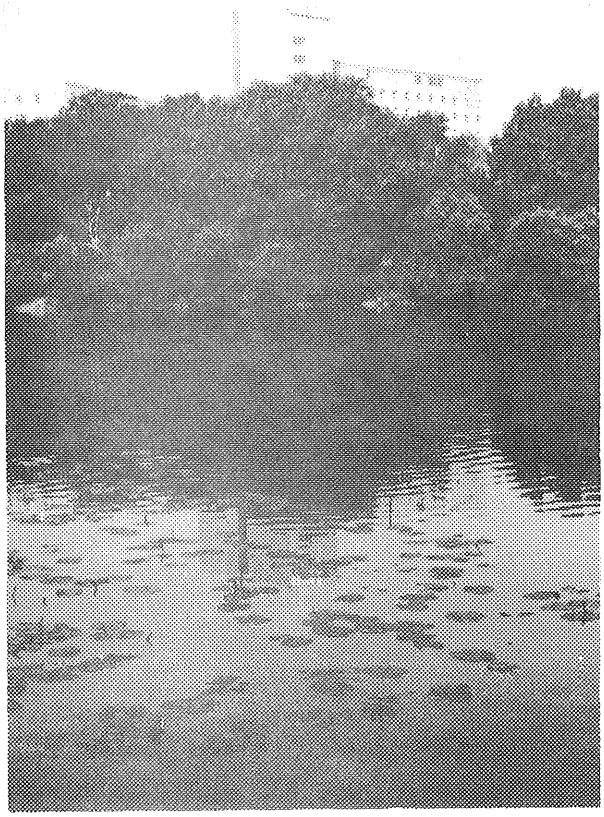

Birch Pond
Wirth Parkway
bog
N
500'
SCALE
THEODORE WIRTH PARK
US-12
Cedar Lake Road
France Avenue
Prudential Insurance Company
PARKLAND
BROWNIE LAKE
Parkway
Cedar Lake
B.N.R.R.
Cedar Lake
BROWNIE LAKE PARKLAND MAP

Figure 39



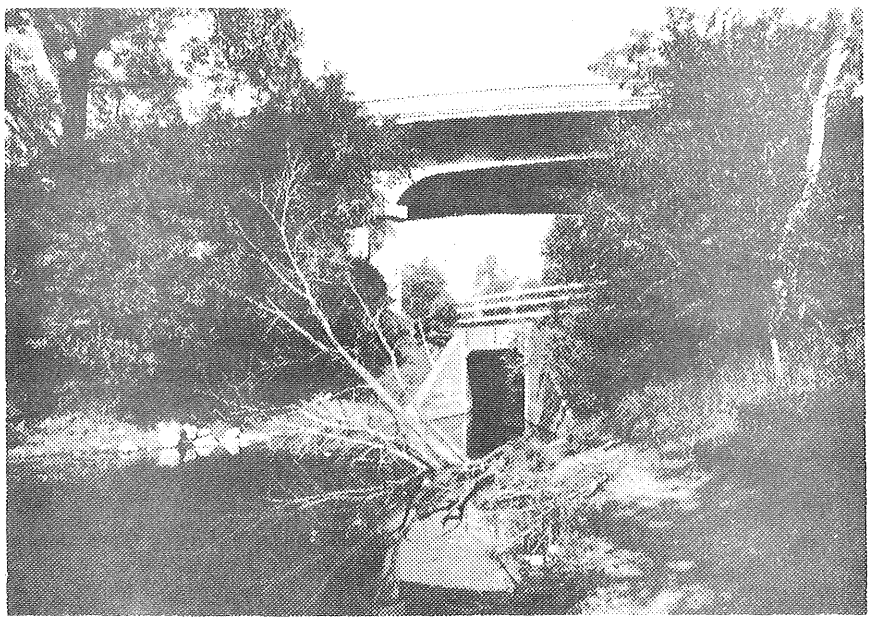
Brownie Lake and the Prudential Building



Prudential Building
behind Brownie Lake



Brownie and Cedar Lakes from atop Prudential



channel from Cedar to Brownie Lakes

access	The Cedar Lake/Theodore Wirth Parkway system is the primary access route to the Brownie Lake area for motorists, bicyclists, and pedestrians. Convenient parking is available along the park frontage road, just north of the lake, that leads to Prudential. This road is between the lake and US-12. A grassy slope between the lake and the road provides good access by foot. Access by water is also available to canoeists from Cedar Lake via a large, short conduit under the railroad tracks.
clauses affecting title	No known restrictions, covenants, or conditions affect the title of the Brownie Lake parkland or any of the Chain of Lakes.

AFFECT OF THE PROJECT ON THE SECTION 4(f) LANDS

Brookview Golf Course

land to be taken	Construction of I-394 and its interchange with Boone Avenue will require the taking of a 0.7 acre wedge-shaped strip of land from the south edge of the golf course property, adjacent to existing US-12. This taking has been reduced from the 1.7 acres stated in the Draft Section 4(f) Evaluation, and no longer includes any of the driving range or nursery green. The reduction has been accomplished by careful and detailed design to minimize the impact on Brookview. A detailed map of the intrusion of the I-394 project into Brookview is on page 301, Figure 40.
facilities	The new construction will not intrude into the driving range or the nursery green, as stated in the Draft Section 4(f) Evaluation. The back, or championship, tee of the second hole may be taken. If so, the regular tee will have to be expanded before construction begins and the back tee is lost. The loss of the back tee could affect the United States Golf Association (USGA) rating for this course. The mature trees behind this second tee will be lost.
access	The Field Drive entrance to the golf course will be closed. Traffic arriving via I-394 from the east will have to exit at Louisiana Avenue and follow the service road for about 4000 feet to the golf course. Traffic arriving from the west via I-394 will have to exit at Boone Avenue, follow the service roads, and cross over the freeway at the Texas/Winnetka Avenue bridge. This will represent a detour of about 3000 feet as compared to using the present Field Drive intersection. The Boone Avenue interchange, the Texas/ Winnetka Avenue bridge, and the Louisiana Avenue interchange will provide safer and more convenient access than the inplace at-grade intersections. Residents to the south, especially, will have improved access to the golf course by no longer having to cross the highway at-grade.

Access from SR-55 at the north edge of Brookview will be unchanged.

noise

Because the new highway will be elevated in this area and will be closer to the golf course than is existing US-12, noise from the passing vehicles would be greater if it were not mitigated. A noise abatement wall will, therefore, likely be built. The Minnesota Department of Transportation has estimated that these noise levels, with mitigation, will be approximately 68 dBA at both the driving range and the second tee, the two critical points nearest the road. The present noise levels at these two points have been measured as 70 dBA.

Figure 40 illustrates the points at which noise levels have been measured and predicted. A more detailed discussion of the noise analysis, including the assumptions made and the methodology used, is included in the Appendix of this document.

air quality

A more detailed technical discussion of the air quality analysis is included in the Appendix of this document. Air quality was analyzed in terms of pollution by both carbon monoxide (CO) and lead (Pb). The technical report discusses the need for analysis, the assumptions made, the methodology, and the results which are also outlined here.

With I-394 built and in operation, the maximum carbon monoxide levels over a one-hour time period in Brookview Golf Course are predicted to be 2.1 ppm (parts per million) in 1990, 2.0 ppm in the year 2000, and 2.3 ppm in 2010. These levels are far below the federal allowable standard of 35 ppm and the state standard of 30 ppm for a one-hour period. They are also below the levels predicted if I-394 were not built: 2.3, 2.2, and 2.8 ppm for 2010.

The predicted maximum concentrations over an eight-hour time period are 1.6 ppm for 1990, 1.5 ppm for 2000, and 1.6 ppm for 2010. These levels, too, are far below the federal and state allowable concentrations of 9.0 ppm for an eight-hour period, and below the predicted levels if I-394 were not built: 1.8, 1.6, and 1.8 ppm for 1990, 2000, and 2010, respectively.

NOISE IMPACT ANALYSIS

- 00 Measured Ambient
- (00) No-Build Prediction (No Abatement)
- [00] Build Prediction (With Abatement)
- ◇00 Build Prediction (No Abatement)
- ☆ Noise Receptor Location

NW. LOOP

AVENUE

PARK BOUNDARY

70 (69) [68] ◇71 ☆

GREEN

TEE

BROOKVIEW GOLF COURSE

70 (69) [69] ◇71 ☆

66 (69) [68] ◇72 ☆

GOLF DRIVING RANGE

70 (71) [68] ◇71 ☆

FIELD DRIVE

TEE

NURSERY GREEN

Proposed R/W

Retaining Wall

Noise Wall

0.7 Acres New R/W Area

Inplace R/W Limits

Construction Limits

Noise Wall

NW. RAMP

CDL

EB I-394

WB I-394

BRIDGE

CDL (Collector Distributor Lane)

Inplace R/W Limits

BOONE

SE. LOOP

SE. RAMP

Construction Limits

KIRCHNER CORP.

RUDY LUTHER

CARRIAGE HOUSE

WESTWOOD LAKE OFFICE PARK

FRONTAGE ROAD

BROOKVIEW GOLF COURSE

Scale 1": 100'

East-West View

Figure 40

The predicted maximum lead concentration for the year 1990 is 0.33 ug/m^3 (micrograms per cubic meter) with I-394 built and in operation, or 0.10 ug/m^3 if not built. Either figure is well below the National Ambient Air Quality Standard of 1.50 ug/m^3 of lead in the air.

Brookview Golf Course will not be adversely affected by either carbon monoxide or lead concentrations in the air when I-394 is completed and in operation. It would not be adversely affected if the freeway were not built, either. In either case the air quality will be well within all recognized standards.

other effects

The driving range will no longer be visible from the highway if, as is probable, a noise abatement wall is built between the two. The Golden Valley Park and Recreation Department believes that this could have an adverse affect on patronage of the driving range but still prefers to have the noise abatement wall.

Boone Avenue will become a through street between I-394 and SR-55 on the north, along the west edge of Brookview Golf Course. This could increase traffic on the inplace section of Boone Avenue, along the third hole of the course. The Park and Recreation Department believes that this traffic increase, if it happens, would increase the likelihood of stray drives interfering with traffic, and of damage to the course by errant cars and/or vandals.

Theodore Wirth Park

land to be taken

No permanent right-of-way from Theodore Wirth Park will be required by this project. About two acres will be required temporarily in order to construct the north approach to the new Theodore Wirth Parkway bridge over I-394, and to connect the roadway and pathway to the bridge. When construction has been completed, this property will be returned to the park.

A part of the highway project will be the removal of the north frontage road to the east of the parkway, and the interchange between the parkway and US-12. This existing highway right-of-way, approximately 4.4 acres, will be given to the MPRB to be added to Theodore Wirth Park.

A detailed map showing these areas and the relationship of the roadway to Wirth Park, and also to Brownie Lake, is on the following page, Figure 42.

facilities

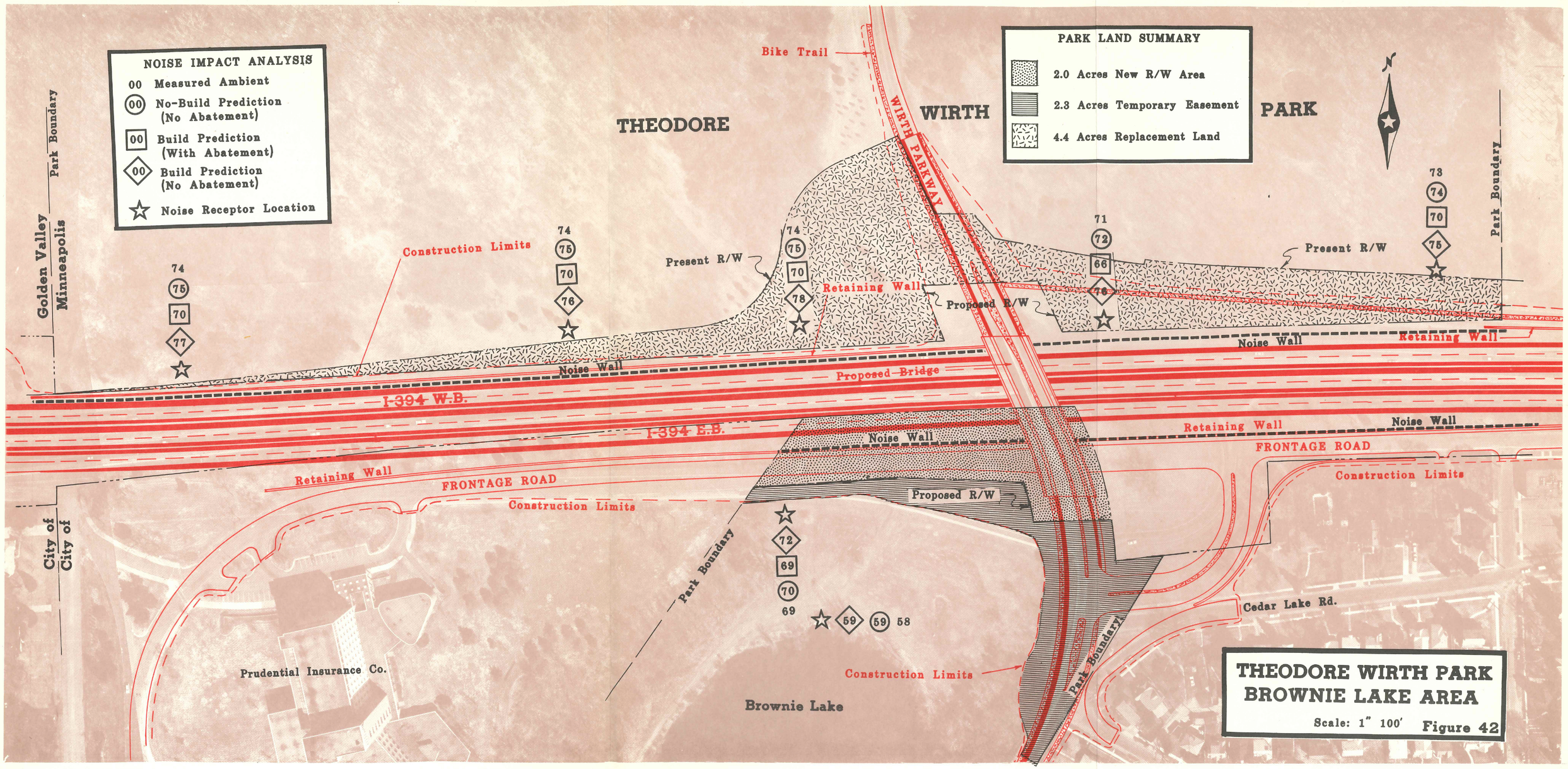
The only facility of the park to be disturbed by the construction will be the parkway and the adjacent pedestrian-bicycle path. Both of these facilities will be restored on the new bridge over the freeway.

access

The existing direct access between Thoedore Wirth Parkway and US-12, via the two-loop interchange, will not be perpetuated when I-394 is built. At the request of the Minneapolis Park and Recreation Board, no interchange will connect the parkway to the freeway. The MPRB believes that denying this access will discourage motorists from using the parkway as a commuter route. They do not want the parkway so used, and their objective is to discourage this use by closing the interchange permanently.

Access to the parkway and the park itself will be possible, from I-394, via the Penn Avenue interchange, 35-hundred feet to the east. A frontage road on the south side of I-394 will link Penn Avenue to Theodore Wirth Parkway. The north frontage road between Upton Avenue and Wirth Parkway will be removed and replaced by a pedestrian/bicycle trail.

None of the other access points to Theodore Wirth Park will be affected.


NOISE IMPACT ANALYSIS
00 Measured Ambient
00 No-Build Prediction (No Abatement)
00 Build Prediction (With Abatement)
00 Build Prediction (No Abatement)
Noise Receptor Location
PARK LAND SUMMARY
2.0 Acres New R/W Area
2.3 Acres Temporary Easement
4.4 Acres Replacement Land
THEODORE WIRTH PARK
Bike Trail
WIRTH PARKWAY
Golden Valley
Minneapolis
Park Boundary
Construction Limits
Present R/W
Retaining Wall
Proposed R/W
Noise Wall
Proposed Bridge
I-394 W.B.
I-394 E.B.
FRONTAGE ROAD
City of
City of
Prudential Insurance Co.
Brownie Lake
Cedar Lake Rd.
THEODORE WIRTH PARK
BROWNIE LAKE AREA
Scale: 1" 100'
Figure 42

noise

Increasing traffic would raise the noise level in Theodore Wirth Park to above federal and state standards even if I-394 were not built; the levels predicted would range between 72 and 75 dBA at various places along the highway. The Minnesota Department of Transportation has estimated that the noise levels at these same places, with I-394 built with mitigation, will be between 66 and 70 dBA under the worst conditions. The mitigation will consist of a depressed section and noise abatement walls.

Figure 42 illustrates the points at which noise levels have been measured and predicted. The more detailed discussion of the noise analysis is included in the Appendix of this document.

air quality

As mentioned, the discussion of the air quality analysis is also included in the Appendix of this document. The results are as follows.

With I-394 in operation, the maximum carbon monoxide levels over a one-hour period in Theodore Wirth Park are predicted to be 5.7 ppm in the year 1990, 5.4 ppm in 2000, and 6.0 ppm in 2010, all well below the federal and state standards of 35 and 30 ppm. If I-394 were not built, the levels would be 5.3, 5.9, and 6.4 for the same three future years, ultimately higher than with I-394 built.

Over an eight-hour period, the predicted maximum levels are 3.6 ppm for 1990, 3.4 ppm for 2000, and 3.9 ppm for 2010. These levels are far below the federal and state standard of 9.0 ppm, but not below the predicted levels if I-394 were not built: 3.5, 3.3, and 3.7 ppm for the years 1990, 2000 and 2010.

The predicted maximum lead concentration for the year 1990 is 0.16 ug/m^3 with I-394 built and in operation. If not built, the predicted level is exactly the same, 0.16 ug/m^3. Either way, the level is well below the National Ambient Air Quality Standard of 1.50 ug/m^3.

To minimize physical and environmental impacts, the freeway will be depressed along Theodore Wirth Park. The effects of this depressed section have been considered in the air quality analysis.

Neither Theodore Wirth Park nor the surrounding neighborhoods will be adversely affected by air pollution from either carbon monoxide or lead when I-394 is in operation; neither would it be adversely affected if the freeway were not built. Air quality will be well within all standards in either case.

water quality

The quality of water resources in Theodore Wirth Park will not be adversely affected. All drainage from the section of I-394 along Wirth Park will be diverted as explained in detail on page 314.

The sphagnum bog in Wirth Park has an approximate surface elevation of 874. The regional groundwater table is from 30 to 40 feet lower than the bog, which is perched above the surrounding groundwater by a layer of low-permeable material beneath the bog. The bog, therefore, could not be affected by the drainage from the freeway nor by its construction.

during construction

Theodore Wirth Parkway and the adjacent pedestrian and bicycle path will be temporarily severed when the existing bridge over US-12 is removed so that the new one can be built in its place. Mn/DOT will follow its usual procedures to establish a detour; both the City of Minneapolis and the Minneapolis Park and Recreation Board will be involved in this process.

Brownie Lake

land to be taken

Construction of I-394, the new Wirth Parkway bridge and south approach, and the new south frontage road will require the use of about 3.95 acres of the Brownie Lake parkland. Of this, 2.0 acres will be needed permanently and 1.95 acres will be used temporarily for construction and then returned to the park.

The details of these areas and the relationship of the freeway to Brownie Lake are illustrated by the map on page 305, Figure 42, which also concerns Wirth Park.

facilities

The only facility of the park to be disturbed by the construction will be the parkway and the adjacent pedestrian-bicycle path. These facilities will be restored on the new bridge over the freeway.

access

The existing access between the parkway and US-12 will be closed as requested by the MPRB, as discussed in the section regarding Wirth Park. The parkway and Brownie Lake will still be accessible from I-394 via Penn Avenue and the frontage road.

Brownie Lake will still have Cedar Lake Parkway on its east edge as the primary access point, and a frontage road to the north that is wide enough to accommodate parked cars.

noise

Increasing traffic will raise the noise levels near Brownie Lake whether I-394 is built or not. To keep this level within the federal and state standard of 70 dBA, the freeway will be depressed and a noise abatement wall will be built. The Minnesota Department of Transportation estimates that, with I-394 in operation under the most adverse conditions, but with the noise abatement wall inplace, the noise levels in the parkland will be 69 dBA nearest the freeway and 59 dBA next to the lake itself. If I-394 were not built, the predicted noise levels at these same two places would be almost the same: 70 and 59 dBA.

Figure 42 illustrates the points at which noise levels have been measured and predicted. Again, the more detailed discussion of the noise analysis is in the Appendix of this document.

air quality

Again, the detailed technical discussion of the air quality analysis is included in the Appendix of this document. The results are reiterated here.

With I-394 in operation, the maximum carbon monoxide levels over a one-hour period near Brownie Lake are predicted to be 5.1 ppm in 1990, 4.8 ppm in 2000, and 5.4 ppm in the year 2010, well below the federal and state standards of 35 and 30 ppm. The predicted concentrations if I-394 were not built are about the same: 5.1, 4.9, and 5.5 ppm for the same three future years.

Over an eight-hour period, the predicted maximum levels are 3.0 ppm for 1990, 2.8 ppm for 2000, and 3.2 ppm for 2010, again well below the federal and state standard of 9.0 ppm. The predicted levels if I-394 were not built are identical through the same time period.

The predicted maximum lead concentration for the year 1990 is 0.31 ug/m^3 with I-394 in operation, or 0.24 ug/m^3 if I-394 were not built. Either level is well below the National Ambient Air Quality Standard of 1.50 ug/m^3.

To minimize physical and environmental impacts, the freeway will be depressed along the Brownie Lake parkland. The effects of this depressed section have been considered in the air quality analysis.

Brownie Lake and the surrounding parkland will not be adversely affected by air pollution from either carbon monoxide or lead when I-394 is completed and in operation, nor would it be adversely affected if the freeway were not built. In either case the air quality will be within all accepted standards.

water quality

The water quality of Brownie Lake will not be adversely affected. All drainage from the section of I-394 along Brownie Lake will be diverted as explained in detail on page 314.

During construction, the contractors will be required to comply with the Mn/DOT Standard Specifications regarding the prevention of water pollution. Construction will be staged to minimize any problems. Drainage arrangements will be coordinated with the park authorities and the cities.

MITIGATION OF ADVERSE EFFECTS ON THE SECTION 4(f) LANDS

Brookview Golf Course

payment	No adjacent replacement land is available so the Minnesota Department of Transportation (Mn/DOT) will make a cash payment to the Golden Valley Park and Recreation Department for the land taken. They will also pay for the reconstruction of the second tee, if that proves necessary.
landscaping	Mn/DOT will either re-landscape the disturbed area or pay the park authority to do the job, if they prefer. Possibly some of the work will be done as part of the construction contract and some of it by the park department. Some of the mature trees that will be disturbed can probably be replanted by the contractor.
noise abatement wall	A noise abatement wall will be built all along the south edge of the course, separating it from I-394. The wall will lower the noise level to below the federal criteria of 70 dBA for parklands. It will primarily shield the driving range and the second tee, but it may also have value to some of the more internal areas of the course. The existing net to keep stray golf balls off the highway may be replaced by a new one atop the wall.
along Boone Avenue	If studies verify a significant increase in traffic along Boone Avenue to the north of Betty Crocker Drive, Mn/DOT may participate in the construction of a chain link fence all along Boone Avenue where it is adjacent to the course. Mn/DOT may also participate in the construction of a net along the third fairway to keep stray balls off the street. No such net should be needed along the second fairway because it is well shielded by a line of trees.

Theodore Wirth Park

replacement land	No permanent right-of-way will be needed from Theodore Wirth Park. Existing highway right-of-way totaling about 4.4 acres will be given to the MPRB to be added to Wirth Park as a replacement for the 2.0 acres that will be needed from the Brownie Lake area. This 4.4 acres is now used for the north frontage

road to the east of Wirth Parkway, and for the northwest loop of the interchange between the parkway and US-12. This frontage road and loop will be entirely removed and the property will be appropriately re-landscaped.

depressed section

I-394 will be depressed to a lower level than the surrounding terrain, lower than existing US-12, in the park area. This will help supress the freeway noise and will also make the freeway less visually intrusive.

control of salt use

This depressed section, together with the retaining and noise walls discussed below, will also shield the parkland from highway-generated salt spray during the winter. Landscaping within these walls will feature salt-tolerant plant species. Mn/DOT is attempting to minimize salt use; historically, its use is declining.

retaining walls

To minimize right-of-way needs, retaining walls will be used along the entire length of the freeway through the park. The more conventional back slopes along this depressed section would have required some of the parkland and would have disturbed more of the terrain and a large stand of trees.

noise abatement walls

Noise abatement walls will be built along all or most of the parkland, as appropriate. The walls will lower the noise level to below the federal standard of 70 dBA for parklands. The noise walls generally will be built atop the retaining walls.

The noise abatement walls will be built as early as possible during the construction, so as to mitigate at least some of the construction noise.

removal of interchange

At the request of the Minneapolis Park and Recreation Board, the existing interchange between the parkway and the highway will be permanently removed. The MPRB wants to discourage motorists from using the parkways as commuter routes. They believe that the closing of this access is consistent with their objectives.

maintaining traffic	The detour of the parkway traffic has not yet been determined. The detour will be inconvenient but not intolerable for the limited time required to build a new bridge. If the new bridge were built during the winter, the detour would have little affect on pedestrians and bicyclists.
Brownie Lake	
replacement land	Existing highway right-of-way totaling about 4.4 acres will be given to the MPRB as replacement land for the 2.0 acres that will be permanently acquired from the Brownie Lake parkland. This land will be added to Theodore Wirth Park, on the north side of the highway; the Brownie parkland is south of the highway. This replacement land is now occupied by a frontage road and one of the two loops of the Wirth Parkway/ US-12 interchange. These roadways will be removed and the land will be re-landscaped to blend with the park.
depressed section	I-394 will be depressed, lower than the inplace highway, along the Brownie Lake parkland. This will reduce the noise from and the visibility of the freeway.
control of salt use	This depressed section, together with the retaining and noise walls discussed below, will also shield the parkland from highway-generated salt spray during the winter. Landscaping within these walls will feature salt-tolerant plant species. Mn/DOT is attempting to minimize salt use; historically, its use is declining.
retaining walls	Retaining walls will be built along the entire length of I-394 adjacent to the Brownie Lake parkland, to minimize right-of-way needs. The more conventional back slopes would have required considerably more parkland for the construction of the freeway.
noise abatement walls	Noise abatement walls will be built all along the Brownie Lake parkland. These walls will lower the noise level to below the federal and state standard of 70 dBA for parklands. The noise walls will generally be built atop the retaining walls. The noise abatement walls will be built as early as possible during the construction, so as to mitigate at least some of the construction noise.

drainage diversion

At the request of the Minneapolis Park and Recreation Board, drainage from I-394 will be diverted from Brownie Lake. The water will be taken eastward to near Penn Avenue, stored in a holding pond, and outleted to an existing storm sewer system. The objective of this diversion is to reduce the saline runoff from the highway to Brownie Lake and the rest of the Chain of Lakes.

All of the drainage from I-394 in the area between Wirth Park and Brownie Lake will be carried away from the parks via an enclosed storm-sewer system. A holding poind will be constructed with an outlet to an existing storm sewer system which runs along Morgan Avenue and flows into Bassett Creek.

At the present time, drainage from US-12 does flow into Brownie Lake. If the loss of this drainage area has any affect on the level of the lakes, it can be compensated for by use of the pumping system that draws water from the Mississippi River to keep the lakes sufficiently full. This system routes the water through pipelines and a section of Bassett Creek.

separated frontage road

The new south frontage road will be separated from Theodore Wirth Parkway, passing under it alongside the main lines of I-394. This road will lead to the Prudential office to the west, and to Penn Avenue to the east. A loop will be built in the southeast quadrant to give an indirect connection between Wirth Parkway and the frontage road.

This arrangement will allow the frontage road traffic to avoid driving on or crossing the parkway, yet give access to that traffic destined to the parkway. At the present time, the Prudential traffic, in particular, cannot avoid interfering with the parkway traffic.

This arrangement will also allow the pedestrian and bicycle trail on the west side of Wirth Parkway to be continuous, unsevered by the frontage road.

Seven location alternates plus the limited improvement and the no-build alternatives were considered. All of the routes had the Hawthorne Interchange with I-94 as the eastern terminus, and extended westward to I-494.

Alternates 1 through 4 were discussed in the DEIS. The others were studied and dismissed prior to the publication of the DEIS.

The selected alternate, number 2 in the DEIS, follows the existing US-12 corridor, and is fully discussed in the FEIS. The no-build option (alternate 4) and the limited improvement alternate also would have retained US-12 as the major traffic route of the area, but with no or only limited improvements. The other routes are shown on the Alternate Corridors Figure 6A on page 65.

Route Alternates

None of the alternate routes would have avoided the use of parkland. The western edge of Minneapolis is completely banded by parkland, so any route to the west would intersect a park. The six rejected routes, and the reasons for their dismissals, are discussed in the following paragraphs.

alternate 1

Alternate 1 would have essentially followed US-12, but with the two directions of travel dividing and being separate around much of the Bryn Mawr and Tyrol Hills neighborhoods and the Saint Louis Park commercial area. It was rejected because of adverse social, economic, and environmental (SEE) impacts and because of potential operational problems. Public transportation, especially, would have worked poorly along the split alignment.

This alternate would still have required land from Theodore Wirth Park and also from the parkway around Cedar Lake. Both Brownie and Cedar Lakes would have been in proximity to the freeway.

alternate 3

Alternate 3 would also have followed US-12 except for taking the southerly route around the same neighborhods and commercial area. It was rejected because of severe SEE effects.

This alternate also would have required land from Theodore Wirth Park and the parkway around Cedar Lake, and would have placed the freeway in proximity to Brownie and Cedar Lakes.

alternate 5

Alternate 5 would have followed the route of the Burlington Northern Railroad (BNR), to the south of US-12. It was rejected in the DEIS because of adverse SEE effects and interference with Minnehaha Creek and the proposed linear park along the creek.

alternate 6

Alternate 6 would have followed the route of the Chicago and Northwestern Railroad, also to the south of US-12, to SR-7; then followed the existing SR-7 corridor to I-494. This alternate was dismissed in the DEIS because of adverse SEE effects and severe impacts on Cedar Lake and Lake of the Isles, and the parkland that surrounds them.

alternate 7

Alternate 7 would have followed the BNR route to SR-100, SR-100 south to SR-7, then SR-7 west to I-494. It was eliminated in the DEIS because of potential operational problems and because of encroachment into Brownie and Cedar Lakes, and their associated parklands.

alternate 8

Alternate 8 would have extended northwestward through north Minneapolis to SR-55, then followed SR-55 west to I-494. This route would have caused severe SEE impacts in north Minneapolis and would have intruded into Theodore Wirth Park and the parklands along Bassett Creek. Also, its northwesterly direction would have been away from the center of population of the western suburbs, so its value would have been limited. For these reasons, Alternate 8 was rejected in the DEIS.

The No-Build Alternate

The no-build alternate, number 4, would not solve the existing or future transportation or environmental problems of US-12 and the area it serves. Building nothing would, of course, avoid the physical taking of any parkland; but the adverse environmental impact on the adjacent parkland would be severe. In comparison to the result of constructing Alternate 2, the traffic noise would increase and the air quality would decrease as US-12 became more clogged with the predicted traffic.

The Limited Improvement Alternative

The limited improvement alternative would have been to improve existing US-12 in such a way as to minimize right-of-way equirements. One lane in each direction would have been added to the existing highway. All at-grade intersections would have been closed; existing interchanges would have been modified; new interchanges and crossovers would have been built. The existing frongage road system would have been retained.

Some parkland would probably have been required. Traffic noise and air quality would have been worse than with I-394. Good design standards would have been compromised and the resultant road would have been inferior to I-394 in terms of capacity, level of service, safety, and environmental effects. It would have cost nearly as much as I-394 but not qualified for funding as part of the interstate program.

Because of all these adverse social, economic, and environmental impacts, the limited improvement alternative was eliminated from further consideration.

Design Alternatives

Design alternatives would consist of shifting the alignment to avoid or minimize the use of parkland for highway right-of-way. The width of the corridor will be minimized as much as possible, without sacrificing geometric or safety standards, by such practices as the use of retaining walls instead of back slopes or fill slopes along parklands.

at Brookview Golf Course

I-394 could be shifted to the south to avoid Brookview Golf Course, but only at the expense of taking a substantial part of the Westwood Lake Office Park. This consists of three, three-story office buildings totaling about 144 thousand square feet and housing numerous businesses.

The highway and the necessary frontage road would require the taking of one of the buildings and a substantial part of the parking area. Because of the value of the property, and the potential disruption of the businesses and employees working there, we do not believe that it would be prudent to take the commercial property instead of a small slice of the golf course. This

commercial property also generates a considerable amount of tax revenue to the City of Golden Valley, which would be lost if the offices were to be sacrificed.

The staff of the City of Golden Valley has reviewed this plan and apparently concurs that it would not be prudent to sacrifice this commercial property in order to save the small amount of park property.

at Theodore Wirth Park and Brownie Lake

At Theodore Wirth Park and Brownie Lake, shifting I-394 north or south could not avoid parkland because it is on both sides of the I-394 corridor, Wirth Park on the north and Brownie Lake on the south. No real design alternative exists. The path of the freeway through this parkland has been determined by both good design and safety standards and by both an attempt to minimize the effect on the highway through the park and through the adjacent neighborhoods, Tyrol Hills to the west and Bryn Mawr to the east.

The Mn/DOT has worked closely with both the Golden Valley and the Minneapolis Park and Recreation Boards in the development of I-394 and its relationship to the parks, Brookview in Colden Valley and Wirth and Brownie in Minneapolis. The freeway has been designed to minimize its effect on the parks, and the specific wishes of the park authorities have been, and will continue to be, carefully considered throughout the development of this project.

The Mn/DOT will continue to work with the park authorities and keep them continually apprised of the design of the freeway and its appurtenances through the parklands. Mn/DOT will seek and welcome their advice regarding design details that affect the parklands, including the handling of drainage and the mitigation of noise during construction. Mn/DOT is committed to make every reasonable effort to resolve any legitimate concerns of the park authorities to the mutual satisfaction of those concerned.

The letters on the following pages confirm the formal coordination between Mn/DOT and the park authorities prior to circulation of the Draft Section 4(f) Evaluation. Also included are Mn/DOT's comments responding to each of the points in the park authority letters.

The Draft Section 4(f) Evaluation was circulated for review and comment in September, 1981. Comments were solicited from the local park authorities and the appropriate state and federal agencies having jurisdiction over parklands. The Appendix of this Section 4(f) Evaluation contains letters from these agencies along with responses to the concerns that were stated.

132

City of Golden Valley

March 7, 1980

Mr. William Crawford
District Engineer, District #5
Minnesota Department of Transportation
2055 North Lilac Drive
Golden Valley, MN 55422

Dear Sir:

On Monday, February 25, I met with Mr. Craig Robinson and members of his staff relative to the possible encroachment of I-394 onto the Brookview Golf Course in the City of Golden Valley.

I have asked my Golf Superintendent to bring forth his comments as per the outcome of the meeting on the 25th (see attached comments).

The slight change in alignment of both proposed I-394 and Boone Avenue extended as depicted on the new drawing that was presented, as opposed to the drawing that I saw at our first meeting on February 9, really alleviates a lot of problems relative to our Golf Course.

I will briefly recap the points that my Golf Superintendent brought forth in his memo, as follows:

1. A noise wall along the south border of the Golf Course is definitely a must, plus appropriate netting. (Whether the Driving Range will have to be closed during highway construction remains a question.)

2. A new nursery green will have to be relocated and reconstructed at least three years before highway construction begins.

3. The relocation and construction of a new tee on number two fairway is also a definite must.

4. The loss of mature trees behind number two tee will have to be replaced.

5. A chain link fence will have to be constructed along the entire length of number three fairway, plus appropriate netting.

The dollar amounts for the above have not been computed at this time.

I might add that the dollar damage is really insignificant when one considers the over-all aesthetic damage and patron inconvenience.

Sincerely,

John L. Brenna
Director
Park and Recreation Department

JLB/sg
Attachment

cc: Craig Robinson
Jeff Sweet

To: Park and Recreation Director

From: Golf Superintendent

Date: March 6, 1980

Subject: I-394 as it affects the Brookview Golf Complex and Recreation Area

1. Our driving range could be closed for a possible two year period depending on the time of construction as it develops along our south border. During this period, we would sustain a total loss of revenue from our range facility. Also, what effect the loss of our driving range would have on our total golf operation revenue-wise is an area that we would explore and calculate. The visability and access to the range would be greatly impaired and what effect this will have will also be explored and calculated. A noise wall should definitely be constructed all the way to Boone Avenue North.

2. The nursery green located in the proposed I-394 construction limits would indeed be a significant loss, as this green supplies high quality nursery stock to our existing 18 hole regulation course and to our Par 3 course. The green should be relocated and reconstructed at present time so the green would be in operation when the present green is taken by construction. Construction costs will be calculated and will be presented when needed. The green should be constructed at a minimum of three years prior to the construction of I-394.

3. The back or championship tee on Hole Number 2 will also be taken by the construction of I-394. The regular tee will be lengthened to accommodate the expanded traffic; due to the loss of the championship tee, it will have to be constructed before I-394 work begins. Costs will be given at a later date. What effect this has on our USGA rating will be calculated when the extended tee is built. The noise wall should be built but an elevated tee is not desirable.

4. A chain link fence and netting similar to that on the driving range will have to be erected on Hole Number 3, from Betty Crocker Drive to Highway 55, because of the expanded use of Boone Avenue.

5. The loss of the entrance of Field Drive coming east on I-394 will have the greatest effect on the entire Brookview Recreation Complex. Only time will tell what the effect will be and what revenue loss it will have on Brookview.

6. Staff will give you costs and time estimates when they are needed. A site for the new nursery green is being explored at this time.

7. The loss of mature trees in the back of the second tee should be replanted at another area on the course, preferably along Boone Avenue on Hole Number 3. Staff will look at locations desireable for this.

Scott Soltow
Golf Superintendent

SS/sg

Response to letter of March 7, 1980, from John L. Brenna, Director, Park and Recreation Department, Golden Valley.

item A: A noise abatement wall will be built between the golf course and I-394. The netting will be replaced if necessary. See page 311 of the Evaluation.

item B: Current construction limits will not require the taking of the nursery green. Mn/DOT will make every attempt to save the back tee of the second hole during the development of final plans. If it cannot be saved, Mn/DOT will work with Golden Valley to arrive at a solution that minimizes disruption.

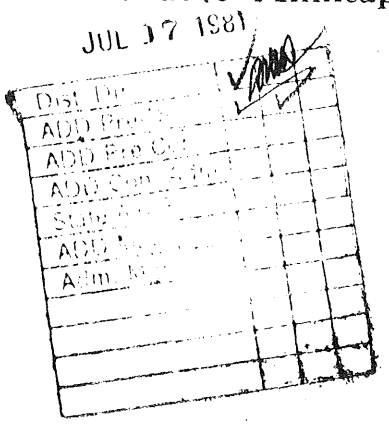
item C: Landscaping will be done. Mn/DOT will make use of mature stock as much as possible (either transplanted or new).

item D: Mn/DOT recognizes the desirability of fencing and/or netting along the third fairway. Every attempt will be made during detail design stages to work out a satisfactory solution.

Response to memo of March 6, 1980, from Scott Soltow, Golf Superintendent, Golden Valley.

item E: As with the nursery green, the driving range will now be avoided.

item F: The loss of the Field Drive entrance should be compensated for by the full interchanges at Boone Avenue and Louisiana Avenue, the grade separation at Winnetka Avenue, and the frontage roads in between.



File No. 66

July 14, 1981

Mr. William M. Crawford
District Engineer
State of Minnesota
Department of Transportation
District Five
2055 Lilac Drive North
Golden Valley, Minnesota 55422

Re: 315 S.P. 2789-01 (I-394)
I-394 Between I-494 in Minnetonka and I-94 in Minneapolis
Preliminary Draft 4(f) Statement

Dear Mr. Crawford:

Thank you for submitting to us the preliminary draft 4(f) statement for the I-394 project for our review and comment (see your letter of June 4, 1981). It should be understood that our review and comment does not represent the Minneapolis Park and Recreation Board's final approval of this document.

This preliminary draft covers many of the issues raised in my letter of March 23, 1981 to Richard Borson. However, there are a number of issues, particularly related to drainage, which we believe require further investigation and response. A copy of this letter is enclosed with the paragraphs circled showing the areas of specific concern not yet adequately handled by the 4(f) statement.

The Parade, Spring Lake, Kenwood Parkway, and Bryn Mawr Meadows:

The 4(f) statement mentions the above park areas (see page 11). These park areas should be treated in the same manner and depth as are Wirth Park and Brownie Lake. We are particularly concerned about noise and air pollution, salt spray, saline drainage water runoff and other effects which a major highway has on adjoining lands. If the I-394 project extends eastward to I-94 then these adjoining park areas should be included in the 4(f) statement.

Use of Salt:

The 4(f) statement does not deal with this issue in any detail. Mitigating measures which could be taken are not discussed. Furthere study and discussion of this subject are warranted.

Drainage (Surface and Subsurface):

Drainage of the highway continues to be of major concern to us. The 4(f) statement does not include enough specific data, i.e., ground water elevations, bog elevations, etc. to evaluate the statements made such as those regarding ground water contamination

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Patricia Hillmeyer William Holbrook Sherman Malkerson Alden C. Smith

or effects on the two major bogs within Wirth Park. Secondly, we are very concerned about the wetland northwest of the SR 100/US 12 intersection. According to our information, this is a part of the Bassett's Creek Watershed. Because water is pumped out of Bassett's Creek into Brownie to help with water level maintenance, saline drainage water could very well end up in the Chain of Lakes, an item we specifically asked to be solved. The entire issue of drainage must be more fully studied with sufficient data supplied to support your conclusion.

Waterline Between Bassett's Creek and Brownie Lake:

The underground waterline which carries water from Bassett's Creek to Brownie Lake as part of our lake supplementation system is not mentioned in the 4(f) statement. Should the proposed road construction affect this pipe in any manner, modifications satisfactory to our agency must be a part of the total project.

Design and Construction Issues:

All four paragraphs of my letter of March 23, 1981 regarding Design and Construction Issues, are still appropriate. Our agency is particularly concerned and desirous of the development of mutually acceptable plans and designs for the following:

1. Parkway bridge with bicycle and pedestrian paths over I-394.

2. Noise and retaining walls.

3. Grading and landscaping (i.e. restoration) of areas returned or added to the park system areas.

4. Grading and landscaping of the areas between park property and the noise and retaining walls.

In addition, the draft 4(f) statement discusses "construction standards". We have no knowledge of what these are and what they include. It would be very hopeful if we could have access to them so as to judge the completeness of the 4(f) statement.

Enclosed is a copy of a memo from Mike Ryan, our Environmental Education Coordinator regarding the I-394 4(f) statement. If you have any questions regarding the information within it, please contact him at 348-2220.

The upgrading of Highway 12 will have major effects on the park system. The 4(f) statement, as the first step of a long construction process must be well done so as to ensure that these effects are as positive as possible.

Very truly yours,

Albert D. Wittman
Assistant Superintendent for Planning
612/348-2222

ADW:ker
Enclosures

CITY OF MINNEAPOLIS
PARK AND RECREATION BOARD

Inter-office Memorandum

TO Al Wittman
Ass't. Supt. for Planning

FROM Mike Ryan
Environmental Education Coordinator

SUBJECT I-394 - Draft E.I.S., Statement 4 (f) DATE 6/16/81

Comments:

p. 6 I-394 Corridor Map: Spring Lake is not indicated on map containing The Parade

p.23 4th paragraph: change lines 9 through 11 to read as follows - ... with wooded hills on three sides and an introduced bog at the center.

5th paragraph: change lines 3 through 6 to read as follows - This is the only native swamp/bog complex in Minneapolis. Delete "and possibly...metro area." Line 7, respell carnivorous. Line 9 change to read: The bog is used for...

p.40 3rd paragraph: general rewrite.

1. no indication of soil sampling to determine
   a. depth of bog
   b. internal drainage of bog
   c. relative elevation of depressed freeway segment directly adjacent to bog

2. As written, this paragraph provides no data to support contentions and conclusions and therefore, is not an assessment of impact.

p.42 4th paragraph: general rewrite.

1. insert <u>data</u>
   a. degree of depression relative to Brownie Lake
   b. elevation of freeway corridor segment directly north of the lake
   c. elevation of ground water table below corridor segment

p.44 General rewrite of 3rd, 4th, 5th and 6th paragraphs to include <u>data</u> to support conclusions, particularly elevations of present and proposed conditions!

p.45 General rewrite - same as p.44 in 4th and 5th paragraphs of p.45

SIGNED _____

p.46 General rewrite - 4th paragraph

1. need data
   a. drainage map of entire I-394
   b. watershed map of Bassetts Creek showing drainage changes
   c. plan view and hydrograph of drainage effects to include present and proposed conditions with elevations

2. Diversion proposal according to our data would affect Brownie Lake as Bassetts Creek water is part of the Chain of Lakes lake level augmentation system and, therefore I-394 run-off would enter the Chain of Lakes through the present Bassetts Creek drainage.
   a. Drain marsh (NW Hwy. 100 and Hwy. 12 to Sweeney Lake to Bassetts Creek to pump station on creek at Xerxes via aqueduct to Brownie Lake.
   b. The only possible advantage is that the proposed diversion is more circuitous than present and, therefore could allow more time for salt and sediment dispersion.

File No. 66

March 23, 1981

Mr. Richard Borson
Layout, Research and
Development Engineer
State of Minnesota
Department of Transportation
District Five
5801 Duluth Street
Golden Valley, Minnesota 55422

Dear Mr. Borson:

Thank you for submitting the preliminary version of the draft 4(f) section evaluation for I-394 between Highway 101 in Wayzata and I-94 in Minneapolis. Our response to the preliminary draft 4(f) section is based on the design proposal which upgrades Trunk Highway 12 to a freeway standard, provides High Occupancy Vehicle lanes and has interchanges at I-94, Penn Avenue, and Trunk Highway 100 (MNDOT 1). Should there be any changes in this design, we reserve the right to make further comments on the 4(f) statement.

Existing Conditions:

The first part of the 4(f) section report deals with the existing situation. On Page 7, under the description of the existing road, the outside westbound lane that exits exclusively at Wirth Parkway should be identified. It has a substantial negative effect on the parkway resulting from the high volume of exiting commuter traffic, which would not occur to the same degree if the exclusive outbound lane did not exist.

In addition to the current traffic exiting on Wirth Parkway, the existing highway at Spring Lake is causing severe environmental problems. Debris being washed from the road is causing a substantial litter problem at the lake. The splash rails requested some six years ago have never been installed. As a result, salt spray from the highway continues to affect the water quality of Spring Lake and is damaging the surrounding plant life and vegetation.

Mitigation of this problem should be addressed in the final 4(f) statement.

The preliminary draft 4(f) evaluation makes reference to park and ride sites on Page 7. It does not discuss whether or not

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Patricia Hillmey
Alden C. Smi

these involve park land. If so, we should be informed and provided an opportunity to respond and identify any necessary replacement lands.

Park Significance:

Wirth Park is the largest area of land within the Minneapolis park system and is an extremely important element. The 4(f) statement should more strongly describe the significance of Wirth Park. We would offer as a minimum, editorial changes on Pages 14, 16, 17, 20, and 21 as a means of emphasizing that significance.

Park Land Taken or Involved:

The proposal known as MNDOT 1 results in a small net increase in park lands. This proposal, which eliminates the existing interchange between Highway 12 (I-394) and Wirth Parkway, is in keeping with the Park and Recreation Board's position adopted in 1977, which was as follows:

a. The elimination of the interchange between the highway and Wirth Park.

b. Highway to be depressed adjacent to park land.

c. No park land to be taken (namely, Bryn Mawr Meadows, Wirth Park, Spring Lake, and that portion of the Parade south of Wayzata Boulevard) unless no reasonable alternative exists as per Section 4(f) of the Department of Transportation's Act of 1966 and Section 138 of the Federal Aid Highway Act of 1968.

d. That County Road 16 be depressed (with no at-grade crossing at Wirth Parkway). (This item is no longer applicable.)

e. No saline drainage into the lakes.

The plans which you have submitted to us and the draft 4(f) statement deal with the relationship of the freeway to Wirth Parkway and the Chain of Lakes. It does not address whether there is other highway or freeway construction that would involve Spring Lake, Bryn Mawr Meadows, the Parade or subterranean factors under any of the above parks or Wirth Park and the Chain of Lakes. This should be clarified in the revised draft. If these parks are affected, the Park and Recreation Board should be alerted to the degree of impact so that appropriate mitigating measures can be determined and replacement land, if applicable, be identified.

Environmental Impacts:

The depressed corridor proposed for I-394 is in keeping with the Minneapolis Park and Recreation Board's position adopted in 1977. This is the most preferred way of treating the freeway in relationship to park lands. It is important, however, that measures be taken to avoid any concentration of noxious fumes that could

occur in the immediate vicinity of the depressed corridor as a result of possible entrapment by the corridor configuration. We expect assurances that this would not occur and that dispersal does not mean transferring a potential problem elsewhere in either the park lands or the adjoining residential areas.

It is anticipated that salting will be required on the freeway in winter conditions. These effects are not addressed in the 4(f) statement. Because they are an important factor on the adjoining environment, both the problems and mitigating measures should be discussed.

The 4(f) statement indicates that surface drainage will not be conducted into the Chain of Lakes. It does not, however, indicate where surface drainage will be conducted, nor does it discuss any effects on the ground water hydrology that could occur in the area, nor does it indicate whether any change in the level of Brownie Lake could be expected. We are concerned that a subterranean transmission of saline drainage into either the bog area immediately north of Highway 12 or into Brownie Lake and then on into the Chain of Lakes could occur with resultant damage to these areas.

Traffic Impacts:

Traffic volumes have been an important factor in the discussion revolving around the upgrading of Highway 12 and its access points. The preliminary 4(f) statement provides no traffic data for either existing conditions nor an analysis of future conditions resulting from either not building the freeway or from the upgrading of the facility. We believe it is important that these issues be thoroughly addressed in the document. The basic material seems to have been covered by either yourselves or the Metropolitan Council. It could handily and adequately be included.

Design and Construction Issues:

There are numerous issues primarily relating to design that cannot be resolved at the 4(f) stage but must be done, either during the preparation of more detailed design documents or in the conduct of the construction of the project itself. The final 4(f) statement should contain a commitment on the part of the Minnesota Department of Transportation to work with the Minneapolis Park and Recreation Board in the development of all design details in the vicinity of the park, particularly, those that relate to the construction of the bridge, the noise walls, and local access. There are a number of specific needs such as pedestrian and bicycle movement across the freeway, that the Minneapolis Park and Recreation Board believes must be accommodated in the design. We will prepare a detailed itemization of these when the Minnesota Department of Transportation determines the appropriate time in the design process.

Restoration of the area is extremely important to the Park and Recreation Board. Impact on delicate areas such as the bog area is a vital concern. We, therefore, must be continually apprised

of the development of the design of the project and the construction phases as it proceeds. The 4(f) statement should provide such commitments and assurances that legitimate Park and Recreation Board concerns will be addressed and resolved to our mutual satisfaction. X

The 4(f) statement should also address various construction impacts such as the routing of traffic during construction. A detour is mentioned in the 4(f) statement but not defined. It should be outlined and commitments made to both the Park and Recreation Board and the City of Minneapolis to arrive at satisfactory detours. Y

The handling of drainage and mitigation of noise during construction is likewise important. A commitment should be provided that interim drainage arrangements will have the approval of the Park and Recreation Board as it affects park land and the approval of the Department of Public Works as it affects city systems. Z

The upgrading of Highway 12 can be of benefit both to the metropolitan transportation system and the adjoining park lands. We will proceed to work with the Minnesota Department of Transportation as the project progresses to achieve the best results possible for both the park and the freeway.

Very truly yours,

Albert D. Wittman
Assistant Superintendent for Planning
612/348-2222

ADW:ker
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Response to MPRB letter of July 14, 1981 by
Albert D. Wittman.

item A: A Section 4(f) Evaluation is not required for The Parade, Spring Lake, Kenwood Parkway, Bryn Mawr Meadows, or any of the suburban parks also mentioned on page 277 of this Evaluation. As stated, the freeway as now planned will not intrude in any way into any of these parks. The environmental effects of the freeway on all of these nearby parklands, as well as on the entire corridor, is addressed in the FEIS.

item B: Salt use is discussed on page 313 of the Evaluation, in the section entitled "control of salt use."

item C: With regard to the possibility of groundwater contamination, it is Mn/DOT's opinion that this will not present a problem. However, because of the concern shown by the MPRB, Mn/DOT will continue to study this area as more detail becomes available in the course of further project development. If it is found that a problem does exist, Mn/DOT will work closely with the MPRB staff in developing mitigative measures.

item D: The diversion of highway drainage from Brownie Lake is discussed on page 314 of this Evaluation.

This diversion will take highway drainage from Brownie Lake to near Penn Avenue. A holding pond will be constructed to retain the water, which will then be discharged into an existing storm sewer system which runs along Morgan Avenue and into Bassett Creek downstream of the MPRB pumping station.

item E: If the underground waterline between Bassett Creek and Brownie Lake is disturbed by the freeway construction, it will be adjusted so as to remain in service. Any required changes to this pipe will be coordinated with the Park Board.

item F: Mn/DOT will be pleased to work with the MPRB in the design of project elements that effect the Wirth and Brownie park-lands. Continual coordination will be carried on with the MPRB so that items such as noise walls, bicycle/pedestrian paths, landscaping, etc, will definitely reflect their input.

item G: Any pertinent information regarding "standards" or "specifications" will be made available to the MPRB.

Response to MPRB memo of June 16, 1981, by Mike Ryan.

item H. Spring Lake has been added to the map.

item I: The suggested changes have been made.

item J: The suggested changes have been made.

item K: See attached memo, page 347. Although this may not answer all of the MPRB's concerns, it is as much information as is available at this time. Mn/DOT will continue to monitor this situation during further project development.

item L: The paragraph is correct; the freeway will be depressed in the Brownie Lake area. More details can be found in the Final Section 4(f) Evaluation and the FEIS.

item M: The paragraphs regarding the depressed section, control of salt use, retaining walls, and noise abatement walls are correct and as detailed as possible for this Evaluation. Further details at this time would be tentative and subject to change.

item N: The level of detail provided in this Evaluation is commensurate with the stage of planning at this point in time. As more detailed work is done on this project, the information will be made available. This will occur in continuing coordination with the MPRB.

Response to MPRB letter of March 23, 1981, by Albert D. Wittman.

item O: The lane drop at Wirth Parkway is now discussed on pages 273 and 304.

item P: The effect of the freeway on Spring Lake is discussed in the FEIS.

item Q: The park-and-ride sites will not involve parkland. This is now mentioned on page 273.

item R: The Evaluation now emphasizes the importance of Theodore Wirth Park as suggested by the MPRB.

item S: Parkland that is not physically disturbed by the freeway is discussed in the FEIS. See our response to items A and P.

item T: Air quality is discussed in detail in this Evaluation. No problems are anticipated.

item U: Salt use is discussed on page 313 of this Evaluation, in the section entitled "control of salt use."

item V: Some of these concerns have now been addressed in this document (see pages 314 and 347). Some of the other details are not yet available. See also responses to comments C and D.

item W: Present and future traffic volume maps are now included in this Evaluation.

item X: Mn/DOT will continue to work with the park authorities on mutual concerns.

item Y: The detour is now discussed on page 308. the MPRB will be involved.

item Z: Drainage during construction is now discussed on page 310. Again, the MPRB will be involved.

No alternative, except the no-build, exists which would completely avoid the use of Theodore Wirth and Brownie Lake parkland for the construction of I-394. The no-build alternative, however, is not a prudent choice because of the transportation and safety needs for this corridor as demonstrated in the Final Environmental Impact Statement and Final Section 4(f) Evaluation.

A design alternative does exist in the vicinity of Brookview Golf Course whereby the alignment of I-394 could be shifted south to avoid encroachment into the golf course. However, this would necessitate the acquisition of a major commercial/office development and result in a severe adverse economic impact to the City of Golden Valley. Thus, an alignment shift in this area is not a prudent alternative. This is discussed in depth on page 317 of this Final Section 4(f) Evaluation.

The development of the alignment and design details through the park areas reflected in the Final Environmental Impact Statement and Final Section 4(f) Evaluation is a result of extensive coordination with the affected park authorities. In addition to the correspondence contained in this report numerous meetings were held in which issues and concerns were identified. This in turn led to several modifications to the plans and the incorporation of several mitigative measures. Examples of these include minimizing construction limits in Brookview to avoid encroachment into the nursery green and driving range, the diversion of highway drainage from Brownie Lake, and elimination of the interchange at Theodore Wirth Parkway.

A Draft Section 4(f) Evaluation was sent out not only to the local park authorities, but also to the U.S. Department of Interior (DOI). DOI's concern with the project dealt with the drainage diversion from Brownie Lake. They recommended that, rather than discharge into an existing wetland, the highway drainage be stored in a holding pond with an outlet to an existing storm sewer system. This recommendation has been incorporated into the plans as this drainage will be diverted to a holding pond near Penn Avenue and discharged into an existing storm sewer system.

Based on the above considerations, it is determined that there is no feasible and prudent alternative to the use of land from the Section 4(f) properties and that the proposed action includes all possible planning to minimize harm the the Section 4(f) properties resulting from such use.

DISCUSSION OF NOISE ANALYSIS

A noise impact analysis has been performed to document the noise impacts in Brookview Golf Course, Theodore Wirth Park, and Brownie Lake caused by construction of I-394. As defined in Federal Aid Highway Program Manual (FHPM) 7-7-3, construction of I-394 constitutes a Type 1A project (construction or reconstruction of a highway section with full or partial access control) and the noise analysis for this project was accomplished in accordance with the requirements set forth in FHPM 7-7-3.

This section of the report summarizes the study done in the park areas only. A more detailed discussion of the noise analysis done for the entire I-394 corridor will be contained in the Final Environmental Impact Statement and in the Final Noise Analysis Report.

methodology

The noise prediction model used in the impact analysis is a computerized form of the FHWA noise prediction model. The parameters of this model include projected traffic volumes and the physical characteristics of the roadway and the surrounding area. Traffic projections were obtained by computer analysis by the Mn/DOT Office of Systems Planning. The auto volumes used are for the noisiest hour of the day which is the lesser volume of Level of Service "C" or Design Hourly Volume. For this project level of Service "C" auto volumes and the Design Hourly Volume of trucks were used for noise predictions.

Pre dictions for existing noise levels, year 2000 "Build" and year 2000 "No-Build" were made in each affected park, and the noise levels for each condition are listed in the table on the following page.

Existing noise levels were also measured in each park and those actual measurements are also shown. However, because "worse-case" traffic conditions are used for predictions, actual measurements are not directly comparable.

results of noise analysis

The results of the noise analysis for each park are listed and summarized in the table on the following page.

	FHWA Design Noise Level (L_{10})	State Standard (L_{10})	State Standard (L_{50})	Existing Noise Level (measured L_{10})	Existing Noise Level (predicted L_{10})	Year 2000 Build (with abatement L_{10})	Year 2000 Build (L_{50})	Year 2000 No-Build (L_{10})	Year 2000 No-Build (L_{50})
Brookview	70	70	65	70	68-70	70	67	69-71	67-68
Theodore Wirth	70	70	65	53-66	71-74	70	63-67	72-75	69-71
Brownie Lake	70	70	65	52	69	70	67	70	67

Brookview Golf Course

Analysis shows that with the "Build" alternative and provision of noise attenuation barriers, noise levels in the park will be at or below applicable state and federal L_{10} standards. Also, predicted year 2000 noise levels are approximatley the same as the predicted ambient noise levels, indicating little or no impact.

Theodore Wirth Park

Analysis shows that with the "Build" alternative and the provision of noise barriers, year 2000 noise levels in the park will be at or below applicable state and federal L_{10} standards, and will also be below predicted ambient noise levels.

Brownie Lake

Analysis shows that with the "Build" alternative and the provision of noise barriers, year 2000 noise levels will be at or below applicable state and federal L_{10} standards, and will be approximately the same as predicted ambient noise levels.

Construction of proposed I-394 is expected to take approximately five years. Although no one area will be exposed to construction activity for the full five years, each area may be affected from time to time during that period.

Throughout the project length activities such as earth-moving, trucks hauling, and grading operations will contribute to the construction noise impact.

Wherever possible, consideration will be given to building the noise barriers early in the construction stage to help alleviate the construction noise impact.

Conclusion

Construction of I-394 will result in only minimal noise impacts in the affected park areas. In all three park areas, predicted year 2000 noise levels are lower if I-394 is built than they would be under the "No-Build" alternative.

DISCUSSION OF AIR QUALITY ANALYSIS

The motor vehicle is a primary contributor of air pollution in our country. Because of this, the Federal Government has established laws whereby automobile manufacturers, over a given period of time, must reduce the amount of pollutants their vehicles emit. Also, for protection of public health, Federal, State and local governments have set standards for maximum allowable concentrations of certain pollutants.

The seven county (Minneapolis-St. Paul) metropolitan area has been designated a non-attainment area for both Carbon Monoxide (CO) and Lead (Pb). Therefore, an analysis of these pollutants must be made of all proposed major roadways. It must be shown that traffic volumes generated by the proposed roadway will not cause violations to established pollution standards and that they will be consistent with the State Implementation Plan (SIP).

Mn/DOT is required by law to report the affects generated traffic volumes will have on surrounding ambient air quality from its proposed major highway projects.

The material contained in this section is an extraction from the I-394 project air quality report. The project report is presently being prepared and should be completed by late Spring of 1980. At that time, circulation of the report will be made to all concerned agencies. The methodology, assumptions, and results discussed here will appear in more detail in the air quality report.

carbon monoxide (CO)

CO is the most common of all air pollutants. It is a colorless, tasteless, odorless gas that affects the ability of blood to carry oxygen. The prime contributor of CO in the atmosphere is the motor vehicle. Federal and State standards have been established in an attempt to protect the public from excess exposure to CO concentrations.

lead (Pb)

Motor vehicle emissions constitute the major source of Pb emissions to the atmosphere. Pb primarily affects red blood cells, the central and peripheral nervous systems, soft tissues such as liver and kidney, and bone. Pb gets into the blood primarily through ingestion.

On October 5, 1978, the Environmental Protection Agency (EPA) set a national ambient air quality standard for Pb. The standard is 1.5 micrograms lead per cubic meter of air, averaged over a calendar quarter.

methodology

CO concentrations along the I-394 corridor were estimated by means of an EPA computer program called HIWAY II. HIWAY II determines concentrations by a numerical integration along the line source of a simple Gaussian point-source plume.

The procedures for estimating Pb concentrations were based on a Federal Highway Administration (FHWA) Memo (1-31-78): Proposed Lead Standard - Attachments 6 and 8.

CARBON MONOXIDE (CO) ANALYSIS

assumptions

In order to estimate future "worst-case" CO concentrations within Brookview Park, Theodore Wirth, and the Brownie Lake area, the following assumptions were made:

1. Wind Speed: 1 meter per second.
2. Wind Direction: Approximate 10° angle to roadway.
3. Atmospheric Stability: Pasquill-Gifford stability class D.
4. Emission Factors: EPA Mobile 1.
   a. Cold Starts: 10% on I-394 build and TH 12 no-build. 45% on south frontage road for I-394 build receptor.
   b. Auto Mix:
      Diamond and reversible lanes =
      92% light duty vehicle
      8% heavy duty diesels
      All other lanes =
      81.0% light duty vehicles
      15.0% light duty trucks
      2.4% heavy duty gas
      1.6% heavy duty diesels
   c. Ambient temperature: 20°F
   d. Vehicle Speed:

No-build TH 12

1 hour	8-hour
20 mph	30 mph

Build I-394

	1-hour	8-hour
HOV	50 mph	50 mph
I-394	35 mph	35 mph
S. Fr. Rd.	25 mph	25 mph

5. Background Concentrations: parts per million (ppm).

Brookview Golf Course

	1-hour	8-hour
1979	3.9 ppm	2.8 ppm
1990	1.5 ppm	1.1 ppm
2000	1.4 ppm	1.0 ppm
2010	1.6 ppm	1.1 ppm

Theodore Wirth and Brownie Lake

	1-hour	8-hour
1979	10.4 ppm	5.8 ppm
1990	4.0 ppm	2.2 ppm
2000	3.8 ppm	2.1 ppm
2010	4.3 ppm	2.4 ppm

6. Receptors: A receptor is defined as any reasonable location a person could be expected to occupy for a 1 or 8 hour period. The receptors at Theodore Wirth, Brownie Lake and Brookview Parks were located where the highest CO concentrations could be expected to occur.

7. Traffic: All forecasted traffic volumes for the I-394 build and no-build alternatives were derived from SPAR M-202-A prepared by The Transportation Forecast Section of the Mn/DOT.

8. Cross Section: The I-394 build alternative assumes a depressed freeway corridor between Theodore Wirth Park and the Brownie Lake parkland.

Federal and State Standards for allowable CO concentration:*

Federal Standards

1-hour	8-hour
35 ppm	9 ppm

State Standards

1-hour	8-hour
30 ppm	9 ppm

Results from Theodore Wirth Park Analysis

1-hour Analysis

Year	Build I-394	No-Build I-394
1990	5.7 ppm	5.3 ppm
2000	5.4 ppm	5.9 ppm
2010	6.0 ppm	6.4 ppm

*Standards may not be exceeded more then once a year.

8-hour Analysis

Year	Build I-394	No-Build I-394
1990	3.6 ppm	3.5 ppm
2000	3.4 ppm	3.3 ppm
2010	3.9 ppm	3.7 ppm

Results from Brownie Lake Analysis

1-hour Analysis

Year	Build I-394	No-Build I-394
1990	5.1 ppm	5.1 ppm
2000	4.8 ppm	4.9 ppm
2010	5.4 ppm	5.5 ppm

8 hour Analysis

Year	Build I-394	No-Build I-394
1990	3.0 ppm	3.0 ppm
2000	2.8 ppm	2.8 ppm
2010	3.2 ppm	3.2 ppm

Results from Brookview Golf Course Analysis

1-hour Analysis

Year	Build I-394	No-Build I-394
1990	2.1 ppm	2.3 ppm
2000	2.0 ppm	2.2 ppm
2010	2.3 ppm	2.8 ppm

8-hour Analysis

Year	Build I-394	No-Build I-394
1990	1.6 ppm	1.8 ppm
2000	1.5 ppm	1.6 ppm
2010	1.6 ppm	1.8 ppm

Conclusion

Theodore Wirth, Brownie Lake and Brookview Parks will not be adversely affected by carbon monoxide concentrations from forecasted traffic volumes with either the build or no-build alternatives.

LEAD (Pb) ANALYSIS

The analysis of the airborne lead within the boundaries of Theodore Wirth, Brownie Lake and Brookview Parks indicates no violations of the lead standards for either the build or no-build I-394 alternatives.

The EPA has imposed a phaseout of lead additives in gasoline. Compared to the 1975 lead levels, 89 percent will be removed by 1985 and 92 percent by 1995. With that amount of reduction, lead emissions from the motor vehicle will be insignificant.

Project Lead Analysis

1990 (estimated time of project completion, plus one year) was considered the critical year for the project lead analysis. The results of the 1990 analysis showed minimal amounts of lead concentrations. Future years, such as 1995 or 2000, would be even less.

The airborne lead concentrations at the nearest critical receptors within the parklands has been analyzed using a procedure based upon a 1-31-78 FHWA memorandum, "Proposed National Ambient Air Quality Standard for Lead". This procedure has been reviewed by the FHWA and the Minnesota Pollution Control Agency (MPCA).

Mn/DOT checked with MPCA (4-10-80) and was informed that there are lead monitoring results close to the end of the project. The monitor is located on top of the library building on 3rd Street South between Hennepin and Nicollet Avenues in Minneapolis. The highest quarterly average recorded at that monitor for 1979 was 0.75 micrograms per cubic meter (ug/m^3) of air. There are no known point sources of lead in the project area. The monitored data mentioned above has been analyzed and included in the project calculations.

The worst case receptors for all parks were analyzed. The analysis took into account major crossroads and parallel highways for both build and no-build alternatives. The following results were obtained from that analysis:

Theodore Wirth Park

	Build	No-build
1990 (ETC+1*)	0.16 ug/m^3**	0.16 ug/m^3

Brownie Lake

	Build	No-build
1990	0.31 ug/m^3	0.24 ug/m^3

Brookview Golf Course

	Build	No-build
1990	0.33 ug/m^3	0.10 ug/m^3

Conclusion

Theodore Wirth, Brownie Lake and Brookview Parks will not be adversely affected by lead concentrations from forecasted traffic volumes with either a build or no-build alternative.

*Estimated time of completion plus one year.

**The National Ambient Air Quality Standard for lead is 1.5 ug/m^3.

IN 1000 (Rev. 1/78)
SF-00006-01

STATE OF MINNESOTA

Office Memorandum

DEPARTMENT of Transportation
Room 807

TO : Craig Robinson
Project Manager
District 5

DATE: March 24, 1981

FROM : Roxanne Sullivan
Geologist
Office of Environmental Services

PHONE: 6-1643

SUBJECT: S.P. 2789 (I-394) (Station 1313)
Tamarack Bog Study, Theodore Wirth Park
Report on Investigation

In developing the EIS for proposed I-394, concern was expressed over the possible impact of the proposed highway construction on the water level of a tamarack bog located at the south end of Theodore Wirth Park, approximately 850 feet north of station 1313 on the proposed alignment. Figure 1 indicates the relationship of the bog to the proposed alignment.

In general, lakes and wetlands are surface expressions of the water table. The surface levels of these lakes and wetlands are very close to the elevation of the near surface water table. Exchange of water occurs between these water bodies and the water table. During times of high precipitation or high surface flow, these bodies of water recharge water to the groundwater. During times of reduced precipitation or low flow, these lakes and wetlands receive water from the groundwater. Fluctations in the near surface groundwater table are reflected in the water levels of the lakes and wetlands.

Occassionally, bodies of water are held above the near surface groundwater table by layers of low permeable material. These bodies of water are referred to as perched water. Rainfall and surface runoff are the main sources of water to perched systems. Seasonal variations in rainfall or runoff are readily reflected in the surface elevations of these systems. The probability exists that some leakage occurs naturally from the bottom of most perched water to the lower water table.

Since some soils in the vicinity of Wirth Park are clayey in texture, zones of reduced permeability may be encountered. Low permeable zones which occur above the water table could cause localized perched water. If the tamarack bog is connected to and part of the near surface groundwater table, construction activities which intersect the near surface water table could effect the direction of local groundwater flow and alter the water level in the bog. If, however, the bog is perched, construction activities should not effect the water level of the bog.

In response to this concern, a study evolved to determine the potential impacts of this project upon the tamarack bog. The following information was obtained to help determine the relationships between the tamarack bog, the proposed project and the existing groundwater table.

- The surface elevation of the bog as recorded by District 5 on January 5, 1981, was 874.15 feet above sea level.

- Elevation of the existing bituminous surface near station 1313 is 906.16 feet.

- Elevation of the finished grade of the proposed project at station 1313 is 883 feet. Excavation necessary during construction of this project can be expected to extend an additional 5 feet to 878 feet.

- A storm sewer pipe is to be installed south of I-394. Design elevation of this pipe is 867 feet near station 1313. Excavation for implacement of this pipe may extend to 862 feet.

- Interpretation of several auger borings located east and west of station 1313 indicate that groundwater levels vary from 869 to 840 feet above sea level.

- The auger borings indicate that soils are mostly granular in the area, however, soils were more plastic approxomately 300 feet east of station 1313.

- At station 1313, groundwater was encountered at 864 feet. Soils were mainly granular to 862 feet with approximately 3.5 feet of sand and clay between 869 and 865.5 feet.

From this information it was determined that excavation and finished grade of I-394 will be above the elevation of the bog and the near surface groundwater. Construction or existance of the roadway itself will not affect the water level of the bog nor the elevation or movement of regional groundwater. However, the potential exists that construction activities during excavation and emplacement of the storm sewer pipe south of I-394 could have a temporary effect upon the local movement of groundwater. If the bog is confluent with the near surface groundwater table, alteration of the groundwater movement could temporarily influence the water level of the bog.

It was recommended that additional borings be taken between the proposed alignment and the bog to determine groundwater levels and soil characteristics. Additional borings should be drilled north and east of the bog to help indicate the regional groundwater level and movement. If the bog is confluent with the near surface groundwater table and groundwater movement is from southwest to northeast or south to north, then the potential exists that excavation and implacement of the storm sewer pipe could temporarily effect local groundwater movement and therefore the water level of this bog. Inplacement of the storm sewer pipe can be designed so that original groundwater movement will continue after the pipe is installed so that permanent alterations of groundwater flow does not occur. If the bog is perched by low permeable soils underlying the bog bottom, construction activities will have no effect upon the water level of the bog.

Four additional borings were obtained on January 8th through the 9th, 1981. The location of these borings are indicated on Figure 2. Groundwater elevations ranged from 836 to 831 feet above sea level. The water level at boring W-1 located between the alignment and the bog, north of station 1313 was 834 feet. At W-2 located on a ridge adjacent and east of the bog encountered water at 834 feet also. Boring W-3 was located northeast of the bog. Groundwater was noted at 831 feet at this site. Boring W-4 was located in a topographic low area north of the bog. This site was chosen as being a potential "drainage" way for groundwater movement. Water was encountered at 836 feet at this site. Soils were mostly granular to at least the water level. More plastic soils often occurred beneath the water table. These soils were also moist.

An independent study which included investigation of the regional groundwater in this area was the report "Lake Level Management Program for Minneapolis" prepared by the Park and Recreation Board. Data from this report indicate groundwater levels west of Wirth Park near the tamarack bog to be between 835 and 840 feet above sea level. West of Wirth Park, the regional groundwater gradient slopes gradually to the east. East of Wirth Lake, the slope increases sharply and continues eastward.

Interpretation of all the above data enables the following conclusions to be drawn. The surface elevation of the bog is 30 to 40 feet above the regional groundwater table. The regional groundwater gradient slopes gradually east-northeastward in this area with a sharp increase in the slope of this gradient east of Wirth Park. Subsurface soils south, east and north of the bog are mostly granular. From this information, it can be determined that the bog is a perched water body held above the surrounding groundwater table by a localized layer of low permeable material underlying the bog itself. Slow seepage of water probably occurs naturally from the bottom of the bog to the underlying material. Water levels in the bog itself can be expected to vary according to seasonal changes in precipitation unless the water level is maintained artificially. It is concluded that neither the construction of proposed I-394 nor the emplacement of the storm sewer pipe to be located south of the roadway will have any effect upon the tamarack bog located 850 feet north of Station 1313. Regional groundwater movement will also not be permanently altered by this project.

cc: D. Borson
A. Pint
A. Standield/M. Stole
J. Gable
R. Ford/D. Jakes
L.E. Foote/F. Pafko
K. Schrader
OES File

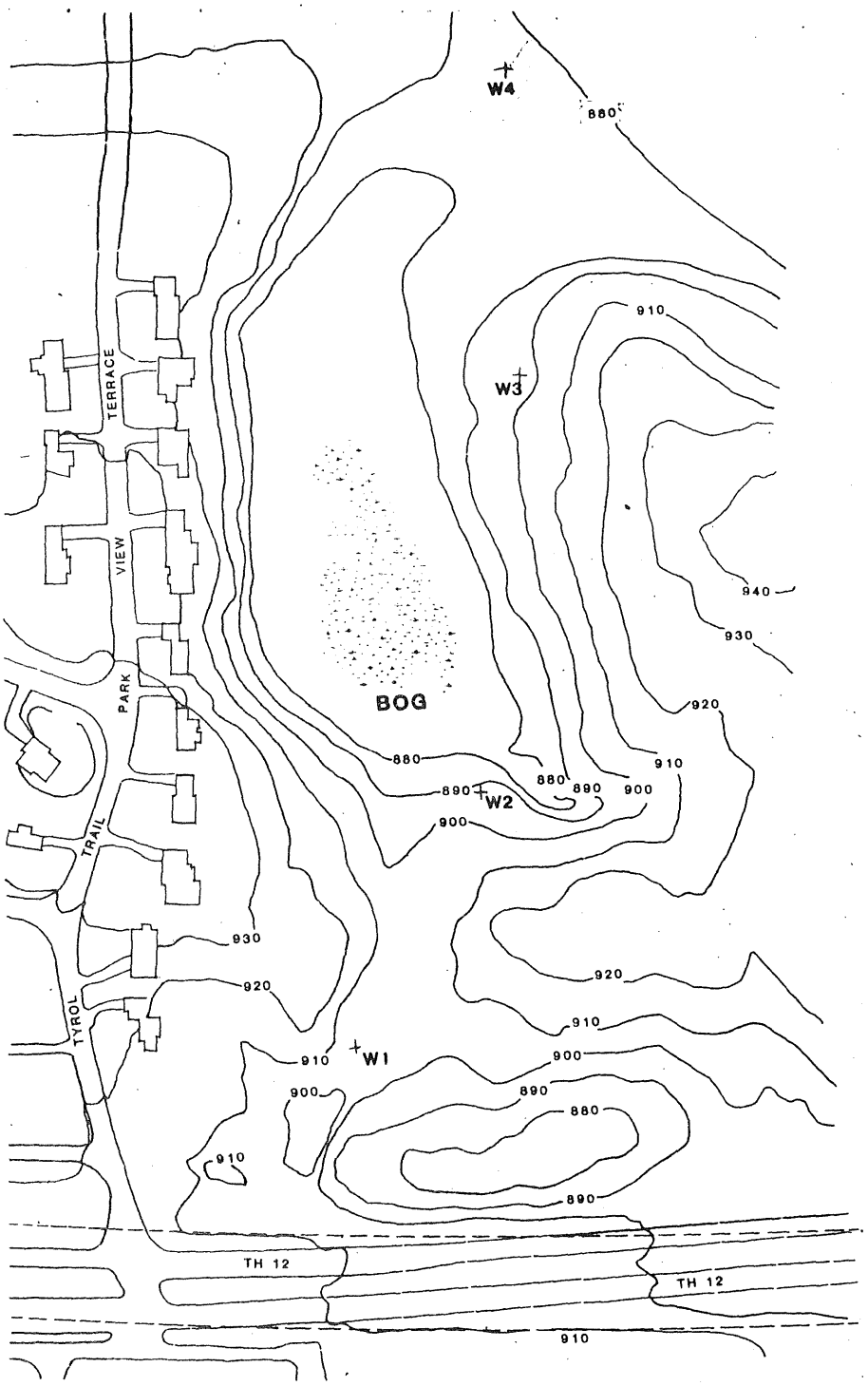

Figure 1:
TOPOGRAPHIC RELATIONSHIP OF TAMARACK BOG TO EXISTING TH12 AND PROPOSED I-394

LEGEND:

——— TH12

---- I-394

\+ BORING LOCATIONS

CONTOUR LINES

NORTH

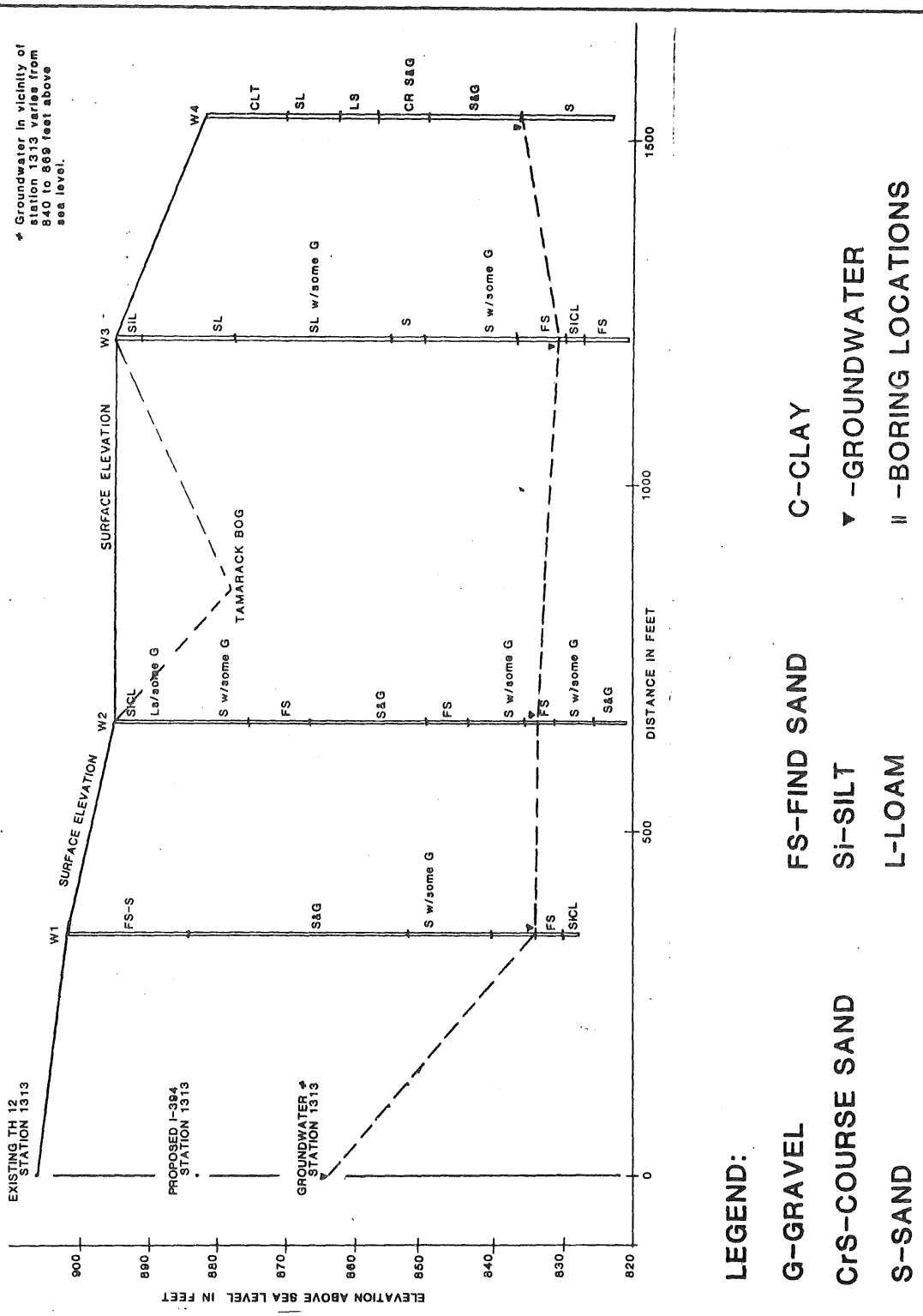

Figure 2:
LOCATIONS AND SUBSURFACE PROFILE FOR BORINGS W-1 THROUGH W-4

STATE OF
MINNESOTA
DEPARTMENT OF NATURAL RESOURCES
CENTENNIAL OFFICE BUILDING • ST. PAUL, MINNESOTA • 55155

October 23, 1981

Mr. W.M. Crawford, District Engineer
Minnesota Department of Transportation
District 5
2055 North Lilac Drive
Golden Valley, Minnesota 55442

RE: S.P. 2789-01, I-394 Draft 4(f) Evaluation

Dear Mr. Crawford:

The Department of Natural Resources has reviewed the Draft 4(f) Evaluation for I-394 between Minneapolis and Wayzata, and has no comments to offer at this time. It appears that Mn/DOT through its planning process and coordination with the cities involved has made adequate provisions for the protection for the park lands affected by or adjacent to the project.

Thank you for the opportunity to comment on this document.

Sincerely,

Thomas W. Balcom

Thomas W. Balcom
Environmental Review Coordinator

TWB:KW:mp

AN EQUAL OPPORTUNITY EMPLOYER

OCT 30 1981

Dist. Dir.			
[illegible]			
[illegible]			
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[illegible]			

City of Golden Valley

October 29, 1981

Mr. William M. Crawford
District Engineer
Minnesota Department of Transportation
2055 North Lilac Drive
Golden Valley, Minnesota 55422

Dear Bill:

After reviewing the Draft Section 4(f) Evaluation of State Project 2789-01 Minnesota Project No. I-394-6(1) 226, U.S. 12/I-394 with staff members of the City of Golden Valley, we have the following concerns that appear unanswered by the report.

Page 43, "along Boone Avenue": The statement "no such net should be needed . . . " At the present time, the trees in this area are thick, however, the current drawings show that many of these trees are located in the path which Boone is proposed. One concern is that construction of the new roadway will cause significant thinning of this natural barrier. The area currently has several trees which show signs of Dutch Elm Disease and other trees that are dying. There is doubt that there will be sufficient natural foliage to safeguard against balls being sprayed onto the new roadway.

The City of Golden Valley requests that the 4(f) report be amended to read "MN/DOT will pay all cost for the construction of fencing and netting along Boone Avenue".

Page 43, "Construction Schedule": In previous communications, we have expressed concern about "loss of revenue" at the driving range during construction. This would be a substantial loss to the total of the golf operation at Brookview. Our concern lies in two areas: (1) the direct loss by construction, and (2) losses to the total operation.

At present, the report suggests that construction may be scheduled around the season for the driving range. The City of Golden Valley requests that the 4(f) report be amended to read, "MN/DOT will reimburse the City of Golden Valley for all revenues lost at the Brookview driving range and losses in revenues on the Brookview 18-hole golf course due to closing of the range and decreased number of green fees resulting from construction of I-394."

Page 43, "noise abatement wall": The construction of a noise abatement wall along the south end of the driving range is certainly welcome, however, no explanation of height or design material is included in the current report. Height of the wall and the construction of the netting atop such a wall is a concern. We would also appreciate information regarding the selection of starting such a wall beyond the tee area for the range. If, as stated, the purpose of the wall is to shield the driving range, why has the area where the public hits from been passed by.

We are further concerned about the noise level deeper into the course resulting from the sound barriers along the south end. Additional landscaping may be needed to absorb the sound once it has passed over the proposed wall and traveled inward into the course. The current measurements and predictions carry only to the first fairway.

The City of Golden Valley requests that the 4(f) report be amended to read: "MN/DOT will conduct further sound testing in the interior area of Brookview Golf Course. In the event that creditable testing and projections of sound levels cannot be completed prior to completion of sound wall, MN/DOT will conduct necessary test after the completion of construction of I-394 to establish sound levels in the interior of the course. If these tests or projections result in unsatisfactory sound levels, MN/DOT will bear all cost of reducing the unsatisfactory sound levels. Further, at MN/DOT's cost, netting will be added to the noise wall to prevent errant balls from being directed onto the freeway.

Page 52 (top): The City of Golden Valley requests that the 4(f) report be amended to note: The elected officials have not approved this plan. The staff of Golden Valley has reviewed this plan.

The above review has been conducted to provide input into the planning process. Our concerns and questions are designed to help the process. If you have any questions, please contact me at 545-3781.

Sincerely,

Jeff Sweet
City Manager

JS/tjs

Response to letter of October 29, 1981, from Jeff Sweet, City Manager, Golden Valley:

A. We do not believe that a net will be needed. If, when Boone Avenue is open to traffic, a net is in fact needed, Mn/DOT will participate toward its cost.

B. The right-of-way needs at Brookview have been reduced and the highway project will not intrude into the driving range. Therefore, the driving range can remain open and no revenue need be lost. In any event, state law does not allow Mn/DOT to provide compensation for loss of business revenue.

C. The specific details of the noise abatement wall will be determined during the final design stage of the project. Golden Valley will be consulted regarding the design and aesthetics of the wall. The wall will, however, effectively shield the entire driving range from traffic noise.

D. Noise levels in the interior of Brookview will be substantially less than just behind the noise abatement wall, because of the greater distance from the highway, and well within federal guidelines. Year 2000 noise levels were prediced to be L_{10} 57 dBA at the eighteenth tee and L_{10} 59 dBA on the eighteenth green. Federal guidelines call for L_{10} 70 dBA.

E. Mn/DOT will replace the netting between the driving range and the highway, or pay for its replacement by Golden Valley.

F. We have rephrased the paragraph on page 318 as suggested, so as not to suggest that the elected officials have endorsed this plan.

Memorandum

U.S. Department of Transportation

Office of the Secretary of Transportation

Subject: Draft Section 4(f) Statement I-394 from I-494 in Wayzata to I-94 in Minneapolis

Date: November 2, 1981

From: Martin Convisser, Director, Office of Environment and Safety

Reply to Attn of:

To: Ali F. Sevin
Chief, Environmental Programs Division

We appreciate the opportunity to review and comment on this draft section 4(f) statement. We have no specific comments to offer on the statement.

We look forward to receiving the final environmental impact statement and section 4(f) statement, including the comments received from other public agencies and the general public.

#

SPEED LIMIT 55
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DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
1135 U. S. POST OFFICE & CUSTOM HOUSE
ST. PAUL, MINNESOTA 55101

REPLY TO
ATTENTION OF:
NCSCO-RF (C2-0668-25)

03 NOV 1981

Mr. William Crawford
District Engineer
Minnesota Department of Transportation
Golden Valley District
2055 North Lilac Drive
Golden Valley, Minnesota 55422

RE: 330 Draft Section 4(f) Evaluation
for Minnesota Project I-394-6(1)
226 State Project 2789-01 (I-394)
I-394 Between I-94 in Minneapolis
and T.H. 101 in Wayzata, Hennepin
County

Dear Mr. Crawford:

This letter is in reply to your 8 September 1981 letter referenced above.

After reviewing your Draft Section 4(f) Evaluation it appears no Department of the Army permit will be needed for selected alternative number 2 which would follow the existing US-12 corridor. However, if the other alternatives are reconsidered we should be advised since Department of the Army permits may be needed.

If you have any questions, please contact Mr. Ken Harrell at (612) 725-7775.

Sincerely,

HAROLD E. TAGGATZ
Chief, Regulatory Functions Branch
Construction-Operations Division

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

In Reply Refer To:
ER 81/2011

NOV 12 1981

Mr. William R. Lake
Division Administrator
Federal Highway Administration
490 Metro Square Building
St. Paul, Minnesota 55101

Dear Mr. Lake:

This is in response to the request for the Department of the Interior's comments on the Draft Section 4(f) Evaluation for I-394/US-12 (from Wayzata to Minneapolis), Hennepin County, Minnesota.

SECTION 4(f) STATEMENT COMMENTS

Based on the information provided in the Section 4(f) statement, we agree that the proposed alternative would be the most feasible and prudent. Three parks along US-12 would be adversely affected. However, other locational and design alternatives would result in substantially greater adverse effects on the environment.

The mitigation of adverse effects to parklands at Brookview Golf Course, Theodore Wirth Park, and Brownie Lake appear adequate to satisfy the 2nd proviso of Section 4(f). With mitigation as proposed on pages 43 through 47 and with the continued close coordination with the Golden Valley Park and Recreation Department and the Minneapolis Park and Recreation Board, we would concur that all possible planning has been done to minimize harm.

ENVIRONMENTAL STATEMENT COMMENTS

To prevent further degradation of water quality in Brownie Lake, the Minnesota Department of Transportation (MN DOT) proposes to divert highway runoff from I-394. Two alternatives are presented in the draft Section 4(f) statement; (1) discharge into an existing wetland area, and (2) storage in a holding pond with an outlet to an existing storm sewer system. We would recommend the latter alternative, if feasible. Highway runoff is often contaminated, especially during late winter and early spring when snowmelt is laden with deicing salts. As indicated in an earlier assessment prepared for this project by MN DOT's Office of Environmental Affairs, adverse impacts may occur to wetland habitats receiving such waters. The proposed project will result in the loss

of 7 acres of wetlands. With proper design and construction, a holding pond could be developed as a wetland area to receive highway drainage. In addition, the pond would also provide wildlife benefits and replace a portion of those wetlands taken for construction of I-394. We would be pleased to offer our assistance in the design of such a pond.

SUMMARY COMMENTS

With provision of the mitigation measures as included on pages 43 through 47 of the Section 4(f) statement, the Department of the Interior would have no objection to Section 4(f) approval of this project.

For technical assistance regarding the previously recommended holding pond and other matters relating to fish and wildlife resources, we suggest that you contact the Area Manager, Fish and Wildlife Service, Twin Cities Area Office, 530 Federal Building and U.S. Custom House, 316 N. Robert Street, St. Paul, Minnesota 55101 (phone: FTS 725-7644, commercial (612) 725-7641). For matters involving park and recreation resources, contact the Regional Director, Midwest Region, National Park Service, 1709 Jackson Street, Omaha, Nebraska 68102 (phone: FTS 864-3484, commercial (404) 221-3484).

Sincerely,

Bruce Blanchard, Director
Environmental Project Review

cc: Mr. Richard P. Braun
Director
Minnesota Department of Transportation
Transportation Building
John Ireland Boulevard
St. Paul, Minnesota 55155

DOI

A. The Final Environmental Impact Statement and Final Section 4(f) Evaluation have been modified to reflect that this drainage will be diverted to a holding pond near Penn Avenue and then discharged into an existing storm sewer system.

Minnesota
Department of Transportation
District 5
2055 No. Lilac Drive
Golden Valley, Minnesota 55422

(612) 545-3761

December 21, 1981

Ms. Naomi Loper, President
Minneapolis Park & Recreation Board
310 South 4th Avenue
Minneapolis, Minnesota 55415

Dear Ms. Loper:

As you may be aware, Mn/DOT is currently in the process of finalizing the environmental documentation for proposed I-394. This work includes not only the Final Environmental Impact Statement (FEIS), but also the Final 4(f) Statement which addresses Theodore Wirth Park/Brownie Lake. Our current time schedule indicates that these documents will be formally submitted to the Federal Highway Administration some time in early 1982.

Back in September of this year a Draft 4(f) Evaluation was submitted to various local, state, and federal agencies for comment. This included the Minneapolis Park and Recreation Board (MPRB), with whom we had worked very closely in preparation of the document. Based on recent informal discussions with your staff, it is now our understanding that the MPRB wishes to make no further comment on the Draft 4(f) at this time. We shall therefore prepare the Final 4(f) Statement which will be printed, along with the FEIS, in the very near future.

Although the formal environmental documentation for I-394 is now drawing to a close, it is our intent to continue working very closely with the MPRB in further project development. As the final plans are being prepared, and during the actual construction period, we will closely coordinate with your staff those activities which may have an affect on Theodore Wirth Park or Brownie Lake.

Sincerely,

W. M. Crawford, P.E.
District Engineer

WMC:bn

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COMMENTS AND COORDINATION

Some of the letters reproduced in this section may be difficult to read due to the loss of detail caused by the reduction process. Anyone wishing to obtain a copy of an original letter may do so by contacting the Mn/DOT Golden Valley District Office.

LIST OF RECIPIENTS OF DEIS

The DEIS was mailed to the Council on Environmental Quality on January 2, 1974. Copies of the DEIS were sent to the federal, state, and local agencies and organizations listed below for review and comment. The asterisks denote those that did comment. These comments and our responses are reproduced on the following pages.

Council on Environmental Quality

* Environmental Protection Agency

* Environmental Project Review
Department of the Interior

Bureau of Sport Fisheries and Wildlife
Department of the Interior

* Office of Environmental Affairs
Department of Commerce

Economic Development Administration
Department of Commerce

Environment, Safety, and Consumer Affairs
Department of Transportation

* Department of Housing and Urban Development

* Department of Health, Education, and Welfare

Department of Agriculture (DOA)

* Soil Conservation Service, DOA

* U.S. Forest Service, DOA

Bureau of Outdoor Recreation

National Park Service

Bureau of Land Management

Civil Preparedness Agency
Department of Defense

* U.S. Army Corps of Engineers
Saint Paul District

U.S. Army Corps of Engineers
Rock Island District

* Minnesota Pollution Control Agency

Bureau of Planning
Minnesota Department of Natural Resources

* Minnesota Water Resources Board

Office of Local and Urban Affairs
State Planning Agency

* Office of the Chairman
Metropolitan Council

Director, Twin City Area
Metropolitan Transit Commission

* Hennepin County Department of Public Works

* Minneapolis Park and Recreation Department

Department of Planning Development
City of Minneapolis

* Department of Public Works
City of Minneapolis

* Mayor
Village of Golden Valley

* Mayor
City of Saint Louis Park

Mayor
City of Minnetonka

Mayor
Village of Plymouth

Mayor
City of Wayzata

Mayor
City of Hopkins

Chairman
Bryn Mawr Community Council

* Chairman
Golden Valley Steering Committee

* President
South Tyrol Hills Incorporated

Saint Louis Park Rotary Club

* Chairman
Citizens Against I-394

Highway 12 Subcommittee
West Suburban Chamber of Commerce

Highway 12 Association

* MPIRG
(Minnesota Public Interest Research Group)

Sierra Club

Rec

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION V
1 NORTH WACKER DRIVE
CHICAGO, ILLINOIS 60606

Mr. Paul G. Velz
Road Design Engineer
Department of Highways
State of Minnesota
St. Paul, Minnesota 55155

MAR 20 1974

Dear Mr. Velz:

We have completed our review of the Draft Environmental Impact Statement (EIS) for Interstate (I)394 on U.S. 12 Corridor in the Cities of Minneapolis, St. Louis Park, Golden Valley and Minnetonka, Hennepin County, Minnesota as requested in your letter dated January 2, 1974. We have classified our attached comments as EU-2. Specifically, this means that the draft impact statement does not contain sufficient information to fully assess the environmental impact of the proposed project. However, from the information submitted, we have made a preliminary determination that the proposed action may be environmentally unsatisfactory because of its potentially significant effects on the environment. In addition, we recommend that alternatives to the action be analyzed further. The classification and date of our comments will be published in the Federal Register in accordance with our responsibility to inform the public of our views on proposed Federal actions under Section 309 of the Clean Air Act.

The draft EIS was comprehensive and informative in describing the I-394 study area and its transportation needs. However, the above classification was selected because of the potential significant air impact and significant noise impact of the project; insufficient information regarding the air and noise quality analyses and abatement plans; potential incompatibility with the Federally approved Minnesota Transportation Control Plan for Minneapolis - St. Paul; and lack of thorough evaluation of a mass transit alternative. Please be advised that the air quality analysis in the EIS must be consistent with State or Federal Indirect Source Review requirements if project construction does not commence before January 1, 1975.

We appreciate the opportunity to review this Draft EIS. If you have any questions regarding our comments, please contact Mr. Edward S. Wallgren of the Federal Activities Branch. Also, our Program Support Branch is available to assist in any air quality analysis problems you may have. Please send us three copies of the Final EIS when it is filed with CEQ.

Sincerely yours,

Francis T. Mayo

Francis T. Mayo
Regional Administrator

Attachment

cc: CEQ (10), Washington, D.C.
Barbara Dunsen, OFA, EPA Washington, D.C.
Frank Corrado, PAO, EPA, Region V, Chicago
Rubye Mullins, PAO, EPA, Washington, D.C.
Keith Beseke, EPA, MMDO
Dennis Shipman, EPA, Durham
W. Emrich, FHWA-DOT, Homewood, Illinois
E. Dean Carlson, FHWA, St. Paul, Minn.
V. Yamada, PSB, Region V
Senator Hubert H. Humphrey
Senator Walter F. Mondale
Congressman Ancher Nelsen
Congressman Bill Frenzel
Congressman Donald Mackay Fraser
Congressman John M. Zwach

AIP

There are two areas regarding the air pollution impact of the proposed project about which we have reservations: first, the project's compatibility with the Federally approved Minnesota Transportation Control Plan for the Minneapolis - St. Paul Intrastate Air Quality Control Region (Federal Register, November 7, 1973, Vol. 38, No. 214); and second, whether it will cause a violation of the primary ambient air quality standards for carbon monoxide. A B

The State Transportation Control Plan established two main strategies for the Minneapolis - St. Paul area to achieve the necessary reductions in carbon monoxide (40 percent of the 1971 CO levels) and meet 1975 standards. The first strategy, completion of I-35W, is expected to remove traffic from the Minneapolis Central Business District (CBD) and reduce cordon crossings by 20 percent within the CBD area. The resulting decrease in vehicle miles traveled (VMT) would have a considerable effect on carbon monoxide concentrations in the affected area. A computerized traffic-management system, the second strategy, will increase the average vehicle speed in the CBD by approximately 25 percent. Construction of an east-west, six lane freeway leading directly into the Minneapolis will possibly generate increased amounts of traffic, congestion, and cordon crossings; factors which contradict the above mentioned strategies for CO reduction in the CBD. Therefore, the EIS should address the compatibility of the I-394 alternatives with the existing Minneapolis Transportation Control Plan. C

The EIS should provide the following information for a complete assessment of the air quality impacts:

1. The EIS should identify the proposed construction dates and planned opening date. Data regarding the number of vehicles, average emission rate per car, and 8-hour traffic distribution used in modelin; should be provided. Data concerning the average cross section of the highway (lane width, median width, cut section) in addition to the distance from the roadway edge to the nearest receptor location, i.e., residences, should also be stated. Such data should also be supplied for all highway interchanges. D

2. The modified line source model used to estimate carbon monoxide concentrations is not adequately documented by either reference or description. Numerous variations of line source models exist which may produce considerably different results depending on the assumptions used. Therefore, the characteristics of the model as well as the results should be explained. E

RESPONSES

Item A

Items A-P, as identified in this letter, all refer to the Air Quality Analysis which was contained in the Draft EIS. Since this letter was received in March, 1974, the air quality analysis procedures have undergone many changes.

In 1977, a new air quality analysis was performed and a report was sent to both U.S. EPA and MPCA. Later that same year an addendum to that report was prepared and again sent to those agencies. Letters from the U.S. EPA are contained on pages 444 of this document and letters from MPCA on pages 446.
These letters and comments contained therein replace the original comments (Items A-P) from 1974 which are no longer applicable.

On September 29, 1981, a new Air Quality Report was sent to both U.S. EPA and MPCA. Letters from those agencies are included on pages 158 and 161 of this FEIS.

Item B

See response to comment "A"

Item C

See response to comment "A"

Item D

See response to comment "A"

3. The worst case conditions given are stated as the "worst that may be expected during periods of large traffic volumes"; these conditions cannot realistically be limited to "winds with components perpendicular to roadway." Highest concentrations are likely to occur at distances as close as 50-100 feet at very acute wind angles to the roadway (nearly parallel to roadway). Additional dispersion estimates should be performed for various wind-to-road angles at various distances from the road to more realistically simulate worst case conditions. Similarly, mixing heights are given as "generally exceeding 300 meters." These apply to average conditions and not to what may be expected in a worst case. Additional estimates should take into account an assumption of mixing height during poor dispersion conditions. | F

4. Air pollution dispersion models such as those used to estimate CO levels generally predict concentrations for averaging times of one hour or less. Estimation of an 8-hour average will generally require a conversion factor based on ratios of measurements for the two periods or on an assumption of the persistence of the worst case condition. The draft EIS should describe how the conversion was made. | G

5. There are no estimates made for the areas immediately surrounding major interchanges where emissions are possibly greater than over non-access sections of roadway. Air quality estimates should be projected for major interchanges and should realistically reflect the localized impact in their vicinity. | H

6. Depressed sections of roadway will cause heightened pollutant concentrations affecting not only highway users but populated areas nearby. It is unclear whether the line source model used had special provision for treating the depressed roadway situation. | I

In addition, the EIS should address the following problems regarding the potential impact of the proposed project. Carbon monoxide levels for the project area should be determined for the period immediately following project completion and for the interim year 1985. The 50 percent reduction in CO emissions based on emission control laws and applied to 1995 projections may have been overestimated. Therefore, carbon monoxide emissions for the above periods should be based upon the vehicular emission factor technique described in AP-42 (Compilation of Air Pollutant Emission Factors, 2nd Edition, U.S. EPA, 1975). | J | K

Furthermore, the I-394 alternatives will possibly generate increased traffic flow into the Minneapolis CBD. Therefore, the EIS should include estimates of - induced cordon crossings, induced vehicle miles traveled (VMT), and CO contribution at the maximum concentration site in downtown Minneapolis - due to the I-394 alternatives. | L

Data provided in the Draft EIS concerned the 8-hour carbon monoxide standard. It should also be determined and stated in the EIS if the 1-hour carbon monoxide standard (35 ppm) will be met. | M

Accessibility plays a significant role in the pace and type of land development. The proposed project increases accessibility to the western portion of the study area by linking the CBD to the I-494 loop around the metropolitan area. Consequently, development pressures are likely to increase significantly as new industrial/commercial establishments and residential dwellers move into the study area. The EIS should address not just the primary effects on air pollution directly attributable to highway producers, but also the direct and indirect sources of pollution that are likely to follow as a result of the growth induced by I-394 accessibility. These other sources should be considered when determining the total concentration of air pollution in the area. | N

One of the underlying assumptions of this project is that travel behavior will "drastically change" in the next twenty years (page iii). Unless a minimum 50 percent ridership is achieved on public transit to the CBD area, considerable congestion will result on I-394. This basic assumption is admittedly a critical determinant in the successful outcome of the project; yet, 1995 projections theorize that only half that number will actually patronize mass transit. The EIS should therefore address the following questions:

If this assumption should not hold true in the future and the project is constructed, what would be the air pollution impacts under these "worst conditions" in 1985? Even if adequate transit is provided and the assumption holds true in the future, what are the interim impacts on the Minneapolis CBD which is expected to have an air quality maintenance problem with respect to CO in 1985? At what point in time will the assumption hold true, and, until then, will the CBD suffer an adverse air pollution impact as a result of greater traffic flow? | O

Finally, the air quality analysis must be consistent with State or Federal Indirect Source Review requirements if project construction does not begin before January 1, 1975 (Federal Register, February 25, 1974, Vol. 39, No. 38). The Indirect Source Review applies to any modified highway section which will increase average annual daily traffic volume by 10,000 or more vehicles per day within ten years after modification. Data required for the review is explained in the Federal Register cited above. | P

Item E

See response to comment "A"

Item F

See response to comment "A"

Item G

See response to comment "A"

Item H

See response to comment "A"

Item I

See response to comment "A"

Item J

See response to comment "A"

Item K

See response to comment "A"

Item L

See response to comment "A"

Item M

See response to comment "A"

Item N

See response to comment "A"

Item O

See response to comment "A"

Item P

See response to comment "A"

NOISE

The EIS indicates that noise levels for 71 to 117 houses, depending on the alternative selected, will exceed the Federal Highway Administration's (FHWA) Exterior Noise Standard of 70 dBA. This impact is substantial and, therefore, more detailed information regarding the extent of the impact should be provided. The EIS should state existing L_{10} levels, the extent to which the standard will be exceeded, and if the FHWA's Interior Noise Standard of 55 dBA (L_{10}) will be met in applicable land use (Category E) areas.

Noise abatement measures that will reduce traffic noise to acceptable limits should be disucssed for all areas where levels are excessive. It should be explained to what extent noise attenuation measures will be successful, i.e., what number of houses, businesses etc. will be brought into compliance with the 70 dBA standard (or 55 dBA standard) by use of such measures. The above information should be included for noise sensitive areas that will be exposed to excessive noise such as The Parade Park, Bryn Mawr Meadows Park, Cedar Lake Park, the proposed Ridgedale conservation area and the Crystal Lake Nursing Home. Q

Consideration should be given to providing residences affected by significant noise impact the opportunity to relocate even though they may not be displaced by right of way acquisition. Zoning for commercial or other compatible land uses should be obtained for adjacent residential property as residents leave the corridor. Local zoning restrictions should be also obtained for undeveloped areas to insure compatible future land use. Buffer zones for future residential development in the less-developed west end of the corridor should be considered. R

Finally, the EIS should address noise abatement measures - e.g., contract specifications for use of quietest equipment, scheduling for use of noisy equipment - that will be used during construction activities in noise sensitive areas. S

WATER

The Water Quality Standards section within the Environmental Impact Statement should be rewritten to reflect the fact that the Water Quality Standards WPC 1 and WPC 2 have been superseded by WPC 24. Both Minnehaha and Bassett Creek waters have been classified as 2B. This classification 2B, as stated by Regulations WPC 14, is as follows:

(b) "WATER USE CLASSIFICATIONS - ALL INTRASTATE WATERS OF THE STATE

Based on considerations of best usage in the interest of the public and in conformance with the requirements of the applicable statutes, the intrastate waters of the State shall be grouped into one or more of the following classes:... T

Item Q

The noise analysis in the DEIS has been completely re-done. This FEIS contains a summary of the findings of the new analysis on page 189, Maps on pages 197 -209 show ambient noise levels along with projected noise levels after I-394 and all proposed abatement are operational. One conclusion of the noise analysis is that all residential and recreational areas can be protected from I-394-generated noise which exceeds FHWA Design Noise Levels (DNL).

Item R

See response to Item Q above.

Item S

All construction activities done under contract with the State of Minnesota must comply with all local ordinances, including those restricting operations to certain hours. Wherever possible, contract specifications will be written to incorporate least noisy methods. Whenever possible, noise barriers will be constructed early in the construction stage. The final Noise Analysis Report will contain more information about construction noise and abatement measures. Also refer to page 196 of the FEIS.

Item T

The Water Quality Impact Section of the FEIS has been rewritten. A separate Water Resources Assessment has been prepared for this FEIS and includes information on surface and subsurface water resources, vegetation, wildlife habitat, and geological formations in the I-394 corridor. This report has been reviewed by agencies with special expertise or authority over water quality problems and is available to interested parties from the Golden Valley District of Mn.DOT. The report is summarized on pages 212.

(2) Fisheries and Recreation. (To include all intrastate waters which are or may be used for fishing, fish culture, bathing or any other recreational purposes, and for which quality control is or may be necessary to protect aquatic or terrestrial life, or the public health, safety or welfare.)...

Class B. The quality of this class of the intrastate waters of the State shall be such as to permit the propagation and maintenance of cool or warm water sport or commercial fishes and be suitable for aquatic recreation of all kinds, including bathing, for which the waters may be usable. Limiting concentrations or ranges of substances or characteristics which should not be exceeded in the intrastate waters are given below..." T

The EIS stated that increased roadway runoff would enter ponds at Parade Park, Westwood Hills, Ridgedale, and Brownie Lake. These areas will experience roadway runoff directly without the benefit of natural filtration, therefore, the EIS should address measures that will be utilized to minimize the effect on receiving water quality due to runoff. If roadway runoff is channeled through a storm sewer system, the EIS should identify receiving waters and explain plans for monitoring the effluent and required treatment, if necessary. If roadway runoff is linked to a storm sewer system discharging into Brownie Lake, the EIS should address impacts caused by an increased level and flow of water in both Brownie and Cedar Lakes. The EIS should be more positive regarding measures that will be used to reduce the adverse effects of runoff entering depressed segments of the highway that are currently drainage problem areas (item #8, page 7-2). U

We encourage pursuit of zoning restrictions that will preserve the existing "open spaces" necessary to mitigate flooding and water pollution in the project area. Information should be presented within the Final EIS to determine the total effect I-394 will have on the sphagnum bog within the Theodore Wirth Park. We concur with the EIS that this area does deserve special consideration and that all precautions should be taken to preserve the bog's natural water table. V

Special care should be taken to prevent, control and remove any spillage of oils, fuels, or any pollutants while working along the lake or river or lakes. Specific plans should be formulated in advance of construction to contain all possible spills. W

Item U

At the time the DEIS was written it appeared that I-394 drainage could be best handled by draining into existing bodies of water near the proposed alternatives. Since then, Spring Lake (the pond at Parade Park) and Brownie Lake have been identified as being of special concern with regard to water quality. The water resources report has recommended that discharge of highway runoff into sensitive bodies of water be avoided. However, certain wetlands near the I-394 corridor appear to be suitable for use as detention ponds for highway runoff. The vegetation in these wetlands would provide natural treatment for the highway drainage prior to discharging the water into other water bodies. The wetlands which have been given a preliminary designation as suitable as ponding areas, are those which would provide improved wildlife habitat if the amount of water available were increased.

No problems with flooding are anticipated in segments where I-394 would be depressed since drainage from these areas will be carried via a closed system designed, at low points, to handle a 50-year storm.

Item V

No impact due to I-394 on the sphagnum bog in Theodore Wirth Park is anticipated. A detailed discussion of this is included in the Appendix of the Final Section 4(f) Evaluation.

Item W

Procedures to handle hazardous chemical spills will be developed for I-394 before it is opened to traffic.

Item X

The traffic projections listed in the DEIS have been redone and are given in the FEIS. In the DEIS those which were listed for the "Do-Nothing" Alternative did not include any transit provisions and probably were unrealistically high. However, 1976 counts indicate that between Wirth Parkway and the Hawthorne Interchange (I-94) there are presently over 86,000 vehicles per day on US 12, and traffic is often at a standstill during peak hours now. Also, the Metropolitan Council has rejected the mass transit alone alternative.

In a memorandum dated April 18, 1974, the Metropolitan Council stated the following about the "mass transit alone" and the "upgrading" alternatives.

ALTERNATIVES

Of the alternatives described in the Draft EIS, we believe that Alternatives 1 and 3 are environmentally least favorable and present significant impacts that could be avoided or reduced by Alternate 2. Specifically, impacts involving roadway runoff contamination of Brownie and Cedar Lakes, adverse noise levels on all land-use types, and acquisition of 4(f) land for right-of-way would be highly severe.

In analyzing traffic flow for the do-nothing alternative, it was assumed that development would occur to the same extent that it would if adequate transportation service was present. The I-394 project itself will probably generate increases in traffic and development and the absence of the freeway (i.e. do-nothing alternative) could serve as a deterent in that respect. Therefore, traffic congestion was possibly overestimated for the do-nothing alternative and the resulting noise and air impacts may also have been estimated to be more significant than would actually occur. The EIS should consider the above factors in re-assessing environmental impacts of the do-nothing alternative and in determining if mass transit could accomodate predicted traffic increases.

The National Environmental Policy Act requires information sufficient to permit a reasoned choice of alternatives so far as environmental aspects are concerned, even if some of those alternatives are outside the authority of the agency preparing the statement. We believe the Draft EIS presented an incomplete analysis of alternatives to the I-394 project. In particular, mass transit itself should be considered and thoroughly evaluated as an alternative to construction of the six-lane highway rather than only as a possible aspect of the highway project. Consideration of mass transit is especially warranted at this time by the need for Federal agencies to encourage transportation plans which induce energy conservation. The EIS should consider and evaluate as alternative of the following combined plans to meet the area's future transportation needs: a comprehensive and complete mass transit system; upgrading of the primary roadway system within the corridor (U.S. 12, S.R. 55, S.R. 7, S.R. 100, C.R. 18); individual design measures to improve congested intersections and other highway safety hazards; strategies established in the Federally Approved Transportation Control Plan for the Minnesota CBD. X

OTHER COMMENTS

Due to the fact that large segments of the highway will be depressed, the location of the spoil dumping areas and the effects that the spoils will have upon local terrestrial and aquatic ecosystems should be addressed in the EIS. Borrow sites should also be identified as well as the environmental impacts of their use. Y

The construction of I-394 could induce construction of the proposed 3rd Avenue North distributor through Minneapolis (eastern terminus) and of a connection between I-394 and the Wayzata Bypass (western terminus). The environmental, social, and economic effects of these future additions to the proposed I-394 segment should be addressed within the EIS. Z

Mass Transit Alone:

"This alternative is not a solution to the Highway 12 problems of safety, noise, divided neighborhoods, fire and police protection, economic welfare and water pollution. Transit would not solve the need for accessability to metropolitan opportunities because of the great dispersal of trip origins and destinations. Of the eastbound daily trips projected to use Highway 12 in 1995, about 28% are bound for downtown Minneapolis, 23% for South Minneapolis, 9% for North and East Minneapolis, 1% for downtown St. Paul, 2% to the University of Minnesota Campus, 1% to the airport and 36% to other destinations. This scattering of trips throughout the area presents an unrealistic challenge for transit alone."

Upgrading Alternative:

This alternative is not being considered for I-394 because the congestion problems which are already occuring are of such a magnitude as to be incapable of correction by spot improvements of minor upgrading.

Item Y

Borrow sites and spoil dumping areas are design details which have not yet been determined. These details will be addressed during the design studies. Spoil will be handled according to Mn/DOT guidelines for disposal of excess excavated material. This is discussed further in the Wetland Finding which is attached to this FEIS.

Item Z

The FEIS No. FHWA-MN-71-12-F, for the proposed I-394 Third Avenue North Distributor was submitted to the Council on Environmental Quality on September 19, 1973.

The proposed upgrading of U.S. 12 between the Wayzata Bypass and I-394 is covered in the FEIS.

United States Department of the Interior

OFFICE OF THE SECRETARY
WASHINGTON, D.C. 20240

ER74/47

APR 10 1974

Dear Mr. Velz:

This is in response to your request for Department of the Interior comments on the draft environmental/Section 4(f) statement for the proposed construction of I-394 through the City of Minneapolis and the Villages of St. Louis Park, Golden Valley, and Minnetonka, Hennepin County, Minnesota.

Section 4(f) Comments

Based on the information provided in the statement, we believe that Alternative 2 is a feasible and prudent alternative to the taking of lands from Theodore Wirth and Blackstone Parks. However, we do not believe that the statement has considered the impact of the proposed project on all parks and recreation areas.

Graphic and narrative portions of the statement do not clearly indicate whether the proposed project would require lands from the Brookview Recreation Area for right-of-way purposes. It should be noted that during our review of the Section 4(f) submission, it was determined that this area, consisting of the Brookview Golf Course and Brookview Park, has received matching assistance from the Land and Water Conservation Fund (L&WCF) (Project No. 27-00267) for development of Brookview Park. Park and recreation areas receiving monies from the Fund are subject to the provisions of Section 6(f) of the L&WCF Act, as amended. This section provides, in part, that "No property acquired or developed with assistance under this section shall, without the approval of the Secretary, be converted to other than public outdoor recreation uses. The Secretary shall approve such conversion only if he finds it to be in accord with the then existing comprehensive statewide outdoor recreation plan and only upon such conditions as he deems necessary to assure the substitution of other recreation properties of at least equal fair market value and of reasonably equivalent usefulness and location." Accordingly, there is no provision under this section for acceptance of cash in payment for recreational lands to be taken for other uses. **A**

Page 4-48 notes that "Alternates 1 and 3 would require the acquisition of Blackstone Park" but that Section 4(f) is not applicable to it because it is private land leased to the Village of St. Louis Park. We consulted with the local officials. They classify Blackstone Park as a significant local recreation area serving a low-income neighborhood. **B**

We are told that loss of this park would create a serious and significant impact on the area. Therefore if either Alternate 1 or 3 are chosen for I-394, we believe that Section 4(f) would be applicable to use of land from Blackstone Park. Should either the State or FHWA disagree with our position, all relevant facts and information should be assembled from the Department of Parks and Recreation, Village of St. Louis Park, and be submitted to the General Counsel, U.S. Department of Transportation for a decision. The final statement should include this decision. Also, we will defer making specific 4(f) comments about this taking until a preferred alignment is chosen and, if Blackstone Park is involved, until DOT makes its 4(f) determination of 4(f) applicability. **B**

An official of the Minneapolis Park Board expressed concern over potential impacts on park areas east of Theodore Wirth Park. The concerns were (1) whether right-of-way would be required from the Parade Area at Bryn Mawr Meadows; (2) the impact of salt runoff on Spring Lake; and (3) the potential problem of commuter traffic on Kenwood Parkway resulting from the development of Alternate 2. These areas of concern should be coordinated with the Minneapolis Park Board and addressed in the final statement. It is even possible that all or certain of these items may result in Section 4(f) situations —reference: U.S. 9th Circuit Court of Appeals Decision of March 2, 1972, Richard J. Brooks vs. Volpe. **C**

Contact with the Department of Parks and Recreation, Village of St. Louis Park, disclosed that the Village has acquired additional parklands for the Westwood Hills Environmental Education Center. These lands consist of wetlands along the northern edge of Westwood Hills Park. As a result, the proposed project frontage road in the southeast quadrant at County Road 18 and Highway 12 (I-394) would require the taking of Section 4(f) lands. This inconsistency should be coordinated with St. Louis Park officials and addressed in any subsequent statement. **D**

If future facts, documentation, and proposed project design require the use of any Section 4(f) area, a revised Section 4(f) statement be submitted for review and comment. Any revised Section 4(f) submission should include rigorous exploration and objective evaluation of alternatives to avoid Section 4(f) lands. In addition, it should include specific measures to minimize harm and evidence of definite coordination and consultation with local park and recreation agencies administratively responsible for the 4(f) lands affected by the proposal. **E**

Item A

Construction of I-394 will necessitate the taking of some land from Brookview Golf Course. A Draft Section 4(f) Evaluation was prepared and circulated in September, 1981. Comments received are attached to this document.

Based on the comments received, a Final Section 4(f) Evaluation was prepared and is attached to this FEIS.

Brookview Golf Course itself does not fall under the requirements of Section 6(f) since the LAWCON funds used were specifically earmarked for Brookview Park, which is a separate and unique section of the area, not affected by this project.

Item B

Alternate 2 has been chosen as the preferred alternate for I-394. Therefore, as proposed, I-394 will not require the acquisition of any lands from Blackstone Park.

Item C

The Minneapolis Park Board has been consulted and the I-394 project discussed. Throughout the development and design phases, input from the Park Board will continue to be solicited concerning impacts and mitigation measures to ensure that significant impacts on park areas are minimized. In answer to the sepcific concerns of this comment:

1. Right-of-way will not be required from the Parade Area at Bryn Mawr Meadows.
2. I-394 will not be drained into Spring Lake.
3. No increased commuter traffic on any Minneapolis parkway, due to I-394, is anticipated.

Mr. Paul G. Velz, St. Paul, Minnesota

Specific measures to minimize harm could include: (1) land replacement or monetary compensation (at replacement value) for lands taken with the compensation earmarked for capital park and recreation purposes; (2) noise abatement measures as appropriate; (3) landscaping and scenic enhancement measures; and (4) measures to insure the safety and accessibility for park users, such as fencing, pedestrian overpasses, lights, and adequate vehicular access where needed.

Environmental Statement Comments

We have reviewed the environmental statement as it relates to our areas of jurisdiction and expertise and find that it is generally inadequate in its discussion of potential impacts on the natural environment. To clarify our areas of concern, the final statement should address the following:

General Comments

The first half of the statement presents a large amount of general information, cross references, and projections in a manner which are difficult to review and at times confusing to individuals not thoroughly familiar with the project. F

I. Introduction

Description of Study Area. While this section provides a thorough description of types of ecosystems and their characteristics, it does not allow the reader to easily conceptualize the extent of potential effects on the natural resources. We feel that low-level aerial photographs of the corridor would give the reader a better understanding of the existing setting. G

Mr. Paul G. Velz, St. Paul, Minnesota

We question the statement on page 1-38, third paragraph, which says ". . .and the smaller lakes are often sealed off from groundwater supplies by the presence of clay layers." It has not been satisfactorily proven in any known studies that the lakes in question are completely sealed from ground water by their bottoms or, in fact, whether they are perched bodies or actual extensions of the water table. The statement appears to be based more on opinion than on fact and should be revised or substantiated in the final statement. H

Water quality data in this section is lacking in up-to-date information. Water samples taken over ten years ago should not be classified as representative of current conditions in a highly urbanized area.

Project History. Construction by the Minnesota Department of Highways is progressing on U.S. 12 and some of its frontage roads. This is occurring within the study area at the proposed interchange near Ridgedale Shopping Center. The present status of this construction should be clarified. It should be clarified as to whether this construction would limit the options available in selecting a transportation plan and whether this construction has already caused some of the environmental impacts identified in this document. I

This section also should indicate the extent of consultation with appropriate natural resources agencies, such as the Minnesota Department of Natural Resources and the U.S. Bureau of Sport Fisheries and Wildlife. J

II. Description of Alternatives

Alternates 1, 2, and 3 each proposes a departure from the existing U.S. 12 corridor slightly south of existing U.S. 12 between Winnetka Avenue and C.R. 18. The reason for this change in alignment is not understood and should be clarified in the final statement. K

In general, this section of the environmental impact statement describes the alternates only in terms of proposed alignments. Other information vital to understanding the project impact is lacking. Since a considerable amount of earth moving will be undertaken, construction features, such as potential borrow procurement and spoil disposal areas, should be discussed to the extent such information is available. Using spoil to fill wildlife habitat is a practice which should be discouraged. L

Because right-of-way acquisition was necessary at Theodore Wirth Park and Brownie Lake, a Draft Section 4(f) Evaluation was prepared and circulated in September, 1981. Comments received are attached to this document.

Based on comments received, a Final Section 4(f) Evaluation was prepared and is attached to this FEIS.

Item D

The City of Saint Louis Park has been contacted and the I-394 project discussed. Specific design details have been discussed, and the City has been assured that no land will be acquired from the Westwood Hills Environmental Education Center. Throughout the development and design phases, Mn/DOT will continue to solicit input from the City so that adverse impacts to the park will be avoided.

Item E

See responses to Items A and C above.

Item F

This section of the Statement has been re-written for the FEIS.

Item G

An aerial photograph is used as a graphic in the FEIS. See page 76.

Item H

A separate Water Resources Assessment has been prepared for the I-394 corridor and is briefly summarized in this FEIS. The report indicates that the statement on page 1-38 of the DEIS, to which you refer, is not correct; the statement has been deleted from the FEIS. The presence of clay layers does not actually "seal off" the lakes but it does restrict the movement of water. A more detailed discussion of this is included in the Water Resources Assessment which is available upon request from the Golden Valley District Office.

Additional sampling of water quality was done prior to preparation of the Water Resources Assessment. One of the recommendations of the Report is continued monitoring of water quality in Brownie Lake and two of the wetlands areas.

Item I

There have been many minor improvements to US 12, and an interchange was constructed near Ridgedale. The improvements to date, however, do not limit the options available for future improvements to the US 12/I-394 corridor. Most of these improvements were done to service an immediate or short-range need and are not necessarily long-range solutions. However, provision of access to this major shopping center will be a consideration in the designing of the proposal.

Item J

Comments received from these agencies, along with responses to these comments, are found on pages 473 to 479.

Item K

The alignment of proposed I-394 between Winnetka Avenue and CR 18 was selected to avoid major impacts to the Brookview Golf Course and the Westwood Hills Nature Center. The Brookview Golf Course which contains land subject to Section 4(f) considerations, is located north of existing US 12, while the Westwood Hills Center is located south of the existing highway. Both areas are shown on the map on page 301.

Some encroachment onto Brookview Golf Course is necessary and is discussed in the Section 4(f) Evaluation which is attached to this FEIS. See also response to Item A above.

Item L

Details such as borrow sites and spoil disposal areas cannot be addressed until some final design has been accomplished. These details will be addressed during the design stages of this project.

The preferred alternative for I-394 proposes a depressed roadway section; thus, it is anticipated that very little borrow material will be needed. However, in the event that borrow material is needed, it will be taken from areas outside of the highway construction area. Minnesota Standard Specifications for Highway Construction, Spec. 1602, specifies that all borrow areas must be left in a satisfactory condition when construction is completed. Specification 1717 controls potential air and water pollution problems due to contract operations, while Spec. 1803.5 provides for continuing erosion control during construction. Spec. 2015.3 controls the disposition of excess materials.

5

Mr. Paul G. Yelz, St. Paul, Minnesota

III. Summary of Probable Impact

In addition to the specific impacts listed, this section should discuss the total amount of wildlife habitat which will be permanently lost as a result of the respective alternatives. The addition of snow removal salts to local water bodies also should be listed. **M**

Mr. Russell W. Fridley, Director, Minnesota Historical Society, 690 Cedar Street, St. Paul, Minnesota 55101, should be consulted concerning the effect of the proposed project on any historical or archeological resources which may be in the process of nomination to the National Register of Historic places, and a copy of his comments should be included in the statement. **N**

IV. Evaluation of Alternatives

Site Impact, Ecologic, Alternates 1, 2, 3, and 4. Item 44 of the table on page 4-45, for Alternate 1 and similar tables for the remaining alternatives, includes items for which the dollar value of certain environmental amenities are estimated. It is not clear how these figures were derived. Furthermore, this dollar evaluation seems to be inconsistent with the statement in paragraph 3, page 4-46, which says that, "The overall value of open lands of various types, with existing and potential uses by man and nature, is highly subjective and not quantifiable." This inconsistency should be clarified in the final statement. **O**

This section does not accurately describe the impact of the project on wildlife. Page 4-46, third paragraph, erroneously states that wildlife "... will simply move to other nearby locations when construction begins." Conversion of land to highway use permanently reduces the overall habitat base available to wildlife for food, cover, breeding, and the raising of young. Displaced animal populations would ultimately be lost. **P**

Although house cats do indeed pose a threat to suburban wildlife and can depress wild animal populations, this is a relatively minor factor when weighed against permanent destruction of habitat by construction activities. We suggest the reference to house cats on page 4-46 be deleted. **Q**

Exhibit 51, page 4-45, is difficult to interpret. The overlay bears the legend "Open land and/or wildlife habitat included in right-of-way." It is not clear whether this indicates areas of habitat removal or areas of habitat preservation. Furthermore, the graphics make it difficult to differentiate between new alignments and old alignments. For example, there is a valuable wetland situated near the northwest quadrant of the U.S. 12-S.R. 100 interchange. It appears that part of this wetland will be removed, but little explanation is given about why this will be done or what alternatives are available to prevent its degradation. **R**

Item M

About eighteen acres of existing wildlife habitat will be needed to construct I-394. A summary of the findings of the Water Resources Assessment, which details anticipated impacts on both habitat and water quality, begins on page 212 of this statement.

Item N

The FEIS contains letters from Mr. Fridley on pages 454-456. No significant historical or archaeological sites are anticipated to be encountered during I-394 construction.

Item O

The dollar value stated was based on the value of commercial property in the area and should not have been applied in this case. This reference has been omitted from the FEIS.

Item P

The impact on wildlife has been clarified in the FEIS. See page 245.

Item Q

This reference has been omitted from the FEIS.

Item R

The reference on page 4-45 was to the amount of habitat or open land which could be adversely affected by Alternate 1. Similar drawings were used to show potential impacts due to other alternatives. However, since the preferred alternative is being re-studied in detail to minimize potential right-of-way acquisition, none of the drawings from the DEIS are entirely correct any more. However, it does appear that it is necessary to use a part of the wetland in the northwest quadrant of the US-12 SR-100 interchange for construction of an interchange between SR-100 and I-394. It is tentatively planned to create ponding areas in several areas to serve as storage areas for highway drainage and to create additional wetland areas.

A detailed discussion of the imapcts to wetlands (including the one at SR-100) begins on page 234 of the FEIS, and are discussed in a separate Wetland Finding which is attached to this document.

Mr. Paul G. Velz, St. Paul, Minnesota

Road alignments superimposed on aerial photographs would more effectively illustrate the project proposals.

Page 4-50, fifth paragraph, discusses the effects of noise on wildlife. Recent literature stresses the need for more comprehensive study rather than inconclusive evidence that noise does not affect wildlife. Furthermore, it should be made clear in the final environmental impact statement that increased noise levels will decrease enjoyment of wildlife. S

Exhibit 52 indicates a proposed project road in the vicinity of the unique tamarack bog in Theodore Wirth Park. A description of this road and how it will affect current use of the valuable bog ecosystem should be discussed. The potential threat of drainage of the bog in Theodore Wirth Park should also be discussed since page 5-7 of the 4(f) statement reflects uncertainty about the impact of Alternate 1 on the surrounding water table. T

V. Section 4(f) Lands

On page 5-3, Exhibit 72, the elevations of Birch Pond, Brownie Lake, Cedar Lake, and Sphagnum Bog all appear to be too low when compared to the latest (dated 1967) "Minneapolis South" quad sheet. Elevations should be checked and revised to show current and accurate elevation data. U

Page 5-7, third paragraph, states that, "If test borings indicate that a depressed roadway would encroach upon the water table, special engineering considerations would have to be instituted. . .," while on page 5-8, paragraph 6, it states, "There is little danger of conflict between the depressed roadway and the water table in this area." This would seem to imply that test borings were not necessary for that area. Test borings should be necessary in any and all areas of the depressed roadway. The elevations of Sphagnum Bog and Birch Pond are approximately 880 feet and 870 feet, respectively, from the above quad sheet. Highway 12 is now at about elevation 880 feet in the same vicinity. The final statement should clearly indicate the intended elevation of the depressed roadway and discuss why it will not be a problem in this area. V

VI. Probable Adverse Effects Which Cannot Be Avoided

On page 6-2, first paragraph, "water pollution" should be added to the last sentence as an adverse effect which cannot be avoided. W

Item S

The Preliminary Noise Analysis which has been prepared for the FEIS indicates that highway-generated noise can be successfully abated to FHWA design noise levels in all residential and recreational areas. Noise levels in several locations along the route will be reduced from present levels due to the depressed roadway section and proposed abatement. The impact of noise on wildlife is inconclusive.

Item T

No project road is proposed that would affect the sphagnum tamarack bog in Theodore Wirth Park. See also response to EPA comment "T".

Item U

The elevations shown have been checked against the latest mapping available for the project corridor and are correct. See also response to EPA comment "T".

Item V

Test borings were made in this area and the conclusion reached is that I-394 will not have an adverse impact on the bog. This is discussed in detail in a letter contained on page 347 of the Final Section 4(f) Evaluation.

Item W

The impacts on water quality are discussed on page 212 of the FEIS.

VII. Steps to Minimize Harm and Enhance the Environment

Pages 4-14, third paragraph; 4-47, fourth paragraph; 4-52, third paragraph; and other various locations throughout the statement discuss measures that should or could minimize impacts relating to public access, water pollution, hydrology, and drainage patterns but do not stipulate definite proposals. The final statement should clearly discuss definite proposals which would aid in the mitigation of the various environmental impacts discussed. **X**

Page 4-48 discusses the St. Louis Park's Planning Director's concern regarding potential impacts on the Westwood Hills Environmental Education Center resulting from the proposed project. The final statement should indicate cooperation with St. Louis Park officials in providing measures to minimize adverse effects on the Environmental Education Center. **Y**

Page 7-2, Item 4, recommends landscaping and earth berms as mitigation measures. We suggest that plants be selected which can be used by wildlife for food and cover. This would create new habitat niches in the area which might provide new opportunity for the public to experience urban wildlife encounters. Details about specific plant types and their schematic arrangement should be obtained from the Minnesota Department of Natural Resources. **Z**

VIII. Irreversible and Irretrievable Commitment of Resources

This section minimizes the adverse impact of the project on wildlife habitat and does not inform the reader of the primary and secondary effects it will have on existing wildlife populations. It should be noted that there is little remaining wildlife habitat in the project area. That which is left increases in relative importance. It should also be noted that,rather than a "minimal" commitment of wildlife resources, the project will remove a significant amount of this remaining resource in the study area. **AA**

IX. Relationship between Local Short-Term Uses of Man's Environment and Maintenance and Enhancement of Long-Term Productivity

This section incorrectly assesses the long-term productivity of wildlife. Since the project would irretrievably reduce the overall habitat base of the area, the ability of the land to produce wildlife would be correspondingly reduced and wildlife would become even less abundant than it is now. In essence, wildlife values would be **BB**

traded off for increased transportation efficiency. The cumulative effect of this project, together with similar projects, should be considered. Piecemeal reduction of the wildlife habitat base is serious, particularly when placed in perspective. Nationwide, myriad highway projects jointly contribute an immense impact on the natural environment. **BB**

Because of the Department of the Interior's concern for the Section 4(f) aspects of the proposed project, we would be willing to review and comment, on a technical assistance basis, on any subsequent material which may be parpared. The field office assigned responsibility for this cooperation is the Office of the Regional Director, Bureau of Outdoor Recreation, 3853 Research Park Drive, Ann Arbor, Michigan 48104.

The final position on the Section 4(f) determination will be made by the Secretary of the Interior when we are asked by the Department of Transportation to review the final combined environmental/ Section 4(f) statement.

Sincerely yours,

Rogston C. Hughes

Assistant Secretary of the Interior

Mr. Paul G. Velz
Road Design Engineer
Minnesota Department of Highways
St. Paul, Minnesota 55155

cc W.M. Crawford
K. Anderson
D. Jessup
A. Hultine

Item X

Definite measures for minimizing these impacts are discussed where appropriate in this FEIS.

Item Y

I-394 will not require any land from the Westwood Hills Environmental Education Center. Minimization of other impacts will be coordinated with Saint Louis Park officials.

Item Z

Replacement vegetation will be selected, where possible, from types which can provide suitable habitat for birds and small animals. A final landscaping plan will not be developed until the detail design of the proposed facility has been established. However, areas where landscaping is being considered are discussed in the FEIS on page 93.

Item AA

The revised preferred alternative has been designed to minimize the taking of right-of-way. Implicitly, the destruction of wildlife habitat will also be minimized. The secondary impacts of removal of wildlife habitat are likely to be more severe as presently-vacant land becomes developed. To some extent, this secondary impact can be controlled by zoning. The development plans for all of the communities within the I-394 study area include significant acreages devoted to public open space uses.

Item BB

The reduction of wildlife habitat which was foreseen in the DEIS has been reduced considerably by the studies made for this FEIS. The statement in the DEIS about potential recovery of animal populations has been omitted from the FEIS.

Public Hearing F-6 AP

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

REPLY TO: 330 February 6, 1974

SUBJECT: FHWA-Mn-EIS-73-09-D
Draft Environmental/Section 4(f) Statement
Minnesota Project I 394-6(1) 226
TO: State Project 2789 (I-394)
Interstate (I) 394 on U.S. 12 Corridor in the Cities of Minneapolis, St. Louis Park, Golden Valley and Minnetonka
Hennipen County
From I-94
To I-494

To: Paul G. Vely, Road Design Engineer

I have reviewed one copy of the above which will be returned to our Area office. The statement is very well done and the most objective and comprehensive I've seen to date. I would appreciate a copy to use as an example for format and content for projects in which we must file an E 15. Please reply at your earliest convenience.

Joseph R. Mehrkens

Joseph Mehrkens
Forest Hydrologist

NO RESPONSE NECESSARY

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
NORTHEASTERN AREA, STATE AND PRIVATE FORESTRY
6816 MARKET STREET, UPPER DARBY, PA. 19082
TELEPHONE (215) 596-0000

8400
February 11, 1974

Mr. Paul G. Velz, Road Design Engineer
Department of Highways
State of Minnesota
St. Paul, Minnesota 55155

Refer to:
FHWA-Mn-EIS-73-09-D

Dear Mr. Velz:

Reference is made to your letter of January 2, transmitting a copy of the Draft Environmental/Section 4 (f) Statement, Minnesota Project I 394-6 (1) 226, State Project 2789 - (I-394), Interstate (I) 394 on U.S. 12 Corridor in the Cities of Minneapolis, St. Louis Park, Golden Valley and Minnetonka, Hennepin County From I-94 (Hawthorne Interchange) to I-494.

We have reviewed the statement and find it very well written, easily understood, comprehensive, and objective. The statement discusses many controversial subjects objectively and in depth. Alternative two appears to be the best all around compromise of impacts and has the least ecological impact.

One suggested addition to the statement is to consider the use of forest vegetation in artificial drainage basins to filter highway runoff through the process of soil infiltration before it enters natural drainages. **A**

The symbols for existing and proposed interstates appear to be reversed on page 1-1, exhibit one. **B**

We appreciate the opportunity to review the draft.

Sincerely,

for ROBERT D. RAISCH
Director

R. F Lacky
O. Jessup
A.H. Hultine
R.M. Hill

RESPONSE

Item A

This suggestion has been incorporated into the proposed drainage planning for I-394. See also response to DOI comment "R".

Item B

This is correct. The appropriate changes on the graphics have been made.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
316 North Robert Street, St. Paul, Minnesota 55101

February 21, 1974

Mr. Paul G. Velz,
Road Design Engineer
State of Minnesota
Department of Highways
St. Paul, Minnesota 55155

Dear Mr. Velz:

The draft environmental impact statement for Interstate Highway 394 in Hennepin County, that was addressed to the Department of Agriculture, Office of the Secretary on January 2, 1974 was referred to the Soil Conservation Service for review and comment.

The part on erosion control is vague. A discussion would be useful on the types of erosion control practices that will be used during construction. A

A discussion on the types of vegetative plantings that are proposed on the disturbed areas after completion of construction would be desirable. B

Under "Steps to Minimize Harm" item 7. It is recommended that remedial measures will be used to reduce the pollution hazard of roadway runoff entering the natural drainage systems. Care should be taken not to destroy existing vegetation from the runoff of the roadway.

A discussion on how the vegetative measures will be maintained and erosion controlled after construction is completed would be useful. C

The action will not have any effect on any SCS projects.

Mr. Paul G. Velz 2

We would appreciate receiving a copy of the final statement when it is completed.

We appreciate the opportunity to review and comment on this proposed project.

Sincerely,

Harry M. Major
State Conservationist

RESPONSE

Item A

Among the mandatory (in Minnesota) measures to control erosion during construction are those which limit the amount of surface area of erodible earth exposed during clearing, excavation, borrow and embankment operations; require rapid reestablishment of turf; and which require the contractor to control sedimentation arising from construction operations.

Item B

Turf reestablishment will consist primarily of seeding or sodding. Vegetation that is removed for I-394 construction may be replaced with landscaping on the side slopes of the freeway. This landscaping would consist of trees, bushes, and shrubs which are compatible with the surrounding area and provide habitat for wildlife.

Item C

A separate Water Resources Assessment, in which erosion control measures are discussed with greater specificity, recommends a general drainage pattern of storing highway runoff in those wetlands which presently are of low value as wildlife habitat prior to discharging into the local watersheds. Certain wetlands have been identified as potentially benefitting by an increased supply of water, and where natural wetlands are unavailable, man made ponding areas are recommended.

After construction is completed, erosion is not anticipated to be a problem, for after the highway runoff is collected via ditches or closed storm sewer systems and discharged into the ponding areas, discharge design will be at a rate controlled so as to prevent erosion. Critical areas for erosion control will be identified prior to construction and recommended remedial measures undertaken.

The Water Resources Assessment has been reviewed by the Minnesota Pollution Control Agency, the Minnesota Department of Natural Resources, and the Minneapolis Park and Recreation Board. It is available for review at the Golden Valley Office of Mn/DOT.

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
MINNEAPOLIS-ST. PAUL AREA OFFICE
GRIGGS-MIDWAY BUILDING, 1821 UNIVERSITY AVENUE
ST. PAUL, MINNESOTA 55104

REGION V
300 South Wacker Drive
Chicago, Illinois 60606

FEB 27 1974

IN REPLY REFER TO:
5.6:PP:TF

Mr. Paul O. Velz
Road Design Engineer
Department of Highways
State Highway Building
St. Paul, Minnesota 55155

Dear Mr. Velz:

Subject: 330 FHWA-Mn-EIS-73-09-D
Draft Environmental/Section 4(f) Statement
Minnesota Project I 394-6(1)226
State Project 2789 (I-394)
Interstate (I) 394 on U.S. 12 Corridor
in the Cities of Minneapolis, St. Louis Park,
Golden Valley and Minnetonka, Hennepin County
From I-94 (Hawthorne Interchange) to I-494

We have completed our review of your Draft Environmental Impact Statement for the proposed I-394 through the Cities of Minneapolis, St. Louis Park, Golden Valley, and Minnetonka. Our primary environmental concerns are:

1. Displacement of residences and businesses - Each alternative clearly identifies the amount of residential and commercial displacement that may occur. However, there is no information concerning the income and family size of the potential displacees. No reference is made to the availability of housing resources to meet the displacees' particular needs. **A**

   Additionally, the alternatives identify many small businesses to be relocated but the draft statement in no way shows resources for these businesses. There is a statement relating to available land for improvement but most small businesses are totally dependent upon existing resources because they do not have enough capital to invest in construction. Thus, commercial resources should be shown so as to minimize the hardships placed upon the displaced businesses. **B**

   The draft environmental assessment does not take into account competing displacement projects, if any, in the communities to better identify resource needs and program displacement activities accordingly. **C**

-2-

2. Irretrievable Commitment of Natural Resources - The draft statement does not evaluate the different alternatives based on an efficient use of natural resources. The question of limited petroleum resources is becoming a major environmental issue. In reviewing this project, as well as all other major transportation development proposals, it is recommended that each alternative be compared to the relative need for transportation fuels. Such indicators as the number and kind of vehicular trips, and the average length of vehicular trips can greatly assist in deciding which alternative is most desirable. **D**

   Another natural resource to be evaluated is the amount of unurbanized land that would be subjected to increased urban development pressures as a result of each alternative being considered. **E**

We hope these comments will be helpful and thank you for the opportunity to provide them.

Sincerely,

Thomas T. Feeney
Area Director

RESPONSES

Item A

Because the alternative corridors were identified so far in advance of the proposed date, it was assumed that characteristics of individual families would change considerably by the time it was necessary to begin relocation. For this reason, the Conceptual Stage Relocation Study, done for this FEIS, contains information on relative values of homes to be acquired for I-394 and those available for replacement housing. As the time for actual relocation approaches, information on specific house holds will be collected. This is discussed in more detail on page 246.

Item B

Again, because of changing characteristics of potential displacees, replacement resources have been discussed in general terms. It is, however, the finding of the Conceptual Stage Relocation Study that ample existing replacement facilities exist at this time for all small businesses which might be acquired. This is discussed in more detail on page 249.

Item C

The communities along I-394 have been contacted to determine if any competing displacement projects would affect the potential supply of replacement properties. No problems are anticipated.

Item D

There would be no significant difference in the need for transportation fuels under Alternative 1, 2, or 3. All three "build" options offer the same type of facility, have the same termini, and are essentially the same lengths. The only alternative which produces a different need is the "No-Build" (Alternate 4). Although under this alternative the capacity of the facility is lower, increased congestion would result in lower fuel efficiency and therefore, more fuel consumed per vehicle.

An energy analysis was performed for this project and is summarized in the FEIS. Also, a separate "Energy Analysis Report" is available for review at the Mn/DOT Golden Valley District Office.

Item E

The impact of I-394 on presently undeveloped land has been assessed for this FEIS and begins on page 264. The completion of this segment of I-394 is not anticipated to change the existing pattern of land development, which is a "filling in" of vacant parcels with residential and business development.

March 5, 1974

Mr. John S. Bowers
Assistant Division
Engineer
Suite 490
Metro Square Bldg.
7th and Roberts St.
St. Paul, Minnesota

Dear Mr. Bowers:

Re: Draft EIS - Minnesota Project I
394-6 (1) 226
State Project 2789 (1-394)

We have reviewed the Draft EIS for the above project and want to commend you on an excellent job. There are two areas where additional information would be useful:

1. The project appears to be in proximity to:

   2 private elementary schools
   2 public elementary schools
   1 existing library
   1 proposed library
   1 private secondary school

   What will be the effects, if any, caused by noise and air pollution, on the teaching and learning processes at the above educational facilities? **A**

2. The EIS states that some places of business will have to be relocated. Are these retail or industrial? If some are retail, often owners of small retail stores have great difficulty relocating because of established clientele, increased business risk exposure, etc. In addition, will people have to move **B**

-2-

out of the area because their job location is changed? Also, will the relocation of businesses cause any changes in the local tax base? How much? **B**

Sincerely yours

Mitchell Cobey

Mitchell Cobey
Regional Environmental Officer

Rec

OFFICE OF THE ASSISTANT SECRETARY OF COMMERCE
Washington, D.C. 20230

February 27, 1974

Mr. Paul G. Velz
Road Design Engineer
Department of Highways
St. Paul, Minnesota 55155

Dear Mr. Velz:

The draft environmental impact statement for the proposed "Minnesota Project I 394 from I-94 (Hawthorne Interchange) to I-494," which accompanied your letter of January 2, 1974, has been received by the Department of Commerce for review and comment.

The statement has been reviewed and the following comments are offered for your consideration.

Bench marks, triangulation stations, and traverse stations have been established by the National Geodetic Survey in the vicinity of the proposed project. Construction required for the project could result in destruction or damage to some of these monuments.

The National Geodetic Survey requires sufficient advance notification of impending disturbance or destruction of monuments so that plans can be made for their relocation. It is recommended that provision be made in the project funding to cover costs of monument relocation.

Thank you for giving us an opportunity to provide these comments which we hope will be of assistance to you. We would appreciate receiving a copy of the final statement.

Sincerely,

Sidney R. Galler

Sidney R. Galler
Deputy Assistant Secretary
for Environmental Affairs

W. Crawford
R. Elsley - D. Jessup
A H Hultine
E. Larson

RESPONSES

Item A

Preliminary noise analysis indicates that traffic noise levels in all noise sensitive areas will be within the applicable standards. Similarly, analysis shows that air quality will be in compliance with the applicable standards throughout the corridor. These subjects are discussed in the FEIS. See also response to EPA comment A.

Item B

Indications are that several small businesses will have to be relocated if I-394 is constructed. There are primarily offices with some retail and industrial businesses also. The preliminary findings of the Conceptual Stage Relocation Study are that ample replacement facilities exist for all businesses which wish to remain in the area to do so. This is discussed in more detail on page 249.

RESPONSES

The National Geodetic Survey will be consulted during the design stage, so that any such monuments can be relocated before construction activities commence.

Rec

DEPARTMENT OF THE ARMY
ST. PAUL DISTRICT, CORPS OF ENGINEERS
1210 U. S. POST OFFICE & CUSTOM HOUSE
ST. PAUL, MINNESOTA 55101

IN REPLY REFER TO
NCSED-ER

15 January 1974

Mr. Paul G. Velz
Road Design Engineer
State of Minnesota
Department of Highways
St. Paul, Minnesota 55155

Dear Mr. Velz:

330 FHWA-Mn-EIS-73-09-D
Draft Environmental/Section 4(f) Statement
Minnesota Project I 394-6(1)226
State Project 2789 (I-394)
Interstate (I) 394 on U.S. 12 Corridor
in the Cities of Minneapolis, St. Louis
Park, Golden Valley and Minnetonka
Hennepin County
From I-94 (Hawthorne Interchange)
To I-494

The Corps of Engineers has no comments on the subject report.

NO RESPONSE REQUIRED

Sincerely yours,

RODNEY W. COX
Colonel, Corps of Engineers
District Engineer

Copy furnished:
Mr. Timothy Atkeson
Council on Environmental
Quality
Executive Office of the
President
722 Jackson Place, N.W.
Washington, D.C. 20506

Rec

STATE OF MINNESOTA
WATER RESOURCES BOARD
555 Wabasha Street
Room 206
St. Paul, Minnesota
55102

January 16, 1974

Mr. Paul G. Velz
Road Design Engineer
Department of Highways
St. Paul, Minn. 55155

Re: 330
FHWA-Mn-EIS-73-09-D

Dear Sir:

The Board's office has received a copy of the Draft Environmental/Section 4(f) Statement on the matter of the following project: Interstate (I) 394 on U.S. 12 Corridor in the Cities of Minneapolis, St. Louis Park, Golden Valley and Minnetonka, Hennepin County. I appreciate the receipt of the statement.

Our office is not equipped to provide comments on the statement you provided on or before February 27, 1974.

Since this highway modification is located within the boundaries of the Minnehaha Creek Watershed District, I have transmitted the above statement to the engineer for that District.

I'm sure the matter will be brought to the attention of the managers of the Minnehaha Creek Watershed District.

RESPONSE

No comments have been received from the Minnehaha Creek Watershed District.

Sincerely,

Erling M. Weiberg
Executive Secretary

EMW:ks
CC- Lawrence Kelley, President
Minnehaha Creek Watershed District
E. A. Hickok, Engineer

MINNESOTA POLLUTION CONTROL AGENCY
1935 W. County Road B2, / Roseville, Minnesota 55113
612-636-5740

Comments by the Pollution Control Agency on the draft environmental impact statement for the proposal to upgrade U.S. 12 west of Minneapolis to freeway standards and to redesignate the route as Interstate 394. (Project: 330 FHWA-Mn-EIS-73-09-D)

February 26, 1974

ATTENTION: Mr. Paul G. Velz,
Minnesota Department of Highways

This is in response to the invitation of the Minnesota Department of Highways for comment by the Pollution Control Agency on the draft environmental impact statement (EIS) of the proposal to upgrade U.S. 12 in Minneapolis, Golden Valley, St. Louis Park and Minnetonka to freeway standards and to redesignate the route as I-394. Essentially,

AN EQUAL OPPORTUNITY EMPLOYER

the planned project calls for I-394 to connect I-494 in Minnetonka with I-94 in Minneapolis, with the project length to be about 9.4 miles and the project cost estimated to be about $100 million.

The Pollution Control Agency was organized under laws passed by the 1967 State Legislature. In the main, the Agency's direct responsibilities are to develop, promulgate and enforce standards to control air, water, land and noise pollution in accordance with mandates of the State Legislature and the Federal Government. Comments contained herein address these direct environmental impacts anticipated from construction and operation of the planned freeway.

The comments also address matters which until very recently have not been the direct responsibility of the Pollution Control Agency. These matters pertain to the indirect results of actions, such as land-use conflicts, aesthetic impairment and resource depletion. Recent Federal and, more importantly, State legislation has directed that all agencies of government consider these issues in environmental decision-making. The 1973 Minnesota Legislature passed, with few dissenting votes, the Environmental Policy Act which for the first time established a policy to guide environmental decision-making. Among the goals:

-- to discourage ecologically unsound aspects of population, economic and technological growth...,

-- preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever practicable, an environment that supports

diversity, and variety of individual choice,

-- practice thrift in the use of energy and maximize the use of energy efficient systems for the utilization of energy...,

-- minimize noise, particularly in urban areas.

The law further states that "all departments and agencies of the state government shall," among other things:

--"study, develop and describe appropriate alternatives to recommended courses of action in any proposal which involves unresolved conflicts concerning alternative use of available resources";

--"recognize the worldwide and long range character of environmental problems and, where consistent with the policy of the state, lend appropriate support to initiatives, resolutions, and programs designed to maximize interstate, national and international cooperation in anticipating and preventing a decline in the quality of mankind's world environment."

There also is a substantial standard in the law to guide actions by all state agencies:

--"No state action significantly affecting the quality of the environment shall be allowed, nor shall any permit for natural resources management and development be granted, where such action or permit has caused or is likely to cause pollution, impairment, or destruction of the air, water, land or other natural resources located within the state, so long as there is a prudent and feasible alternative consistent with the reasonable requirements of the public health, safety, and welfare and the state's paramount concern for the protection of its air, water, land and other natural resources from pollution, impairment, or destruction. Economic considerations alone shall not justify such conduct."

It is in the spirit of addressing both the growing concern over the very real propsect of serious and continuing energy shortages and in following the mandate of the 1973 Minnesota Legislature that

these comments address both the direct and the indirect implications of the proposed I-394 freeway.

Land-Use

The environmental impact statement (EIS) recognizes that a freeway would result in increased industrial and commercial development in addition to the major development planned or under construction in the area. The EIS also suggests indirectly that residential development likely will increase due to the fact that congestion would be eased and a high-speed highway facility would be available for the commuters to the Minneapolis central business district and elsewhere. At the same time, the EIS notes (p. 1-6):

"Except for Minneapolis, comprehensive municipal planning is a relatively new activity for the municipalities in the study area; in most cases, such planning is less than 10 years old. At present, all municipalities, except the small residential communities of Deephaven and Woodland, either have or are in the process of developing or revising comprehensive plans."

The EIS also notes that there is no existing metropolitan land-use plan yet developed, although the Metropolitan Council is in the process of preparing recommendations for a regional plan to deal with urban sprawl. In sum, there is proposed a facility that the authors of the EIS believe would have a significant affect on a large segment of the Twin Cities even though the several governments having responsibility for this region have not yet made basic decisions on how this area is to be developed or preserved for the future. The proposed freeway cannot be consistent with a metro-area land-use plan becaus

no such plan exists. And it may be argued that the freeway will contribute to urban sprawl -- this at the very time when multiple efforts are underway to prevent undesirable aspects of sprawl. **A**

Transportation "Needs"

A "statement on transportation needs" appears on p. 1-50 of the EIS. Some basic revisions are needed in the statement to overcome the confusion that may result from word or phrase choices. Rather than being a statement of need, the statement really is one of anticipated transportation demand. To some, the freeway may be deemed desirable for a number of reasons, but this does not automatically mean there is a necessity or "need" for the facility. This distinction is important.

The opening sentence in the statement must be clarified. It says that within 20 years existing major roadways and public transit facilities will be "critically inadequate" to move "people and goods." But the proposal doesn't really address people movement as much as it does vehicle movement (constant reference is made to traffic congestion, traffic volumes, traffic flow). The Minnesota Highway Department estimates that during peak periods of the day each car carries an average of 1.2 people, meaning that for every 10 cars moving down an urban roadway during the "rush hour" only 12 people are being carried. Until there is a much better passenger-car load factor, references to the "need" of roadways to move people should be avoided because the movement of vehicles really is their larger purpose.

In the same statement, and throughout the EIS, there is reference to projected traffic volumes in the study area for 1995. All segments of six major roadways in the study area will have substantial increases in traffic by 1995 over 1970 levels, according to data supplied by the Minnesota Highway Department. Sixteen segments were analyzed, and projected increases vary from 260 percent to 649 percent! However, there may be justification for a complete re-evaluation of these traffic projections. **B**

The data in the projections are based on extensive metropolitan-area household interviews by the Minnesota Highway Department back in 1958. From this, the Department developed forecasts of 1985 traffic volume by utilizing the "time-trend" method. Under this method, past growth experience is assumed to continue under the same influences into the future and therefore there will be a statistical correlation between traffic volume and time. The time-trend method has been extensively used to forecast several things, including: population, employment, preparatory school and college enrollment, electricity consumption and, generally, resource utilization. The Highway Department figures were updated somewhat by the consultant for the I-394 study, but the update consisted only of interviews of government officials and some businesspeople in the several communities involved.

At one time, the time-trend analysis may have served as a useful forecasting method. In many cases, the predictions were correct. However, recent events show that reliance on this method may be a serious planning error because growth-influencing factors of the

RESPONSES

Item A

I-394 is consistent with the Metropolitan Council's land use policies. Their recommendations which are contained in the Metropolitan Development Guide, are summarized in this FEIS on page 143. The Metropolitan Council has reviewed land use plans for the municipalities along the I-394 route to determine consistency with the Guide. Thus, because the Metropolitan Council has determined that the I-394 proposal is consistent with the Metropolitan Development Guide, it is concluded that the land use changes which will occur in the western suburbs are consistent with metropolitan-wide land use planning.

Item B

Traffic projections list in the DEIS have been completely redone. Current projections are listed in the FEIS on pages 34 through 50.

Item C

Population, household, and employment projections have been updated and the most current figures available are contained in the FEIS on pages 124 through 126.

Item D

This recommendation has been followed. See Comment "B" in this letter.

past are changing rather remarkably. The U.S. House Committee on Interior and Insular Affairs confronts this subject in a report, "Energy 'Demand' Studies: An Analysis and Appraisal," (Sept. 1972):

> "By the very nature of time-trend analysis, projections of its calculated trends will yield accurate forecasts of the future if the projected historical relationship between energy consumption and time continues into the future. Thus, time-trend forecasts are based on an assumption that economic forces which have produced a certain trend in energy consumption in the past will continue to produce energy consumption levels with the same trend in the future. Ultimately, it is economic factors which can affect energy supply or demand that may influence the future trend in energy consumption and, thus, the accuracy of the forecasting relationship upon which time-trend projections of consumption are based. These factors can be thought of as (a) economic conditions (e.g. technology, resource availabilities, and government policies), and (b) economic variables (e.g. population levels) which may not follow their past trends."

Energy consumption is, of course, a basic index of over-all economic and social activity. As the present-day energy shortfall shows, the availability and cost of energy products is an important influence on our lifestyle. An example to show how the time-trend analysis of forecasting consumption may not be valid is a statement by the Northern States Power Company on January 18, 1974, that electricity consumption over the last quarter of 1973 increased only 0.7 percent, compared to a 10-year quarterly trend of a 7.7 percent increase. Residential consumption for the quarter actually was down 1.8 percent compared with the same quarter in 1972. NSP, which is undertaking an in-depth review of methods of forecasting electricity consumption, attributed the slowed consumption rate to unfavorable economic conditions (inflation, high interest rates), consumer energy conservation practices and unusually warm weather conditions. NSP expects the suppressed

consumption levels to continue. The Federal Energy Office has reported that gasoline consumption is down substantially from anticipated consumption rates, due to shortage of supplies and energy conservation practices by consumers. From all indications, the shortage of petroleum supplies will continue for some time into the future. This, coupled with the high rate of inflation and a decreasing birth rate, obviously will have an effect on a wide variety of activities, including highway traffic volumes.

Related to this, the Metropolitan Council has again revised downward the population forecasts for the Twin Cities metro area. A few years ago, in the middle 1960's, it was estimated there would be 4 million people in the metro area by 2000 (there are 2 million people today). That estimate subsequently was dropped to 3.2 million people, and only last week the Council dropped the forecast down even lower, to 2.9 million. Population forecasts, of course, are an important factor in projecting demand for goods and services.

C

At the very least, the traffic volume projections published in the EIS should be thoroughly re-examined. Such a re-examination would be consistent with an October 1973 statement by the Federal Highway Administration's Office of Highway Planning:

D

> " A Nation entering an era of uncertainty as to its energy sources and reserves must consider carefully what it can, and what it cannot do. The energy problems already on the horizon seem certain to have tremendous impact on motor vehicles and the patterns of their use."

Item E

The "limited improvement" alternative was dismissed for several reasons and is discussed in the "Alternatives" Section of the FEIS. The basic problem with this approach is that existing US 12 would have to be upgraded to near freeway standards to be effective. However, the problems of noise, air, and water pollution, divided neighborhoods, poor access, etc. would be worsened. A brief discussion of this approach is also presented in the Metropolitan Council Staff report to the Physical Development Committee (April 18, 1974), which states:

Mass Transit Plus Limited Improvement to Highway 12:

This "limited improvement" alternative is the upgrading of Highway 12 freeway standards on its existing grade and alignment. It means extending the six-lane freeway that now exists within the Bryn Mawr Community in Minneapolis -- to I-494 in Minnetonka -- with minimal disruption to existing homes and businesses (using existing right of way). This alternative, plus mass transit, could provide almost the same transportation service for regional trips as I-394, but could not provide adequate access to development without significant disruption and cost, between Highways 18 and 100. This alternative would not solve the problems of noise, divided neighborhoods and water pollution. However, this alternative is a design solution and could be considered during the design stages.

Transportation Alternatives

Alternative transportation schemes are addressed in the study performed by the Highway Department's consultant, and these alternatives are discussed in the EIS. One alternative was to do nothing in the corridor, the consequences of which are compared with the expected results of various construction alternatives. A "limited improvement" option was studied -- but never in detail -- and rejected. Three transit alternates were studied, each centered on fixed guideways and buses. One transit alternate was selected to "complement and be fully coordinated with future highway proposals," meaning that a prevailing assumption was that the freeway would be built.

The Agency is concerned that the study of alternatives dwelt more on alternative methods of building a highway to move vehicles rather than on building an efficient transportation system to move people. And much of the Agency's concern is rooted both in a mistrust of the projected 1995 traffic volumes in this corridor and a belief that a much better analysis of transportation alternatives is necessary. In this regard, the Agency questions why the limited improvement plan -- which would upgrade U.S. 12 by adding two lanes and making some safety improvements -- was rejected without any detailed study. In citing reasons for the rejection of this alternative (p. 1-72), several important factors were not considered: E

-- the effects of substantial transit improvements, including construction or designation of park-and-ride sites, use of exclusive transit lanes both for buses and carpools and passenger vans, and F

traffic controls such as metered ramps or slower speed limits (something which may improve safety and reduce air pollution). F

-- the opportunities for small-vehicle non-automated transit along the lines recommended by the Citizens League (in reports of March 21, 1973 and January 21, 1974). At least for the worktrip this type of transit could complement and be coordinated with a system of larger transit vehicles.

-- the opportunities for utilization of a like amount of federal funds designated for I-394 to help insure that there will be substantial transit improvements. The 1973 Federal Highway Act contains a significant new provision that enables local governments to cancel urban freeways and to receive from the general fund a similar amount of money for public transit improvements. G

-- the consequences of improving other highways in the corridor. H

In short, there appears to be aspects of a meaningful transportation study in the area in question that either are not considered in the EIS or are dismissed from further study on insufficient grounds. Until there is a reassessment of the future anticipated traffic volumes and until the transportation analysis is expanded to include consideration of factors listed above, the Agency has no choice but to seriously quesiton the wisdom of advancing the I-394 project beyond the study stage. There does appear to be justification for improvement programs to relieve congestion on U.S. 12. But a host of factors -- e.g. the energy problem, population shifts, the economic slowdown --

Item F

As proposed, I-394 will consist of two through lanes plus a "diamond" lane in each direction west of SR 100. East of SR 100, I-394 will have two through lanes in each direction plus two reversible lanes in the center. The "diamond" lanes west of SR 100 and the reversible lanes east of SR 100 will be used to give preferential treatment to buses, carpools, and van pools during peak periods. Ramp metering will also be used to complement this system.

In 1980, the Metropolitan Council, at the request of the Legislature, undertook a study dealing with the feasibility of the use of light rail transit in the metropolitan area. This study and its conclusions are included in the FEIS in the Alternatives section on page 71 .

Also, the Metropolitan Transit Commission (MTC) has been contacted regarding potential park-and-ride sites. This coordination will continue throughout the development of I-394 and sites will be incorporated where necessary and appropriate.

Item G

The Metropolitan Council has recommended that traffic in the I-394 corridor be accommodated on an improved highway facility. To cancel the I-394 project and divert the funds to public transit improvements would be inconsistent with both the Metropolitan Council's promulgated guidelines and an identified need for an improved highway facility.

would argue that there may be a better option than the construction of a freeway.

Pollution Implications

Much attention is devoted here to a consideration of the transportation alternatives because of the pollution implications inherent in any transportation system. Generally, as efficiency of a system improves there is a corresponding decrease in pollution levels attributable to that system. For example, it is far less polluting to move 40 people by bus than to move 40 people in 40 automobiles. But also, efficiencies that decrease pollution also can be realized within a particular system. For example elimination of stop-and-go automobile traffic is desirable from an air quality standpoint. Suppression of roadways and restricting roadside residential development are ways to reduce the harmful effects of noise.

The Pollution Control Agency already has commented on some air quality aspects of the proposed freeway (see p. 4-34 of the EIS). In a letter to the Minnesota Highway Department dated November 5, 1973, the Director of the Agency's Division of Air Quality, Mr. Edward M. Wiik, P.E., raised several questions about the project relating to air quality control:

"The plans received by the Agency include a calculation of amount of air pollution that would result if I-394 were utilized to the maximum, with average daily counts of slightly more than 200,000 vehicles. Of primary interest here is the level of carbon monoxide (CO) concentrations. The calculations show that the Agency's eight-hour CO standard of 9 parts per million would not be in jeopardy, even if the maximum anticipated daily

I

traffic flow is realized. The maximum anticipated concentration is shown to be 4.5 parts per million averaged over an eight-hour period. However, the Agency's standard also provides that CO levels of 30 parts per million over a one-hour period must not be exceeded more than once-per-year. There is no calculation to indicate whether this standard would be in jeopardy under worst-case conditions (traffic stoppage during the rush hour and during stable meteorological conditions).

Also, there is no discussion on the effects of the increased traffic flow on the CO levels in downtown Minneapolis, an area where high contaminant levels have been recorded."

I

To date, the Highway Department has not addressed the questions raised in the letter.

On p. 4-47 of the EIS, there is reference to runoff from the freeway with the statement: "This runoff would contain whatever pollutants are washed off the highway. It is not known exactly what materials (e.g. deicing salts, sands, gravel, etc.) would be in this runoff or what the quantities would be." From an environmental-protection standpoint, the runoff from such things as highways and parking lots is a very important consideration. This is even more important when waterways are in the immediate vicinity of the planned development, as is the case here. In this regard, the Minneapolis Park Board has undertaken a major effort to enhance water quality in the chain of lakes in west and southwest Minneapolis. Studies to date have indicated that an important contributor of contaminants to the lakes is runoff from roadways. More work needs to be done to insure that water quality of the lakes involved in the I-394 project would not be adversely affected.

J

Item H

Other highways near the proposed I-394 corridor are in need of improvements. However to attract traffic to these other routes from the US 12/ I-394 corridor would require improvements of the magnitude of those proposed for I-394. Improvements of that scale have been identified as inappropriate for the land uses through which these other alternatives would pass.

In conclusion, the Agency staff is of the opinion that the E for I-394 does not discuss transportation alternatives for M polis and the western Minneapolis suburbs to the degree nece to make judgement on the most prudent expenditure of $100 mi to improve transportation opportunities. Pertinent factors analyzing the several alternatives received scant or no atte all. But a basic concern of the Agency is the reliability o traffic volumes projected for the study area in 1995. So ma tors affecting projections have changed in recent months tha thorough reassessment of the future conditions should be und Too, there is a lack of important information on the air and quality impacts associated with this proposed project. Alth there may be a need to upgrade transportation facilities in 12 corridor, there appears to be better options than a freew alternatives to a freeway deserve much more attention.

GRANT J. MERRITT,
MPCA Executive Director

Item I

As a result of comments received on the Draft EIS/Section 4(f) Statement, the air quality implications of I-394 have been reanalyzed. The Air Quality Report finds that neither the eight-hour nor the one-hour standards of either the MPCA or the federal government will be violated by the operation of I-394. The findings of the Air Quality analysis are briefly summarized in the Final EIS on page 155 and are the subject of a separate, technical Air Quality Report which has been reviewed and concurred with by both the U.S. Environmental Protection Agency and the Minnesota Pollution Control Agency. This report is available to interested parties upon request. See also response to EPA comment "A".

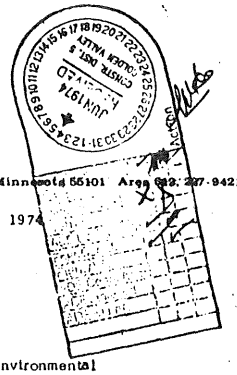
Item J

The Water Resources Assessment, prepared in conjunction with the FEIS, assesses potential water quality impacts due to runoff from I-394 and makes recommendations for handling the runoff to prevent degradation of water quality in the chain of lakes. This Water Resources Assessment is available from the Golden Valley District Office of Mn/DOT. The report is summarized in this FEIS beginning on page 212.

SP 1184-01 (TH 394)

Metropolitan Council of the Twin Cities Area

300 Metro Square Building, 7th Street and Robert Street, Saint Paul, Minnesota 55101 Area 612 227-9421



May 31, 1974

Mr. Paul G. Velz
Road Design Engineer
Minnesota Department of Highways
St. Paul, Minn. 55155

RE: Review of I-394 Corridor Location Study and Draft Environmental Impact Statement
Metropolitan Council Referral File No. 1895

Dear Mr. Velz:

At its meeting on May 23, 1974, the Metropolitan Council considered and adopted a report relating to the Corridor Location Study and the Draft Environmental Impact for the proposed Interstate 394 between Interstate 94 in Minneapolis to Interstate 494 in Minnetonka. Attached is a copy of the Report of the Physical Development Committee; Referral Report No. 71-13 (Reconsidered) as it was amended and adopted by the Metropolitan Council at this meeting.

This matter was considered at two meetings of the Physical Development Committee and at two meetings of the Metropolitan Council. Representatives from interested communities and community organizations and from state departments were present at these meetings and participated in the discussions. This report does not include all of the statements and letters that were received by the Metropolitan Council during the course of its consideration of this matter. In the near future our staff will audit our file and make sure that you will receive a copy of all relevant statements, letters, and other documents that pertain to this matter that are contained in our files and have not already been received by the Department.

We hope that the report is self-explanatory. We would be most happy to discuss any aspect of the report that might leave the Department in doubt as to the intent of the Metropolitan Council.

An Agency Created to Coordinate the Planning and Development of the Twin Cities Metropolitan Area Comprising:
Anoka County ○ Carver County ○ Dakota County ○ Hennepin County ○ Ramsey County ○ Scott County ○ Washington County

Thank you very much for your assistance and cooperation in our study of this matter.

Sincerely,

METROPOLITAN COUNCIL

John Boland

John Boland
Chairman

X. REVIEW OF DRAFT ENVIRONMENTAL IMPACT STATEMENT

The I-394 Corridor Study reports submitted for review by the Minnesota Highway Department represent a thorough effort on their part to integrate metropolitan and local transportation needs within the area. The Draft Environmental/Section 4(f) Statement appears to be relatively thorough and accurate for a corridor study, and addresses the requirements of the Department of Transportation for Impact Statements as well as the plans and policies of the Metropolitan Council.

The following comments are presented:

-- Transportation

The proposed transportation facility represents an opportunity to minimize the unacceptable environmental conditions now existing in this corridor, while at the same time providing improved regional and sub-regional highway access and increased transit service. However, a more detailed study of the performance and impact of traffic upon neighborhoods and secondary roads is recommended during the design stage. A

RESPONSES

Item A

The impact of traffic on local streets is discussed in the FEIS on page 256.

Also, this will be studied in more detail during design.

Item B

The DEIS stated that Alternate 2 (generally existing TH 12 alignment) would not require the acquisition of any land from Theodore Wirth Park. However, additional study since that time leads us to conclude that some acquisition is necessary. As a result a Section 4(f) Evaluation was prepared and is attached to this FEIS. The 4(f) Evaluation describes the area which is to be acquired and discusses the coordination with the Minneapolis Park Board. This coordination will continue throughout the remaining stages of I-394 project development to ensure that impacts to the park are minimized.

Item C

Displacement and subsequent relocation potential for residents and commercial businesses is discussed in the FEIS beginning on page 246 and is the subject of a separate report "Conceptual Stage Relocation Study" which is available for inspection upon request at the Golden Valley District Office of Mn/DOT.

-- Recreation Open Space

Two of the three construction alternatives require some taking of park land from Theodore Wirth Park. Alternative 1 proposes an exchange of land between the Minneapolis Park Board and the Minnesota Highway Department. Alternative 3 requires taking 2 acres of land around Brownie Lake. "Two policies in the Recreation Open Space Guide apply in these situations. Policy 11 states plans for ... public and private uses which would encroach upon or be adjacent to recreation open space areas should be in accordance with applicable metropolitan, county and/or municipal recreation open space plans."

The applicable municipal plan of Minneapolis, the Minneapolis Parkway System report, does not provide for an exchange or a taking of the land around Glenwood Parkway in Theodore Wirth Park as required in Alternative 1. Policy 12 states that "conversion of recreation open space areas should be allowed only when no feasible or reasonable alternative exists. When such conversion is unavoidable the taking agency should pay for the replacement of equivalent land and facilities." Alternative 3 which requires a taking of 2 acres around Brownie Lake does not indicate what exchange or payment would be made for this land. The discussion of this alternative should do so since the land has important natural features. B

-- Housing

The reports briefly mention relocation, saying how it will be done financially. However, there is no discussion of the relocation resources available within or adjacent to the corridor. Both the DOT guidelines and Policy 41 of the Housing MDG Chapter indicate these resources should be covered. Also, if there are insufficient resources, proposed actions to find other resources are to be included in the Statement. C

-- Air Pollution

A calculation of the total sub-regional impacts of air pollutants would be useful in comparing alternates.

Computations should be made for the 1-hour CO levels along the corridor. Also a further discussion and computations of the HC and NO_x levels should be offered.

The air analysis is performed for the year 1995. No indication is made of any interim problems. The air quality impact will probably be greater upon the initial completion of the project than it will be in 1995. This will primarily be due to the fact that all automobiles on the road will not be equipped with complete pollution control equipment. D

The discussion should include air pollution problems created by new development resulting from the freeway and by Ridgedale, as these will also affect the air quality in the corridor itself and the study area. Also air pollution in the CBD and along secondary roads should be considered.

Conditions of a depressed roadway and noise barriers possibly trapping pollutants and thereby creating an air pollution problem along the road should be examined.

-- Noise

Homes subjected to sound levels greater than the FHWA standard should be protected with acoustic barriers, even though the homes are situated in interchange areas where the noise is caused by traffic other than I-394. E

-- Natural Resources

A number of comments refer to routing runoff from the highway to nearby marshes. There should be a discussion of the affect of the polluted runoff on the wetlands. True, wetlands can be a cleansing agent, but there is a limit to what they can assimilate. F

Not only should withdrawal from groundwater be regulated, but so should the land use over a recharge area. The regulations should ensure that the recharging function continues and that the groundwater does not become degraded.

The reports state that none of the habitats to be disturbed by the freeway contain any rare of endangered species of plant or animal life. What criteria of "rare or endangered" was used to arrive at this conclusion? G

XI. RESPONSE TO EPA AND MPCA ISSUES

EPA

EPA made a "preliminary determination that the proposed action may be environmentally unsatisfactory because of its potentially significant effects on the environment." EPA comments and views, as expressed in the attached letter, will be published in the Federal Register.

The unsatisfactory classification was given because of the following factors:

(1) Potential significant air impacts.
(2) Significant noise impacts.
(3) Insufficient information regarding the air and noise quality analysis and abatement plans.
(4) Potential incompatibility with the Federally approved Minnesota Transportation Control Plan for Minneapolis - St. Paul.
(5) Lack of a thorough evaluation of alternatives (do-nothing plus mass transit and mass transit plus upgrading Highways 7, 12, 55, 18 and 100)

Response:

(1) Potential air impacts

The EIS, as prepared for the Minnesota Highway Department (MHD) by the Howard Needles firm (HNTB), indicated that emissions attributable to the highway would not exceed the ambient air quality standards; however,

Item D

As a result of comments received on the Draft EIS/Section 4(f) Evaluation, the air quality implications of I-394 have been reanalyzed. The findings of the Air Quality analysis are briefly summarized in the Final EIS beginning on page 155 and are the subject of a separate, technical Air Quality Report which has been reviewed and concurred with by both the U.S. Environmental Protection Agency and the Minnesota Pollution Control Agency. This report is available to interested parties upon request to the Golden Valley District Office of Mn/DOT. Calculations have been made for both 1-hour and 8-hour CO concentrations and the Air Qualtiy Report finds that neither Federal nor State Standards will be violated. See also response to EPA comment "A".

Item E

The noise analysis that was included in the DEIS has been redone. The new analysis is discussed in the FEIS beginning on page 189. This analysis demonstrated that adequate noise abatement measures could be provided so that traffic noise levels in residential and park areas would be in compliance the FHWA Design Noise Level of L_{10} 70 dBA. See also response to EPA comment "Q."

EPA has raised reservations. In staff conversations with Region V, EPA, it was indicated that they had used the HIWAY model for assessing the potential air quality of the emissions attributable to the highway. EPA's computations regarding the air analysis were not released with their announced reservations, nor were the assumptions or input parameters stated.

Without having the calculations, as conducted by EPA, it is impossible to assess where the differences in air quality impact occur. The HIWAY model, as usec by EPA, has not been available for use by the MHD or others. Region V EPA has indicated that the results of the air analysis and the calculations of air pollution would be available through the local office of the FHWA.

EPA states that "carbon monoxide levels for the project area should be determined for the period immediately following project completion and for the interim year 1985." Staff partly agree with this. If project completion is expected prior to 1985, then the air analysis should consider the conditions at the date of the project completion. 1985 will probably be the "low" year in terms of transportation related emissions, because by 1985 nearly all automobiles will be equipped with their full complement of pollution control equipment. The 1995 air analysis, therefore, would be assessing a situation where a greater air pollution potential exists. If, however, the project were to be completed prior to 1985, then the most severe case may occur at that time.

H

EPA states that a calculation should be made regarding the 1 hour CO concentration. Staff agrees and noted this in the original report. This item was also raised by the MPCA.

I

EPA states that "The EIS should address not just the primary effects on air pollution directly attributable to highway producers, but also the direct and indirect sources of air pollution that are likely to follow as a result of the growth induced by I-394 accessibility." Staff agrees and notes that this should be done even if the highway as planned is not built. The air and noise consultant to HNTB indicated that this was not done, because of that task not being funded.

Of particular significance in an area wide air analysis would be the consideration of the Ridgedale Shopping Center area. Major interchanges may also require a review. Area air analyses for the shopping center and major interchanges differ from the conventional modeling of transportation as a line source of air pollution.

J

Item F

In response to the comments received on the Draft EIS/ Section 4(f) Statement, a comprehensive water resources study was made for the I-394 corridor. A separate Water Resources Assessment has been prepared and is briefly summarized in the Final EIS. The Water Resources Assessment includes information on surface and subsurface water resources, vegetation, wildlife habitat, and geological formations in the I-394 corridor. This report also identifies potential impacts and includes recommendations for mitigation measures. This report has been reviewed by the Minnesota Pollution Control Agency, the Minnesota Department of Natural Resources, and the Minneapolis Park and Recreation Board, and is available to interested parties upon request to the Golden Valley District Office of Mn/DOT.

Among the findings of the Water Resources Assessment are the identification of certain wetlands as being suitable for use as ponding areas and a recommendation that additional ponding areas be created. The Report also recommends that highway runoff not be discharged into areas where it might degrade groundwater or any wells.

Also, a separate "Wetland Finding" has been prepared and is attached to this FEIS.

Item G

The determination that no rare or endangered species would be threatened by I-394 was made based on the Endangered Species Act of 1973 (Public Law 93-205; 87 Stat. 884).

Item H

See response to EPA comment "A".

Item I

Calculations have been made for both 1-hour and 8-hour emissions. Summaries of both are on page 155 of this FEIS.

Item J

The secondary sources of air pollution can only be addressed in a general way, not because of funding problems, but because the methodology for making such predictions accurately does not exist and because predictions as to the amount of growth induced by I-394 are so speculative. The analysis of impact on air quality of major new developments in the I-394 corridor is best handled on a project-by-project basis, as it is by the MPCA indirect source permit process. See also response to EPA comment "A".

(2) Significant noise impacts

EPA states that "Noise abatement measures that will reduce traffic noise to acceptable limits should be discussed..." Staff agrees; this expanded discussion should be on the final EIS. The noise impact can be solved and perhaps most appropriately in the roadway design stage, however, a further discussion of noise in the EIS is worthwhile, especially in outlining the alternatives of relief for the impacted homes. **K**

(3) Air/Noise Analyses and Abatement Plans

EPA states that "Numerous variations of line source models exist which may produce considerably different results depending on the assumptions used." Staff agrees and suggests that the modeling procedure used be better documented in the EIS. It should be noted that EPA has not released their calculations nor the assumptions which they used. The EIS air analysis considered a "worst probable" situation.

EPA's statement that the air pollution effects of the "do-nothing" alternative were possibly over-estimated are not substantiated. Although effects for mixing height should be examined, the influence would probably be minimal.

Wide differences in air pollution modeling can occur with minor variations in assumptions. Emissions are a direct function of speed; congestion and idling conditions create an entirely different situation than usually arrived at by assuming free-flowing traffic. Further analyses by the MHD regarding potential congestion periods should be accomplished, however it should be noted that the probability of combining all factors which would relate to adverse air quality is low.

The project will probably have to be reviewed under the requirements of "indirect source" regulations, which are soon to be adopted by the MPCA. EPA, as of 1 July '74, will provide technical assistance in reviewing "indirect sources" for their impact on air quality. An analysis for HC and NO_x should also be accomplished, since these pollutants must be examined under the requirements of the "indirect source" regulations. **L**

The project must also be consistent with an "Air Quality Maintenance Plan," which the MPCA is required to adopt and submit to EPA by June, 1975. **M**

Item K

The revised noise analysis which was prepared for the FEIS finds that highway-generated noise can be abated to meet FHWA DNL in all residential and parkland areas.

Item L

See response to EPA comment "A".

Item M

It has been determined that proposed I-394 is not inconsistent with Minnesota's State Implementation Plan.

A further discussion of noise abatement alternatives should be provided in the final EIS. Specific details, however, would not be available until the design stage.

(4) Incompatibility with Federally approved Transportation Contr Strategies.

EPA expressed concern about the effect of I-394 on the approved strategies of the Transportation Control Plan for downtown Minneapolis -- and that I-394 could induce the construction of the Third Avenue North Distributor in Minneapolis

Minnesota's transportation control strategy No. (3) specifically proposes the construction of parking facilities located at the fringe of the Minneapolis CBD to intercept incoming CBD traffic, with a shuttling method from the parking lots to the CBD. The I-394 Third Avenue North Distributor is an essential elemen of this strategy -- because its major function is to collect and distribute CBD traffic to the parking ramps, specifically from I-394.

(5) Evaluation of Other Alternatives

A discussion of the alternatives of mass transit alone and mass transit plus upgrading Highways 7, 12, 55, 18 and 100 is given in Section VIII of this report. A major problem with either alternative is the severe negative impact on Highway 12 -- noise, safety, drainage, pollution -- which neither alternative addresses.

A general comment regarding EPA's (and others) review of this project is the lack of recognition to a significant degree that Highway 12 exists -- and exists in an environmentally unacceptable manner. It is not therefore a question of building a highway or mass transit -- which would significantly change the EIS.

MPCA

The Minnesota Pollution Control Agency raised many of the same issues as EPA and in addition questioned the population and employment projections.

The MHD Corridor Studies basically utilized the Metropolitan Council's EMPIRIC model figures produced in the 1970-1971 period. The EMPIRIC model data for the area as a whole and for the Hennepin County suburban communities coincides thus with figures generated by the Council. In the case of the City of Minneapolis, the Howard Needles' study appears to have made some modification of the EMPIRIC figures by revising them slightly upwards. It should be noted that at the time the EMPIRIC model figures were produced there was substantial skepticism as to the final figures developed for both Minneapolis and St. Paul, with many people questioning whether they were not already on the high side. At the time of the preparation of the EMPIRIC population

figures, the Council had already endorsed the concept of substantial redevelopment to higher densities in both central cities and projects such as Cedar Riverside, the Gateway, Housing Developments in Minneapolis and Kellogg Square in St. Paul were either under development or in advanced stages of planning and programming. Thus, assumptions as to future substantial redevelopment in and around the two central cores had already been made and inserted into the EMPIRIC population projections. Developments announced since the early '70's, such as Loring-Nicollet and the Burlington Northern Project in Minneapolis and the Old Town Development in St. Paul, simply substantiate assumptions made three to four years earlier as to what, hopefully, would take place in the central cities.

Public Works Phone 935-3381 320 Washington Av. South, Hopkins, Minnesota 55343

HENNEPIN COUNTY

20 March 1974

Mr. Paul G. Velz
Road Design Engineer
Rm. 612 State Highway Building
Minnesota Department of Highways
St. Paul, Minnesota 55155

Dear Mr. Velz:

RE: Draft Environmental Section 4(f) Statement for Interstate 394 in Minneapolis, Golden Valley, St. Louis Park and Minnetonka

We have reviewed the above referenced statement and offer the following comments:

A One of the basic assumptions of this project is that by 1995 50% of the person trips in the corridor will be using transit. Consequently, it is proposed to construct only sufficient travel lanes to accommodate 50% of the person trips in private automobiles. We assume the sound and air pollution calculations were made on the basis of traffic flowing smoothly at 50 miles per hour. The report does not discuss in sufficient detail the rationalization behind the assumption that 50% of the person trips will be using transit and the consequences of the resultant congestion should this estimate be optimistic.

B Would the objective of the Highway Department be to maintain stable traffic flow by such means as ramp metering and if so, has the effect of vehicles queuing at an entrance ramp been taken into account?

On page 1-2, third paragraph, there is a reference to the three types of interchanges contemplated for providing access to I-394; freeway to freeway, freeway to arterial streets and land access. We assume the land access interchange describes the interchange proposed for the Ridgedale Shopping Center. The County's position with respect to this element of the design has been stated before. We are opposed to the construction of freeway interchanges whose sole function is to serve a private development.

C On page 1-8, Figure 1 shows the 1971 peak hour congestion and accident rates. The title for Figure 1 indicates only the 1971 peak hour congestion. The units for the accident rate should also be given.

D On page 1-9, in the paragraph dealing with County Road 18, there is a reference to the signalized intersection at Minnetonka Boulevard and County Road 18. This intersection is not signalized. There are in fact, three signalized intersections in the vicinity of Trunk Highway 7, not four as indicated in the text. The three signalized intersections are at Trunk Highway 7, Minnetonka Mills Road and Excelsior Avenue.

E On page 1-50, in the fifth paragraph, there is a statement that the carrying capacity of a two lane arterial road with signalized intersections is about 10,000 vehicles per day. The capacities of signalized two lane arterial roadways do vary considerably according to the number of turning movements at the intersections and the number of driveways between them as well as other factors. However, in Hennepin County we use the figure of 7,000 vehicles per day as a general figure for the capacity of two lane county roads. When the volumes reach this figure, we program a widening to four lanes. We would like to draw your attention to Table C-5, page 134, "A Policy on Arterial Highways in Urban Areas" published by AASHO, 1957. This table indicates that the capacity for a two lane major street with high volumes of cross and turning traffic requiring signal control is between 3,000 and 6,000 ADT. Where there are low volumes of cross and turning traffic and generally without traffic signal control, the range is from 5,000 to 9,000 ADT. We therefore believe the figure of 10,000 vehicles per day is high and it is not consistent with the policies of the County Highway Department.

F On page 1-51, Exhibit 19, that the 1995 highway auto person trips capacity for the three north-south freeways, I-494, County Road 18, Trunk Highway 100, are all 109,000. The only similarity between the three freeways is that they are all four lane facilities, however, Trunk Highway 100 was constructed several years ago to geometric standards which would not be considered today. County Road 18 was designated as a "modified urban freeway" by the County Board at the time the decision was made to upgrade this roadway to freeway status. The intent was to provide a facility with limited access but which fell short of the design standards being used on interstate freeways. Consequently interchanges are relatively close to each other and in several cases interchange configurations are unconventional. I-494 is a newcomer and is an extremely modern freeway with high geometric standards. Consequently, we do not believe that all three should have the same capacity rating. County Road 18 was designed to handle 50,000 ADT according to the System 14 1985 projections. The statement would indicate that it has a capacity of almost 70,000 vehicles per day (based on 109,000 person trips at 1.75 people per car). We believe this figure is high. We also note that on page 4-1, the third paragraph contains the statement that 80,300 person trips are equivalent to four freeway lanes. This figure is quite a bit lower than the 109,000 shown on Exhibit 19 but is more in line with our estimate of the capacity of County Road 18.

G On page 4-34 the text refers to Table 22; we believe this reference should be to Table 19.

H Finally, we believe the statement should consider the effect the proposed roadway would have on other highway facilities in the area, particularly the feeder routes interchanging with proposed I-394, Trunk Highway 100, County Road 18 and Interstate 494. Little consideration seems to have been given to the effect on these roads, particularly

RESPONSE

Item A

Traffic projections for I-394 have been completely reanalyzed and modified from those presented in the DEIS. As a result, the noise and air quality analyses were also redone and are presented in the FEIS.

Item B

Ramp metering will be incorporated into the design of I-394. Queuing will not be a major problem and should not cause any significant impacts. However, during the design stage, the capacity of each interchange will be studied and the appropriate design features will be provided.

Item C

The units should have been labeled "accidents per million vehicle miles."

Item D

That is correct - the DEIS incorrectly stated that there were four. The discussion of CR 18 in the FEIS has been changed to reflect recent improvements in the route and the reference to signals has been omitted.

Item E

The statement to which you refer states that a two-lane arterial highway can normally be expected to handle as many as 10,000 vehicles per day. However, this does not mean that every such highway can handle that much traffic nor that some highways cannot handle more. In fact, some two lane highways with signalized intersections in the metropolitan area have carried more than 15,000 vehicles per day. At any rate, the reference to 10,000 vehicles per day is intended to indicate an approximate capacity.

Trunk Highway 100 and County Road 18. The problems on County Road 18 will be felt over a much longer distance than that indicated by the primary impact area. It is an oversimplification of the problem to identify a band two miles wide as the primary impact area. The impact will be felt north and south along both Trunk Highway 100 and County Road 18 for a distance much greater than one mile.

Very truly yours,

Herbert O. Klossner, P.E.
County Engineer

HOK:DJG:jb
cc: Al Hultine, MHD Central Office
C. E. Weichselbaum, MHD, District 5

Item F

This analysis is correct - the capacities on SR 100, CR 18, and I-494 are not the same. The DEIS was attempting to demonstrate the relative adequacy of these roads, and incorrectly stated that the capacities were the same. The FEIS has eliminated reference to 24-hour total person trips, referring instead to relative operating conditions on the routes referred to.

Item G

We agree.

Item H

Traffic volumes on I-494 are presently below capacity and no operational problems exist which would preclude the addition of the normal increases in traffic anticipated.

Traffic volumes on CR-18 are increasing but the only major problems occur between approximately US-12 and SR-55 where heavy congestion occurs during peak periods. Improvements to CR-18 in this area in conjunction with I-394 are expected to alleviate this problem.

SR 100 is presently congested. This is due in part to the high volumes of traffic on SR 100 and the interchange with US 12. The interchange improvements proposed as a part of I-394 will improve the operation of SR 100 in this area.

City of Minneapolis

DEPARTMENT OF PUBLIC WORKS

March 1, 1974

Mr. Paul G. Velz
Road Design Engineer
Minnesota Department of Highways
Saint Paul, MN 55101

RE: 330 FHWA-Mn-EIS-73-09-D
Draft Environmental/Section 4 (f)
Statement Minnesota Project I 394-6(1
226 State Project 2789 (I-394)
Interstate I-394 on U.S. 12 Corridor

Dear Mr. Velz:

As the principal staff person concerned with highway planning for Minneapolis, I commend the Minnesota Department of Highways staff for their responsible efforts in developing a very comprehensive and complete study for a transportation corridor linking the CBD of Minneapolis to its western suburban communities. The study reinforces our support of a trunk highway corridor that follows the basic alignment of the present Trunk Highway 12 described as Alternate 2 in the study. However, we cannot support or justify the acquisition of additional land solely for providing exclusive busways, railways, or other mass transit vehicles within this corridor. Neither do we feel that it is prudent to build an expressway with total capacity greater than six lanes.

The existing and projected population density areas would indicate that a transportation system solely for the moving of masses of people should be along a corridor in the vicinity of Trunk Highway 7 to the southwest and on a northwesterly diagonal between Trunk Highways 52 and 55. It is apparent that Trunk Highway 12 is not located within an area of population dense enough to justify mass transit on a separate right-of-way suited to the operation of a mass transit system using a separate right-of-way. **A**

It would be desirable if the design of I-394 could incorporate preferential access ramps to accommodate multi-passenger vehicles with metering of other access points. The proposed highway should be constructed essentially within the present right-of-way now existing in the Bryn Mawr area. **B**

While the Trunk Highway 12 corridor is not well suited for a mass transit system, it is an important link in our transportation system for the combined movement of people, services, and goods through western Minneapolis and the western suburbian communities. It is an improvement that is long overdue and has had considerable study and community interaction and we do urge that we now proceed into the design of the highway facility.

Very truly yours,

Clayton A. Sorenson, P.E.
City Engineer - Director of Public Works

cc: Mr. Lee Munnich,
Alderman Seventh Ward

RESPONSE

Item A

This is discussed in the FEIS beginning on page 71.

See response to MPCA comment "F".

Item B

This preferential access with metering will be provided. No substantial amounts of additional right of way will be needed through the Bryn Mawr area.

Rec

Park and Recreation Board • 250 South Fourth Street • Minneapolis, Minnesota 55415

February 25, 1974

Mr. Paul G. Velz
Road Design Engineer
Minnesota Highway Department
St. Paul, Minnesota 55155

Re: 330
FHWA-Mn-EIS-73-09-D
Draft Environmental/Section 4(f) Statement
Minnesota Project I-394-6(1) 226
State Project 2789 (I-394)
Interstate I-394 on U.S. 12 Corridor
in the Cities of Minneapolis, St. Louis
Park, Golden Valley and Minnetonka
Hennepin County
From I-94 (Hawthorne Interchange) to I-494

Dear Mr. Velz:

Thank you for your letter of January 2, 1974 which transmits the Draft Environmental/Section 4(f) Statement for Interstate 394.

We have reviewed the document and the route alternatives outlined. Under separate cover in response to a letter from Mr. William Crawford (reference: 315 S.P. 2789-01 (T.H. 394) we are describing our comments and statements on the specifics of the alternatives outlined and wish to incorporate those comments and statements as a part of this response to the Draft Environmental/Section 4(f) Statement and this letter as a part of the statement on alternatives. **A**

In specific comment on the Draft Environmental/Section 4(f) Statement, we are not professionally qualified to speak on the data collection regarding such impacts as noise, air pollution, and traffic volumes, but we do have reservations on the adequacy of portions of the Statement, as follows:

I. Section 4(f) of the Draft Environmental/Section 4(f) Statement deals only with Theodore Wirth Park. The Statement does not incorporate any anticipated encroachment upon Bryn Mawr Meadows, Spring Lake, or the Parade. All parks mentioned have been designated as having at least local significance and collectively (as integral parts of an interconnected system) have metropolitan-wide open space and recreational **B**

PRESIDENT: Alden C. Smith
SUPERINTENDENT: Robert W. Ruhe
SECRETARY: Del Green
ATTORNEY: Edward J. Gearty

COMMISSIONERS:
Benjamin Berger
Dale W. Gilbert
Patricia Hillmeyer
William I. Holbrook
Leonard H. Neiman
Orvin Olson
Daniel E. Peterson
Alden C. Smith
Jeffrey B. Sparks

Mr. Paul G Velz -2- February 25, 1974

significance. Thus, can we assume no taking of park lands is anticipated? The law, as you know, requires a specific Section 4(f) Statement on any park land encroachment. **B**

II. The Environmental Statement in the Draft Environmental/Section 4(f) Statement, we believe, has not deal with the negative environmental effects of saline highway runoff. While some discussion has been presented as to the chemical and ecological effects of increased saline concentrations in the lakes within the I-394 impact area, the discussion has omitted reference to the ecological and limnological effects of meromixis caused by the input of saline highway runoff. Meromixis presents a negative ecological effect already at Spring and Brownie Lakes due to saline runoff from Highway 12. It is, therefore, imperative that meromixis also be thoroughly dealt with on Cedar, Brownie and Spring Lakes. Also, Spring Lake has been completely ignored in the simpler ichthyological and chemical discussion of the Statement. **C**

III. The Environmental Statement in the Draft Environmental/Section 4(f) Statement fails to deal with the negative environmental effects of salt spray upon plant life, structures, and other amenities. The use of salt on highways has been observed by us to have a detrimental effect upon adjacent parks and street trees under our jurisdiction. In addition to this general observation, our staff can specifically testify to the adverse effects of salt spray from Highway 12 on the natural fauna and flora of Spring Lake environs, which has been designated as a protection open space. It would appear that any upgrading of highways in this area would result in increased salt spray on not only Spring Lake but also on Cedar Lake, Eloise Butler Wildflower and Bird Sanctuary in Theodore Wirth Park, and other park areas and street trees.

We believe, therefore, that these inadequacies must be dealt with before we can completely assess their full impact on the parks and lakes of Minneapolis.

Sincerely,

Robert W. Ruhe
Superintendent

cc W. Crawford
K. Anderson
K. Flasky - D. Jessup
A. Hulbine

RWR:eo

RESPONSE

Item A

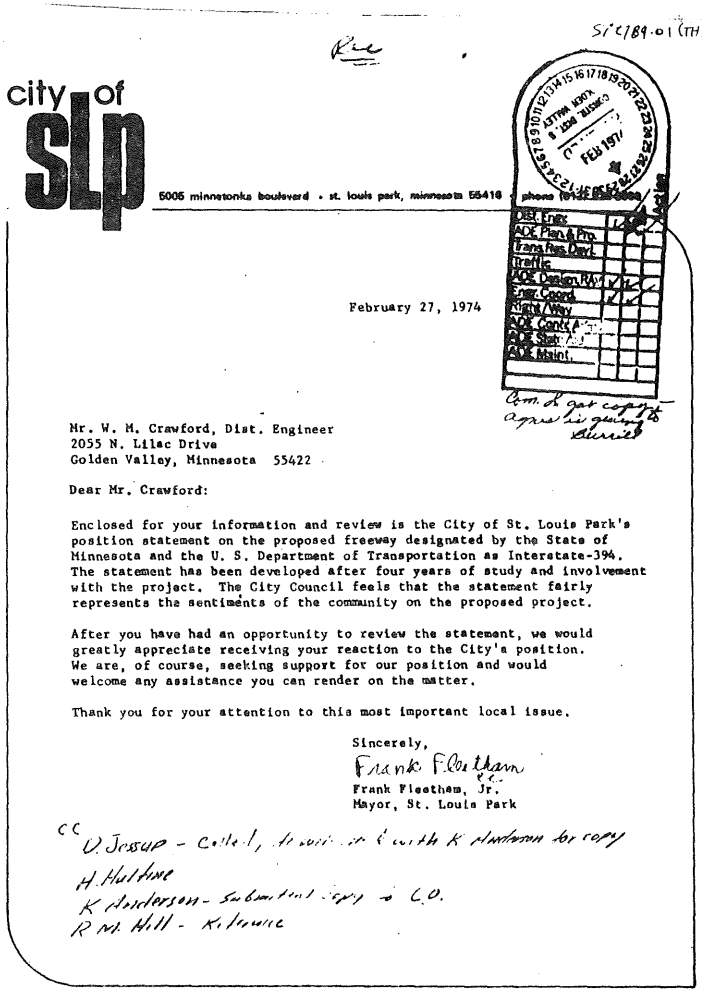
The MPRB's comments referred to in this paragraph have been included in the comments section.

Item B

It is not now anticiapted that any land will be required for I-394 from Bryn Mawr Meadows, Spring Lake or the Parade.

Item C

The water quality study contained in the DEIS has been redone and is summarized in the FEIS on page 212. Also, a separate Water Resources Assessment has been prepared which contains a detailed analysis of the impacts I-394 will have on the water resources of the area. The Water Resources Assessment is available from the Golden Valley District Office of Mn/DOT. The items of concern expressed here are also discussed in the Section 4(f) Evaluation which is attached to the FEIS. The I-394 proposal will continue to be coordinated with MPRB throughout all project development phases.



city of SLP

5005 minnetonka boulevard • st. louis park, minnesota 55416 • phone (612) 920-3000

February 27, 1974

Mr. W. M. Crawford, Dist. Engineer
2055 N. Lilac Drive
Golden Valley, Minnesota 55422

Dear Mr. Crawford:

Enclosed for your information and review is the City of St. Louis Park's position statement on the proposed freeway designated by the State of Minnesota and the U. S. Department of Transportation as Interstate-394. The statement has been developed after four years of study and involvement with the project. The City Council feels that the statement fairly represents the sentiments of the community on the proposed project.

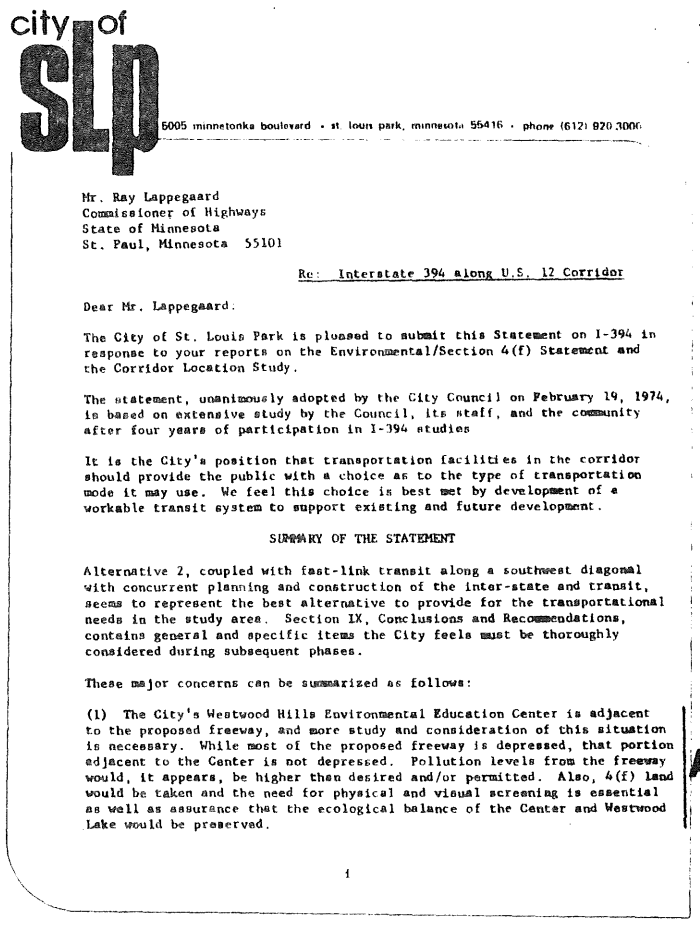
After you have had an opportunity to review the statement, we would greatly appreciate receiving your reaction to the City's position. We are, of course, seeking support for our position and would welcome any assistance you can render on the matter.

Thank you for your attention to this most important local issue.

Sincerely,

Frank Fleetham, Jr.
Mayor, St. Louis Park

cc W. Jessup - Collect, to will in Smith K Anderson for copy
H. Halftime
K Anderson - Submittal copy + C.O.
R M. Hill - Kilometric



city of SLP

5005 minnetonka boulevard • st. louis park, minnesota 55416 • phone (612) 920-3000

Mr. Ray Lappegaard
Commissioner of Highways
State of Minnesota
St. Paul, Minnesota 55101

Re: Interstate 394 along U.S. 12 Corridor

Dear Mr. Lappegaard:

The City of St. Louis Park is pleased to submit this Statement on I-394 in response to your reports on the Environmental/Section 4(f) Statement and the Corridor Location Study.

The statement, unanimously adopted by the City Council on February 19, 1974, is based on extensive study by the Council, its staff, and the community after four years of participation in I-394 studies.

It is the City's position that transportation facilities in the corridor should provide the public with a choice as to the type of transportation mode it may use. We feel this choice is best met by development of a workable transit system to support existing and future development.

SUMMARY OF THE STATEMENT

Alternative 2, coupled with fast-link transit along a southwest diagonal with concurrent planning and construction of the inter-state and transit, seems to represent the best alternative to provide for the transportational needs in the study area. Section IX, Conclusions and Recommendations, contains general and specific items the City feels must be thoroughly considered during subsequent phases.

These major concerns can be summarized as follows:

(1) The City's Westwood Hills Environmental Education Center is adjacent to the proposed freeway, and more study and consideration of this situation is necessary. While most of the proposed freeway is depressed, that portion adjacent to the Center is not depressed. Pollution levels from the freeway would, it appears, be higher than desired and/or permitted. Also, 4(f) land would be taken and the need for physical and visual screening is essential as well as assurance that the ecological balance of the Center and Westwood Lake would be preserved. A

1

RESPONSE

Item A

No land from the Westwood Hills Environmental Education Center is necessary for I-394 right-of-way. No air quality standards violations are anticipated in the center, and noise abatement of any highway-generated noise which violates applicable standards in the Center appears feasible. Mitigation of any other potential impacts will be coordinated with Saint Louis Park officials.

Item B

The reservation of a 50-foot median for transit is no longer a part of the I-394 proposal.

Item C

Access to local land uses along I-394 is presently being studied and coordinated with the City.

(2) Pollution of all types must be kept to a minimum and the environment enhanced.

(3) The width of the proposed facility has a great impact on St. Louis Park and adjacent areas; the reservation of a 50' median for transit is not warranted and that should be eliminated with necessary transit facilities located elsewhere in the corridor. B

(4) Further study of access points is necessary, especially at Louisiana, Hampshire, Colorado Avenues and Cedar Lake Road. C

(5) The frontage roads need substantial additional study and alternative designs need to be prepared relative to their location, width, use, access and traffic direction. D

(6) The impact of the freeway on Highway 100 will be substantial and attention must be given to the interchange with Cedar Lake Road and the intersection of W. 36th Street and Highway 100. E

(7) Movement of pedestrians across the proposed freeway and adjacent routes (i.e. T.H. 100 and County Road 18) is mandatory at key points. F

(8) The general aesthetics, pollution and noise for the four-level interchanges is a major concern.

(9) The City expects excellence, imaginative design for both freeway and transit components. G

(10) The City seeks full involvement and participation in all design studies for both freeways and transits and all other subsequent steps associated with the proposed I-394.

The City is thankful for the opportunities to participate in this study, and it appreciates your consideration of our suggestions and finding.

BY DIRECTION OF THE CITY COUNCIL

Sincerely,

Frank G. Fleetham, Jr.
Mayor

Item D

Improvements to SR 100 in the project area are proposed by Mn/DOT. These improvements are part of the I-394 proposal and are proposed to take place within approximately the same time frame.

Item E

Pedestrian facilities will be included in all grade separations between I-394 and local streets or roads where impacts have been identified. This is discussed on page 90 of the FEIS.

Item F

The design of all interchanges is being re-studied and coordinated with the City.

Item G

All municipalities will continue to be consulted during the development of I-394 and their concerns will be incorporated into the final planning.

city of SLP
5005 minnetonka boulevard • st. louis park, minnesota 55416 • phone (612) 920-3000

Mr. Ray Lappegaard
Commissioner of Highways
State of Minnesota
St. Paul, Minnesota

Re: Continuation of Local Input and Participation - Highway Planning

Dear Mr. Lappegaard:

In the event that the decision is made to proceed with the design of I-394, the City Council of St. Louis Park strongly urges the State Highway Department to carefully solicit local input from all segments of the affected communities, especially from the Planning Commissions and local municipal councils. It is through these latter municipal bodies that the people may reflect their views and local policies made for the betterment of the communities involved.

We thank the Commissioner and his staff for the cooperation received in the over-all study and review of the corridor proposals. Through this method of local input and participation, better decisions which affect the people we serve are assured. Whatever method is followed from this date on, we urge the Highway Commissioner to guarantee a close working relationship with local communities in highway planning by committing a review process similar to the process followed thus far on the I-394 corridor studies and as outlined in Chapter 312 of the Minnesota Statutes.

Respectfully,

Frank C. Fleetham, Jr.
Mayor, St. Louis Park

TABLE OF CONTENTS

	Page No.
*LETTER OF TRANSMITTAL/SUMMARY OF STATEMENT	i-ii
*TABLE OF CONTENTS	ii
*STATEMENT	
I. BACKGROUND	1
II. REPORTS/RESOURCE DATA	2
III. COMPREHENSIVE PLANS	2
IV. TRANSPORTATION/CIRCULATION CONCEPTS	3
V. BASIC OBJECTIVE	3
VI. ALTERNATIVES Alternative 1 Alternative 2 Alternative 3 Alternative 4 Limited Improvement Alternative Other Alternatives	4
VII. EVALUATION OF ALTERNATIVES Alternative 1 Alternative 2 Alternative 3 Alternative 4 Limited Improvement Alternative	5
VIII. TRANSIT AND I-394	7
IX. CONCLUSIONS/RECOMMENDATIONS General Specific	9
X. CONTINGENCY CLAUSE	14
*EXHIBITS 1. Maps of Alternative 2 2. Park Impact Statement 3. Resolution No. 4973, Supporting Alternative 2	

I-394
REPORT ON CORRIDOR LOCATION STUDY,
ENVIRONMENTAL IMPACT STATEMENT
AND SECTION 4(f) STATEMENT

I. BACKGROUND

Trunk Highway 12 (Wayzata Boulevard) has been a major radial transportation facility for many years. Throughout the years many changes were made in design, alignment, and access. In 1967 and 1968, preliminary plans for upgrading Highway 12 to freeway standards (Layout 14) were reviewed by the Highway Department and affected municipalities, and were considered generally acceptable. However, before implementation of that plan, the State Highway Department in July of 1967 requested that a 9.4 mile section of Highway 12 from I-494 to the vicinity of Washington Avenue in Minneapolis be added to the interstate system. This was done because the Federal funding participation for an interstate highway is 90 percent with the State paying the remaining 10 percent. Whereas, non-interstate facilities can only receive 50 percent funding from Federal highway sources.

The request was denied in 1967 because of unavailable mileage on the interstate system. However, in 1968, additional interstate mileage was added and the state renewed its request. On December 13, 1968, Federal approval of the request was granted, and I-394 became a part of the interstate network.

In early 1970, the Minnesota Highway Department, through its consultants, made initial contact with the City to gather background information and to receive comments in order to prepare necessary studies and plans to implement construction of a new interstate facility.

The City Planning Department, Engineering Department, and numerous other agencies and organizations participated in reviewing study reports and provided the consultant with information and made suggestions. After the study was underway, a Citizens Advisory Committee was established to gain input from various citizens throughout the study area. A Technical Advisory Committee was established to gain information and technical advice from public planners and engineers in the study area. A Project Management Board was established to coordinate and govern the activities of the study. After several years of study and completion of several study documents, it appears that a decision is near on the need for and location of a new interstate highway.

Two major study documents are required for an Interstate Highway. The first one is that the entire transportation corridor must be studied and alternative corridor proposals must be identified and evaluated. This study was completed and is identified as the Corridor Location Study - Interstate 394. The second document is the Environmental and Section 4(f) Statement which was recently completed. Because of the intensive concern about transit and the opportunities and advantages provided by mass transit, extensive transit studies were also made.

The purpose of this report is to provide a basis for review and analysis of the corridor location study document and the Environmental and Section 4(f) Statement, especially as they affect St. Louis Park and the existing and proposed development for St. Louis Park as embodied in various plans, goals and objectives for the community.

II. REPORTS - RESOURCE DATA

In preparing this report, the information provided by the consultant, the various committees involved in the study process, and the documents prepared by the Transportation Planning Program were all taken into account. Information contained in previous reports prepared by the City were also taken into account. The City's Comprehensive Plan, neighborhood studies and other area-wide studies were some of the other studies which were considered in preparing this report.

III. COMPREHENSIVE PLANS

The City's Comprehensive Plan provides for integration of physical, social, and economic development proposals, transportation/circulation proposals, and community facilities within the community. The plan sets forth the desired relationship that each of these should have to the others in order to guide and direct growth, development, and preservation of the city. All physical development, especially transportation facilities and decisions, should be consistent with community and metropolitan-wide plans. The City's approved Comprehensive Plan designates Highway 12 as a freeway and the City's thoroughfare and collector system is integrated with the proposed freeway. Development policies, goals, and objectives of the community are also directly related to a freeway facility on Highway 12. Automated mass transit has been discussed and promoted in several comprehensive planning studies.

The Metropolitan Council's plan for the metropolitan area has generally incorporated a major transportation corridor along Highway 12.

IV. TRANSPORTATION/CIRCULATION CONCEPTS

In the past, transportation/circulation concepts and improvements have been severely limited because of funding procedures, administrative problems, and special single purpose agencies within the transportation field itself. Use of transportation funding and other resources to develop a balance system offering a choice in modes is an encouraging trend which is now a reality. Interstate funds can be spent for transit, and interstate facilities need not look like the traditional images one attaches to interstate freeways.

The new transportation bill provides increased funding for non-freeway type facilities and it also permits use of transportation funds for mass transit. An automated mass transit system could be included to serve the corridor, but its actual location could be on a separate alignment from I-394. In this way, a truly balanced transportation system to meet transportation needs of the corridor area and to provide a new choice in transportation modes can be provided. Opportunities of this nature should be emphasized and continue during the next several years.

V. BASIC OBJECTIVE

The basic objective of the City of St. Louis Park relative to transportation planning and other physical, social, and economic development along the Highway 12 corridor and its relationship to the remainder of the community and the area is:

> Transportation facilities in this corridor are to be directed toward achieving a combination of a choice in transportation mode together with development of a modern, automated fast link transit service between St. Louis Park and Minneapolis and surrounding areas. The facilities must serve and support existing and future development as envisioned on the City's plans during the next 20 years or more and the transportation trips generated from such development. At the same time, these facilities should minimize adverse environmental or other conditions, improving the safety for persons regardless of their mode of travel, and improve the aesthetic and environmental conditions in the community.

It is the hope of the City that all parties interested in I-394 could accept the above as the basic objective for the planning of the future freeway.

VI. ALTERNATIVES

Several alternatives for improvement of the transportation corridor were presented and advanced by various participants in the transportation planning process. These alternatives are summarized below:

Alternative 1 (U.S. 12 - Split Alignment). The eastern terminus of this alternative is the intersection of U.S. 12 with the Hawthorne interchange just west of the Minneapolis Central Business District (CBD). The route would proceed westerly along the existing U.S. 12 alignment as far as Penn Avenue. At Penn Avenue, the east-west bound lanes would split and only westbound traffic would remain on the existing U.S. 12 alignment to Highway 100. From this point the westbound lane would begin a northerly swing to avoid the commercial and industrial complex along U.S. 12. The northwesterly direction of this split would intersect Turner's Crossroad in the vicinity of Laurel Avenue in Golden Valley. At this point the route would descend southerly toward U.S. 12 tying in with the present alignment of Highway 12 at Winnetka Avenue in Golden Valley.

From Penn Avenue westward the eastbound lanes would parallel the Burlington Northern railroad tracks to Highway 100. From Highway 100 the southerly split of the eastbound lane would rise in a northwesterly direction approximately along Cedar Lake Road west of the Honeywell facility on Zarthan Avenue. The eastbound lanes would tie in with the existing U.S. 12 alignment at Colorado Avenue in St. Louis Park continuing along to Highway 12 to approximately Winnetka Avenue. At which time the lanes would join each other and continue westward on essentially existing Highway 12.

Alternative 2 (I-394 on Highway 12). This route would follow existing Highway 12 alignment from the Hawthorne interchange to approximately Texas Avenue at which point it would depart slightly to the south, paralleling the present alignment as far as County Road 18, at which point it would return to the existing Highway 12 alignment to its western terminus at I-494.

Alternative 3 (I-394 Bypass of Highway 12). Alternative 3 places both the eastbound and westbound lanes on approximately the same southerly route as the eastbound lane of Alternative 1, split alignment. In other words, from approximately Penn Avenue the route would swing in a southerly direction paralleling the Burlington Northern railroad tracks to approximately

Highway 100 at which point the route would swing northwesterly along Cedar Lake Road and pass the Honeywell plant rejoining Highway 12 at approximately Colorado. From there the route would be identical to Alternative 2. Alternative 3 is actually divided into two choices, A and B. Alternative 3A would go through the Blackstone neighborhood, removing the homes and all of the population in this area. Whereas Alternative 3B would remove the Honeywell plant which employs over 1,000 people.

Alternative 4 (Do Nothing). This alternative would retain Highway 12 as it currently exists without modification or alteration.

Limited Improvement Alternative. This alternative recognizes that it is impractical to consider no improvement on Highway 12 and that should an interstate not be constructed, opportunity exists to make various improvements consistent with good engineering and planning principles and improvement of service and benefit to the communities.

Other Alternatives. Several other alternatives exist. The consultant identified four more alternatives. Golden Valley has promoted a so-called Golden Valley alternative, sometime described as Parkway 12. Other alternatives, which are essentially variations of existing alternatives have been discussed and considered. Because none of these alternatives seem to be as feasible or in concert with the transportation objectives, none are further discussed or described in this report.

VII. EVALUATION OF ALTERNATIVES

An evaluation of the alternatives reveals that Alternative 2 coupled with automated mass transit best meets the study objectives. It is the most consistent with the City's Comprehensive Plan and general planning, engineering, and transportation principles and objectives. Alternatives 1 and 3 are not considered and analyzed for detail to the extent that Alternative 2 is because Alternative 1 and 3 have major defects and are generally acknowledged to be unacceptable. A summary statement on the evaluation of each of the alternatives follows:

Alternative 2 (Alignment on Highway 12): Alternative 2 appears to be the best proposal set forth by the Highway Department in that it is the most consistent with the City's Comprehensive Plan and transportation and planning objectives.

In conjunction with the highway plan, it is important that provisions for automated transit facilities are given a priority equal to vehicular transportation improvements with an alignment along a southwesterly diagonal from Minneapolis Central Business District (CBD) through St. Louis Park. The need for, and benefits from, a 50 foot transit way in the center median is strongly questioned in terms of its benefit relative to right-of-way demands and cost. The City urges that alternative routes for transit be studied in conjunction with I-394.

An automated transit system with a southwesterly alignment is preferred and should be given priority. In general, Alternative 2 appears to be the best from the standpoint of minimizing noise and pollution. It provides the least amount of damage from a social and economic standpoint, and by some adjustment and further study consideration, the remaining visual problems, access problems, and damage to park lands can be minimized or eliminated. These concerns are elaborated upon in Section IX. Conclusions/Recommendations.

H

Alternative 1 (Split Alignment): Although this alternative keeps intact the existing transportation network along Highway 12 in the vicinity of Eigway 100, it has a drastic effect upon the social, economic and the circulation system of the Blackstone neighborhood and the Cedar Lake Road-Vernon area. Any benefits gained by retaining existing Highway 12 circulation as proposed in this alternative are more than lost by the split alignment to the south through the Cedar Lake Road - Blackstone neighborhood. Further confusion and problems with this alignment parallel to Cedar Lake Road are anticipated such as: noise pollution in the area is likely to be higher; driver orientation may be less because of the loss in simplicity and clarity of the system; the social impact, because of the loss of valuable property and restructuring of land uses in the Cedar Lake Road area, is considered to be as great as any gains in value attributable to the retention of existing 12; and, visual aesthetics are not considered to be as good as they are in other alternatives.

Alternative 3 (Bypass of Highway 12): Both Alternative 3A and 3B are found unsuitable because they are extremely disruptive to the social, economic, visual, and circulation conditions of the Cedar Lake Road-Vernon and Blackstone neighborhood areas. Driver orientation and circulation problems would be significant where the facility parallels Cedar Lake Road. The relocation of both business and families would be great. More right-of-way, where intense development is proposed would be required for highway purposes.

Alternative 4 (Do Nothing): This alternative is not acceptable because it is not only inconsistent with the City's Comprehensive Plan which provides for a freeway facility on Highway 12, but it also is unrealistic in that the need for upgrading is obvious. The existing traffic demands on Highway 12 cause much disruption to surrounding properties. The lack of adequate safety for the public is reflected in high accident rates which include many injuries and deaths. Congestion problems are extremely prevalent and the need to control access is paramount. The deteriorated condition of the pavement, and other factors that exist on Highway 12 make upgrading a necessity. In fact, preliminary plans for upgrading Highway 12 were considered several years ago and were near the point of being implemented. If conditions are in fact as indicated in the various reports and are as bad as they appear to be from observation, there is no question but improvement and upgrading of Highway 12 is necessary. If something is not done to improve Highway 12, parallel routes such as Cedar Lake Road will be disasterously affected by shifts in traffic. The many businesses located along the highway and dependent upon an adequate facility for their continuation must receive an upgraded facility.

Limited Improvement Alternative: This alternative appears to have some merit but not nearly as much as Alternative 2, which provides for automated transit in an outstanding and imaginative way. It precludes the opportunity to upgrade Highway 12 to freeway standards, limits available resources and could have a detrimental effect on parallel facilities such as Cedar Lake Road.

VIII. TRANSIT AND I-394

A review of the available transportation data clearly shows that an exclusive transit facility is needed and it appears not necessarily along the I-394 right-of-way. Trip projections to accommodate transportation needs in the study area for the next twenty years far outstrip the public's ability and willingness to accommodate such trips on existing or new freeways. For example, if the current level of transit remains about the same it is estimated that Highway 12 would have to be a twelve-lane freeway to handle the trips generated by the area. Thus, an exclusive transit facility is necessary to complement improvements on Highway 12. In addition, exclusive transit service provides more choice in transportation mode, is more efficient, and provides new opportunities in developing and preserving the community. At the same time, transit service increases the transportation opportunities for those who live and work in the area.

Item H

A light-rail transit alternative was studied and is discussed on page 71.

See response to MPCA comment "F".

Funding is also being increased for urban transit so that a balanced transportation system sensitive to the needs of the community is a realistic possibility. For example, the Federal Highway Administration recently indicated that communities may now substitute a transit project involving the construction of an exclusive transit facility where an interstate route has been approved. As part of the I-394 studies, a long-range transit improvement program was undertaken and three case studies of transit on exclusive guide-ways were examined and evaluated.

Case 1 consists of ten stations and 14.6 miles of guide-way providing two radials. One radial would extend from the Minneapolis central business district through St. Louis Park to Hopkins, generally paralleling the Milwaukee Railroad. The second radial would be on Trunk Highway 55.

Case 2 contained 24.5 miles in 16 stations with one east-west leg generally along Wayzata Boulevard and one north-south leg located slightly west of Highway 100.

Case 3 consists of 15.8 miles of guide-way with an east-west leg identical to that of Case 2, but with the second leg consists of buses operating in mixed traffic on a preferential facility along Highway 55.

Evaluation of these transit cases on the basis of the criteria indicates that Case 1 is superior. It appears, however, that there may be even better alternatives than Case 1. Other alternatives should be considered, or Case 1 could be combined with other facilities to better meet the transportation needs of the area.

Based on population, employment, growth, and development, as well as the current transportation difficulties and the limitation on transit funding, the highest priority should be given to constructing an exclusive transit facility from the Minneapolis CBD through St. Louis Park parallel to the Milwaukee Road.

The design for I-394 should not be completed without a decision on the exclusive transit facility to serve the area and acceptance of development guidelines for the study area as well as selection of a transit route. This will provide coordination of transportation facilities and optimum use of resources. If selection of the exclusive transit facility is not possible, the designs for I-394 should include extensive transit study so that all

reasonable transit possibilities can be discussed and analyzed on a coordinated basis with the highway. All efforts should be made to work toward construction of exclusive transit service before or concurrently with construction of I-394.

IX. CONCLUSIONS/RECOMMENDATIONS

It is the city's opinion that Alternative 2 is the best alternative to provide for the transportation needs in the corridor, provided there is equal priority for scheduling and construction of automated, fast-link transit along a southwest diagonal parallel to the Chicago, Milwaukee, St. Paul and Pacific Railroad. It is the city's position that a design for I-394 should include a decision on the regional transit system and location, the adoption of an acceptable Metropolitan Development Framework Guide, and the firm selection of transit routes.

If, however, work on the I-394 design proceeds without the above determination being made, the city strongly recommends that alternative designs for I-394 be developed which incorporate all reasonable transit possibilities as discussed, without excessive right-of-way needs.

The city's conclusions and recommendations are also contingent on design considerations for I-394 which are of extreme importance to the city and which must be thoroughly analyzed and resolved during the design stages. These considerations are listed below:

GENERAL CONSIDERATIONS

1. Highway 12 serves as a local-regional thoroughfare and this function as it pertains to St. Louis Park and other municipalities must be taken into consideration during the design stage. This consideration is especially important when designing the service roads and weighing the impacts of creating additional local, collector or thoroughfare streets in the city to fit the I-394 designs.

2. Good aesthetics, at least equal to the aesthetics now existing on Highway 12, must be provided for in final design and replacement of the parkway-nature area. Landscaped areas must be provided. Right-of-way should be kept to a minimum. Where possible, the landscaped areas and wildlife in the interchange areas and elsewhere which are not needed for roads or ramps and which can be retained without grade problems, should be preserved.

3. Equal priority in terms of funding and construction of automated transit must be provided.

4. Noise and pollution levels would be increased above those shown in the report should the service road be detached as shown in the plans for the interchange area of County Road 18 and I-394. It appears that the consultants have not considered frontage road detachment to the extent shown on the proposals when noise and pollution measurements were projected. I

5. Consideration should be given to construction a four lane interstate facility or six lanes without the center median of 50 feet to allow more room for proper landscaping, reduce costs, reduce the necessity for additional right-of-way and generate less noise and pollution. Proper attention and development of an automated transit service can be provided at other locations such as the southwest diagonal identified in Transit Case Study #1. J

6. Consider the feasibility of construction of the bus lane on the service road as a possible replacement for the bus lane in the median. Access to the service roads may be more convenient than access would be to the median strip and right-of-way needs can be reduced. In addition, more points of access to the bus could be provided along the service road. K

7. An express bus stop to provide service to the proposed bus route on County Road 18 should be incorporated in the design near West 16th Street and County Road 18, and at Betty Crocker Drive and County Road 18.

8. There is a need for traffic impact studies for local streets affected by I-394 or automated transit. L

9. Two way frontage roads must be considered because of the distinct advantages it provides for eliminating the possible use of local streets as thoroughfares and to improve driver orientation and simplicity for signing purposes and the like. M

10. Overpasses shall incorporate pedestrian and bike facilities with appropriate physical separations from the road.

11. If the traffic projections are reasonably accurate, the projections show that approximately 132,000 trips per day could be expected on Highway 100 N

south of Highway 12 compared to approximately 100,000 vehicles per day at Highway 12. There is a need to improve (but not necessarily widen) Highway 100 from Highway 12 to Excelsior Boulevard. These needed improvements should be given a high priority for future construction especially the ramps and access at Cedar Lake Road together with pedestrian links, bus plazas and other transit considerations at this point are of great concern. In addition, the recommendations in the already completed W. 36th Street-Highway 100 intersection study should be implemented with I-394. N

12. Treatment of drainage from freeway should be designed to minimize the entrance of contaminants such as salt, silt and oil based contaminants into adjacent properties especially Westwood Lake, Brownie Lake, Cedar Lake, and other public and natural wildlife areas. O

13. The city expects excellence, imaginative and innovative design for both the freeway and transit components, and it seeks full involvement and participation in the design stages.

14. The city, its residents and businessmen do not expect to pay any direct or indirect, tangible or intangible cost relative to the construction of I-394 and any of its associated development or improvements.

SPECIFIC CONSIDERATIONS (Arranged in order from east to west)

1. Deletion of the ramps at Glenwood Parkway is questioned because of the current use and function that these ramps provide. Limiting access to Penn does not seem to provide adequate service. P

2. There have been previous discussions about extension of Cedar Lake Road to France Avenue to tie in with the frontage road in front of Prudential. This proposal was not accepted by the municipalities and would, of course, require cooperation on the part of several agencies. Q

3. Reconstruct the bridge at Cedar Lake Road and the Burlington Northern tracks to provide for pedestrian movement between the Lake Forest neighborhood and the Jewish Community Center--Cedarhurst Neighborhood.

4. The design of Highway 100 south of Highway 12 is of major concern because of the high volumes of traffic anticipated and the unsatisfactory interchange R

Item I

All interchange locations and configurations have been re-studied. The Noise Analysis which was prepared for this FEIS recommends noise abatement measures past all residential and recreational land uses where highway-generated noise exceeds standards.

Item J

A light-rail transit alternative was studied and is discussed on page 71.

See response to MPCA comment "F".

Item K

The location of bus-stops and park-and-ride sites are being coordinated with the MTC.

See response to MPCA comment "F".

Item L

These are design details which will be addressed during the layout development and design stages, and coordinated with the affected cities.

Item M

This is standard Mn/DOT policy.

Item N

Certain improvements to SR 100 are needed and are proposed to take place at approximately the same time that I-394 is constructed. However, improvement between Cedar Lake Road and TH 7 is not presently planned.

at Cedar Lake Road and Highway 100. This interchange, it is felt, must be an integral part of the system. In addition, provisions for an express bus or transit stop at approximately 16th Street and Highway 100 should be taken into consideration along with a pedestrian link between the east and west sides of Highway 100.

5. There is some concern about driver orientation and clarity in the system at the southwest quadrant of Highway 100 and Highway 12. Further consideration and information on this point are necessary.

6. There is a concern about the aesthetic design and the noise problems associated with four-level and other multi-level interchanges as proposed at Highway 100 and I-394, and County Road 18 and I-394.

7. Consider the extension of Vernon Avenue to the south of Cedar Lake Road to tie in with 24th Street.

8. Consider a two-way service road on the south side from Louisiana Avenue to Highway 100.

9. The bridge at Colorado poses a problem in that it would increase traffic on Colorado to the south. Perhaps this bridge could be deleted if two-way service roads were provided on both the north and south sides of the freeway. If the bridge is built on Colorado, major increases in traffic could be anticipated on Colorado near Cedar Lake Road.

10. A deadend or cul-de-sac design should be considered on Hampshire at approximately 200 feet to 300 feet south of 14th Street.

11. Redesign the diamond interchange between Louisiana Avenue and Hampshire to consolidate the diamond interchange at Louisiana Avenue in order to avoid a need for one-way service roads and to avoid misuse of Hampshire Avenue as a major collector street. This new interchange could be designed in a fashion similar to the one previously proposed under Layout 14.

12. Consider not connecting the bridge at Pennsylvania Avenue beyond the south frontage road because of adverse traffic conditions that would exist on Pennsylvania Avenue if connected to the south. Pennsylvania Avenue is a local street and such connection would convert it to a major collector type street.

R

S

(12)

13. The need and function of a bridge at Winnetka should be further studied in that it could lead to changing the function of Texas Avenue from a collector type street to a thoroughfare. Such change would be undesirable because Louisiana Avenue is the designated north-south thoroughfare for the area and it is located approximately six blocks east of Texas Avenue, and County Road 18, located one mile to the west, is a regional north-south thoroughfare.

14. At approximately Boone Avenue, the eastern edge of the half-diamond, a pedestrian link should be incorporated in the design to link the Westwood Hills area with Golden Valley.

15. The service road between 18 and Louisiana Avenue should be considered as a two way service road because of the increased advantages. For example, a two way frontage road at this point would provide some means of access to the Nature Interpretive Center, and would reduce trip length.

16. The original alignment of the service road as shown on the proposal in the southeast quadrant County Road 18 and T. H. 12 includes taking of 4(f) land and could cause undue pollution, visual pollution, and noise pollution for the Nature Center.

17. While most of the freeway is depressed, the portion adjacent to Westwood Hills Environmental Education Center is not, and sound levels in excess of 70 decibels would be experienced. (The federal standard is 60 decibels). For this reason and for visual aesthetics a landscaped berm should be considered adjacent to the Nature Center.

18. The frontage road at the southeast quadrant at County Road 18 and Highway 12 should be placed closer to the main line of the freeway to avoid the encroachment in the Westwood Nature Interpretive Center and adverse impacts in the Westwood Hills residential area (see also the City's report on 4(f) lands exhibit). There is some question about connecting the frontage road with Flag Avenue extended, since the benefits are not probably offset by the disadvantages.

19. Relocate the two way frontage road in the southwest quadrant of I-394 and County Road 18 by placing it as close to the main right-of-way as possible. There is objection to the location of the frontage road as shown in that it is not only near the top of the hill, but it also

S

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V

(13)

Item O

The Water Resources Assessment prepared for this FEIS has recommended measures to minimize the impact of highway runoff on water bodies along the I-394 corridor. This is discussed on page 212.

Item P

The elimination of the [Theodore Wirth] Parkway interchange is at the request of the MPRB and is for the purpose of reducing the amount of traffic using the Parkway for through trips, a usage which is inconsistent with the design of the parkway and the character of Theodore Wirth Park. Preliminary studies indicate that this area can be adequately serviced by an interchange at Penn Avenue.

Item Q

Hennepin County has removed previously-proposed improvements to Cedar Lake Road from its planning.

Item R

The best design for providing access to the area currently serviced by the Cedar Lake Road interchange will be studied in detail during the design stage of the project. This study will also include coordination with the MTC and neighborhood residents to determine the best location for any bus-related features. Pedestrian and bicycle access could be included with any grade separation between SR 100 and Cedar Lake Road.

encroaches upon the single family dwellings in the Kilmer Park area. In addition, such location may require taking the tennis club and other facilities near Ford Road.

20. Relocate the two way frontage in Shelard Park approximately 300 feet to the south, paralleling I-394.

21. There is uncertainity as to the relationship between the Kilmer Park area and the Westwood Hills area relative to a street crossing and a pedestrian link. The need for a pedestrian link is obvious at this location.

22. A pedestrian link should be included between the Kilmer Park neighborhood area and Shelard Park.

23. Consider the upgrading of Ford Road between Cedar Lake Road and Highway 12 to provide better access to new I-394.

X. CONTINGENCY CLAUSE

The proceeding statement represents the city's position as of February, 1974, based on the I-394 reports and plans submitted to the city and the city's study and interpretation of these documents and their affect on the city and metropolitan development and transportation. The city reserves the right to alter its position if the proposed plans are changed in such a way as to adversely affect the community, if new information is provided or uncovered which would alter the city's position, if proper scheduling and funding of mass transit concurrently with I-394 is not provided, or if any of the concerns expressed in the I-394 Statement are not satisfied in a way agreeable to the city. In expressing the above concerns, the city recognizes that it may have missed some aspect that should have been brought out at this time; therefore, the city also reserves the right to bring such concern to the attention of the proper officials when such concerns are identified.

In addition to the statement and the exhibits which are part of the statement, the city has numerous other records on file which relate to this issue which the city can make available.

(14)

DECEMBER 17, 1973
9D

RESOLUTION NO. 4973

RESOLUTION SUPPORTING CORRIDOR ALTERNATIVE 2
FOR PROPOSED I-394

WHEREAS, the City Council has reviewed the Corridor Location Study, the Corridor Location Maps, the Environmental Statement and other exhibits presented by the State Highway Department regarding the proposed construction of I-394, and

WHEREAS, the City Council has sampled the opinions of members of the community, considered the comments of the City's representatives on the I-394 Citizen and Technical Advisory Committees, and analyzed those objectives of the I-394 project that the citizens feel are most important in maintaining the quality of life in the community, and

WHEREAS, the City Council is concerned with the existing Highway 12 noise, air and visual pollution and the lack of adequate drainage facilities in the area and Corridor Alternative 2 appears to provide the best means of correcting these problems; and

WHEREAS, the City Council is concerned with the existing Highway 12 vehicle and pedestrian hazards and with the excessive number of injuries and fatalities and Corridor Alternative 2 appears to be the best means of correcting these problems, and

WHEREAS, the City Council is concerned with the existing level of traffic on local streets and the difficulties that traffic congestion creates in providing public safety services to the area and Corridor Alternative 2 appears to be the best means of correcting these problems, and

WHEREAS, Corridor Alternative 2 appears to have the fewest adverse effects on residential, park and commercial property in St. Louis Park and is consistent with the Comprehensive Plan, and

WHEREAS, Corridor Alternative 2 will provide the City an opportunity to incorporate mass transit into the transportation services available to the citizens of St. Louis Park, and

WHEREAS, the City Council is not in accord with all of the design aspects of Corridor Alternative 2 and will be suggesting a number of design improvements and ways of minimizing construction disruptions, and

WHEREAS, the City Council will present a more substantive statement expressing its concerns and reasons for supporting Corridor Alternative 2 at the Corridor Public Hearing, therefore

BE IT RESOLVED by the City of St. Louis Park that of the alternatives proposed, including Alternative 4, the "No-Build" option, the City Council supports Alternative 2 of the I-394 corridor proposals as the best means of meeting the needs of its citizens.

Adopted by the City Council December 17, 1973.

Mayor

Attest:
City Clerk

Reviewed for administration:
City Manager

Approved as to form and legality:
City Attorney

V

Item S

All geometrics shown in the DEIS for Alternative 2 have been re-studied. The entire layout development has been coordinated closely with the municipalities and the public.

Item T

As proposed, I-394 will not require the acquisition of any lands from the Westwood Hills Nature Center. (See also response to comment "C".)

Item U

The Preliminary Noise Report prepared for this FEIS indicates that abatement to reduce highway-generated noise to FHWA DNL of 70 dBA is feasible in all parkland areas.

Item V

These are all design details which are being studied in cooperation with the City.

VOLUME III - PART II



Village of Golden Valley

STATEMENT OF GOLDEN VALLEY MINNESOTA

REGARDING

PROPOSED INTERSTATE I-394 FROM I-94 IN MINNEAPOLIS TO I-494 IN

MINNETONKA, HENNEPIN COUNTY, MINNESOTA

330 FHWA-Mn-EIS-73-09-D
Draft Environmental/Section 4(f) Statement
Minnesota Project I 394-6(1)226
State Project 2780 (I-394)
Interstate (I) 394 on U.S. 12 Corridor in the
Cities of Minneapolis, St. Louis Park, Golden
Valley and Minnetonka
Hennepin County From I-94 (Hawthorne Interchange
to I-494 and Corridor Location Hearing
(DPM 29-8)

February 27, 1974

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TABLE OF CONTENTS

I. Position of the Village of Golden Valley....1

II. Legal issues....3

III. The need for the project has not been demonstrated....6

The entire project is based upon inaccurate assumptions of demand and a disregard of alternatives which could reduce demand....6

A. The population, employment, and transportation need forecasts are inaccurate....6

B. The consultant's projection of need unfairly assumes that the freeway will be built....7

C. The shortage of petroleum fuel will reduce the demand for the freeway....7

D. Developing land use practices and policies will reduce urban sprawl and consequently traffic demand....9

E. Alternatives which would reduce the demand for the freeway are not considered....11

IV. A freeway decision is premature. Building a freeway now will preclude effective mass transit and undercut the transportation and land use planning policies now being developed....13

A. Except for the necessity of meeting the deadline to obtain federal funding, there is no pressing need for the freeway....13

B. By making automobiles more convenient and our reliance upon them more complete, the building of the proposed freeway will prevent the development of effective mass transit in this corridor during this century....14

C. In addition to reducing the need for transit, the proposed freeway will foreclose a number of transit options now being considered by the Metropolitan Council and the Minnesota Legislature and is therefore premature....16

D. The legislature is considering a number of transportation measures, all of which militate against the construction of the freeway....16

E. Since the land use policies of the Metropolitan Council are in the process of being developed and since I-394 would have a substantial impact upon land use development, no decision on the proposed freeway should be made until those policies are finalized....1

F. The land use policies being developed by the Council favoring rehabilitation of city neighborhoods and filling in of skipped-over land, in preference to sprawl, are inconsistent with the proposed freeway both for the developed urban areas and the developing fringe....1

V. The Environmental Impact Statement fails to give fair consideration to the alternative of upgrading highways 7, 12 and 55, combined with transit, as opposed to concentrating traffic from the entire western metropolitan area in a single corridor....2

A. Concentration of all traffic from the west into a single corridor is illogical and unfair....2

B. No reasonable and fair consideration is given to the alternative of limited improvement, plus transit....2

C. As a part of the consideration of the alternative of limited improvement plus transit, the available mechanism of transferring the approved interstate funds for mass transit purposes, provided by the 1973 Highway Act, must be considered....2

VI. The proposed freeway is not based upon a continuing comprehensive and cooperative transportation planning process as required by 23 U.S.C. § 134....2

VII. The Environmental Impact Statement fails to consider the secondary effects of the proposed freeway, including its effects on land use, local traffic on city streets and economic effects on local government, in violation of the National Environmental Policy Act and federal regulations....2

A. Federal regulations require consideration of secondary effects....2

B. The secondary effects of the freeway upon land use have not been considered....2

C. The economic benefit or loss to Minneapolis has not been considered....27

D. The freeway will dramatically increase traffic on local streets in Golden Valley....27

E. The effect of increased traffic on the local streets would be devastating....29

F. The economic impact upon Golden Valley is inadequately considered and will be severe....30

VIII. The proposed freeway will result in violation of state and federal policies, statutes, and regulations regarding air quality....31

A. The Minnesota Environmental Policy Act of 1973 established a non-degradation standard for air pollution in urban areas....31

B. By increasing the reliance on automobile travel to the Minneapolis CBD, the freeway is likely to result in a violation of the PCA state air implementation plan....31

C. The EIS fails to discuss the significant health hazard connected with lead in sufficient detail....33

D. Carbon monoxide effects are inadequately discussed....33

E. We cannot rely upon changes in automobile equipment to eliminate pollution....34

F. The EIS does not consider the increase in air pollution on neighborhood streets as a result of increased traffic....34

IX. The analysis of sound pollution in the EIS is misleading and inadequate....34

A. Consideration of the do-nothing alternative is based on false assumptions....34

B. The noise projection data is based upon design concepts which are speculative....34

C. The EIS fails to consider the impact of noise on residential and adjoining streets, due to increased traffic....35

I. POSITION OF THE VILLAGE OF GOLDEN VALLEY

The Village of Golden Valley welcomes the opportunity to convey its position and comments on the above draft Environmental Impact Statement (EIS) and 4(f) Statement and for purposes of the "corridor public hearing" required by 23 U.S.C. §128 and PPM 20-8. The proposed freeway will have overwhelming social, economic and environmental effects upon our Village and we therefore expect that our views will be given serious consideration.

The basic position of Golden Valley is set forth in the resolution of the Village Council adopted unanimously on November 5, 1973, as follows:

"WHEREAS,

1. Golden Valley is presently divided by three major highways;

2. New major highway construction is certain to impose severe hardship upon the community during the period of construction and may have the long-range effect of permanently increasing noise, air and visual pollution;

3. The need for new super-highways cannot be accurately projected into the future because of uncertainties relating to fuel availability, vehicle availability and design, and the impact of proposed mass transit facilities;

4. The Village of Golden Valley has repeatedly tried to cooperate with the Minnesota State Highway Department and its planners in developing a plan for upgrading Highway 12 that would not have long-term harmful impact on Golden Valley;

5. The Highway Department has been unable or unwilling to produce & design for upgrading Highway 12 that would not have a harmful long-range impact on Golden Valley;

BE IT RESOLVED THAT

1. The design concepts for I-394 heretofore proposed by the Highway Department are unacceptable to Golden Valley;

2. The need for construction of I-394, regardless of design concept, has not been convincingly demonstrated; therefore the Village of Golden Valley opposes the designation of any corridor for I-394 touching on Golden Valley;

3. The Village of Golden Valley opposes further freeway construction until an overall transportation system for the western suburban area is designed;

4. The Village of Golden Valley will continue to welcome proposals for an overall transportation system that would not have a harmful long-term impact on Golden Valley."

The Council also adopted a resolution on February 19, 1974, as follows:

"WHEREAS,

1. Federal law requires that interstate highways projects be based upon a continuing, comprehensive and cooperative planning process;

2. The Metropolitan Council is in the process of developing an overall development plan and a mass transit plan for the metropolitan area;

3. Proposed I-394 constitutes the single decision which will most influence land use, mass transit, and petroleum demand in the area west of Minneapolis during the remainder of this century;

4. The energy shortage and the decline in birth rate will reduce the need for I-394;

5. We must in light of current and future petroleum shortages develop a viable alternative to the single passenger automobile;

6. By making the automobile more convenient and our reliance on it more complete, the building of the proposed freeway will prevent the development of effective mass transit in the western suburban area during this century;

7. The high level of activity and indecision concerning transportation planning in the metropolitan area by the Minnesota Legislature, the Metropolitan Council and the Metropolitan Transit Commission provide a strong basis for re-evaluation of the I-394 proposal;

8. The review of the MTC transit development program by the Metropolitan Council Transportation Planning Staff itself demonstrates the adverse land use effects of concentrating transportation in a single corridor;

9. The land use policies being developed by the Council favoring rehabilitation of city neighborhoods and filling in of skipped-over land, in preference to sprawl, are inconsistent with the proposed freeway both for the developed urban areas and the developing fringe;

10. The 1973 Highway Act makes it possible for Minnesota to obtain 87.5 million dollars in Federal transit funding by building less than an interstate freeway in this corridor.

THEREFORE, BE IT RESOLVED THAT THE VILLAGE OF GOLDEN VALLEY REQUESTS THE METROPOLITAN COUNCIL TO:

1. Withdraw its prior approval of proposed interstate freeway 394,

2. Withhold any subsequent approval of that proposed freeway pending finalization of the Metropolitan Council's Development Plan for the metropolitan area and a final decision by the Metropolitan Council and the Minnesota Legislature concerning a mass transit plan for the metropolitan area,

3. Re-evaluate the proposed interstate freeway 394, when the Council's Development Plan and Mass Transit Plan are finalized, in light of the Council's policies for land use and transit, and in consideration of the effect of the energy shortage and the declining birth rate upon transportation planning."

In summary form, the two resolutions indicate the strong position of the Village Council that there are severe questions concerning the need for I-394, that transportation planning in Minneapolis and its western suburbs must precede any decision for further freeway construction, that an overall transportation system for the western area must be designed (rather than concentration on a single route) and that the building of the proposed freeway will make the use of automobiles more convenient thus preventing the development of effective mass transit in the area during this century. The combination of alternatives favored by the Village are therefore as follows:

1. Upgrading of Highways 55, 7, and 12 to handle traffic orginating throughout the western area, rather than concentrating all of the traffic on a single route.

2. Simultaneous development of a mass transit program for the entire western area to reduce the demand for freeway travel and to decrease the reliance on petroleum fuel, utilizing federal highway transit funds now available for mass transit.

II. LEGAL ISSUES

The Minnesota Highway Department and the United States Department of Transportation should consider the following questions in evaluating the Impact Statement and the corridor location proceedings:

1. Has the need for the facility been demonstrated in light of:

(a) the results of the energy shortage,

(b) the declining birth rate,

(c) various alternative methods of reducing demand, and

(d) developing land use policies and practices of the region?

2. Have the substantive standards of the Minnesota Environmental Policy Act of 1973 been met? That standard provides, Laws of Minnesota 1973, Chapter 412, Section 4, Subd. 6:

"No state action significantly affecting the quality of the environment shall be allowed, nor shall any permit for natural resources management and development be granted, where such action or permit has caused or is likely to cause pollution, impairment, or destruction of the air, water, land or other natural resources located within the state, so long as there is a feasible and prudent alternative consistent with the reasonable requirements of the public health, safety, and welfare and the state's paramount concern for the protection of its air, water, land and other natural resources from pollution, impairment, or destruction. Economic considerations alone shall not justify such conduct."

3. Have the substantive policies of the National Environmental Policy Act of 1969 and the Minnesota Environmental Policy Act of 1973 been met? The policies of the State Act, which incorporate and extend the policies of the National Act and relate to the building of highways, are as follows:

"Fulfill the responsibilities of each generation as trustee of the environment for succeeding generations;

"Assure for all people of the state safe, healthful, productive, and aesthetically and culturally pleasing surroundings;

"Discourage ecologically unsound aspects of population, economic and technological growth, and develop and implement a policy such that growth occurs only in an environmentally acceptable manner;

"Preserve important historic, cultural, and natural aspects of our national heritage, and maintain, wherever practicable, an environment that supports diversity, and variety of individual choice;

"Develop and implement land use and environmental policies, plans, and standards for the state as a whole and for major regions thereof through a coordinated program of planning and land use control;

"Define, designate, and protect environmentally sensitive areas;

"Practice thrift in the use of energy and maximize the use of energy efficient systems for the utilization of energy, and minimize the environmental impact from energy production and use;

"Minimize wasteful and unnecessary depletion of nonrenewable resources;

"Reduce the deleterious impact on air and water quality from all sources, including the deleterious environmental impact due to operation of vehicles with internal combustion engines in urbanized areas;

"Minimize noise, particularly in urban areas;"

4. Has the Minnesota Highway Department followed the procedural directive of the Minnesota Environmental Policy Act of 1973, Section 3, Subd.2, which provides that all agencies of state government must "utilize a systematic interdisciplinary approach that will insure the integrated use of the natural and social sciences and the environmental arts in planning and decision making which may have an impact on man's environment" and must "identify and develop methods and procedures that will insure that environmental amenities and values, whether quantified or not, will be given at least equal consideration in decision making along with economic and technical considerations? (emphasis supplied)

5. Is the proposed Interstate freeway consistent with the goals and objectives of "such urban planning as has been promulgated by the community" as required by 23 U.S.C §128, in view of the developing land use and transportation policies for the Metropolitan Council and land use practices throughout the region?

6. Has the requirement of objectivity contained in PPM 20-8, specifically requiring that corridor hearings be held before the Highway Department is committed to a specific proposal, been met in view of the fact that the Highway Department and its Commissioner has repeatedly and publicly stated that "System 16" containing proposed Interstate I-394, should be built?

7. Is the proposed freeway based upon a "continuing, comprehensive transportation process carried on cooperatively" by the state and local communities in conformance with 23 U.S.C. §134, (which process must be continually updated pursuant to Instructional Memorandum 50-3-71), in view of the current, incomplete but ongoing planning processes of the Metropolitan Council concerning transportation and land use?

8. Have the requirements of Section 102(2)(D) of the National Environmental Policy Act (NEPA) and Section 4 of the Guidelines of the Department of Transportation regarding procedures for considering

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RESPONSE

Item A

The need for I-394 is discussed in the "Needs" section of this FEIS. It should also be stressed that the Metropolitan Development Guide/Policy Plan calls for the completion of I-394 to complete the 1990 Metropolitan Highway System.

Item B

The Minnesota Environmental Protection Act of 1973 (MEPA) calls for an Environmental Impact Statement (EIS) to preceed any major government action where there is potential for significant environmental impacts. This legislation set up a Council on Environmental Quality (now called Environmental Quality Board) which in turn established guidelines for environmental statements. Throughout the I-394 project development, highway officials have complied with the spirit and intent of all environmental legislation.

Item C

The National Environmental Protection Act of 1969 (NEPA) declared a national policy of encouraging productive and enjoyable harmony between man and his environment. NEPA calls for an EIS to be included in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment. Copies of such statement and comments received must be made available to the President, the EPA, and the public.

The substantive policies of NEPA and subsequent procedural directives of the U.S. Department of Transportation have been followed during the course of I-394 project development.

Environmental Impact Statements, 38 Fed. Reg. 30223 (November 1, 1973) been met? That provision requires:

> "a rigorous exploration and an objective evaluation of the environmental impacts of all reasonable alternative actions, particularly those that might enhance environmental quality or avoid some or all of the adverse environmental affects."

Alternatives which are requred to be considered by the Department of Transportation include the alternative of not taking any action or of postponing action pending further study, as well as alternatives requiring actions of a significantly different nature with different impacts, low capital intensive improvements and mass transit alternatives to highway construction.

9. Have the secondary effects of the proposed action, including the effects on land use, traffic congestion on local streets and neighborhoods and energy impacts been considered, as required by NEPA, the Minnesota Environmental Policy Act of 1973 and Federal Regulations?

10. Are those subjects which are considered by the EIS discussed "to the fullest extent possible" as required by NEPA?

11. Does the proposed freeway meet the requirement of 23 U.S.C. § 138, and Section 4(f) of the Department of Transportation Act of 1969, to preserve the natural beauty of the countryside, and to give paramount importance to the preservation of park and recreation lands and requiring rejection of any project which requires the use of parks, recreation areas or wildlife areas?

III. THE NEED FOR THE PROJECT HAS NOT BEEN DEMONSTRATED:

THE ENTIRE PROJECT IS BASED UPON INACCURATE ASSUMPTIONS OF DEMAND AND A DISREGARD OF ALTERNATIVES WHICH COULD REDUCE DEMAND

PPM-20-8 requires consideration of the need for the proposed freeway. Even assuming, as we have traditionally done, that travel demands must be served, regardless of how the demand occurs, the consutlant's projections are inaccurate because they fail to consider more recent population statistics, the effect of the energy shortage, land use policies and various means of reducing demand.

A. THE POPULATION, EMPLOYMENT AND TRANSPORTATION NEED FORECASTS ARE INACCURATE.

The EIS assumes at I-50 that population, employment and development will increase in that portion of the study area which is not yet fully developed (the western portion) based upon 1970 census figures and recent growth trends. In a memorandum of October 5, 1973, attached as exhibit 1, Nicholas Coleman, Majority Leader of the Minnesota State Senate, has complied persuasive evidence that the population data now available to state agencies, the Legislature and the Governor's Office is "sadly inadequate". As an example, the

Senator points out that State Health Department projections published in March, 1972, but based on 1970 census figures (the same figures which form the basis of the consultant's projections for the I-394 study area) have already proved inadequate. The Department's figures project an average birth rate in Minnesota ranging from 66,000 to 78,000 per year for the next thirty years, but actual births in this state in the first 2 1/2 years of this decade have averaged only 55,000 per year and the rate is steadily dropping. In fact, in 1962 there were 136.2 live births per 1,000 women between the ages of 15 and 44, and in 1973 there will be only about half that many, or 65 per 1,000. It does not appear that the consultant's projections have taken this declining birth rate into account. This decline in the birth rate is obviously a major factor to be considered in the population projections, since those projections are the very basis for the proposed highway construction. If the population, employment and development predicted by the consultant does not occur, the statement of transportation needs at page I-50 in the draft EIS are completely inadequate. The Citizens Advisory Committee on I-394 has also demanded an updating of these forecasts.

B. THE CONSULTANT'S PROJECTION OF NEED UNFAIRLY ASSUMES THAT THE FREEWAY WILL BE BUILT.

Since freeways generate additional growth and traffic, this would be a self fulfilling prophecy. Obviously, freeways encourage growth in the areas they serve. In commenting on the consultant's projections, Simpson & Curtin in their report, "A Long Range Transit Improvement Program for the Study Area", state at page 10:

> "The distribution of future population reflects development patterns encouraged by auto dominated transportation systems (figure 3). Outside Minneapolis and the first tier of suburban communities, future population will be dispersed with no significant concentration or clustering of development"

The consultant's population and traffic projections do not indicate, either in the Impact Statement itself or in the technical report, "1995 Forecasts: Population, Employment and Trip Extention Factors", prepared by the consultant on the basis of 1970 data, whether the effect of the proposed freeway itself was considered in forecasting population expansions, economic expansion, trip volumes in the corridor. Quite obviously, it would be boot-strap reasoning to project population, economic expansion and trip volume based on a completed interstate facility, and then use that data as a basis for building the interstate. Yet that appears to be the case.

C. THE SHORTAGE OF PETROLEUM FUEL WILL REDUCE THE DEMAND FOR THE FREEWAY

A major defect of the Environmental Impact Statement is its failure to consider the effects of the energy crisis. Such consideration is required by Department of Transportation guidelines for Impact Statements, 38 Fed. Reg. 30225 at paragraph 8(h). "The statement should reflect consideration of whether the project or program will have any effect on either the production or consumption of energy and other natural resources and discuss such effects if

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Item D

The proposed project is consistent with the transportation and land-use planning and policies of the Metropolitan Council.

This is discussed in the "Land Use Planning" section of this FEIS.

Item E

Throughout the project development phases to date the FHWA and Mn/DOT have endeavored to comply with the spirit and intent of all applicable legislation.

Item F

Secondary effects have been studied and are described in this FEIS.

Item G

The proposed project will require the use of parklands from Brookview Golf Course, Theodore Wirth Park and Brownie Lake. A Section 4(f) Evaluation is attached to this FEIS. The law does not require the rejection of all projects requiring parkland. See also the response to Minneapolis Park and Recreation Board comment "A" and DOI comment "C".

Item H

Population, household, and employment forecasts have been revised to reflect recent trends. The forecasts used in this FEIS are the latest available from the Metropolitan Council. Traffic projections have also been revised to parallel these social trends. See also response to MPCA Comments "B" and "C".

they are significant." In addition, the new goal of the State of Minnesota as set forth in the Minnesota Environmental Policy Act, to "practice thrift in the use of energy and maximize the use of energy efficient systems for the utilization of energy. . ." and to "minimize wasteful and unnecessary depletion of non-renewable resources" demands consideration of the energy effect.

A major false assumption of the EIS appears to be that transportation demand will continue to increase at the same rate as it has in the past two decades. However, the building of freeway has increased auto usuage. A large portion of the blame for our overwhelming tendency to rely on highways for transportation is due to the Federal Highway Act of 1944-1956, which provided significant federal funds of highway construction. Between 1950 and 1970 mileage of surface roads increased by 50% to about 3 million miles. During this period, the number of registered automobiles increased more than two-fold and the number of automobile miles traveled increased nearly three-fold. By comparison, population increased only 34% during this same period; thus per capita auto travel increased 85% during this 20 year period.

It appears that the converse is true also; that given the huge portion of the energy budget consumed by automobiles, and the dwindling supply, the use of petroleum fuel and therefore the use of automobiles must decline due to price increases and simple unavailability.

A paper presented at the Society of Automotive Engineers International Automotive Congress and Exhibition, Detroit, January 1973, sponsored by the National Science Foundation, RANN program under a Union Carbide Corporation contract with the U.S. Atomic Energy Commission by Eric Hirst and Robert Herendon entitled "Total Energy Demand for Automobiles", (a copy of which is attached as exhibit 2) reports that automobile gasoline consumption accounted for 54% of the total U.S. transportation energy budget in 1970 and that two-thirds of this fuel was devoted to urban travel while one-third was devoted to inter-city driving.

Westinghouse Electric Corporation, in a report entitled "Energy Crisis - The Challenge, the Solution" (exb. 3, attached) reports that oil constitutes 3% of our United States energy resources but 46% of demand. Their theoretical calculation concludes that it will be only 31 years before our domestic petroleum resources would be used up, at the rate consumed in 1972. Given an increase in energy use of the historic rate of 4% every year, all our domestic supplies of oil and gas would be used up in just 20 years. And that figure assumes that new reserves will be found at the rate of discovery in the past. But oil and gas production are beginning to decline, even assuming the agressive development in the Alaskan oil fields. The projections show that if demand for gas and oil continues to grow, by the year 1985 we would be importing more than half of our oil at a cost of $25 billion per

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Item I

If I-394 is built, it would accommodate more freely flowing traffic which would waste less fuel - and time. It would also serve public transit better by giving it priority access via exclusive ramps to the steadily-moving stream of traffic in the "diamond" and reversible lanes. If I-394 is a more desirable facility for cars, it is an even more desireable facility for buses, carpools, and vanpools. It is reasonable to hope that improved bus service will attract riders.

Item J

The "Land Use Planning" section of this FEIS contains a discussion of the relationship between I-394 and land use in the corridor. Also, the Transportation Chapter of the Metropolitan Development Guide/Policy Plan calls for completion of I-394 as an integral link in the 1990 Metropolitan Highway System.

1972 prices. In addition to the balance of payment problem thus created, a more basic problem is presented by the United States Geological Survey projection showing production of world oil leveling out and starting to decline by the year 2,000. This leaves no expectation that the oil producing countries will limit their production rates and increase prices. The Westinghouse report concludes:

"*78% of U.S. energy needs are supplied by oil and gas.

*U.S. production of oil and gas has peaked out.

*World oil and gas production will peak shortly.

*Demand for energy will continue to grow.

Our stratigic options for attacking the problem are very limited and very simple:

*We can sharply limit energy usuage.

*or we can shift from our present reliance on oil and gas to an energy base of more abundant fuels."

Obviously the Westinghouse report was intended to demonstate the need to move to coal and uranium as a source of energy. But it also dramatically illustrates the fact that demand for highways as we know them is certain to decrease, because of fuel scarcity.

While the consultant assumes that, by 1995, the 50% of the demand will be accommodated by transit in the peak hours, it also seems reasonable to assume that the energy crisis will have an immediate effect on demand over the period of the next three years, making it possible to delay the decision on the proposed freeway until comprehensive land use and transportation planning has been completed.

D. DEVELOPING LAND USE PRACTICES AND POLICIES WILL REDUCE URBAN SPRAWL AND CONSEQUENTLY TRAFFIC DEMAND.

Some projects already in progress demonstrate a rebirth of the inner city and the tendency to avoid moving to the suburbs, probably in part as a result of the cost and availability of fuel. For example, the Loring Park Housing project, the Cedar-Riverside Project and the Burlington Northern project in Minneapolis, will all concentrate large volumes of people in a small area, thus reducing the tendency toward out-migration. The fiscal disparities law discussed on page 1-50 of the EIS should reduce the tendency in the suburbs to seek further industrial expansion. Moreover, it appears that the love affair between developers and land on the urban fringe is over, or at least diminishing, because of increasing land and transportation costs. The recent bankruptcy of a major developer testifies to this trend, as well as the vacancy rate in suburban apartments. For example, the "Apartment Outlook Summary" of the First National Bank of St. Paul, shows the following number of vacancies and percentages for the area west of Minneapolis,

as of November 20, 1973, as compared with August 20, 1973:

Suburb	Vacancies 11/20/73	% as of 11/20/73	% as of 8/20/73
Lake Minnetonka Area	1,311	8.6	6.4
Hopkins	2,300	5.4	3.3
Minnetonka Village	434	24.4	9.5
St. Louis Park - Golden Valley	2,202	5.1	2.9

In each case, a dramatic increase in the number of vacancies occurr between August 20, 1973, and November 20, 1973, a strong indicatior that past projections of growth are being rendered meaningless.

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Finally, and most importantly, the land use policies of the Twin Cities Metropolitan Council, as contained in their "Metropolit Development Framework Interium Policies" of January 18, 1974, a copy of which is attached as exhibit 4, are aimed at combating urban sprawl, utilizing vacant land in urbanized areas for development, rehabilitating the older areas of the cities and close-in suburbs and staging development to coincide with the extension of urban services. As discussed below, these policies are inconsisten with the construction of an interstate freeway from the central business district to the urban fringe, and their implementation should have the effect of reducing traffic demand in the study area for trips to the central business district.

Another fallacious land use assumption is that we must build the freeway to accommodate the Dayton-Hudson Corporation Ridgedale Shopping Center. The consultant admits as much at page 4-1:

"Some people have questioned the need for six lanes on I-394 and would prefer no more than four lanes. Six lanes are needed now on U.S. 12 east of S.R. 100. When the Ridgedale Center opens in 1974, six lanes will be needed for the entire length."

The consultant assumes that the Ridgedale Shopping Center and its peripheral development will be built exactly to the wishes of the Dayton-Hudson Corporation. While Dayton's have had their way so far, there is substantial citizen opposition to the proposed peripheral development, and Dayton's withdrew its application for a Target store earlier this year in the face of citizen protest. Presently a petition is pending before the Environmental Quality Council, seeking an Environmental Impact Statement on the effect of the peripheral development of Ridgedale, and there is no assurance that the jobs associated with the completion of the surrounding development as anticipated by some will ever be a reality. See page 1-32. Ridgedale is mentioned repeatedly throughout the EIS at pages 1-32, 1-50, 1-65, 3-1, 4-1, 4-4 and elsewhere, and seems to

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be a prime justification for the demand for the freeway. Yet its future development is uncertain.

E. ALTERNATIVES WHICH WOULD REDUCE THE DEMAND FOR THE FREEWAY ARE NOT CONSIDERED.

The new Department of Transportation guidelines for Environmental Impact Statements, 38 Fed. Reg. at 30223, clearly require a consideration of efforts to reduce demand. The alternatives which must be explored include:

> "A rigorous exploration and an objective evaluation of the environmental impacts of all reasonable alternative actions particularly those that might enhance environmental quality or avoid some or all of the adverse environmental effects. . . examples of such alternatives include: the alternative of not taking any action or of postponing action pending further study; alternatives requiring actions of a significantly different nature which would provide similar benefits with different environmental impacts, low capital intensive improvements, mass transit alternatives to highway construction. . . ."

K

While the regulations are new, they simply incorporate federal case law under NEPA.

The Governor of the State of Minnesota in his State of the State address of January 16, 1974, to the Legislature emphasized the the importance of this alternative.

> "We must take direct steps to reduce our excessive reliance on the automobile. We must get people out of automobiles. But that means getting as many people as possible into community transit systems not only in the Twin Cities metropolitan area but all across the State. . . you want those city drivers to stop using their cars. If you want to convince a driver in St. Paul, or St. Cloud, or Rochester, or Moorhead or Mankato, or Duluth to take the bus to work or school or just downtown, there must be service that is inexpensive, convenient and comfortable. That is not the way it is today."

We also understand that the Governor has, by formal letter to the Commissioner of Highways in late 1973, specifically directed the Department to explore methods of increasing the use of carpools and decreasing the use of the single passenger automobile.

The Citizen's League of the Twin Cities has devoted a great deal of attention to non-capital improvement transit programs and has issued two recent major reports on the subject. The first, (Building Incentives for Drivers to Ride, March 21, 1973) which was preceeded by two earlier reports on transit in 1968 and 1971, capsulizes the problem this way:

> "Freeways and other highways have been planned on the assumption that individuals demands for travel must be served, regardless of in what form the demand occurs. Because the predominant form of travel has been the personal car, even though it is

> filled to one-fourth capacity most of the time, highways have been built unnecessarily large, simply to accommodate under utilized vehicles."

The report suggests that public policy must begin conscientiously to influence the way in which demand for travel occurs, and all vehicles, buses, vans, taxies, rent-a-cars as well as privately owned cars itself. The Citizen's League recommends that the Legislature should "require that approval of construction of major highway and transit facilities shall be a second responsibility of transportation policy-making to take place only after decisions first are made on influencing the extent to which trips are made in single occupant vs. small type passenger vehicles." (emphasis supplied). In addition the report suggests a number of other possible means of encouraging alternatives to the single passenger car, including special lanes, preferential access, and concludes that government agencies must shift their preoccupation with the building of facilities to building ridership. A copy of the report is included in the record and attached here to as exhibit 5.

More recently, the Citizen's League issued a report dated January 21, 1974, entitled "Transit: Redirect Priorities Toward a Small Vehicle System and Shorter Trips."(Exb. 6) In this report, the League rejects the regional fixed guideway system of transit and recognizes the need for a network of smaller, flexible vehicles which have a capability of operating on all public streets and can provide home-to-work service so as to compete with the private automobile. The report notes, strikingly, that in peak times of travel 10 out of 13 cars contain only one person, that the peak hour traffic could be reduced by 20% by increasing vehicle occupancy from 1.2 to 1.5 persons, and that more than 1.5 million vacant seats in the rush hour now exist. Even the Minnesota Highway Department has begun to consider such alternatives, see "An Overview of Staggered Work Hours", Minnesota Highway Department memo of May 4, 1973, attached as exhibit 7. Yet no consideration is given to such alternatives in the EIS.

The Minnesota Public Interest Research Group, in its November 20, 1973, report entitled "The Real Greater Metropolitan Carpool, An Alternative Approach to Twin Cities Transit Development," set forth a detailed analysis of a possible personalized rapid transit system for the study area, a copy of which has been submitted by MPIRG as a part of the official record herein, and is incorporated by reference.

The Minnesota Legislature has also been considering alternatives to reduce demand. S.F. 2703 requires the Metropolitan Transit Commission to develop plans for "demand activitated origin-to-destination service" by means of an automated small vehicle fixed guideway system. That bill passed the Senate on February 18, with only one dissenting vote and will provide the basis for study of an alternative of the type suggested by MPIRG and other PRT advocates. Similar legislation is moving in the House.

S.F. 2855/H.F. 3082, which is on General Orders awaiting consideration on the floor of the Senate, directs the Metropolitan Council to promote the use of carpools and employer vans in the metropolitan area and authorizes loans or grants to employers to require such vans. The 3M Company of St. Paul has been tremendously successful in promoting the use of employer owned/employee operated vans in transporting its employees to work, even where free parking is available. The van system developed by 3M provides an opportunity for an employee to be picked up at his door, delivered to work and taken home in the evening for a cost which would be less than the operation of his private automobile. The vans carry 12 people and consume approximately the same amount of gas as an automobile. Thus, one van can remove 11 single passenger automobiles from the highway during the peak hours. Since these kinds of alternatives are being so vigorously pursued by citizens groups, government and private industry, spurred on by the energy crisis, the failure of the impact statement to discuss the effect of such alternatives on the traffic demand for the freeway is a clear violation of the Department of Transportation guidelines for Environmental Impact Statements quoted above, of NEPA, and the Minnesota Environmental Policy Act, as well as being contrary to the directives of the Governor.

Other possible factors which could affect demand but which are not considered in the Impact Statement are possible reduction in the work week, a significant increase in the cost of fuel thus increasing transit ridership, technological breakthroughs such as cable TV which would reduce the need for trips.

IV. A FREEWAY DECISION IS PREMATURE. BUILDING A FREEWAY NOW WILL PRECLUDE EFFECTIVE MASS TRANSIT AND UNDERCUT THE TRANSPORTATION AND LAND USE PLANNING POLICIES NOW BEING DEVELOPED.

A. EXCEPT FOR THE NECESSITY OF MEETING THE DEADLINE TO OBTAIN FEDERAL FUNDING, THERE IS NO PRESSING NEED FOR THE FREEWAY.

The EIS points out at page 1-14 that there is no present severe problem in the area and that accordingly there is a very low volume of transit ridership.

> "The current role of public transit in the study area is essentially to carry people who do not have access to an automobile to and from downtown Minneapolis. Recent inventories reveal that during an average week day some 18,000 people are passengers on buses, where some 320,000 are passengers in cars. A prime reason for this disparity is that there are few severe delays experienced by the motorists in making his trips. About 63 percent of the study area drivers can get to work in 20 minutes or less and over 85 percent in less than 30 minutes. More important, they do not 'feel' they spend too much time in travel by car. Only 4 percent are very dissatisfied with their current transportation needs being met." (emphasis supplied)

L

Item K

Several alternatives to the proposed action, including "no-build" have been studied and dismissed. These are discussed in the FEIS "Alternatives" section.

See also response to comment "E".

Item L

A discussion of the need for I-394 is included in this FEIS on page 27. See also response to comment "A".

The EIS also points out at page 4-3 that "current traffic along the roadway network in the I-394 corridor does not result in severe delays or hazards, although a number of problems do exist. Travel time is not excessive, especially when compared with other major cities like Chicago, Boston and New York." The Citizen's League most recent report points out the tremendous convenience of travel in the metropolitan area by automobile. Between 1958 and 1970, median trip time declined from 26 to 22 minutes while average trip length doubled. See exhibit 5 at page 7. Thus, it would seem that the rush to improve I-394 is stimulated by Section 110 of the Highway Act of 1973 which provides that the Secretary of Transportation shall on July 1, 1974, remove from designation as a part of the interstate system each segment of the system for which the state has not notified the Secretary that the state intends to construct the segment. This Section also requires a schedule for the expenditure of funds for completion of construction to be submitted by July 1, 1975.

It should also be noted that there is no strong federal policy in favor of completing the interstate freeway, in view of Section 107 of the Highway Act of 1973 which provides that "since the interstate system is now in the final stage of completion it shall be the national policy that increased emphasis be placed on the construction and reconstruction of the other federal aid systems" to bring them up to standards and increase the safety of the systems to the maximum extent. Thus federal funding should be sought for the upgrading of Highways 12, 55 and 7 and for mass transit rather than concentration on a single corridor.

B. BY MAKING AUTOMOBILES MORE CONVENIENT AND OUR RELIANCE UPON THEM MORE COMPLETE, THE BUILDING OF THE PROPOSED FREEWAY WILL PREVENT THE DEVELOPMENT OF EFFECTIVE MASS TRANSIT IN THIS CORRIDOR DURING THIS CENTURY. **M**

The quotation from page 1-14 above confirms the common sense fact that where automobile traffic travel is convenient, people simply do not use transit. This is also demonstrated by the Citizen's League reports attached hereto as exhibit 5 and 6. Obviously, if we continue to accommodate our wasteful habit of driving alone to work, we make it easier for our wasteful habits to continue. By building the freeway to accommodate demand based upon the two-car family and single occupancy trips is to insure that such a demand will in fact develop. A before and after study of Chicago's Congress Street Expressway showed a 21 percent increase in total vehicle miles of travel within the study area two years after the Expressway was build (Chicago Area Transportation Study, prepared for presentation at the 42nd Annual Meeting of the Highway Research Board, Washington, D.C. January, 1963). New highways induce longer trips as well as new traffic. In addition to the Citizen's League study, a Baltimore area study showed that the average work trip length had increased from 2.6 miles to more than 5 miles over the period from 1926 to 1962, and the increase was ascribed by researchers

to improved highway facilities. Voorhees, A.M. et al "Traffic Patterns and Land Use Alternatives", presented at the 41st Annual Meeting of the Highway Research Board, January, 1962.

On the other hand, increasing occupant level from 1.2 to 1.5 in the peak hour would reduce traffic volumes in those hours by 20 percent. By providing for the continued convenience of the single passenger auto, we remove the necessity of developing an effective and convenient mass transit system which will successfully compete with the automobile and continue to feed our addiction to private driving, thus making the transition to transit more difficult if not impossible.

Perhaps the most striking questionable assumption in the Environmental Impact Statement is that travel behavior will drastically change in the next 20 years and that if good transit is provided 50 percent of the ridership will use it. There is absolutely no foundation for such a statement. In fact, the Impact Statement itself at page 1-4 (quoted above), as well as common sense and experience demonstrate that people simply will not use transit unless it is as convenient as the automobile. The freeway is being planned on the assumption that 50 percent of the trips in the corridor will be on transit in 1995, and this is a minimum condition necessary for the system to function in that year. If that condition is not attained, there will be, in the opinion of the consultant, considerable congestion on I-394. It is asserted that the policies of limited downtown parking and an attractive people mover system by the City of Minneapolis will encourage the use of transit in the corridor. Page 4-1. The consultant also assumes at the same place that highway congestion will induce the use of transit by that time "(with limited highway capacity it is reasonable to expect 50 percent usage of transit by 1995)" 1-4. If congestion will induce transit ridership, why hasn't it happened? The obvious answer is that transit is not as convenient as the automobile so it is not used. We apparently don't have sufficient congestion to induce ridership at present. The fact that the congestion predicted by the consultant will not develop if we build a freeway is demonstrated by the memorandum of the Metropolitan Council's Transportation Planning staff of December 20, 1973, revised January 22, 1974, a copy of which is attached hereto as exhibit 8. The memorandum states at page 2: **N**

> "Assuming the completion of the 1980 principle arterial plan in the Transportation Chapter of the Metropolitan Development Guide (MDG) the regional Class 1 roadway system will not be severely congested until after 1990."

In view of this statement and the assertion in the Environmental Impact Statement on page 1-14 that the reason for the disparity of 18,000 bus riders to 320,000 passengers is that motorists experience few delays (EIS 1-14) it is ridiculous for the Impact Statement

Item M

A light-rail transit alternative was studied and is discussed on page 71.

See response to MPCA comment "F".

Item N

Traffic forecasts for I-394 have been redone utilizing more current trends and methodologies.

See also response to MPCA comment "F".

to conclude that travel behavior will drastically change as a result of congestion in the next 20 years if the freeway is built, since the absence of delays will continue to induce automobile use. It is interesting to note that both the Metropolitan Council Transportation Planning staff memo (exhibit 8) and the Environmental Impact Statement were prepared under direction of the same person, Lawrence Dallam. The fact is that convenient and competitive transit will probably not develop so long as we build a freeway to serve automobile convenience, (assuming the existence of fuel). Thus, the transit system should be planned now and implemented as early as possible, prior to any decision to construct more freeways.

C. IN ADDITION TO REDUCING THE NEED FOR TRANSIT, THE PROPOSED FREEWAY WILL FORECLOSE A NUMBER OF TRANSIT OPTIONS NOW BEING CONSIDERED BY THE METROPOLITAN COUNCIL AND THE MINNESOTA LEGISLATURE AND IS THEREFORE PREMATURE.

In this case, we need to put the cart before the horse power and decide on transit before building more freeways. To make a freeway decision in the present state of high activity and debate concerning transportation policies for the metropolitan region is simply premature. The Metropolitan Transit Commission and the Metropolitan Council do not agree on the kind of transit that should be implemented. See the report of the Metropolitan Council's Transportation staff on the MTC transit development program, attached hereto as exhibit 8. It is clear from that report that a fixed guideway plan of the type proposed by the MTC, if built in the 50 foot right-of-way proposed to be provided in the I-394 corridor, would not meet the transportation policies of the Metropolitan Council.

The Department of Transportation regulations on Impact Statements provide that the statement should include "a discussion of the extent to which the proposed action forecloses future option," 38 Fed. Reg. at 30198. No such discussion is provided, although the freeway will have that effect. By increasing the convenience of the automobile, we foreclose the Citizens League or MPIRG suggestions or other possible limited improvement systems. The position that any decision on the freeway should be delayed until transportation planning has been completed has been recently formally adopted by the Citizens Advisory Committee on I-394, referred to in the Environmental Impact Statement at page 1-60.

D. THE LEGISLATURE IS CONSIDERING A NUMBER OF TRANSPORTATION MEASURES, ALL OF WHICH MILITATE AGAINST THE CONSTRUCTION OF THE FREEWAY.

The Legislature has been directing a great deal of attention to highway and transit issues during the 1973-1974 session, and the direction taken by both houses is clearly toward metropolitan review and control of all transportation planning and towards small vehicle and bus transportation, rather than fixed guideway systems and more freeways. A few major bills, among the many that have been introduced, are as follows:

Item O

An alternative which would have included Light Rail Transit is discussed in the "Alternatives" Section of the FEIS. See also response to MPCA comment "F".

Item P

The "Land Use Planning" section of this FEIS discusses the relationship between I-394 and land use plans.

See response to MPCA comment "A".

1. H.F. 636 which passed the House of Representatives in May of 1973 provides that the State Highway Department proposals for acquisition or construction of a state highway or controlled access highway in the area shall be reviewed by the Metropolitan Council and shall not be built unless the Council determines that it is consistent with its policy plan and development program.

2. H.F. 636 when it reached the Senate floor on January 29, 1974, was amended to provide review by the Council of matters of metropolitan significance, in order to promote the orderly and economic development, public and private, of the metropolitan area. Presumably the bill will now proceed to a conference committee, but in any event, the intent of both houses is that the Council review and approve projects such as major interstate highways which will have a significant effect upon the development of the metropolitan area.

3. S.F. 2703, a bill to require the Metropolitan Transit Commission to develop plans for "demand activated origin-to destination service" by means of an automated, small vehicle fexed guideway system. The bill passed the Senate on February 18, 1974. A similar bill is moving in the House.

4. H.F. 837, a bill to provide a two year moratorium on any construction relating to interstate I-394 and several other designated interstate highways in the metropolitan area, passed the House in the 1973 session, and is now in the process of being heard by the Metropolitan and Urban Affairs Committee of the Senate.

5. S.F. 2855/H.F. 3082, on General Orders in the Senate, directs the Metropolitan Council to promote the use of carpools and employer vans in the metropolitan area, and authorizes loans or grants to employers to acquire such vans.

6. S.F. 2566 provides for preference to multi-passenger transportation in the seven county metropolitan area and gives the Metropolitan Council transportation and planning decision powers to implement multi-passenger auto transportation in several ways, to approve highway and transit plans, to study and report on pricing mechanisms and funding. The bill was recommended to pass by the Rules Committee and was re-referred to the Committee on Urban Affairs, on January 30, 1974.

7. H.F. 3403 appropriates $6 million for acceleration of bus improvements for publicly owned transit systems throughout the state. A similar bill is moving in the Senate committees.

In addition, Senator North, who is the Senate author of the Senate bill which became H.F. 636, and of S.F. 2855, directing an emphasis

on carpools and employer vans, who is a leading member of the Metropolitan and Urban Affairs Committee in the Senate, has indicated a strong desire for interim hearings prior to the 1975 legislative session concerning the entire transportation picture in the metropolitan area. Senator Chenoweth, Chairman of the Senate Metropolitan and Urban Affairs Committee, stated in the Committee hearing on H.F. 837, the freeway moratorium bill, on February 14, that it was his intention to hold such hearings during the interim to consider those matters as well as a possible moratorium on I-394 and other freeways, if that bill does not pass the Senate before the closing of the 1974 session. In view of the tremendous citizen interest and high level of administrative and legislative interest in and activity on metropolitan transportation, a decision to build I-394 is premature.

E. SINCE THE LAND USE POLICIES OF THE METROPOLITAN COUNCIL ARE IN THE PROCESS OF BEING DEVELOPED, AND SINCE I-394 WOULD HAVE A SUBSTANTIAL IMPACT UPON LAND USE DEVELOPMENT, NO DECISION ON THE PROPOSED FREEWAY SHOULD BE MADE UNTIL THOSE POLICIES ARE FINALIZED.

The Metropolitan Council transportation planning staff report on the MTC program (exhibit 8) points out that a transportation plan should be based upon growth policies which specify a development framework and priorities within that framework and that the MTC plan was developed before the determination of the development policies by the Council, thus placing MTC in the position of devising a transit system that would implement an unknown growth/development plan for these areas (suburbs, rural and freestanding cities). The same is true of I-394, viz., that it is being planned before the development plan is complete. However, it appears clear that the proposed development policies are inconsistent with I-394 (see below). The staff's report on the MTC regional fixed guideway plan criticizes the MTC plan as perpetuating urban sprawl: "by providing fast modern service between centers, the plan will actually encourage people to live far from where they work. As development occurs farther out, the fixed guideway line is 'logically' extended, feeder bus lines established and urban sprawl is perpetuated." (exhibit 8, page 5).

F. THE LAND USE POLICIES BEING DEVELOPED BY THE COUNCIL FAVORING REHABILITATION OF CITY NEIGHBORHOODS AND FILLING IN OF SKIPPED-OVER LAND, IN PREFERENCE TO SPRAWL, ARE INCONSISTENT WITH THE PROPOSED FREEWAY BOTH FOR THE DEVELOPED URBAN AREAS AND THE DEVELOPING FRINGE.

A draft of the interim policies now being discussed by the Council's Physical Development Committee for final adoption late this year, a copy of which is attached as exhibit 4, points out that in the center cities and older suburbs, a dramatic shift has occurred, marked by a steady decline of residents between 25 and 44 years of age, typically the family-forming and vigorous income-earning ages. Between 1950 and 1970, Minneapolis lost one quarter of its families, a period which saw a 50% increase in mileage of surface roads and an 85% increase in per capita auto travel, but

only a 34% increase in population. The interim policy statement recommends that investment of public funds be designed to correct this shift and provide amenities that are important to these families. They suggest maintenance, rehabilitation and re-use of existing residences and neighborhoods, preservation of the natural environment with particular emphasis on improving air quality and reducing noise pollution. The interim policy also recognizes that freeway construction improving overall accessibility has resulted in industrial migration from Minneapolis to the suburbs. Of course, the construction of more miles of freeway, making suburban living more accessible to the CBD, only intensifies these problems. In the area of active urbanization, the growing suburbs on the urban fringe, the report of the Metropolitan Council Interim Policies recognizes a scattered development pattern that has produced thousands of acres of vacant lots and large tracts of unused land which impose high costs on the taxpayers for the provision of public services such as sewers, water, gas, electricity, etc. The report points out that all development that is projected for the Metropolitan area until 1990 could be accommodated on land that presently has metropolitan sewer service installed or available; of the 500 miles of land now served by central sewers, about 200 square miles or 40% of vacant land that is environmentally suitable for urban development. In spite of this, the report notes that development on unserviced land continues and creates demands for extensions of sewer, water and new schools, even as city and close-in suburban systems are experiencing fewer school age children and extra classroom space. The report also notes that scattered development reduces options and flexibility in adapting to new transportation needs. Thus, the interim policies suggest that "in preference to scattered pockets of development, urbanization should take place, (a) on environmentally suitable land which has been skipped-over in the development process and that is served by metropolitan facilities and, (b) development of clustered communities adjacent to the existing built up areas." Specifically the interim policy suggests that "public investment in physical and social services should be made consistent with this development plan . . . new land should be opened up for urbanization in a staged, contiguous manner."

Proposed I-394, increasing the accessibility of western Hennepin County to the central business district of Minneapolis, will encourage further scattered development and urban sprawl of the type that the Council seeks to prevent and correct.

Even the policies adopted by the Council in its transportation section of the Development Guide recognize the tremendous influence of highways on development and implicitly suggest the need for re-evaluation of the proposed highway by the MHD. That section states: "The accessibility to open space areas created by a transportation facility may result in development pressures difficult to withstand by zoning or other available procedures. This is particularly true in the vicinity of the intersection of principal arterial highways." Moreover, Policy 13 of the transportation

P

Item Q

These alternatives are not consistent with the Metropolitan Council's transportation planning for this corridor. See also response to MPIRG comment "C".

section of the Metropolitan Development Guide specifically provides that highways should be planned to support and assist the Council's land use policy of staged growth. "Highway investment should support staged development of the urbanizing portions of the Metropolitan area, including diversified centers." Finally, the transportation section concludes that "priorities in highway investment should be the improvement of the capacity, safety and environmental characteristics of the existing system, along with greater emphasis upon reducing peak period travel demands." This is exactly the position of Golden Valley with respect to the proposed interstate, that the existing system should be improved and methods sought to reduce demand. (See the Golden Valley Resolution of November 5, 1973, supra, page 3).

V. THE ENVIRONMENTAL IMPACT STATEMENT FAILS TO GIVE FAIR CONSIDERATION TO THE ALTERNATIVE OF UPGRADING HIGHWAYS 7, 12 AND 55, COMBINED WITH TRANSIT, AS OPPOSED TO CONCENTRATING TRAFFIC FROM THE ENTIRE WESTERN METROPOLITAN AREA IN A SINGLE CORRIDOR.

A. CONCENTRATION OF ALL TRAFFIC FROM THE WEST INTO A SINGLE CORRIDOR IS ILLOGICAL AND UNFAIR.

The only logical reason for concentrating traffic in the fashion proposed by Alternative 2 on an interstate freeway, rather than upgrading the various routes leading into downtown Minneapolis, is that a single interstate route designation is necessary to obtain 90-10 federal funding. If the state of the Metropolitan Council were simply given an amount of money and told to develop an overall transportation plan for the area, it is highly unlikely that a single interstate, with such concentration, would be proposed. The data in the Impact Statement indicates that approximately 50 % of the traffic using the I-394 freeway would originate south of Highway 7 or north of Highway 55. Considering that fact and the fact that those highways could be expected to attract traffic which is north of 7 and south of 55 where origin points are closer to those highways than to Highway 12, the funneling of all western traffic into a single corridor makes no sense. Even the Metropolitan Council Transportation staff, in its report on the NTC fixed guideway proposal (exhibit 8) recognizes the need for many transit corridors and spacing of transit corridors to provide a balanced demand upon the system consistent with the Metropolitan Council transportation policies 31 and 32.

The disadvantages of concentration in a single corridor are also demonstrated by that report:

> "Council Transportation Policy 31 acknowledges the 'spread' development pattern of the metropolitan area and the need for 'many' transit corridors. Policy 32 requires that transit corridors be located in space to provide a 'balanced' demand upon the system. The vehicle size should be appropriate and efficient in each corridor." (page 4)

Again it is important to note that the director of the Metropolitan Council Transportation planning staff is Lawrence N. Dalam, who was the project manager for I-394, as an employee of Howard, Needles Tammen, and Bergendoff. His staff report on the MTC proposal notes that the percentage of trips to the Twin Cities central business districts are decreasing relative to the total travel (page 9), that travel is dispersing into many corridors and is increasingly circumferential and crosstown in nature (page 9). It points out that the CBD oriented rapid rail systems do not increase the mobility of the poor, young, aged, handicapped, and others, and that "the Council transit plan for 1990 is too CBD oriented and is therefore unresponsive to the need of the metropolitan area." (page 9). The same is true, of course, of an interstate freeway which would concentrate travel in a single corridor.

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The Simpson and Curtin study of mass transit alternatives recognizes at page 38, that the "case one" alternative, serving a diagonal pattern, rather than a single corridor, creates a better transportation network. The Simpson and Curtin chart shows that trip origin and destination analysis in the metropolitan area produces a pattern that looks more like a ball of string than a single corridor (See Simpson and Curtin, figure 9, 1996 trips within study area.)

B. NO REASONABLE AND FAIR CONSIDERATION IS GIVEN TO THE ALTERNATIVE OF LIMITED IMPROVEMENT, PLUS TRANSIT.

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Despite this traffic pattern, and despite the recognition by the consultant that concentration on I-394 will occur from Highways 7 and 55 (if those highways are not improved), EIS page 4-8, there is no consideration at all given to the possibility of upgrading those highways to accommodate the demand occurring closer to them than to Highway 12. The Impact Statement should consider the alternative of improving those routes as well as Highway 12, perhaps by depressing them and providing grade level crossings, removing some of the stop lights and other barriers to travel on Highways 55 and 7. In addition, the Impact Statement should consider alternative means of moving traffic from the Lake Calhoun area to downtown Minneapolis, either through improved traffic facilities or, much more preferably, through the alternative of a diagonal transit facility to that area and park and ride provisions. The Federal Aid Highway Act, 23 U.S.C. §137, could provide funds for such a park and ride facility from the highway trust fund. Such facilities are feasible. See Simpson and Curtain at page 46.

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The grossly unfair tratement of the limited improvement plus transit alternative in the EIS is demonstrated by the false assumption that growth for the study area would be the same in 1990 as if the freeway were built, that people will continue to use automobiles at the same rate as at present, and the other false assumptions concerning demand discussed above. This type of fantasy cannot be indulged in a decision of this magnitude. Moreover, the transit

options considered are not viewed as alternatives to the freeway, but only as additional transportation. The EIS must consider a limited improvement alternative in combination with various transit alternatives in order to meet the requirements of NEPA.

Finally the alternative of waiting until transportation and land use plans for the region are finalized is completely ignored, although such an alternative is expressly required to be considered by the new Department of Transportation Regulations, 38 Fed. Reg. at 30223.

C. AS A PART OF THE CONSIDERATION OF THE ALTERNATIVE OF LIMITED IMPROVEMENT PLUS TRANSIT, THE AVAILABLE MECHANISM OF TRANSFERRING THE APPROVED INTERSTATE FUNDS FOR MASS TRANSIT PURPOSES, PROVIDED BY THE 1973 HIGHWAY ACT, MUST BE CONSIDERED.

Section 137 of the 1973 Act provides that upon the request of the State Governor and the local governments concerned, the Secretary of Transportation may withdraw his approval of any route on the interstate system if he determines that it is not essential to the completion of a unified and connected interstate system or will no longer be necessary in view of mass transit alternatives. The funds which had been allocated for construction of the interstate may be utilized for a mass transit project involving either the construction of fixed rail facilities or the purchase of passenger equipment, including buses or any other rolling stock for any mode of mass transit, or both. Since the Department of Transportation has granted preliminary approval to I-394 in 1972, the provision could be used to provide 87.8 million dollars in federal funds for transit in the area at a very early date, rather than waiting 5, 10 or 15 years for federal transit funding.

Douglas Kelm, Chairman of the Metropolitan Transit Commission testified before the Minnesota Senate's Committee on Metropolitan and Urban Affairs on February 14, 1974, that if I-394 is built as an interstate highway the total capital cost will be 97.6 million dollars, 90% of which will come from the Federal Highway Administration. If instead, a request were made to use those federal funds for a transit project, we could implement a transit program costing 117.8 million dollars in the next few years, and the additional funding to be provided by the Urban Mass Transit Administration would only be 6.4 million dollars. In addition, upgrading of Highway 12 could be done with additional federal funding at a 70%-30% ratio. The total cost to the State would be increased by only 2.2 million dollars.

It is obvious that, regardless of what mass transit mode the state selects, the funding for such mass transit would be much more easily obtained if the funds committed for interstate 394 were transferred for mass transit use.

Kelms figures are as follows:

FUNDING ALTERNATIVE NO. 1

CAPITAL COST ($ millions)

Facility	Total	Local	Federal	
I-394 Highway	97.6	9.8 (MHD)	87.8 (FHWA	90%
Mpls. - Mntka. FGW	117.8	23.6 (MTC)	94.2 (UMTA)	80%
TOTAL (1974-1981)	215.4	33.4	182.0	

(Interstate Flexibility for Transit)

FUNDING ALTERNATIVE NO. 2

TH -12	40.0	12.0 (MHD)	28.0 (FHWA)	
Mpls. - Mntka. FGW	117.8	23.6 (MTC)	87.8 (FHWA)	
			6.4 (UMTA)	
	157.8	35.6	122.2	

Clearly, this funding alternative must be a part of the "rigorous" examination of alternatives required by NEPA

VI. THE PROPOSED FREEWAY IS NOT BASED UPON A CONTINUING COMPREHENSIVE AND COOPERATIVE TRANSPORTATION PLANNING PROCESS AS REQUIRED BY 23 U.S.C. §134.

Section 134 of the Act requires that:

"After July 1, 1965, the Secretary shall not approve under Section 105 of this Title any program for projects in any urban area of more than 50,000 population unless he finds that such projects are based on a continuing comprehensive planning process carried on cooperatively by states and local communities in conformance with the objectives stated in this Section."

The planning process for I-394, while it has been extensive and has involved numerous consultations with citizens groups and local governments, does not meet the standard for the following reasons:

1. The Minnesota Highway Department has prejudged the need for the highway, prior to the corridor location hearing required by PPM 20-8 and prior to the final preparation of the environmental impact statement.

PPM 20-8 relating to hearing requirements requires a "corridor public hearing" to be held "before the route location is approved and before the state highway department is committed to a specific proposal". (Emphasis supplied) Also, the guidelines of the Council on Environmental Quality for the preparation of Environmental Impact Statements, 38 Fed. Reg. 47, August 1, 1973, provide at section 1500.02:

> "As early as possible and in all cases prior to agency decisions concerning recommendation or favorable reports on proposals for. . . major federal actions. . . federal agencies will assess in detail the potential environmental impact."

By committing itself to the completion of System 16, which includes proposed I-394, the Highway Department has violated the spirit of the National Environmental Policy Act and the literal language of the new guidelines of both the Council on Environmental Quality and the Department of Transportation. While it may be argued that the Department of Transportation has not yet been committed to the proposal, PPM 90-1 paragraph 6 directs the state highway department to prepare the environmental impact statement. Clearly, in its public statement before the Metropolitan Council and elsewhere, the Minnesota Highway Department has publicly and repeatedly confirmed its prejudgment of this issue.

2. The proposed freeway is inconsistent with the goals and objectives of urban planning in the Twin Cities area.

23 U.S.C §128 requires that the state highway department must certify that it has considered the consistency of the proposed highway with the goals and objectives of such urban planning as has been promulgated by the community. As indicated above in Section IV, supra, the proposed freeway is likely to produce a result which is directly contrary to the Metropolitan Development Framework Interim Policies of the Twin Cities Metropolitan Council dated January 16, 1974 (exhibit 4) concerning the kind of land use development which the Council favors in the metropolitan region. The land use study to be required by PPM 50-9 is aimed at "providing an accounting of the current land use activity structure of the study area and the most probabl or desirable future structure." PPM 50-9 paragraph 5(c). The obvious intent of the statute and the regulations is that, given the influence of highway planning on land use, the local planning policies should control the construction of highways. The only policies which have been developed to date for the entire metropolitan region are the interim policies of January 16, 1974 (exhibit 4) and the freeway is inconsistent with those policies.

3. The transportation planning process cannot be considered continuing, nor comprehensive nor cooperative where it precedes the finalization of the metropolitan development guide section on land use policies.

The state highway department must recommend and the regional federal highway administrator must certify annually that a

continuing comprehensive and cooperative transportation process is being conducted. See Instructional Memorandum 50-3-71, April 13, 1971. (Instructional Memoranda are FHWA's clarifications of policy and procedure memoranda - PPM's). The purpose of the annual certification is to insure that developing ideas concerning land use and transportation are not disregarded in highway planning but that highway planning is continually adjusted and changed to comply with those developing ideas. Instructional Memorandum 50-4-68, April, 1968, identifies guidelines which are "essential to a continuing process". It requires an annual estimate of growth including population, employment and other socio-economic factors, yet the EIS is based on 1970 figures and thinking. It requires that "changes in land development policies should be identified in the detail necessary to evaluate their effect on the future plans." Yet no mention is made in the EIS of the developing land use policies of the Metropolitan Council. The instructional memorandum also requires that "other actions taken by local, state, and federal government and major private developers should be identified so that their effect can also be evaluated." The effect of Ridgedale is evaluated on the assumption that the Dayton-Hudson Corporation's fondest dreams will occur, but the impact of major government and private developments in Minneapolis such as Cedar-Riverside, the Loring Park Housing Development, and the Burlington Northern Mississippi River Housing Development are not mentioned. Instructional Memorandum IM 50-4-68 also requires a full re-examination of the transportation plan of the department when "significant changes in technology, taxing powers, growth assumptions, or distribution policy or public funds occur." IM 50-4-68, page 3. Certainly the combined effect of the energy crisis and future fuel shortages with the changing land use policies of the Metropolitan Council constitute a signficant change in growth assumptions which must force a "full re-examination" of the transportation plan, not just for I-394 but for the entire metropolitan area.

VII. THE ENVIRONMENTAL IMPACT STATEMENT FAILS TO CONSIDER THE SECONDARY EFFECTS OF THE PROPOSED FREEWAY, INCLUDING ITS EFFECTS ON LAND USE, LOCAL TRAFFIC ON CITY STREETS AND ECONOMIC EFFECTS ON LOCAL GOVERNMENT, IN VIOLATION OF THE NATIONAL ENVIRONMENTAL POLICY ACT AND FEDERAL REGULATIONS.

A. FEDERAL REGULATIONS REQUIRE CONSIDERATION OF SECONDARY EFFECTS.

The regulations on impact statements of the Council on Environmental Quality clearly recognize that highways have major impacts through inducing new facilities and activities, which may often be more substantial than the effects of the highway on the land taken or the land adjacent to it. For example, the effects of the proposed freeway on population and growth may be among its most significant effects. 38 Fed. Reg. 147 §1500.8. Moreover, the Minnesota Environmental Policy Act of 1973, Chapter 412, specifically

requires state agencies to consider the growth inducing effects of their major actions by requiring the impact statement to discuss the "environmental impact of predictable increased future development of an area because of the existence of a proposal, if approved." The new guidelines of the Department of Transportation relating to Environmental Impact Statements also require such consideration:

> "Secondary and other forseeable effects as well as primary consequences for the environment should be included in the analysis. Secondary effects, such as impacts on existing community facilities and activities and through inducing new facilities and activities, may often be even more substantial than the primary effects of the original action itself. For example, the effects of the proposed action on population and growth may be among the more significant secondary effects. Such population and growth impacts should be estimated and an assessment made of their effects on changes in the population pattern or growth upon the resource base, including land use, water, and public service, of the area in question." 38 Fed. Reg. 30223, Section (3)(b).

While it might be argued that the regulations of the Department of Transportation were only recently published, they reflect quite accurately the case decisions by federal courts in interpreting the National Environmental Policy Act. See Anderson, "NEPA in the Courts: A Legal Analysis of the National Environmental Policy Act"(1973) .

B. THE SECONDARY EFFECTS OF THE FREEWAY UPON LAND USE HAVE NOT BEEN CONSIDERED.

About the only consideration of secondary effect on land use contained in the Environmental Impact Statement is the elimination of a split alignment near Plymouth Road around the planned Ridgedale Shopping Center because it was unacceptable to the Dayton-Hudson Corporation and it might restrict the growth of the Center. EIS page 1-65. The fact that highways have important land use consequences is recognized in the new guidelines of the Council on Environmental Quality for the preparation of Environmental Impact Statements at section 1500.8:

> "Many major federal actions, in particular those that involve the construction of licensing of intrastructure investments (e.g., highways, airports, sewer systems, water resource projects, etc.) stimulate or induce secondary effects in the form of associated investments and changed patterns of social and economic activities."

The EIS does indicate that growth is expected to occur in the second tier suburbs of Minnetonka, southern Plymouth and Medicine Lake. Page 1-16. The report also mentions the industrial migration

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Item R

See response to comment "F".

Item S

The social and economic impacts to each community are discussed in the "Impacts" section of the FEIS.

Item T

Local access needs and the impacts on local circulation patterns, have been and will continue to be, studied during the layout development and design stages. Mn/DOT has worked closely with the cities in identifying these needs.

which has occurred between 1960 and 1970 where firms moved out of the City of Minneapolis into the suburban portion of the area, Page 1-28, but does not quantify future migration. The impact statement notes at page 1-28 that a survey of the industrial firms in 1971, discussed at page 1-28 of the EIS, disclosed that firms moved to the suburbs because of room for expansion, low cost of good land, and ease of commuting. Obviously, the proposed freeway will dramatically affect the third variable, commuting, yet the EIS completely ignores the question of the effect of the freeway upon industrial migration and land use development in the suburban areas. How many more firms will migrate out of the center cities to the suburbs as a result of the freeway? What will be the effect of increased development pressure on the outlying suburbs beyond the western terminus of this segment of I-394, such as Wayzata, Orono, Medina, Independence, Minnetrista, Mound ,Delano, Watertown? Will those communities suddenly be faced with an influx of new residential construction, creating demands for sewers, roads, schools, transit, and other urban facilities? Will the freeway create increased development pressure on agricultural land in the outlying region thus violating the Metropolitan Council's policy of staged growth planning and utilizing vacant land in the urbanized area in preference to leap-frog development and urban sprawl? The overwhelming and ruthless impact of the highway in inducing urban sprawl is undeniable, in view of the experience in other parts of this metropolitan area and other parts of the country. Such effects are simply not discussed in the EIS and this failure is a major deficiency.

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C. THE ECONOMIC BENEFIT OR LOSS TO MINNEAPOLIS HAS NOT BEEN CONSIDERED.

In commenting on a draft environmental statement regarding I-78 in Pennsylvania, the Environmental Protection Agency specifically required the consideration of the effect of a new highway on the land market, the direction of growth, and the effect on the downtown area. They stated:

> "We must point out that the same expressway which increases 'over-all accessibility to the downtown areas of cities in the Lehigh Valley' also increases accessibility to the peripheral areas of the region (i.e., have an 'explosive'effect rather than an 'implosive' effect). In Pennsylvania, the development in King of Prussia at the western terminus of the Schuylkill Expressway occurred despite the fact that the expressway goes directly to downtown Philadelphia. There are many other examples of such expressway effects. Thus, claims of economic benefits to the central cities cannot be accepted without their being backed up by a thorough market impact analysis. Along with this analysis should be one of population growth and shifts expected throughout the two county region." (Emphasis supplied)

S

D. THE FREEWAY WILL DRAMATICALLY INCREASE TRAFFIC ON LOCAL STREETS IN GOLDEN VALLEY.

Although not discussed in the EIS, perphaps the most important impact to the Village of Golden Valley is the substantial increase on traffic on its local streets which will occur as a result of the limited access freeway. In the area of the proposed Highway 100,

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I-394 interchange, particularly, traffic which now utilizes Highway 12 and Highway 100 will be shifted to local streets, with a severe adverse environmental impact on the character of the neighborhoods and a substantial economic impact on the Village because of the cost of upgrading and maintaining those streets in order to handle the increased traffic.

Parkview Terrace and Natchez Avenue: The traffic on Parkview Terrace and Natche Aveune, quiet, winding residential streets with homes of substantial value now is at a level of about 200 cars per day. As a result of the freeway, this traffic may be increased by at least 1500 cars per day. The reason for this striking change is as follows: on Alternative 2, the two ramps south of Glenwood Avenue, providing access to Glenwood Avenue to northbound Highway 100 traffic, will be eliminated. On February 19, 1974, the traffic volume on those ramps were metered at 1300 to 1500 cars per day on each ramp. A part of that traffic is generated by the Golden Valley High School located north of Glenwood Avenue. After the construction of Alternative 2, traffic originating south of I-394 on Highway 100 and seeking to go east on Glenwood Avenue would have to exit considerably south of I-394 on Cedar Lake Road and then proceed northward on Natchez, across I-394 and then up Parkview Terrace in order to reach Glenwood Avenue. Assuming that the traffic volume for such trips does not increase, the traffic volume on Parkview Terrace and Natchez Avenue would then increase to about 1500 cars per day.

In addition, access will be eliminated from I-394 or Highway 100 for most of the traffic seeking to reach the commercial and industrial area north of I-394 and immediately west of Highway 100. This would dramatically increase traffic on Turners Crossroads, Glenwood Avenue, Parkview Terrace, Cedar Lake Road and those streets will constitute a heavily traveled ring surrounding the intersection area.

Turners Crossroads: Access to Turners Crossroads from the east would require an exit to the frontage road east of Highway 100. Access to Turners Crossroads from the west is at Lousianna Avenue, over 1 mile west of the commercial area. Access to the commercial area from the north is via Glenwood Avenue to Turners Crossroads, increasing traffic in that residential area. To reach the commercial area from the south, one must exit from Highway 100 at Cedar Lake Road, three-quarters of a mile from the business area. In addition the exits will presumably be ramps, rather than frontage roads. Also, north-south traffic through residential areas between Highway 12 and Highway 55 west of Turners Crossroads will increase substantially.

The effects on the residents of Tyrol Hills is to require greater driving distances for local trips and inconvenience because of the loss of access to Highway 12. The south Tyrol area is virtually isolated by the freeway.

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General Mills: Access to the General Mills area is from and to the east only. No way is proposed to get to Betty Crocker Drive from I-394 except from Westwood Road (presently a quiet street) a considerable distance to the west of County Road 18.

Laurel Avenue: Laurel Avenue, now planned as a local collector, will change from a street serving the adjacent area to an integral part of the I-394 frontage road system. A state aid street is proposed on Laurel and would have to be changed to a very heavy street in this residential area to carry heavy traffic between Winnetka Avenue and Turners Crossroad, and service the commercial industrial area near the freeway.

E. THE EFFECT OF INCREASED TRAFFIC ON THE LOCAL STREETS WOULD BE DEVASTATING.

The attitude of the residents of Golden Valley toward increased traffic on local streets is demonstrated by the incidents surrounding Natchez Avenue in 1972-73. Traffic gradually increased on Natchez which is located in the southeast quadrant of the 100-12 interchange during peak hours until it reached a level of about 500 cars per day. At that point, the citizens of the area demanded a change, even physically stopping cars in some places. Several hundred people attended an emotionally packed meeting and as a result traffic was restricted on those streets during the peak hours. While little scientific research has been done on the effect of traffic on city streets, the leading study shows major environmental and sociological differences which occur in residential areas of heavy, moderate and light traffic. Donald Appleyard and Mark Lintell in "The Environmental Quality of City Streets: The Residents Viewpoint," Journal of the American Institute of Planners, Vol. XXXVIII, No. 2, March, 1972, a copy of which is attached as exhibit 9) study three streets with precisely the same construction but with varying levels of traffic: light, heavy and moderate. They found that the attitude of people about their neighborhood varied widely depending upon the level of traffic. On the light street, inhabitants were found to have three times as many friends and twice as many acquaintances in the area as those on the heavy streets. On the heavy street there was very little social interaction, few people had friendly neighbors. Citizens were asked whether they felt any stewardship over their streets. Residents of light and moderate streets, particularly middle aged residents, evidenced great pride in their homes and streets. On the heavy street residents sense of personal stewardship of the territory did not extend into the street and was mainly confined to their own apartment and no further. Appleyard and Lintell concluded that the intensive traffic conditions on the heavy streets led to both stress and withdrawal. Those people who found the traffic conditions intolerable, especially those with children, had moved elsewhere and the people who lived there at the time of the survey had either withdrawn from the street or had never become engaged in it. They used it only when they had to. In contrast those who lived on light streets were very much engaged with their street, they viewed it as their own territory, their children played on the sidewalk and in the street, and had friends and acquaintances and were generally

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Item U

Relocation and tax impacts are discussed on pages 246-256.

See response to HUD comment "A".

Item V

The MPCA has concluded that the proposed project appears to be not inconsistent with the State Implementation Plan (SIP). See also the "Air Quality Impacts" section of the FEIS.

much more aware of their street. The authors hypothesized that heavy traffic is associated with much less social interaction and street activity. Conversely, the street with little traffic and many families promotes a rich social climate and a strong sense of community. Also, the authors conclude that heavy traffic is associated with a withdrawal from the physical environment. Conversely, residents of the street with low traffic show an acute, critical and appreciative awareness of and care for the physical environment.

Another major conclusion was that people who move to a street because of its liveable conditions and then experience its change into a major traffic corridor are the most dissatisfied. People who lived on streets with moderate traffic which had changed from a quiet residential street were often more dissatisfied than those on a heavy traffic street, and environmental quality and attractiveness of the street declined as traffic increased. Obviously, this will be the case with the Golden Valley residents whose quiet streets will be severely impacted, resulting in a loss of market value.

Appleyard, a Profession at the Institute of Urban and Regional Development at the University of California, Berkeley, has been retained by the Department of Transportation to do additional studies on the effects of traffic on streets in neighborhoods. These kinds of considerations must be part of the Environmental Impact Statement, but they are entirely ignored here. In addition, the noise impacts on local streets due to increased traffic are not considered, see Noise, infra.

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Surprisingly, the EIS concludes at page 4-58 that Alternative 2 will actually increase community cohesiveness by a planned pedestrian automobile, bicycle crossing over I-394 because U.S. 12 is now a barrier to community interaction. The EIS also states that because Alternative 4 does not include the mall type overpass, it would not promote interaction between the north and south Tyrol Hills area.

Again, it is grossly unfair to compare a do-nothing alternative, rather than an alternative of limited improvement, to Alternative 2. Moreover, a pedistrian overpass between north and south Tyrol Hills is now in the process of construction. Realistically the increased traffic which will result from the construction of the freeway because of the lack of access to Highway 100 and I-394, forcing traffic on to local streets, will divide the community in a dramatic way which is not now the case. The graphic depiction of Golden Valley into separate neighborhoods as shown in the section on "Impact: Neighborhoods" does not in fact exist but undoubtedly will be the case when increased traffic on local streets divides neighborhoods in the community. See Appleyard and Lintell, (exhibit 9)

F. THE ECONOMIC IMPACT UPON GOLDEN VALLEY IS INADEQUATELY CONSIDERED AND WILL BE SEVERE.

No consideration at all is given in the Environmental

Impact Statement to the cost of building and maintaining the additional roads necessary to handle the tremendous volume of traffic on local streets which will result. No consideration is given to the loss of market value of residential property because of that increased traffic, although there is no question that the value will be reduced and the tax base of the Village will be affected.

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The EIS shows a reduction of 2.5% on the assessed value for School District #275, but a more precise study of which businesses would be replaced and which businesses would be retained is needed, in view of the changes which will occur in access and visibility. Moreover, relocation to equivalent business sites within the Village of Golden Valley will be extremely difficult. A businessman operating a small printing business to the west of the Boulevard Restaurant just west of Turners Crossroads, recently spent six months searching for the present site of his business. Small business sites along the section of Highway 12 are hard to find and many of the businesses which would be displaced would not be able to locate along the present corridor. Even if relocation is possible, there is no indication of the cost of that relocation to the Village because of additional services which would be required to be provided.

I

VIII. THE PROPOSED FREEWAY WILL RESULT IN VIOLATION OF STATE AND FEDERAL POLICIES, STATUTES AND REGULATIONS REGARDING AIR QUALITY.

A. THE MINNESOTA ENVIRONMENTAL POLICY ACT OF 1973 ESTABLISHED A NON-DEGRADATION STANDARD FOR AIR POLLUTION IN URBAN AREAS.

Minnesota Law, 1973, Chapter 412, establishes a state policy to "reduce the deleterious impact on air and quality from all sources, including the deleterious environmental impact due to operation of vehicles with internal combustion engines in urbanized areas". In effect, the policy to reduce air impact from automobile use in urban areas is a non-degradation standard, which requires that sources which would have the opposite effect should not be built. The Minnesota Highway Department is directed by Section 3 of the Act to interpret and administer their policies, regulations and statutory authority in accordance with the policies of the Environmental Policy Act. Action by any state agency contrary to the policies or standards of the Act may be reversed or modified by the Environmental Quality Council.

V

B. BY INCREASING THE RELIANCE ON AUTOMOBILE TRAVEL TO THE MINNEAPOLIS CBD, THE FREEWAY IS LIKELY TO RESULT IN A VIOLATION OF THE PCA STATE AIR IMPLEMENTATION PLAN.

In a letter of November 5, 1973, quoted at page 4-34 of the Impact Statement, the MPCA Director of Air Quality, Edward M. Wiik, noted that MPCA had been provided with "no discussion on the effects of the increased traffic flow on CO levels in downtown Minneapolis, an area where high contaminant levels have been recorded."

The implementation plan proposes to limit the parking in downtown Minneapolis and increase parking on the fringe of the downtown area, in order to reduce traffic flow in the CBD. Quite obviously the freeway will encourage the use of the automobile for trips to the CBD, thus placing tremendous pressures for the construction of more parking facilities in the downtown area. Minneapolis is committed to restricting the availability of more downtown parking spaces, by its memorandum of intent, January 22, 1973. However, there is no legal obligation to do so, and the City Coordinator admits that it will not be feasible to implement that intent unless transit ridership increases dramatically. (Thomas Thompson, Citizens League Breakfast, Minneapolis, February 28, 1974). Even if no further parking facilities are built, the freeway will probably result in a higher concentration of vehicles in downtown Minneapolis.

The proposed Environmental Protection Agency regulations on approval and promulgation of state implementation plans, 40 CFR, part 52, provides that no highway which induces 1000 or more vehicles trips in any one hour, or 5000 or more vehicle trips in any 8 hour period, shall be granted approval by the Director of the EPA unless the applicant (The Minnesota Highway Department) demonstrates that the highway will not cause a violation of the control strategy which is part of the state implementation plans. No attempt is made in the Environmental Impact Statement to deal with the question, despite the express request by the Pollution Control Agency and the regulation.

V

Potential violations of the state air implementation plan also violate the substantive standard of conduct set forth in the Minnesota Environmental Policy Act of 1973, Laws of Minnesota, 1973, Chapter 412, Section 4, Subd. 6, which provides that "no state actions significantly affecting the quality of the environment shall be allowed, nor shall any permit for natural resources management and development be granted where such action or permit has caused or is likely to cause pollution, impairment or destruction of the air, water, land or other natural resources located within the state so long as there is a feasible and prudent alternative. . .economic considerations alone shall not justify such conduct." (emphasis supplied) Clearly, building of the freeway is a state action significantly affecting the quality of the environment, and it "is likely to cause pollution, impairment or destruction of the air" as defined in M.S.A. §116B.02, subd. 5, as any conduct which "is likely to violate any environmental quality standard, limitation regulation, rule, order. . . of the state. . . or is likely to materially adversely affect the environment".

Thus, in order to constitute "pollution" it need only be shown that the proposed freeway "is likely to" cause a violation of the air implementation plan. If "pollution" (defined as the likelihood of a violation of the plan) is "likely to" result from the plan, the substantive standard of the Minnesota Environmental Policy Act prevents the action. Only the likelihood of a potential violation need be shown to prevent the action in question, assuming that there exists a feasible and prudent alternative.

Item W

The noise analysis was performed using "worst-case" conditions. Analysis showed that if I-394 is built, no homes will be exposed to noise levels in excess of the FHWA Design Noise Levels and in many areas, noise levels would actually be reduced from existing levels. See also "Noise Impacts" section of the FEIS.

C. THE EIS FAILS TO DISCUSS THE SIGNIFICANT HEALTH HAZARD CONNECTED WITH LEAD IN SUFFICIENT DETAIL.

The Environmental Impact Statement notes that "a total of 1230 acres of land could be subjected to lead concentrations greater than that recommended by EPA (2 micrograms per cubic meter)" page 4-39. Two problems exist with the discussion of lead. First, the health effects of exposure of lead concentrations are insufficiently discussed. Second, the models used to determine lead exposure are insufficient.

The EIS notes at page 433 that "although the diet appears to be the principal source of lead in the general population, persons exposed to large amounts of atmospheric lead may also suffer harmful effects, such as motor function impairment and brain damage." There is no indication in the EIS of the level of exposure which would be necessary to cause brain damage, even though 1230 acres would be exposed to that toxic chemical by proposed Alternative 2. No indication is given in the EIS of where the 1230 acres to be affected would be located. Studies recently confirmed, have shown that, while some lead is ingested, it is the lead which is inhaled from the atmosphere that is retained by the body. See Arthur C. Stern, ed. Air Pollution, 2nd Ed., Vols. I, III, &III, Academi Press, New York and London, 1968. The best survey of the literature concerning effects of lead is by Tsaihwa J. Chow "Our Daily Lead", Chemistry in Britian, (1973).

V

There are no contours provided for lead apart from the particulate emissions. The EIS notes that concentrations in lead were based on data from several roadways in California and an empircal equation, and were not be determined from complex heavy particle diffusion models, which would be more desirable. What the EIS seems to say is that they really aren't very sure about the effects of lead or how much lead pollution will occur and where, but that it may cause "motor function impairment and brain damage." Further studies should be completed on a more precise basis. In addition to brain damage, toxicologists are finding lead as a renal poision, affecting the kidneys. We need more than this kind of educated guess when dealing with such damage.

D. CARBON MONOXIDE AFFECTS ARE INADEQUATELY DISCUSSED.

The statement that "no adverse impact from carbon monoxide is predicted" page 4-37, 4-38, does not take into account studies of possible effects of CO upon carbon monoxyhemoglobin levels at various distances from the roadway. In addition, the effect of depressing the roadway into a trench, thus increasing the concentration of pollutants on freeway drivers themselves is not discussed. Significant adverse effects of freeway driving on Angina Pectoris may result, including a significant decrease in physical ability. See Aronow, et al. "Effect of Freeway Travel on Angina Pectoris," Annals, of Internal Medicine, November 1972, Vol. 77 No. 5, page 669.

E. WE CANNOT RELY UPON CHANGES IN AUTOMOBILE EQUIPMENT TO ELIMINATE POLLUTION.

The EIS notes that use of lead free gasoline would reduce lead concentrations, but until that occurs there will be significant adverse impacts from Alternative 2. Page 4-40. The future of emission controls is uncertain and cannot be depended upon. Moreover, the Environmental Protection Agency is now carrying out a crash program to study the production of platinum and sulfur pollutants from the catalytic afterburners associated with pollution controls, since it appears that the emission control devices may produce these additional pollutants.

V

F. THE EIS DOES NOT CONSIDER THE INCREASE IN AIR POLLUTION ON NEIGHBORHOOD STREETS AS A RESULT OF INCREASED TRAFFIC.

As noted above, a number of streets in Golden Valley would experience dramatic increases in traffic volumes, of perhaps 1500 cars based on present conditions. No consideration is given to the increased air pollution in these neighborhoods, despite the strong non-degradation policy of the Minnesota Environmental Policy Act of 1973, quoted above.

IX. THE ANALYSIS OF SOUND POLLUTION IN THE EIS IS MISLEADING AND INADEQUATE

A. CONSIDERATION OF THE DO-NOTHING ALTERNATIVE IS BASED ON FALSE ASSUMPTIONS.

As noted above, the impact statement falsely assumes that traffic on Highway 12 would increase as if the freeway were built. Also the EIS fails to consider the effect of upgrading Highway 12, which would reduce the present additional noise produced by the rough surface of the highway. Long overdue resurfacing of Highway 12 would markedly decrease the existing noise level. Thus, the number of homes which would experience an increase over present levels as a result of the freeway would be quite different if present noise levels were reduced by improvements on Highway 12. Moreover, no consideration in the "do-nothing alternative" is given to possible design modifications which could reduce the deleterious impact of noise from the existing highway such as the construction of noise barriers. In addition, comparison between Alternative 2 and Alternative 4 in the number of homes and businesses to be impacted by noise does not take into consideration the number of structures which would be required to be removed under Alternative 2.

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B. THE NOISE PROJECTION DATA IS BASED UPON DESIGN CONCEPTS WHICH ARE SPECULATIVE.

Future predicted levels were based on speeds of 35 to 50 miles per hour, which may or may not be the case. FHWA standards require noise level projections to be based on "operating speed, the highest overall speed at which a driver can travel under favorable consitions. . ." 70 M.P.H. on a freeway. 23. C.F.R §722.3(j).

None of the data include adequate treatment of land contours or range of errors in the projections. No consideration is given to the result of the high elevation of the interchange at Highway 100.

Yet the EIS recognizes at page 4-24 that elevation of the roadway increases penetration of the 70 dba contour into a neighborhood.

C. THE EIS FAILS TO CONSIDER THE IMPACT OF NOISE ON RESIDENTIAL AND ADJOINING STREETS, DUE TO INCREASED TRAFFIC.

As with air pollution, the Minnesota Environmental Policy Act of 1973 creates, in effect, a non-degradation standard for noise in urban areas by creating a policy, binding upon all state departments to "minimize noise, particularly in urban areas". Minnesota Laws, 1973, Chapter 412, Sec. 2(g). Moreover, the natural resources of the state which may not be polluted, impaired or destroyed included "quietude" M.S.A. §116B.02. The impact of increasing the traffic on the local streets of Golden Valley upon the affected neighborhoods will be overwhelming as demonstrated by the Lintell and Appleyard study, exhibit 10.Frustration, stress withdrawl, loss of sense of community and lack of concern for the neighborhood environment will result from the increases of traffic and noise which can be expected as a result of I-394 on such streets as Parkview Terrace, Glenwood Parkway, Turners Crossroads and Natchez Avenue. (See Appleyard and Lintell, exhibit 9).

The EIS notes that the "design noise level - L_{10}" for residences is 70 dba exterior. A recommended noise standard for housing sites by the American Public Health Association, Committee on the Hygiene of Housing, Principles of Healthful Housing, 2nd ed., New York, 1950 pp. 12-15, notes that the FHWA standard of 70 dba being exceeded 10 percent of the time is an absolute minimum and that the standard measurement should be 60 dba L_{10} or only 50% as great as 70 dba L_{10} and the optimum is 50 dba L_{10}. They describe "standard" as the "recommended minimum condition for normal living;" a justifiable standard for all new construction.

A September 1971, work "A Freeway Traffic Noise Study", City of Bloomington, Department of Environmental Services", (attached as exhibit 10) raises substantial questions about the accuracy of the predicted noise contours, as well as forecasting the type of objections which residents close to the proposed freeway will have. The study concerns Highway I-35 between 82nd and 90th Streets south in Bloomington, a depressed four lane interstate freeway. The mean daytime noise level at 100 ft. was found to be 78.0 dba, or about twice the sound level of 70 dba, recommended as the minimum standard by FHWA. Residents on streets adjoining the freeway consider

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the freeway traffic noise "very objectionable". Sixty-six percent of the people living in homes adjoining the freeway reported taking steps to reduce freeway noise by, keeping all or some of the windows and doors closed even during hot weather, installing air conditioning so that windows could be closed to reduce the noise level, leaving their storm windows on all year round, eliminating the use of their yards facing the freeway and even discontinuing use of the rooms nearest the freeway in their homes (exhibit 11, page 16). In addition, some residents reported using ear plugs while trying to sleep in order to drown out traffic noise. Sixty-one percent of the interviewees estimated that the value of their homes had decreased a mean value of 17.8% due to the freeway, and more than 10% were planning to move because of the annoyance of freeway noise. Ninty-eight percent of the people who considered the freeway to be an annoyance said that traffic noise bothered them the most about living near a freeway. However, other objections were frequently raised such as dirt and dust resulting from the freeway and odors generated by freeway traffic.

An additional study done by the St. Louis City Health Department of a noise survey in residential areas along County Road 18 also raises questions about the accuracy of the noise projections

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in the Environmental Impact Statement. A copy of the study, "Highway Noise Survey, County Road 18", July, 1973, is attached hereto as exhibit 12. The results show that both the Federal Highway Administration and the U. S. Department of Commerce limits were consistently exceeded at the following three sites:

(1) Site 1W was located at the top of an embankment overlooking the highway approximately 20 to 25 ft. in elevation above the highway at a horizontal distance of 98 ft. to the highway median. The highway is steeply graded on both sides at this point. The L_{10} noise levels from the period 6:30a.m. through 9:00a.m. and 4:30p.m. through 7:00p.m. all exceeded 74 dba and averaged about 77 dba during that time.

(2) Site 3W was located 92 ft. from the highway median at an elevation of 5 to 6ft. above the highway level, having a slight downward grade from north to south. At this site the L_{10} readings were consistently above 70 dba during the peak hours, with the highest being 75 dba L_{10}.

Site 1E, 91 ft. from the median at a point level with the highway, exceeded 70 dba consistently, with the levels usually falling in the 72-73 dba L_{10} range and the highest being 75 dba.

From this data one may conclude that the depression of the highway does not necessarily decrease the noise levels for adjoining property, as is assumed by the Environmental Impact Statement, and that the noise level contours in the EIS are not accurate.

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Item X

The proposed project will require the use of a small portion of Theodore Wirth Park and Brookview Golf Course. A Section 4(f) Evaluation is attached to this FEIS documenting coordination with the MPRB and the City of Golden Valley and planned mitigation measures.

X. THE PROPOSED FREEWAY VIOLATES SECTION 4(f) OF THE DEPARTMENT OF TRANSPORATION ACT OF 1966 AND SECTION 138 OF THE FEDERAL HIGHWAY ACT OF 1968.

The policy and requirements of section 4(f) and section 138 are set forth at page 5-2 of the EIS. They require that "special efforts should be made to preserve the natural beauty of the countryside and public park and recreation lands, wildlife and water fowl refuges and historic sites." They prevent approval of any project which requires the "use of any publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, state or local significance," unless there is no feasible and prudent alternative to the use of such land.

X

In the leading case of Citizens' To Preserve Overton Park v. Volpe, 401 U.S. 402 (1971) the Supreme Court construed this limited exemption as follows:

> "The very existence of the statute indicates that protection of park land was to be given paramount importance. The few green havens that are public parks were not to be lost unless there were truly unusual factors present in a

> particular case or the cost or community disruption resulting from alternative routes reached extraordinary magnitudes. If the statutes are to have any meaning, the secretary cannot approve the destruction of park lands unless he finds that alternative routes present unique problems." 401 U.S. 203,420.

Thus, the statute is not discretionary, but imposes a heavy burden upon the Secretary of Transportation. Section 4(f) is in effect a prohibition to the Secretary, preventing adverse effects on such land. Moreover, the first sentence of section 4(f) that "special effort should be made to preserve the natural beauty of the countryside" is also a policy which has been largely ignored to date by highway departments and the Department of transportation, but which is expected to become more significant a factor in highway planning and highway litigation. Application of the statute does not require that parks, wildlife refuges or recreation areas be actually acquired in fee ownership by the highway department in order for section 4(f) to apply. It is enough if the areas are affected sufficiently by the freeway to substantially disrupt their use. In reversing a Federal District Court's decision that section 4(f) was not violated where a minimum of park land would be taken for the actual use of lands and interchanges, the United States Court of Appeals for the District of Columbia ruled that the word "use" in section 4(f) goes far beyond actual taking of land.

> "More is at stake, however, than the 'minimum taking' of parkland. Section 138 speaks in terms of minimizing 'harm' to parkland and historic sites and the evaluation of harm requires a far more subtle calculation than merely totaling the number of acres to be asphalted. For example,the location of the affected areas in relation to the remainder of the parkland may be a more important determination, from the standpoint of harm to the park, than determining the number of affected acres." P. C. Federation of Civic Associations v. Volpe, 459 F. 2nd 1231, 1239 (DC CIR. 1972).

See also, Brooks v. Volpe,460 F. 2nd 1193 (1972) in which the 9th Circuit showed that "the word 'use' is to be construed broadly in favor of environmental statements in cases which environmental impact appears to be a substantial question." See generally, Gray, "Sec. 4(f) of the Department of Transportation Act", 32 Md. L. Rev. 327 (1973). Thus it is not only Wirth Park and Brownie Lake that must be considered as 4(f) land, but rather, all of the publicly owned land which is park land, recreational land, wildlife and water fowl refuge which will be affected by the freeway must be considered.

It is clear that Alternative 2 would have substantial adverse effects upon publicly owned recreation, park and wildlife and water fowl area which would invoke the application of Section 4(f) and prevent the construction of highways unless the Secretary can demonstrate that there is no feasible and prudent alternative, a burden which we believe is impossible to carry in view of the limited improvement option and the many alternatives available to reduce demand.

Under Alternative 2, as shown on page 4-49, 43.4 acres of natural

resource areas and 110.3 acres of wildlife habitat will be adversely affected by sound, assuming the sound contours of the study to be correct (which is questionable.) In addition, a major defect of the EIS is its failure to adequately consider the effects of the proposed freeway on drainage and the water quality of the recreational lakes, which, if disturbed, would constitute the "use" of publicly owned recreational resources subject to the application of section 4(f). The EIS points out at page 138 that there are large aquifers and numerous wells in the study area, that some of the deepest lakes are linked to bedrock aquifers and that "not all of the lakes, ponds, and marshes are interconnected by streams; some have undefined drainage patterns and some are entities with no apparant outflow." The proposd interstate as constructed would in accordance with Alternative 2 be depressed approximately 25 to 30 ft. below grade from Winnetka Avenue easterly to Highway 100 and again in the area of Tyrol Hills easterly past the Prudential Building to Glenwood Parkway. Since the EIS notes at page 1-44 that the central issue regarding surface water management is the retention of existing natural drainage of lakes, ponds, wetlands, streams, channels and the protection of open space, and recognizes that the alteration of any parcel of land within the watershed will have an effect upon the drainage system below the point of alteration, the EIS should address the question of whether the total hydrological system would be affected by the excavation necessary to depress the roadway. It seems possible that underground aquifers would be intersected by the road cut, thus interrupting the hydrologic system which maintains the levels in streams, aquifers and ponds in the area, including recreation lakes.

Y

Water quality effects are also of great concern to the recreational resources of the area. While the report admits that the highway would contribute to the chloride content of Brownie Lake EIS page 4-50, and that the storm water runoff would have some effect on water quality, the report does not consider the extent to which oils, chlorides, and other pollutants may affect those lakes. Brownie Lake is expected to act as an initial filter to other larger and more popular recreational lakes. However, there is no indication of how much filtering would take place or what types of materials would be filtered.

The EIS implicitly recognizes that the taking of title to land is not necessary for 4(f) involvement by its discussion at page 4-48 of the effect on the proposed Westwood Hills Environmental Education Center in the City of St. Louis Park. While the City has complained that "noise, drainage, air pollution, freeway lighting and other effects of the freeway at this location all could be major detriments to the development and use of the nature center", the EIS dismisses this concern by noting that the Nature Center in Richfield adjacent to 35W is visited by 50,000 people per year. No comparison of the noise, drainage, air pollution, lighting and other effects of the I-35W facility at that point are made with the proposed I-394.

Item Y

The water quality impacts have been studied and are discussed in the "Water Quality Impacts" section of the FEIS. Also, a separate "Water Resources Analysis" report has been prepared and is available for review at the Golden Valley District Office of Mn/DOT. No significant adverse impacts are anticipated.

Item Z

An energy analysis was performed and is summarized in the EIS.

Item AA

Construction related impacts are discussed in the "Impacts" section of the FEIS.

Other 4(f) lands are not considered. The marsh in the northwest quadrant of the 100-394 intersection designated as a natural area by the Golden Valley Council will be destroyed. The effect on Brookview Golf Course is not considered, although a substantial number of acres will be affected by noise at that point. See page 4-27.

A significant omission in the 4(f) statement is its failure to discuss, as required by the statute the question of feasible and prudent alternatives to the use of 4(f) lands. Where 4(f) lands will be "used" and such is certainly the case here, the project may not go forward unless "there is no feasible and prudent alternative to the use of such land." This is the same standard of course, provided by the Minnesota Environmental Rights Act of 1973 quoted above, except that under Minnesota Law, economic considerations alone shall not be used as support for non-feasibility. We submit that the strong statutory directive of Section 4(f), as it has been interpreted by the Supreme Court, is violated by the proposed I-394 since feasible and prudent alternatives to the construction of an interstate freeway clearly exist.

XI. THE ENVIRONMENTAL IMPACT STATEMENT FAILS TO CONSIDER THE "IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES" WHICH WILL RESULT FROM THE FREEWAY, AS REQURED BY NEPA.

While the EIS does consider the commitment of land to transportation uses and the materials and labor involved in construction, it does not consider the commitment of petroleum fuel to automobile use because of the increased reliance on the automobile which will result in this area from the construction of the freeway. Freeways have already been responsible for great increases in the use of automobiles and our reliance on petroleum fuels. A paper presented at the Society of Automotive Engineers as noted in exhibit 2, shows that automobile gasoline consumption accounted for 54% of the total U.S. transportation energy budget in 1970, and two-thirds of this fuel was devoted to urban travel while one-third was devoted to inter-city driving. A large portion of the blame for our overwhelming tendency to rely on highways for transportation is due to the Federal Highway Act of 1944-1956, which provided significant federal funds for highway construction. Between 1950 and 1970 mileage of surface roads increased by 50% to about 3 million miles. During this period, the number of registered automobiles increased more than two-fold and the number of automobile miles traveled increased nearly three-fold. By comparison, population increased only 34% during this same period; thus per capita auto travel increased 85% during this 20 year period. Total energy consumption, indirect and direct of the automobile in the United States, constitutes 21% of the total United States energy budget (exhibit 2). Further commitment to reliance on freeways as a means of transportation clearly involves an irreversible and irretrievable commitment of petroleum resources.

Z

In addition, the effects on neighborhoods of the long period of construction, causing tremendous increase in local traffic as

AA

drivers seek to avoid the inevitable jam-ups on the portion under construction and the dirt, noise and confusion that will result from the construction are not considered in any detail, but would be significant.

CONCLUSION

Finally, since it is clear that there is a likelihood of "pollution, impairment or destruction of our natural resources as a result of this proposed freeway, and since pollution impairment or destruction is defined as a likelihood of a violatio of an environmental standard or reguation, the burden is upon the Minnesota Highway Department to demonstrate the absence of any feasible and prudent alternatives to the proposed freeway, before approving the project. Clearly, the alternative of limited improv ment of Highways 55, 12 and 7, and simultaneous development of an overall transportation plan for the region, utilizing the $87 million in federal funds available for mass transit through the transfer provisions of the 1973 Highway Act is a feasible, prudent desirable, energy saving, land saving and humane alternative which must be selected in preference to the proposed freeway.

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COMMENTS ON DRAFT ENVIRONMENTAL/4(f)
STATEMENT CONCERNING PROPOSED I-394

I. General

We welcome this opportunity to offer constructive commentary on the impact statement for the I-394 project. It is by such public participation in governmental decision-making that policies which are both efficient an just may be formulated.

II. Description of study area

The data inventory on the study area is excellent. We wish impact statements for other projects would possess such thoroughness.

III. Statement of Transportation Needs

Any statement of future transportation needs must rest on projected conditions regarding land use, personal attitudes--in particular, attitudes towards their employment--the costs of various modes of transportation. The present study assumes that:

a. The work week will not shorten
b. People will continue to separate their private lives from their jobs--both psychologically and geographically
c. Perceived costs of auto operation will not increase significantly
d. No technological breakthrough--e.g., cable T.V.

In view of the historical trend toward shorter work weeks, it is quite likely that the five day work week could become a thing of the past by 1990-2000. This reduction in the number of work trips per week made by study area residents would have a major impact on peak hour transportation needs. For example, if employers commonly adopted a four day week, and the third leisure day were assigned randomly to employees, peak hour congestion would decline by 20%.

Changes in attitudes also could have a major impact on transportation needs. A recently published Ford Foundation study[1] indicates that commuting distance is one of the most important factors in determining needs, and that this variable could be heavily

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affected by changes in attitudes towards employment. Changes in attitudes towards car pooling and use of public vehicles would have a significant impact on auto traffic levels.

Future energy costs, costs of emission control equipment, future user taxes all are very difficult to estimate and all could have a significant impact on auto usage. It is highly unlikely that the assumptions for these variables error on the side of indicating less auto usage than will actually occur. It is more likely that the increases in these areas are quite possible--some might say likely.

It should also be noted that development of improved communication technologies may significantly reduce the need for certain kinds of trips. Cable T.V., for example, could have a significant impact on recreational trips and shopping trips and might also have impact on work trips and school trips.

The report also assumes that conventional line-haul transit will handle 50% of the peak hour traffic in the year 1995. We note this assumption is basically inconsistent to the above-mentioned assumptions. Given conditions much like today, there is little reason to expect that many people would voluntarily incur severe time penalties just so that they can use the transit facility. **A**

On page 1-51 of the impact statement data is presented indicating how transit would impact on the level of auto traffic. Data shows that on one stretch of Highway 12 the traffic would be reduced from 290,000,000 ADT to 163,000 ADT with transit introduced. This means that 159,000 travelers would be diverted to transit under this assumption. However, the consulting work performed by Simpson & Curtin indicates that under Case One, only about 80,000 trips per day will occur on the transit system.[2] Therefore, about half of the hoped for transit patronage does not seem justified by any supporting evidence. **B**

The implication of the above information taken in isolation seems to point inexorably to more highway facilities than are now presently contemplated. This, however, is not the case. First, alternatives to conventional transit in the form of PRT or dual mode will be available for installation well before 1990. Such sorms of transit will be considerably more effective in attracting riders than conventional line-haul systems. A more detailed discussion of this aspect of the situation can be found in the MPIRG report, "An Alternative Approach to Twin Cities Transit Development," which is appended to this testimony.

RESPONSE

Item A

See response to EPA comment "F" and Golden Valley comments "I" and "N".

Item B

The traffic projections presented in the Draft EIS have been set aside and new forecasts made which reflect current trends and data. Therefore, the discussion which is referenced has been omitted from the Final EIS.

Item C

These and other alternative were studied and dismissed for a number of reasons as stated in the Draft EIS. In a Report dated May 14, 1974 the Metropolitan Council took the following positions on the Multiple Upgrading and Limited Improvement Alternatives:

3. Mass Transit Plus Upgrading Highways 7, 12, 18 and 100:

The purpose of this alternative is to spread the load over the existing highways. This means increasing the capacity of these roads and improving their safety. Highways 18 and 100 are currently four-lane freeways in the study area -- "upgrading" suggests that they should be six lanes. Highway 7 is a four-lane expressway to Lake Calhoun, where it becomes Lake Street (a four-lane arterial with traffic signals at each intersection). There is no expressway connection to downtown Minneapolis. To "upgrade" Highway 7 would be to provide a speedier connection to downtown or to I-35W which brings to mind the "Southwest Diagonal" and the "28th Street Crosstown" freeways

Page 3

The assumption of "business as usual" in the parameters of urban transportation also do not appear to be justified (see above discussion). If these assumptions are indeed invalid, the number of autos moving through the corridor in the peak hour could be significantly less than the number projected.

In summary, we note that the subjectivity inherent in long range forecasts has been de-emphasized by the presentation of needs in the report. We also note that the objective assumptions weight the remainder of the analysis heavily toward an Interstate plus conventional transit recommendation. Finally, we note that these assumptions are internally inconsistent, and are not justified by any evidence, even of a heuristic variety.

IV. Discussion of alternatives and citizen participation

All of the highway alternatives discussed on the impact statement have one common feature: they all rely on construction of a single interstate facility to meet highway needs. A program of upgrading several existing facilities was not examined. In view of data in the impact statement indicating that approximately 50% of traffic using the I-394 facility would originate either north of T.H. 55 or south of T.H. 7 (p. 4-13 to 4-19), this lack of attention to multiple upgrading is puzzling to say the least. Upgrading of T.H. 7 and 55 would shorten travel distances for travelers from southern and northern extremities of the study area, and reduce traffic flows on roads leading into Highway 12. Why was this alternative not even discussed?

C

The limited upgrading alternative proposed by the citizens was treated by the Highway Department in a most unsympathetic manner. The limited alternative proposal as construed by MHD is so deficient as to appear to be a straw man:

a. No discussion of multiple upgradings
b. No discussion of transit
c. No discussion of the effects of land use changes, car pooling, development controls, or other feasible public policy options that could be part of a general strategy that included limited upgrading.

Similar comments can be made with regard to the "no build" alternative. The MHD has construed "no build" to mean "nothing." Since other transportation remedies than constructing an Interstate highway are possible and may even be more desirable, how can MHD expect anyone to take their formulation of Alternative 4 seriously? Granted, a "null alternative" is legally necessary to meet NEPA

which were dropped from consideration many years ago because of environmental impacts. There is insufficient right of way available to add more lanes to the highly developed stretch of Highway 7 east of Highway 18.

Highway 55 is a four-lane expressway between I-494 and Minneapolis, where it is six lanes. To add more lanes in Golden Valley would require the taking of land from Wirth Park in addition to some residential land acquisition.

If it were decided to increase the vehicle capacity of each of these highways in addition to a good mass transit system, the transit system would face more competition and be less likely to succeed, than if only one highway were upgraded. Also, upgrading each highway would not reduce the traffic into downtown Minneapolis (a concern of EPA).

Upgrading these highways would not solve the problems noise, divided neighborhoods and water pollution, but would make them worse.

4. Mass Transit Plus Limited Improvement to Highway 12:

This "limited improvement" alternative is the upgrading of Highway 12 to freeway standards on its existing grade and alignment. It means extending the six-lane freeway that now exists within the Bryn Mawr Community in Minneapolis -- to I-494 in Minnetonka -- with minimal disruption to existing homes and businesses (using existing right of way). This alternative plus mass transit could provide almost the same transportation service for regional trips as I-394, but could not provide adequate access to development without significant disruption and cost, between Highways 18 and 100. This alternative would not solve the problems of noise, divided neighborhoods and water pollution. However, this alternative is a design solution and could be considered during the design stages.

The no-build alternative, as used in the DEIS, is used to compare the consequences of leaving the highway in basically its present condition with the consequences of other improvement alternatives. Some of the other alternatives studied, such as the limited improvement alternative, are the minimum improvement actually foreseen as necessary in the US 12 corridor.

requirements; however, MHD's obligations go beyond ritual compliance with legally necessary steps. Moreover, although the citizens' advisory committee may not have been sophisticated enough to formulate its desires for alternatives to be studied in a more imaginative and more precise manner, this does not excuse MHD from its apparent strategy of construing "no build" and "limited upgrading" options in such a narrow, unimaginative, and inherently unfavorable manner.

All of the above amply demonstrates the need for citizens to have the power to formulate, with the help of professional assistance, their own alternative solutions to their own transportation needs. Relying solely on the MHD to formulate the alternatives leads inevitably to situations such as the one we are now facing, in which the only real alternatives to construction of an Interstate highway facility and conventional line-haul transit have never been studied.

V. Discussion of impacts

Since the discussion of noise, air pollution, traffic accidents, and impact on natural ecosystems all rest on the basic assumptions about travel behavior we have discussed above, it is not necessary to examine these phenomena in detail to realize that these predictions contained in the impact statement are "soft."

There is, however, one particular error in the discussion of impacts which carries special significance and which deserves to be singled out:

On page 4-11 of the impact statement, the discussion of the "do-nothing" alternative states that growth rates for the study area were assumed to be the same as if "adequate transportation service were present." This is a classical case of circular reasoning! A limitation of transportation facility capacity would likely have a significant impact on growth in the study area. This lessening of growth in turn would imply fewer trips in the study area than would be the case if more extensive transportation facilities were built. The actual shortfall in system capacity would therefore be considerably less than predicted in the impact statement, as would all other negative impacts. D

On the same page it is also stated that, for purposes of analysis of Alternative 4, it is assumed that "current attitudes toward travel remain essentially the same as now." Does this statement imply that the public is assumed to have the same negative attitude towards transit? If so,

why do the other alternatives assume that the public somehow will become more favorably oriented towards transit? Such disparity in assumptions is highly inconsistent and impossible to justify. D

A survey conducted by Midwest Planning and Research in the corridor yielded the following items:

Q. 82 gave respondents five options for the future transportation system in the western suburbs. The alternatives and the number of people responding positively to each one are given below.

46% New transit system and no new highways
8 Do nothing
11 Freeways with busways
30 Expand bus service, keep highways
2 M re freeways and no transit

Q. 66 asked respondents to agree or disagree with the statement that constructing new transit systems is a better policy than continuing to rely on highways and buses.

64% Agree
25 Disagree
11 Don't know

The notion that the people of the area are demanding new highway facilities does not seem supported by the survey data.

VI. Relationship between highway capacity, transit patronage, and efficiency

On page 4-2 of the impact statement is a discussion of the efficiency of the transportation system in the study area. The following table is taken from page 4-2:

TABLE 15--EFFICIENCY OF ALTERNATIVES IN 1995

Segment of Roadway Along Highway 12 Corridor	Efficiency Assuming Case 1 Patronage		Efficiency Assuming 50% patronage	
	Alternative (s)		Alternative (s)	
	1, 2, 3	4	1, 2, 3	4
I-494 to Co. Rd. 18	80%	39%	123%	82%
Co. Rd. 18 to T.H. 100	92%	49%	124%	84%
T.H. 100 to I-94	70%	61%	100%	92%

Item D

The traffic, populations, employment and household projections presented in the DEIS have all been replaced with updated forecasts. The Final EIS includes the most recent Metropolitan Council projections for populations, employment and households and the traffic projections have been updated using current trends and data. Even using their updated, conservative projections, projected traffic cannot be adequately handled by the existing facility.

Page 6

It is extremely noteworthy that, as the table shows, the efficiency (as defined by MHD) of the transportation system is highly sensitive to projected transit patronage. For example, an examination of Table 15 reveals that overall efficiency with Alternative 4 and a 50% peak hour transit mode split is greater than the efficiency of Alternatives 1, 2, or 3 with a smaller (Case 1) patronage on transit. This seems to imply that, in terms of meeting projected demand, it would be feasible to rely on no build or limited upgrading options if one could demonstrate that transit patronage would be considerably greater than projected by Case 1. The MPIRG transit study demonstrates that PRT or dual mode systems likely would provide this additional patronage. It is not unlikely that upgrading west of T.H. 100 and the more widespread adoption of shorter work weeks, staggered work hours and increased car pooling would eliminate whatever remaining shortfall in capacity would be projected to exist.

VII. Other comments

P. 1-4: "In the second tier suburbs of Minnetonka, southern Plymouth and Medicine Lake and the Lake Minnetonka communities of Deephaven and Woodland, the percentage of land that is vacant or in agricultural use is considerably higher, ranging from 60 percent in Minnetonka to 83 percent in Deephaven and Woodland. Because of this, the majority of future population and employment growth in the study area is expected to occur in these communities."

COMMENT: Availability of vacant land is a necessary but not a sufficient condition for extensive development activity. Location of employment centers and peoples' continued willingness to make long work trips are significant factors which must be disucssed, particularly in view of possibe long term increases in the cost of auto transportation.

P. 4-1: "Transit will not be available for some time, from 10 to 15 years."

COMMENT: This statement is highly misleading to say the least. First, the timetable for installation of a major transit facility in the study area has not yet been determined. Second, express buses on existing highways could be implemented immediately. The Simpson & Curtin Case 3, which is based on this concept, indicates that 54,500 daily trips could be handled by such a system in 1995. Use of preferential treatment for express buses

E

Page 7

COMMENT: on T.H. 100, T.H. 55, and Highway 12 would likely yield a comparable ridership level. Such a ridership level would have an appreciable and an immediate impact on the number of autos using these roads.

P. 4-1: "The current policies of limited downtown parking and an attractive automated people mover system by the City of Minneapolis will encourage the use of transit in the corridor."

COMMENT: How the people-mover could possibly encourage transit use if it is designed as a shuttle service to take automobile users to parking garages is perhaps one of the great mysteries of our time.

P. 4-1: "It is also stressed that the peak hours will not occur in just the morning and evening when people are going to and returning from work. Variable working hours, a shorter work week and the increase in retail and recreational travel (a function of the affluence of the study area) during the week and on weekends will result in heavy or "peak" travel several times during the day.

COMMENT: Such a description of the "peaking" problem is fundamentally erroneous. A series of smaller peaks certainly is going to provide less of a capacity problem than one or two large peaks. Indeed, a very laudable strategy for decreasing the cost of transportation facilities is to pursue public policies which will break the big peaks into lots of little ones. Since transportation facilities are customarily designed to carry the largest peak, reducing the size of the largest peak reduces the size of the transportation facility.

F

P. 6-2: The project would have a minor impact on water quality, providing adequate preventative measures to control surface runoff pollution are applied."

COMMENT: In view of the fact that "adequate preventative measures" are far from a certainty, we would like to know:

a. the cost of such measures
b. the probability that such measures will in fact be taken
c. the impacts on water quality if these measures are not taken

G

Item E

A light-rail transit alternative was studied and is discussed on page 71.

See response to MPCA comment "F" and Golden Valley's comments "I" and "N".

Item F

Urban freeways are normally designed to accommodate the 30th highest hourly volume, which because of the recurring morning and evening peak demands, is usually not significantly different that the 200th highest hourly volume. The 200th highest hourly volume is approximately equal to the morning or evening peak hour demand. Thus, urban freeways are generally designed to carry slightly more traffic than is anticipated during peak hours. This additional capacity is necessary both for growth and to compensate for interruptions in the smooth flow of traffic caused by accidents or inclement weather.

Item G

1. The final cost of providing abatement has not been determined.
2. All measures which are prudent and necessary will be employed.
3. The potential for degradation of existing water quality if the measures are not undertaken exists.

See also the discussion on water quality in the FEIS.

Page 8

P. 4-11: The sixth line in the last paragraph evidently contains a typographical error. The citation of "Table 8, p. 61" does not conform to the pagination of the draft. More likely, is "Table 15, p. 4-24." H

VIII. Probably Adverse Effects which cannot be avoided and Steps to Minimize Harm and Enhance the Environment

As we have discussed previously, the impacts of air, noise, and water pollution are all based upon the forecasted traffic levels. To state that these impacts cannot be avoided or at least alleviated is to state that there are no feasible public policies which could be implemented to decrease the volume of traffic, while simultaneously moving the same numbers of travelers. As discussed previously, we contend that this is not the case: A bill recently introduced in the Minnesota Legislature[3] states as a policy objective that 50% of all peak hour travelers will be riders by 1980. This implies a mean vehicle occupancy level of at least 2.0 persons per vehicle--a considerable improvement over the present occupancy levels. Given 1970 occupancy levels during the peak hour of approximately 1.3 persons per vehicle, this will result in a decrease of 35% in the number of vehicles using the facility in the peak hour, given a constant number of person trips.

When we turn to "Steps to Minimize Harm" we note that of the 16 steps proposed, 15 are related to the physical design and construction of the highway--only the recommendation for early implementation of transit improvements is offered as another possible step to minimize harm. For additional possible steps to minimize harm, we refer to pp. 21-29 of the Citizens' League study, "Building Incentives for Drivers to Ride," appended to this testimony. I

Finally we return to the question of the relation between transportation facilities and land-use. Although this inter-relationship is mentioned briefly several times in the impact statement, there is no explicit statement of the land-use impacts of the various "build" alternatives, the "limited upgrading" alternative and the "no build" alternatives. Neither is there any discussion as to possible alterations in land use policies which would have the effect of lessening the need for construction of additional transportation facilities. J

IX. Summary

Two general conclusions are easily reached concerning this project:

Page 9

1. Governmental agencies responsible for transportation planning have chosen to adopt a "business as usual" attitude toward future transportation facility construction and have largely abdicated responsibility for dealing with the more difficult questions as to the validity of basic policy assumptions concerning current land-use, transit, and auto usage policies. As a result, we are left with a lot of unanswered questions when we try to evaluate alternatives to "business as usual."

2. It is obvious that "something" is going to be done concerning the Highway 12 corridor. However, one man's upgrading is another man's Interstate. This lack of consensus on policies to be pursued makes the task of selecting an alternative for construction all the more difficult.

X. Conclusions

Based upon the evidence presented in the draft EIS, MPIRG can not recommend implementation of any of the Interstate construction alternatives listed. Perhaps after the publication of the final EIS and the satisfactory response on the part of the Highway Department to the questions we have raised in our commentary, this position may change. In view of the fact that the entire thrust of the impact statement is to assume rather than prove that an Interstate highway is the best solution to transportation problems of the area, it is evident that our call for further study is not a request for refinement, but rather an attempt to reexamine basic assumptions and definitions of alternatives.

The environmental impact statement for the I 394 proposal is clearly inadequate as a basis for sound decision-making on transportation facilities. However, other factors--the unsettled state of affairs surrounding transit in the Twin Cities, uncertainty over the long-term impact of the energy situation--also point to the conclusion that a premature commitment to a costly and inflexible transportation system must be avoided if at all possible.

NOTES

1. Comparative Energy Study of Urban Transportation Options, Margaret Fulton Fels, Michael Munson, Jonathan Dean, Ford Foundation, 1973 (preliminary).

2. TH 394 Corridor Location Study--Evaluation of Long-Range Transit Alternatives for the Corridor, Simpson & Curtin, June, 1973.

3. S.F. 2885; H.F. 3082; (1974).

Item H

That is correct.

Item I

See response to MPCA comment "F".

Item J

The Metropolitan Council has determined that the I-394 proposal is consistent with the Metropolitan Development Guide. Land use policies are a part of the Guide and local planning is reviewed by the Council for consistency with those policies. All of the municipalities in the I-394 corridor have developed their land use planning to include eventual improvements to US 12. Development in those municipalities has occured and is continuing to occur based on the assumptions that good access to other areas will be available via a high-service facility located in the I-394 corridor and replacing existing US 12.

February 25, 1974

Mr. Paul G. Velz
Road Design Engineer
Department of Highways
State of Minnesota
St. Paul, Minnesota 55155

Re: 330 FHWA-Mn-EIS-73-09-D
Draft Environmental/Section 4(f) Statement
Minnesota Project I-394-6(1) 226
State Project 2789 (I-394)
Interstate (I) 394 on U.S. 12 Corridor
in the Cities of Minneapolis, St. Louis Park,
Golden Valley and Minnetonka, Hennepin County
From I-94 (Hawthorne Interchange) to I-494

Dear Mr. Velz:

You have requested comments from South Tyrol Hills, Incorporated on the draft environmental/section 4(f) statement prepared for the above-referenced project. Basically, it is the position of the residents of South Tyrol, Golden Valley, that the draft statement is not in compliance with 42 U.S.C. § 4332 (2) (C) or 49 U.S.C. § 1653 (f), but is merely an attempt at mechanical compliance by the Minnesota Highway Department to support a preconceived commitment to the building of a super highway along the present Highway #12 corridor. This conclusion is evident from the general approach of the statement and also by its specific omissions, distortions and inaccuracies with respect to the impact of the proposed project on the South Tyrol Hills area.

The general failure to exercise good faith in studying the environmental impact is shown by the choice of alternatives. The Highway Department chose three alternatives that must be considered totally impractical (Nos. 1,

3 and 4) and one alternative, obviously favored, which is perhaps practical but devsstating to the environment. By selecting only alternatives for study which are impractical or equally devastating to the environment, the Highway Department has stacked the deck in favor of its own choice of alternative No. 2. The creation of the red herring alternative known as the "do nothing alternative" epitomizes this approach.

One realistic alternative, limited improvement of both Highways #12 and #55, suggested by South Tyrol Hills groups and other citizen groups for the last ten years, has been rejected, without consideration, by the Highway Department. See, p. 1-72. This alternative, along with mass transit proposals, are truly the realistic alternatives that must be considered to comply with 42 U.S.C. § 4332 (2) (C). The draft statement does not consider an upgrading of Highways #12 and #55. It discusses, in less than one page of over 200, the possibility of upgrading Highway #12. See, p. 1-72. Admitting that this alternative was never studied in detail, the statement summarily rejects limited improvement on three grounds. A

First, it is rejected because it could not accommodate the demands projected for 1995. The projections are outdated and inaccurate. They do not reflect the impact of the energy crises, the stated policy of the President of the United States and the Governor of Minnesota to discourage single occupant vehicle traffic, and current mass transit and land use planning by State and metropolitan agencies. Significantly, the conclusion fails to consider the effect of two improved corridors rather than one.

Secondly, this non-alternative is rejected because of difficulty constructing the interchange at Turner's Crossroads. This is not even a make weight argument. Each of the three build alternatives contains a proposal for a crossover at Turner's Crossroads. There is no reason these B

RESPONSE

Item A

See Response to Minnesota Public Interest Research Group (MPIRG) comment "C." Two alternatives consisting of mass transit plus upgrading existing routes were studied. The alternative of upgrading US 12 only/plus highways 7, 55, 18 and 100 and adding mass transit was found unsatisfactory in that it aggravated existing problems of noise, water pollution and divided neighborhoods. The second alternative, limited improvements to US 12 with the addition of mass transit, also has certain deficiencies, but will be considered further during the design stages of the project.

Item B

In order to provide access to the area around Turners Crossroad from an upgraded US 12, an interchange must be constructed if the presently-inadequate signalized intersection is not retained. The interchange is essential because the frontage road system, continuous along most of the preferred alternative, cannot be constructed along the entire length of a limited improvement alternative. Without an interchange at Turners Crossroad no access to the commercial and industrial areas north and south of US 12, is possible from US 12. To deny these businesses access from US 12 would be detrimental to their continued operation and would have severe adverse economic impact on both Golden Valley and St. Louis Park.

same construction plans could not be used in a limited improvement plan.

Finally, the non-alternative is rejected because of projected excess noise levels. This faulty conclusion illustrates the need to give this alternative serious consideration. A trunk highway with speeds at 50 M.P.H., added noise eliminator features and less traffic because of the Highway #55 alternative, should have far less noise than an eight lane interstate with heavier traffic and higher speed limits. C

Study of this and other non-alternatives, such as mass transit, has been refused because they would not qualify as interstate roadways and for the extra federal money that brings. This unstated but paramount consideration should not be permissible in considering environmental alternatives as required by 42 U.S.C. § 1332 (2) (C).

With specific regard to the area of South Tyrol, and the only viable alternative under consideration, alternative 2, the draft statement fails to accurately consider the effect of that alternative on this area. It is the secondary effects, not even considered in the draft statement, that will have the greatest effect on South Tyrol.

First, alternative No. 2 will actually trap the residents of South Tyrol in a circle of major roads. This area, approximately three blocks north-south and seven blocks east-west, will be completely encircled by I-394 and a frontage road on the north, Highway #100 on the west, and on the south and east by proposed County Road #16. See, p. 2-4. Contrary to the statement of the draft, the Village Council of Golden Valley has never recommended creation of a road, such as County Road #16, that would trap South Tyrol. See, p. 1-59. In addition to the encircling roads, a major thoroughfare along Natchez Avenue D

from Cedar Lake Road is planned to run through the center of the South Tyrol residential area. D

The trap proposed for this area by alternative No. 2 is not even considered in the draft. It would be impossible for Golden Valley emergency or police vehicles, located to the north, to reach South Tyrol in any reasonable period of time. Access from the major thoroughfare would be completely blocked for traffic coming from the north. E

The draft statement gives absolutely no consideration to the social and environmental impact of the two planned secondary roads that will run through the South Tyrol community. Natchez is presently a quiet residential street accommodating under 250 cars per day. With the proposed corridor, Natchez would be used as a major secondary roadway between the southern sections of the metropolitan area and northern areas of Golden Valley. At present rates of car use, the City of Golden Valley estimates that this road would then carry approximately 1,500 cars per day. The impact of this change on the many homes bordering Natchez is not even considered in the draft.

Also, the proposed development of County Road #16, along the south and east edges of this community, is not considered in the draft. County Road #16 is proposed as a four lane service and feeder road carrying between 10,000 and 20,000 cars per day. This roadway would be within 150 feet of seven homes in this area and within one block of twenty more. There are no provisions for any type of noise or sight buffers between this proposed road and the immediate homes. There is no consideration to the tremendous impact of a road that may carry nearly one-half the traffic that uses present Highway #12. F

These secondary roads are evidently an integral part of the proposed G

Item C

A limited improvement alternative would not permit the effective use of noise barriers because the need for access to adjacent land would require frequent interruption of noise barriers. The proposed alternative, by utilizing an upgraded frontage road system, would provide much more effective noise abatement potential.

Item D

The Hennepin County Department of Public Works has dropped improvements to CR 16 from its Transportation System study, which extends to the year 2000.

The impacts on local circulation was studied during the layout development phase. All proposed circulation patterns, including access to the South Tyrol area, will continue to be studied in cooperation with the City and the neighborhood.

Item E

Access to the South Tyrol area has been discussed with those in charge of providing emergency services to the area. Rather than being a barrier to access to the South Tyrol area, the preferred alternative should improve access to the area. The necessity of crossing the congested existing highway at grade is presently a barrier to service of the South Tyrol area.

Item F

The present layout studies do not propose reliance on Natchez as a major secondary road. Hennepin County is not longer proposing major improvements to CR 16.

corridor. Any consideration of environmental impact is incomplete and distorted without consideration of the impact of these secondary roads. Noise intrusion from secondary roads or S.R. 100 is not studied and the unstudied admission that "excessive sound from the S.R. 100 main roadway is anticipated," will combine with noise from the secondary roads to produce an unstudied, but obviously intolerable, situation. See, p. 4-28. **G**

This same lack of study fails to reveal the drastic pollution that will result to this area from the proposed corridor. Carbon monoxide levels from present Highway #12 are high or exceed M.P.C.A. standards. See, p. 4-35. Only considering I-394 traffic, the draft predicts a slightly lower "CO" level despite substantially increased traffic. See, p. 4-40. The assumptions that lead to this conclusion are interesting, but unwarranted. Nevertheless, to be accurate the projections should have included the anticipated pollution from approximately 180,000 cars per day on Highway #100, 1500 cars per day on Natchez and 20,000 cars per day on County Road #16, in addition to the 180,000 vehicles anticipated for I-394. Since the levels from just I-394 traffic are projected to be high, more than doubling the number of vehicles in the immediate area of this community will certainly put anticipated carbon monoxide levels well above M.P.C.A. standards. This environmental impact is not even considered in the draft. **H**

Just considering the traffic on proposed I-394, the draft concludes that lead concentrations in this area would exceed E.P.A. standards. See, p. 4-40. Add to this projection the traffic on secondary roads, Highway #100 and a six story interchange at I-394 and 100, and the terrifying concentration of lead and particulate matter on this community can be imagined. **I**

Although not as devastating in their effect, the mistaken assumptions in the draft regarding Brownie Lake deserve comment. See, p. 5-4. At present there is free access to Brownie Lake from the South Tyrol area. It is a major recreational area for residents of South Tyrol. Contrary to the draft's implication, Brownie Lake is heavily used for fishing, picnicking, hiking and canoeing. Residents of this and other areas regularly launch canoes into Brownie Lake and go from there to other lakes in the chain. The proposed County Road #16 would cut off access to Brownie Lake from South Tyrol. The combined effect of noise pollution and accumulation of salt would likely render the Brownie Lake Park unfit for recreational use. Contrary to the draft, Brownie Lake is a useful public recreational area. The draft, contrary to 49 U.S.C. § 1653 (f), contains no proposed alternatives to the destruction of this recreational area. **J**

In summary, the contemplated project surrounding this area on two sides, with over 150,000 vehicles anticipated per day and on the other two sides with up to 20,000 vehicles per day, using a central residential street as a major connector and cutting off emergency access and access to nearby recreational areas, will render this neighborhood an unfit place to live or raise children and will amount to a de facto taking of all residential property in this area. We ask that some consideration be given to these effects.

SOUTH TYROL HILLS, INCORPORATED

By Mrs Mary B. Jenkins
President

cc: Minnesota Pollution Control Agency
Executive Director
Oak and Delaware Streets
Minneapolis, Minnesota 55440

Mayor
Village of Golden Valley
7800 Golden Valley Road
Golden Valley, Minnesota 55427

W. Crawford
K. Anderson
K. Elacky - V. Jessup

Mr. Benjamin O. Davis, Jr.
Assistant Secretary
Department of Transportation
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Washington, D.C. 20591

N. Hultkrif

Item G

See response to EPA comment "Q". The noise analysis for proposed I-394 has been completely re-done and noise levels in all residentia and park areas can comply with federal standards.

Item H

A discussion on air quality begins on page 155.

See response to EPA comment "A".

Item I

A discussion of air quality begins on page 155.

See response to EPA comment "A".

Item J

A Section 4(f) Evaluation, discussing the Brownie Lake area and its interrelationship with I-394, is included in this document. Noise abatement is proposed along the Brownie Lake area and drainage from I-394 will be diverted so as to not degrade the quality of water in the lake. Access to the Brownie Lake area for residents of the South Tyrol area would be perpetuated by the I-394 proposal.

25 February 1974

State of Minnesota
Department of Highways
St. Paul, Minnesota 55155

Attention: Mr. Paul G. Velz
Road Design Engineer

Subject:
330 FHWA-Mn-EIS-73-09-D
Draft Environmental/Section 4(f) Statement
Minnesota Project I-394-6(1)226
Interstate (I)394 on U. S. 12 Corridor
From I-94 (Hawthorne Interchange) to I-494 (Approx. 9 miles)

Dear Sir:

"There is a time to sow and a time to reap..." goes the old biblical passage, and although your department has well sown the seeds for development of I-394 over the past 3 or more years, the energy crisis has dealt you a default on your option to reap. As Governor Wendell Anderson said on 16 January 1974, "...we must take direct steps to reduce our excessive reliance on the automobile. We must get people out of automobiles...and into community transit systems..."

We agree with Governor Anderson's convictions on this subject and urge that your department help implement that policy by dropping all now outmoded plans for vast areas of concrete freeways and instead become the leader in this country in solving our transportation problems by moving forthrightly ahead to maximum use of rapid transit. France, Germany, Japan and even Las Vegas and Denver are moving ahead with rapid transit systems--why not the progressive state of Minnesota?

It will be seen from review of the attached listing of fallacies contained in the subject Environmental 4(f) Statement that the Secretary of Transportation will be prohibited by law from approving any of the Alternates 1, 2 or 3 for I-394 which would destroy extensive areas of 4(f) lands since there are "feasible and prudent alternatives" to the use of such lands for interstate freeway purposes.

In light of the information provided herein and in consonance with the strong urgings of all the communities otherwise facing decimation by any of the Alternatives 1, 2 or 3, we urge that the "Limited Improvements to U. S. 12" plus the institution of a rapid transit system be selected and implemented as the most viable solution to transportation requirements for the subject western corridor.

Dr. David Cooperman and
Howard V. George for the
Citizens Against I-394 Committee
2112 Parklands Road
St. Louis Park, Minnesota 55416

Attachment--Listing of Fallacies in Environmental 4(f) Statement

cc: Senator Walter F. Mondale
Congressman William Frenzel (3rd District)
Congressman Donald M. Fraser (5th District)
Congressman John Blatnik (8th District)
Chairman Public Works Committee
Congressman J. C. Kluczynski, Illinois
Chairman Transportation Subcommittee
Governor Wendell Anderson
Commissioner Ray Lappegard, Minnesota Highway Department
W. M. Crawford, District Engineer (No. 5), Department of Highways
State Senator Robert Lewis (District 41)
State Representative John Salchert (District 54A)
State Representative Julian Hook (District 41A)
State Representative Robert McFarlin (District 41B)
Mayor, City of St. Louis Park
Mayor, Village of Plymouth
Mayor, City of Wayzata
Mayor, Village of Golden Valley
Mayor, City of Hopkins
Mayor, City of Minnetonka

cc: Chairman, Bryn Mawr Community Council
Chairman, Golden Valley Steering Committee
President, South Tyrol Hills Incorporated
Chairman, Hwy. 12 Subcommittee
Executive Manager, St. Louis Park Rotary Club
Highway 12 Association, Willmar
Director, Twin Cities Area, Metropolitan Transit Commission
Director of Planning & Development, City of Minneapolis
Director, Office of Local & Urban Affairs, State Planning Agency
Director of Public Works, City of Minneapolis
Director, Department of Public Works, Hennepin County
Director, Parks and Recreation Dept., City of Minneapolis
Dept. of Housing & Urban Development, Minneapolis & St. Paul Area Office
Metropolitan Council (A-95 Clearinghouse), Office of Chairman
Minnesota Pollution Control Agency, Executive Director
Minnesota Department of Natural Resources, Bureau of Planning
Minnesota Water Resources Board, Administrative Secretary
Hon. Russel E. Train, Chairman, Council on Environmental Quality
Assistant Secretary, Program Policy, Department of the Interior
Attn: Director, Environmental Project Review
Environmental Protection Agency, Regional Administrator, Region 5
Department of Health, Education and Welfare
Assistant Secretary for Health & Service Affairs
Department of Agriculture, Office of the Secretary
Department of Commerce, Economic Development Administrator
Midwestern Regional Office
Department of Defense, Defense Civil Preparedness Agency
Attn: Mr. R. Menchl
Deputy Assistant Secretary, Department of Commerce
Office of Environmental Affairs
Mr. Benjamin O. Davis, Jr., Assistant Secretary for Environment
Safety and Consumer Affairs, Department of Transportation
District Engineer, Department of the Army
Rock Island District, Corps of Engineers
District Engineer, Department of the Army
St. Paul District, Corps of Engineers
Letters to the Editor, Minneapolis Star and Tribune
Letters to the Editor, Suburban Sun Newspapers

2/25/74

PARTIAL LISTING OF FALLACIES CONTAINED IN ENVIRONMENTAL 4(f) STATEMENT ON I-394

1. Population Statistics--Section 1, Page 1-2 cites in the 7th paragraph that "the average annual growth rate is expected to slow down to about two percent over the next 30 years" but then goes on to cite the Metropolitan Council's projection that population in the seven-county area will increase from approximately 1.8 million in 1970 to 3.6 million by the year 2000. That represents an average growth of 3.1% per year or a 55% higher projection than the 2% cited in the same sentence.

The Wall Street Journal carried an article in their 1 February 1974 edition stating the 1973 birth rate of 1.5% was the lowest in U. S. history and when the losses in population due to deaths, etc. are balanced against the births, the net growth factor is below 1% (.0088). Demographers are now predicting not only a zero population growth but even a decline in population in the next 25 to 30 years. Introduction of the "pill" and the abortion law has and obviously will continue to drastically reduce the birth rates and hence the population growth rates. Even the Metropolitan Council recently acknowledged the need to reduce their forecasts for growth from that on which this report is based. **A**

With actual statistics showing population growth below 1%, use of even a 2% rate in the subject report to develop future population estimates on which all the traffic flow statistics in 1995 are based, represents an overstatement of the whole case of up to 100%!

2. Traffic Statistics--There is no correlation between estimated population growth even at 2% per year, employment growth in the corridor at a forecasted 3.% per year and traffic growth estimated at 14.2% per year as shown in the subject report.

Table 4 (page 1-10) provides traffic statistics for the various roadways in the subject corridor in 1970. Taking the data for Highways 7, 12 and 55 between Highway 100 and I-94 (#169 for #7) for example, there is shown a capacity on those three roads of 179,100 vehicles per day without congestion (including 5% or approximately 9,000 trucks). The 1970 volume on those same three roads going from #100 into the CBD is 102,100 meaning there is growth potential of approximately 77,000 vehicles/day which is a 75% increase. At a population growth rate of even 2%/year, that would mean that every man, woman and child added to the area during the next 37.5 years (75% increase in capacity ÷ 2% growth/year = 37.5 years to reach 75%), could drive a vehicle down these roads before full capacity was reached. **B**

Attachment to Citizens Against I-394 letter of 2-25-74 to Minn. Hwy. Dept. -1-

Table 10 (page 1-30) shows the estimated employment growth between 1970 and 1995 to be from approximately 100,000 to 175,000 or a 75% increase in 25 years or average of 3.%.

Table 12 (page 1-50) shows estimated volumes for #7, #12 and #55 from #100 into the CBD of 362,000 vehicles/day in 1995. That represents a 355% growth in 25 years or an average of 14.2% per year (362,000 ÷ 102,000 in 1970 = 3.55 ÷ 25 = .142 or 14.2%). That's 4.7 times (14.2 ÷ 3) as many vehicles as there would be jobs requiring use of vehicles even if each person drove his own car.

Since the estimated population growth between 1970 and 1995 in the study area (Table 5) is shown as 81,387 (259,007 in 1995 - 177,620 in 1970) and since the average persons per dwelling is 3.27 as shown in Table 2 (page 1-4), then the additional dwellings in the area would be 81,387 ÷ 3.27 = 24,820 dwellings during next 25 years (approximately 1,000 per year). Assuming each of those 25,000 additional dwellings produced an average of 1-1/2 workers (i.e. 50% of wives working), and assuming each of those additional workers drove their own cars, then there would be an additional 25,000 x 1.5 = 37,500 vehicles added to the roads in the area if not one of those new people used transit. Using even the present low transit use figure of 6%, the additional vehicles would then amount to 37,500 x .94 (6% reduction) = 35,000 additional vehicles. **B**

Using the 1970 traffic statistics for Highways 7, 12 and 55 where the flow is the heaviest between #100 and the CBD, the total of 102,000 vehicles per day (Table 4) plus the excessive assumption that the entire 35,000 additional vehicles/day from the population growth in the entire study area would all use that limited section of those 3 roads, would provide an indicated total of 137,000 vehicles/day. Then further assume on an equally excessive basis, that all of the estimated 64,500 vehicle trips/day to be generated by Dayton's new Ridgedale Shopping Center in Minnetonka (page 1-28) plus all 12,000 trips to the Minneapolis Industrial Park in Plymouth plus the 2,000 trips to Shelard Park, i.e. a total of 77,500 vehicle trips were added to the total of 137,000 to give a total of 214,500 vehicle trips per day. Even that obviously excessive total doesn't begin to relate to the forecast of 362,000 vehicles/day on exactly the same roadways!

3. Noise Level Statistics--Exhibit 45 (pages 4-31 and -32) shows existence of noise levels above the 70 dBA Federal limit essentially all along U.S. 12 corridor under Alternate 4, the Do Nothing approach. That data also shows that even some residences and commercial structures would be exposed to over 75 dBA. These forecasts are based on a flow of 175,200 to 189,700 vehicles per day as shown on Exhibit 36 (page 4-12) for U.S. 12 east of Highway 100. The predicted noise levels for 1995 were based on vehicle speeds of 35 to 50 miles per hour so that the highest expected levels were computed as noted on page 4-22. **C**

-2-

RESPONSE

Item A

The population statistics presented in the DEIS have been redone. The projections presented in the FEIS are the the latest Metropolitan Council projections for population, employment and households.

Item B

Congestion on highways is dependent not only on theoretical capacity but also on demand for that capacity. Thus, although excess theoretical capacity may exist on the three routes taken together for an entire twenty-four hour period, the demand during the morning and evening peak hours exceeds available capacity.

Traffic projections in this FEIS are based on new population and travel-demand projections that are more recent than the DEIS.

Item C

The noise analysis contained in the DEIS has been redone. The results of the new analysis are included in the FEIS. During the design stage, when design details have been finalized, a Final Noise Analysis Report will be prepared which will identify specific noise impacts and mitigation measures.

Since the capacity for U. S. 12 between #100 and I-94 in 1995 is cited in Table 12 (page 1-50) as 104,200 vehicles per day, obviously up to 189,700 vehicles will not be able to move on U.S. 12 at 35-50 mph to generate the high sound levels predicted.

4. Air Pollution Statistics--Since it is stated on page 4-36 that the carbon monoxide levels exceeded the allowable limits along the south side of U. S. 12 between Highway 100 and I-94 in 1970, and since the traffic flow in that corridor of 44,500 vehicles per day in 1970 (Table 4, page 1-10) is forecasted to increase up to 189,700 vehicles per day in 1995 (Exhibit 36, page 4-12), i.e. an increase of 425%, it is ludicrous to project that CO levels in 1995 will be only 25% of maximum allowable limits. The stated basis for showing such low CO concentrations is that all roadway and ambient concentrations were reduced by 80% based on somebody's estimate that emission controls will effect such a reduction. It would be pure folly to spend up to $200,000,000 on an interstate freeway to accommodate 3 to 4 times the present traffic flow unless the auto industry could guarantee 80% reduction in emissions. Everybody knows that the auto industry has stated that they can't meet even the relatively minor emission reductions ordered by the Government and consequently were granted an extension in time before such standards would apply. And now due to the energy crisis, they're even talking about removing all such emission restrictions! **D**

5. Summary Conclusions--Although there are other misleading statistics in the subject report such as the citing of 27 interchanges and over/under passes in the tabulation on page 4-15 when the total is actually 37, and the exclusion of certain affected utilities such as 21" storm and 12" sanitary sewers that should be listed on page 4-64, the primary facts are: (1) the forecasted traffic volumes are grossly overstated, (2) the noise and air pollution levels projected for 1995 are grossly understated and the intended impression throughout the subject report that all possible efforts have been made to exhaust all other possibile solutions to the transportation problems in the western corridor of Minneapolis is just not valid. The Alternates 5, 6, 7, and 8 were all discarded because of detrimental effects on communities involved (noise, access, dislocation, social and political impacts). There are no facts provided to adequately support the rejection of such other alternatives and blind acceptance of such subjective evaluations can hardly be rationalized for the people in the presently proposed corridor area. **E**

Throughout the report and in ancillary documents such as, 1995 Forecasts, Population, Employment and Trip Expansion Factors, December 1971, the consultants used projections based on mathematical formulae (essentially linear) which, by their very nature cannot account for significant "extraneous" variables. Hence, the energy crisis that loomed after the data for the reports were assembled has already affected traffic volumes in T. H. 394 **F**

corridor. The Minneapolis Citizen's League has recently issued a report citing increased population centralization in the city area as a way to solve the transportation problem. Another example of unaccounted for variables is the current decline in student enrollments at the University of Minnesota and the attendant expansion of community college enrollments. The principle of "gliding" work schedules involving flexibility in what hours people work during the day has witnessed exceptionally good results in Germany and Switzerland and has also been instituted in a number of companies in this country with good results (Nestle Co. in White Plains, N.Y., General Radio Co. in Concord, Mass., Northwestern Mutual Life in Milwaukee, etc.). Flexible work scheduling, another unaccounted for variable, will obviously have a substantial impact on rush hour traffic and is an idea whose time is coming.

Accordingly, none of the citizen's groups or even the community governments have been able to accept any of the four alternatives as proposed in the subject Environmental 4(f) Statement nor in good conscience would it appear possible for the Secretary of Transportation to approve the subject statement.

Item D

The Air Quality Analysis contained in the DEIS has been redone and the results of the new analysis are included in the FEIS. Also, a separate Air Quality Report has been prepared which contains a detailed explanation of the analysis. See also response to EPA comment "A".

Carbon monoxide levels are directly related to the operating characteristics of a roadway; that is, if a highway is operating under congested conditions with much stop-and-go driving, carbon monoxide emissions will be higher than if the same roadway were operating with smoothly-flowing traffic. While emission control devices play an important part in projected lower carbon monoxide levels, the planned smooth operation of I-394 also will contribute to lower CO concentrations.

Item E

All interchange locations are discussed in the FEIS. Potential utility relocations will be re-studied during detail design.

Item F

All traffic and population projections have been reformulated.

5120 Circle Downs
Golden Valley, Minnesota 55416
February 19, 1974

Mr. Paul G. Velz
State of Minnesota
Department of Highways
St. Paul, Minnesota 55155

Re to: 330
FHWA-MN-EIS-73-09-D
Draft Environmental/Section 4 (f) statement
Minnesota Project I 394-6 (1) 226
State Project 2789 (I-394)
Interstate (I) 394 on U.S. 12 Corridor

Dear Mr. Velz:

The enclosed statement regarding the above referred to document is made on behalf of the Golden Valley Steering Committee. We request that the document be included within the final environmental impact statement and that the points raised be specifically resolved prior to the designation of a corridor for I-394.

The Golden Valley Steering Committee endorses the Response to the I-394 EIS by the Council of the City of Golden Valley.

Sincerely,

David M. Brown, M.D.
Chairman
Golden Valley Steering Committee

DMB/mp
Enclosure

Participation in the I-394 study by the Village of Golden Valley was undertaken with the assumption that there had been full agreement by the responsible agencies that no decisions had been reached by either the consultant Howard, Needles, Tammen and Bergendoff (HNTB) or the agencies Minnesota Highway Department (MHD), Metropolitan Transit Commission (MTC), and Metropolitan Council (MC) as to the need for, or appropriateness of, designation of I-394 for solution of the Hennepin County-Western suburb transportation problems. Subsequent statements by the MHD (Commissioner) and the MC (Development Guide) as well as conclusions referred to in several portions of the Environmental Impact Statement (EIS) prepared by HNTB have demonstrated that the presumed condition did not and does not exist. Hence, the acceptability and decision making process that led to the inception of the study in the agreement of the MHD with the I-394 Citizens Advisory Committee (CAC) and participating communities has been breeched. Furthermore, the basis for the original designation of the Hwy 12 corridor as a portion of the Interstate Highway system prior to a public hearing and prior to any initiation of the study is a breech of confidence and a preconclusion which prejudices the study. Despite the legal necessity for a "No-build Option", the statements of the MHD (the Commissioner) and of the Chairman of the MC Development Guide Committee (Mr. Graven) as referred to in the CAC minutes of February 17, 1972 that "there is not a legitimate no-build option" and that there is "no intention for communication of reasons for assumptions" of the MC which led to the conclusions reached in the formulation of the transportation section of the Development Guide invalidate the bases for its consideration in the I-394 EIS.

RESPONSE

Item A

Revised population forecasts have been used in the preparation of this FEIS and related studies.

Item B

The Metropolitan Council, on April 18, 1974, rejected a transit-only alternative for I-394 as being unable to adequately accommodate the diversity in destinations of potential users. See also response to MPCA comment "F".

Nevertheless, the Village of Golden Valley (GV) in recognition of its need and desire to engage in its broad community responsibility agreed to participate in the study and established goals and criteria for a possible transportation facility under which it operated during the study (adopted by the GV Council January, 1972, Exhibit I). The following is an analysis by the Citizens Steering Committee of the preliminary draft of the EIS. Previous detailed analysis of the HNTB Interim Report had been forwarded to responsible agencies on February 12, 1973 (Exhibit II).

The projection of trip demand and the number of resultant auto trips are based upon an automobile occupancy rate which are minimal and are not in accord with the current goals being established as a national priority. Indeed the population projection statistics themselves have been revised downward since the study was initiated. The population projections are based upon the 1970 census. More recent data (Wall Street Journal, February 1, 1974) documents a persistent and dramatic decrease throughout the nation which must be reflected in the Twin Cities Metropolitan area, thus resulting in adjustment of the data in this report. Trip projections in this report reflect no alterations of living and travel behavior, yet this metropolitan area is demonstrating a dramatic change in inner city housing as for example the projected 30,000 persons to live in the Cedar-Riverside project as well as several tens of thousands in the Lowry Park and Burlington projects along the Mississippi River. In addition, major changes are occurring as a result of altered travel behavior due to conservation. All of these data clearly indicate the need to revise downward the 1995 projections of trips in the study area. Furthermore, the overall 5-6% of person trips in transit projected

A

B

by 1995 in Table 12 are unrealistically low. The overall goal to increase the capacity of the automobile component is undesirable and unacceptable since this will compound existing inadequacies of the overall transportation system of the metropolitan area as well as all aspects of the economy (pollution, space utilization, fuel resources) which are transportation related. B

Statements regarding assumptions such as the contribution of I-394 to "enhance the possibility of achieving a shaped and orderly pattern of population distribution---" (pg. 3-1) has no substantiation. Indeed the opposite would be anticipated as a result of other urban experiences throughout the nation. Of similar subjective nature and without substantiation is the statement suggesting that this corridor "would improve the amount of residential choice for more income groups and maintain the attractiveness of the area for private enterprise". The statement "with the construction of noise barriers and a depressed roadway in noise sensitive areas, I-394 would result in a net reduction in noise levels in certain areas" is counterbalanced by significant increases in noise levels. Furthermore this implies specificity of design assurances which cannot be made at this level of study. C

The statement depends upon emission controls yet to be devised and enforced to solve the exhaust pollution problems that will result when more traffic volume is funneled onto the existing facility. These "facts" and "evidence" have no place in the statement. The real world is that diverted traffic will cause a serious air pollution problem if these controls fail to appear or to be enforced. All elements of the study referring to pollution levels are inaccurate and do not reflect existing problems since they do not take into account modifications in ambient conditions being allowed, D

inaccuracies of design-related components of pollution impact, unresolved questions of enforcement of pollution laws, etc. The statement on page 3-2 that the I-394 plan "reduces noise levels" conflicts with the next statement that "300 (residences) would experience an increase in noise levels--- relative to what exists today". Furthermore I-394 "exposes 71 homes to noise levels greater than the FHWA standard". The current U.S. 12 roadway conditions have been maintained at an inexcusably bad state in terms of noise generation since resurfacing, which is long overdue, would decrease markedly the noise generation. No attempt has been made toward implementing even modest abatement procedures which are long overdue. Hence, I-394 would cause markedly increased noise by comparison with a resurfaced roadway on U.S. 12. This state of affairs leads to an invalid basis for comparison of present noise generation from the existing roadway. E

The primary emphasis of this analysis will be alternate 2 which is being given primary consideration by all planning agencies. The impacts of alternates 1 and 3 upon all communities are too absurd to deserve further comment. Alternate 4 has not received due consideration for reasons referred to above and does not incorporate possible modifications which would only attempt to meet short-term (next 5-8 years) needs plus minor safety modifications and hence will not be discussed further.

The following observations of the Environmental Impact Statement for I-394 Alternate 2 pertain to Golden Valley. Five topics herein follow the order listed.

TRAFFIC FLOW

1. This section states that I-394 will be a safe freeway, complete without switching lanes. It is an admirable statement, but design and construction yet must face various political, community and economic pressures that preclude the factual aspects of this statement. Past performance persuades otherwise. F

Item C

An analysis has been made which indicates that noise abatement can be provided, as a part of proposed I-394, to reduce noise levels in residential and recreational areas to comply with Federal standards.

Item D

An Air Quality Report, available from the Golden Valley District of Mn/DOT, indicates that all applicable Federal and State air quality standards will be met. See also response to EPA comment "A".

Item E

The noise impacts are discussed in the FEIS beginning on page 189.

Item F

The proposed configuration of I-394 is discussed in the FEIS beginning on page 72.

See response to MPCA comment "F".

Item G

The configuration shown in the DEIS is no longer being considered. Interchanges are discussed in the FEIS.

Item H

Alignment alternatives along existing highways 55 and 7 were studied and dismissed from further consideration. See discussion of alternatives 6, 7, and 8 pages 63.

2. "Interchange Hwy 100-Hwy 394 is designed to minimize land acquisition" is purely opinion of the writer. Its impact on the surrounding areas because of its 70' vertical dimension will greatly reduce the desirability of adjacent properties. **G**

3. "I-394 will be used because of the inadequacies of Hwy 55 and Hwy 7" should be reviewed to clarify this impact and evaluate the alternative of upgrading Hwy 55 and Hwy 7. The planner advises that over 45% of the traffic moving east of Hwy 100 on Hwy 12 originates or terminates south of Hwy 7 or north of Hwy 12. **H**

4. Projections of 100,000 vehicles per day should be questioned in view of ultimate transit proposals, energy cources, pollution controls, lack of parking facilities at destination and our changing economics. **I**

TRANSPORTATION

1. "Would incorporate latest safety features" is selling and not factual. Safety features of one roadway forces highly dangerous and unsafe conditions on the supporting or branch roadways. **J**

2. "Vehicles from North to Commercial - Industrial areas at Turners and Hwy I-394 must pass through residential area". This impact is glossed over by statement on map only. This traffic passes our Meadowbrook Elementary School, traffic to our High School, Golden Valley Lutheran Church and these hazards and impacts are not adequately discussed. **K**

3. Access to and from South Tyrol Hills is not discussed nor the adverse results recognized.

4. Impact on South Tyrol Hills from extension of Cedar Lake Road to Penn Avenue is not discussed nor the adverse results recognized. **L**

5. Mall type structures for pedestrians and bikes over roadway are illustrated as fully landscaped pools, etc. Reality would most likely not include such features when one considers the undesirable aspects of dirt, salt, spray, noise, fumes, etc. generated by 10 lanes of traffic. Illustrations also have not recognized the danger of the curious child climbing the railing. **M**

   The design concept may be admirable, and must overcome the economic and practical pressures and restraints that come in the design phase. Another instance where the impact statement relies on the design, but does not offer sufficient detail of the mall structure to assure they can justify its viability. Meantime, we have once again passed the "point of no return".

NEIGHBORHOOD

1. The statement confirms that "people choose to live in these suburban areas because of the accessibility, relative quietness and social environmental qualities". The impact on these specific choices is not evaluated nor referred to in the report and is undoubtedly adverse and omitted for that reason.

2. Access to particularly S. Tyrol Hills is not discussed and will have serious affects on service from emergency vehicles. Am ambulance coming from the South, going North on Hwy 100 must go to Hwy 55, go through two cloverleaf loops to go south on Hwy 100 to Glenwood Avenue. This point provides access along Glenwood to Parkview Terrace, where it can continue to South Tyrol. The impact statement states that emergency vehicles will have better access. Data to support this statement is conveniently omitted and probably does not exist. **N**

3. Since there is little land remaining in the area for relocation of housing, vacated residents will most likely move to other municipalities. Relocation because of deteriorating conditions may augment the scope of movement beyond the statements in this report. **O**

4. Projections of traffic on the interchange at Hwy 100-Hwy 394 and other elevated roadways would cause one to seriously question the statement "noise levels would not increase from present levels". Data to substantiate this statement is totally inadequate. Present noise levels are artificially and unnecessarily high because of long overdue road resurfacing and modest abatement procedures, and thus can hardly be classified as the ultimate solution. **P**

5. Ewald and Western neighborhoods will lose a total of 7 homes. The statement the noise level would be reduced at 7 homes is obvious because they are removed.

6. Traffic impact data on the neighborhood and supporting streets is not included, and, again, undoubtedly would be drastically adverse. **Q**

INSTITUTIONS

1. No data on impacts on schools, churches, and commercial areas along Turners and Glenwood Avenue and in varying degrees would be distinctly adverse.

2. Statement of "relieving congestion on local streets" is a false statement.

3. No elaboration on how the highway benefits garbage pickup and snow removal is offered.

4. Emergency vehicles do not have better access.

5. 48" water main supplying Golden Valley crosses Hwy 12 at France Avenue. The design may require changes in this installation as they elude to the probable difficulty in the design to accommodate this main. **R**

Item I

All traffic projections have been revised.

Item J

I-394 will be designed to Standards which have been established in the interest of both safety and operational considerations.

Item K

Access to neighborhoods and traffic patterns potentially affecting neighborhoods are currently being studied in cooperation with the cities and neighborhoods.

Item L

Hennepin County is no longer proposing to upgrade and extend Cedar Lake Road.

Item M

Design features such as those mentioned are probably somewhat unrealistic and, therefore, they are not included in this FEIS. See, also, response to City of St. Louis Park comment "C".

Item N

An official of the Golden Valley Department of Public Safety has indicated that I-394 could actually improve emergency services to the South Tyrol Hills area by reducing the response time needed to reach that area, especially during peak traffic hours. Throughout the layout development and design stages, Mn/DOT will work closely with city officials to ensure that emergency services are not adversely affected.

Item O

A study of potentially-available replacement housing has been made and indicates that a more-than-adequate supply of replacement housing exists in the Golden Valley area. See discussion on page 246.

Item P

All noise level predictions have been revised and the findings are contained in this FEIS, beginning on page 189.

Item Q

It is not proposed to utilize residential-type streets for major traffic movements. Any changes in traffic patterns due to I-394 will be consistent with local planning.

Item R

This will be addressed during design. However, relocation of this water main, if necessary, will not be a major problem.

7

ECONOMIC

1. Lands available for relocation of business and industry may not be in Golden Valley due to minimum availability. Displacement may result in mill rate increase rather than "no increase" as stated.
2. Tax impact is inadequately resolved and should be verified to the satisfaction of Golden Valley.
3. What are the impacts on GV #275 School District if 2.5% of tax base is removed. This is not mentioned in the report. The District already has serious unresolved budget problems which will be intensified such that its survival will be jeopardized.
4. Economic impact from added traffic on supporting street properties is not presented.
5. Good vehicular access to commercial industrial areas sacrifices the bike rider, the pedestrian and movement in the community. Such discussion is omitted.
6. Economic impact because of loss of nearby convenience shopping is not presented.
7. Economic impact on the business community is expressed to be solved by visibility from the roadway. Access should be considered more essential than visibility, particularly while on a high speed roadway. Visibility as an asset will be lost, particularly in the poor access area at Hwy 100 and Hwy 394.
8. "Relatively severe impact" on G.V. business places minimizes the severity to virtually a false statement.
9. Psychological frustration from confusion and hazards that accompany increased traffic on access roads, frontage roads and ramps which will effect most of the area residents is omitted from the consideration.

S

T

U

V

ILLUSTRATIONS IN THE REPORT

The illustrations are not accurate drawings. Transit facilities (shelters, etc.) are selling devices with little meaning in the transit planning.

W

STATISTICAL TABLES AT END OF REPORT

The statistical tables do not support the conclusions drawn in the body of the report. In fact, these tables establish that alternate 4 is the first choice on all counts except for two areas, i.e., air pollution and noise pollution. The author of the report relies upon 1995 emission controls to solve the air pollution resulting from the diverted traffic-hardly a valid, factual premise. As for noise pollution, the comparison to existing conditions is invalid due to the state of deterioration encouraged by the MHD. Thus alternates 1, 2 and 3 fail statistically.

X

Item S

An inventory of available business replacement sites has been made and no problems are anticipated for businesses that wish to relocate within the same area. Right-of-way requirements under the current proposal in this FEIS will have less of an impact on business and industry than did the alternatives studied at the DEIS stage. See discussion beginning on page 246.

Item T

Most grade separations will include provisions for bicyclists and pedestrians. Provision of other sidewalks and/or bicycle paths is a design detail that will be determined only after consultation with the affected municipalities. See also discussion on page 90.

Item U

According to the study of potential business replacements, made for this FEIS, adequate facilities exist for those businesses which wish to remain in the general area of their present locations. See discussion on page 246.

Item V

Although access to adjacent property will continue to be studied during layout development and final design of I-394, it is anticipated that the proposed frontage roads will provide both adequate access and visibility to business and industrial uses along I-394.

Item W

The illustrations have been omitted from this FEIS. The precise design of any transit-related facilities has not been determined at this time.

8

Detailed Alternate 2

Economic - The basis of the market value of the properties to be displaced is disputable. For example, the homes to be displaced would be evaluated at a higher level than is stated if this value is derived from independent estimates. The figures used in the study are derived from tax rolls rather than realty derived figures, the latter representing the true basis for exchange of properties in the free market. In GV, the loss of 0.97% of the tax base would be further compounded by the degradation of adjacent properties which is generally accepted in the nation-wide experiences of properties adjacent to freeways. The impact on School District 275 (2.5%) of the total tax base is catastrophic and unacceptable, and does not recognize the reduced values for taxation purposes. Furthermore, under alternate 2 the access to adjacent properties in GV is detrimental and unacceptable. Alternate 2 would remove the Golden Hills Shopping Center, a medical-dental center, and a realty office as well as to destroy access to businesses in GV west of the 12-100 interchange. Alternate 2 has no positive economic features for GV.

Noise - The noise projection data is based upon design concepts which are speculative. None of the data include adequate treatment of land contours, range of errors in the projections, changes in road surface conditions due to wear of utilization, inadequacies of existing roadway surface conditions, lack of present abatement procedure, or changes in type of auto tires during winter months (snow tires produce more noise than standard tire surfaces). Hence allusions of benefits attributable to I-394 by comparison with the existing roadway are factious since I-394 would have detrimental noise effects when properly compared with an adequate surface and abatement procedures on

Y

Z

AA

9

U.S. 12 (a state which does not exist currently).

It is admitted that alternate 2 would cause an increase in noise levels for approximately 310 residencies within 1000 feet of the corridor right-of-way (pg 4-27), an unacceptable state. This figure would be higher if one would take into account the variables referred to above. Furthermore 71 single family homes within 1,000 feet of the right-of-way would be subjected to noise from traffic in excess of 70 dBA (L^{10}). The tolerance limits or degree of error in drawing the noise contours are not included in the projections. Once again, these projections make design assumptions which have not been dealt with in sufficient detail to accurately reflect the validity of these figures.

AA

Recent evidence of the effects of noise in experimental situations has shown significantly detrimental inhibition of development of the newborn arising from a pregnancy during which the mother is exposed to noise stresses of from 74-94 dB L_{10}. (Federation Proceedings 32:2101, 1973). Hence the stress situation arising from this noise is a dangerous and unacceptable health hazard.

Air Pollution - The ambient air conditions in the Twin Cities Metropolitan area have deteriorated rapidly and may worsen as the tolerance of highly polluting fossil fuels are accepted because of the necessity to substitute these fuels. In addition to the detrimental effects produced alongside the roadway, this study should have taken into consideration the effects of the increased automobile utilization upon the Minneapolis Central Business District which is slated to receive a large amount of the increased traffic. (This factor is not taken into account in this study). Also not considered are small air-fluid particles arising directly from the roadway.

BB

Item X

Since all traffic, population, air, and noise projections have been revised since the DEIS was circulated, these tables are no longer valid and have been omitted from this FEIS.

Item Y

For the purposes of the relocation studies done for the FEIS, the value of property anticipated to be needed for highway right-of-way is determined as its market value, not its appraised value for tax purposes.

However, studies relating to economic impact did rely on tax basis, rather than market value, since loss of tax revenue is based on that. See discussion on page 251.

Item Z

The properties required for the revised Alternate 2, the preferred alternative in this FEIS, have not yet been completely determined. However, the revised alternate 2 is being planned to minimize right-of-way acquisition, and the impact on businesses and industry will not be as great as that of Alternate 2 in the DEIS.

Item AA

All anticipated noise impacts of the proposal have been re-analyzed and are contained in this FEIS. The noise levels and number of homes adversely impacted by noise as described in the DEIS are no longer valid. The noise study finds that highway-generated noise can successfully be abated to meet federal standards.

Elevation of the roadway as projected at the 100-I 394 interchange will result in dispersion of pollutants into the surrounding residential, wild-life, and business areas. Dependency upon emission controls (Table 19) for pollutant concentrations of 1995 is an uncertain condition and has no place as a reliable factor to reduce future impact as it may relate to increased auto utilization and additional traffic diverted to the corridor. Furthermore, none of the data takes into account the impact of other (than I-394) traffic, e.g., CR18, S.H. 100, and secondary roads in the vicinity of I-394. These latter inclusions would drastically modify the contours and would create totally unacceptable conditions since their utilization would increase as they would be expected to carry a higher volume of traffic to and from I-394. The existing high CO levels along U.S. 12 are too close to dangerous levels (pg. 4-35--4-37). Note the closeness to the Minnesota Pollution Control Agency or Environment Protection Agency limits of CO levels that would be found (pg. 4-39). The statement that "no adverse impact from carbon monoxide is expected" does not take into account studies of possible effects of CO upon carbon monoxyhemoglobin levels at various distances from the roadway. The concentration of lead which would result from alternate 2 is a danger to health and is unacceptable (pg. 4-40). We cannot accept these dangerous assumptions regarding health. Once again the incompleteness of this study because of lack of inclusion of other primary roads let along secondary roads is unacceptable. **BB**

Ecology - At the least, I-394 would have detrimental effects on several aspects of the eco-system. The statement that "none of the habitat (in the study area) is unique, nor does it harbor any rare or endangered species

of plant or animal life" (pg. 4-46) is irrelevant. The uniqueness of the quality of life in several portions of the study area, and in particular in GV, is in large part based upon the balance of residential areas and a relatively well-established and mature forest and marsh area which supports several small avian and mammalian populations several of which would be destroyed or uprooted by I-394. An example would be the destruction of the marsh in the NW quadrant of the 100-I-394 intersection. This has been designated as a natural area by the GV Council. The statement that "roadsides that are grassed and landscaped are useful to wildlife" (pg 4-47) is irrelevant in an urban area. Where is one example in this urban area that a designed roadside supports such life? Certainly this would not be the case for I-394 between I-94 and C.R. 18. Hence, the impact of I-394 in GV would be detrimental to the ecology of the community. The increased noise which would be experienced in the adjacent North Park area would also further downgrade its unique character from a state which has adversely effected its utilization as a natural area in terms of the impact of noise in the areas overlooking the roadway. **CC** **DD** **EE**

Visual Impact - The major visual impact of alternate 2 results from the Hwy 100-I-394 intersection which because of the proposed elevation of a ramp above the present level of Hwy 12 will represent an unsightly negative effect upon much of the surrounding area. In fact, the breadth of that interchange and increased lighting as well as sight of the facility, itself, will produce a major incompatibility with the surrounding area. It will represent a major intrusion into that segment of the community and reduce privacy of single family residencies. Elevation of that interchange as proposed is aesthetically unappealing. **FF**

Item BB

All air quality predictions have been revised utilizing current methodology and data. The findings of the Air Quality Report are summarized on pages The entire report is available upon request from the Golden Valley District of Mn/DOT. See also Response to EPA comments "A".

Item CC

The entire corridor of proposed I-394 has been inventoried to determine the value of natural areas as wildlife habitat. These findings are discussed on page 115 of this FEIS.

Item DD

That statement has been omitted from this FEIS.

Item EE

The revised noise analysis made for this FEIS indicates that highway-generated noise affecting these recreational lands near I-394 can be successfully abated to meet federal standards.

Item FF

Because the geometric design of the proposed facility has been re-studied, all data in the DEIS relating to interchange elevations is no longer applicable.

Probable Adverse Effects Which Cannot be Avoided - This concession assumes that present concepts of the transportation needs as considered in the I-394 study are complete and appropriate. Furthermore, it places a lesser value judgement upon the areas considered. For example, "these include disruption during construction, displacement and relocation of families and businesses, certain increases in air and noise pollution, game destruction of wildlife habitat---". These are assumptions and conditions which are intolerable and unacceptable.

Steps to Minimize Harm - It is commendable that recommendations are made in the EIS to minimize several of the negative features of the proposed facility. However, the interpretation of each of the suggestions is subjective and the incorporation and effect each may have are uncertain. None of these has sufficient impact in terms of the detail developed in the EIS to offset the negative features towards which each is aimed. The primary impact of I-394 would be upon the Village of GV. None of the steps outlined is developed to sufficient detail to modify the negative impact of alternate 2 upon GV. Indeed that is the reason why it has been emphasized by GV that design detail was necessary from the beginning. The present proposals are locked in to restricted design modifications at least as the latter have been developed and are not compatible with the goals and objectives of GV. None of the issues dealt with in this section of the report "enhances(s) the environment". **GG**

Irreversible and Irretrievable Commitment of Resources - This section completely omits the irretrievable and excessive commitment of fossil resources which will result from the concept of transportation emphasized in this report. "Most of the 'natural' looking upland habitats to be impacted are just now recovering or regrowing from earlier disturbances". **HH**

Relationship Between Local Short-term Uses of Man's Environment and Maintenance and Enhancement of Long-term Productivity - The interpretation of long-term vs. short-term impacts as used in this section of the report are arbitrary. It defines short-term effects only in terms of construction activities and long-term in the sense of economic impact, assuming, but not proving, that the freeway will produce a uniquely positive effect on the latter. The inference is made that "natural" areas which are "currently in a stage of recovery or regrowth at an uncontrolled rate" is a negative factor whereas they should be classified as positive in an urban area. The loss of animal populations in "proportion to the amount of habitat lost" as a short-term period is unsubstantiated and incorrect. The "reserving" of right-of-way for transit presupposes the appropriateness of the designation of that corridor, a condition which the consultant has assumed from the onset of the study. Furthermore the admitted adverse effects from "additional air and noise pollution" is not a positive factor in enhancing productivity. **II**

Transit - The omission of detailed transit considerations in the report to include all concepts of transit as it relates to both the study as well as the Twin Cities Metropolitan Area and to include the relative impacts of modalities on one and the other is inexcusable. The assumption which is made that transit has a secondary role in the sense that it is relegated as the second choice to overflow is presumptous and untested. The several assumptions made in this regard by the consultant, the MHD, the MC and the MTC are unsubstantiated and represent a negative influence in the entire study. Hence, the policy established prior to and reenforced during the study by these agencies precludes their objective abilities to judge of **JJ**

Item GG

Geometric layouts have been developed in coordination with the affected cities and neighborhoods. This is discussed in the FEIS.

Item HH

The consumption of fuel by the individual vehicle is influenced to a great extent by condition of the vehicle and the driving habits of the driver. However, the trffic conditions on any roadway also affect the amount of fuel consumed. Thus, a vehicle traveling under stop-and-go conditions will consume considerably more fuel than will the same vehicle making the same trip under smoothly-flowing traffic conditions. It is anticipated that proposed I-394, by affording a freely-flowing traffic route, will reduce fuel consumption for the individual vehicle. An energy analysis was performed and is summarized in the FEIS.

Item II

This section in the DEIS has been completely omitted from the FEIS.

Item JJ

The FEIS continues to rely on the recommendations of the Metropolitan Council, the agency charged by the Minnesota Legislature with the responsibility for promulgating guidelines for all development--including transit--in the Twin Cities area. See also response to MPCA comment "F".

quality, assumptions, method of study, data interpretation and conclusions made therein.

Village of Golden Valley Interpretation of the Study

In accord with the above analysis, the Village Council of Golden Valley passed and adopted unanimously on November 5, 1973 the enclosed resolution. (Exhibit III).

Summary

The statement contains inadequate projection of vehicular usage of the corridor since it fails to recognize the impact of (1) the changes to result from the emergy shortages and costs, and (2) mass transit decisions yet to be made. The statement itself is deficient in many areas that it either glosses over or ignores. Lastly, the choice of the second alternate is inconsistent with present land use planning policies against sprawling growth.

JJ

KK

Item KK

This resolution, which was also submitted as part of the record by the [City] of Golden Valley, is contained on page 443 of this FEIS.

Exhibit I

9/21/73

PROPOSED GUIDELINES FOR I-394

In January, 1972 the Village Council of Golden Valley approved the following criteria for the planning of new transportation components affecting Golden Valley:

1. Preserve and enhance the life style of our community and successfully deal with humanistic values. It should reflect the aspirations and capabilities of our people.
2. Provide for ease of vehicular movement onto and from the major arteries with safety and minimum disruption of community traffic patterns.
3. Assist in the rekindling of Village unity by providing visual, pedestrian and transportation ties that permit free movement between neighborhoods without hazards of high speed devices or routes.
4. Abate noise, visual and biological effects of transportation vehicles.
5. Provide for absolute minimum disruption of our residential, commercial and industrial areas and strive to maintain the functional workability of the School Districts, the parks system and other community facilities.
6. Provide for multi-modal transportation system components within existing rights-of-way.
7. Alleviate any concept that our Village should suffer consequences for the convenience of others. The transportation systems should provide an improvement which is both a physical and socialogical asset to the Village of Golden Valley.
8. Provide simultaneous considerations and proposals for utilizing all existing routes for dispersion and minimize dependency on any single route.
9. Upgrade North-South multi-mode transportation systems to relieve the major East-West routes.
10. Coordinate all appropriate data and planning with planners preparing the overall comprehensive plan for the Village.
11. Decrease dependency on automobile for trips to the Central Business District by providing improved access, service, quality and marketability of public transportation.
12. Provide mass and rapid transit designs utilizing exclusive right-of-way for devices not limited to buses based on mid-point adequacy of transportation facilities projected through 1995. A system to maintain status quo at time of its installation should not be built.

Proposed Guidelines for I-394 - Page 2

13. Design transportation systems based on policy determinations of desired modal splits in the various corridors, with an effort to achieve 50% reliance on transit to handle peak-hour overloads.

On the basis of consultations and study undertaken since then, the Council now endorses the following guidelines for applying the foregoing criteria to the proposed upgrading of Highway 12:

1. Any proposed development should be located within the existing right-of-way. A divided right-of-way in Golden Valley would be totally inconsistent with the criteria.
2. The traveled portion of the highway should be adequately separated from adjacent properties by berms, landscaping and other screening devices in order to reduce noise, odor, fumes and to make the highway more aesthetically pleasing. Particular attention should be paid to portions of the right-of-way abutting residential areas. More specifically, the highway should be aesthetically compatible with the area through which it would pass. Sound levels due to transportation sources should be kept as low as possible and in conformance with the most stringent standards set for planned neighboring land uses. Air pollution due to transportation sources should be minimized and, giving consideration to other known emission sources, should be in conformance with the most stringent standards. The highway should not adversely affect those natural resources (lakes, parks, etc.) planned by municipalities to remain as such. The highway should not adversely affect significant plant and wildlife areas.
3. The highway should be depressed from Highway 100 to the eastern boundary of the Village and west from 100, as necessary to protect residential areas.
4. South Tyrol must have adequate connections with other parts of the Village for both vehicular and pedestrian traffic. This should include at least one overpass suitable for two-way vehicular traffic, with sidewalks for pedestrian traffic, and at least one additional bridge or overpass at another location, or locations, for pedestrian traffic.
5. Interchanges in some form will be retained at Highway 100 and County Road 18. In addition, an interchange should be located in the vicinity of Louisiana. Consideration should also be given to another unconventional interchange in which access and egress ramps are located at different points along the highway rather than being concentrated at one point in diamond or cloverleaf shape.
6. The Turner's Crossroad intersection should be eliminated and replaced by an overpass connecting Golden Valley and St. Louis Park at Turner's Crossroad. There should be no interchange between Turner's Crossroad and Highway 12 except for the possibility of one portion of the unconventional interchange referred to in Item 5, i.e., one point of access or egress.

7. If it is necessary to condemn any portion of the area now serving as parking space for the Golden Hills Shopping Center at Turner's Crossroad, the Highway Department should condemn and pay for the whole shopping center. Parking space is already less than adequate and if it is to be further reduced, the shopping center should be relocated.

8. The local traffic service on Highway 12 should be replaced by service road arterials directly adjacent to and as a part of the buffer to the upgraded Highway 12. These arterials should run from Turner's Crossroad to Louisiana and from Winnetka to Louisiana. They should not be run from interchange to interchange or they will be used for highway traffic if and when the highway exceeds its design capacity. Similar arterial service drives should be constructed in St. Louis Park.

9. Consideration should be given individually to the access problems of General Mills as an individual problem in concert with General Mills.

10. A transit lane should be provided. Golden Valley has no specific recommendations at this time as to the precise form of transit, although PMT would undoubtedly be the most desirable option if feasible. Whatever mode is chosen, consideration should be given to running the transit lane along the Burlington-Northern Railroad tracks right-of-way from a point east of County Road 18 to a point east of the Bryn Mawr area of Minneapolis. This would reduce the pressure for a widening of the existing Highway 12 right-of-way and make it possible to simplify the interchange at Highway 12 and Highway 100.

11. The entire clearance and construction phase should be scheduled and monitored carefully to minimize the nuisance and avoid substantial decrease in livability during this period.

12. The upgrading of Highway 12 to a limited access expressway and regional transportation route would virtually eliminate its use as a community highway with local traffic. Golden Valley should be reimbursed for any expenditures required to deal with the problem of readjusting local traffic routes, as well as costs of decay and redevelopment that might be incurred as a result of the upgrading of Highway 12.

13. Highway 55 should also be upgraded to a more limited access status, to carry more traffic more expeditiously without increasing the width. Adequate walkways and traffic bridges over the highway should be provided. Upgrading 55 should relieve some of the traffic pressure on Highway 12. Integrate intersections of 12/100 and 55/100 to serve this. traffic needs east of 100.

RER:LeV
8-17-72

Exhibit II

ANALYSIS OF HNTB INTERIM

REPORT OF I-394 CORRIDOR STUDY

Prepared for the Village of Golden Valley by

Mr. Curtis Green and Dr. David M. Brown,

Representing the Village

February 12, 1973

The preliminary draft of the interim report for the corridor location study of I-394 prepared by Howard-Needles-Tammen and Bergendoff represents a noteworthy and well-organized endeavor to incorporate the principles of community involvement in the decision-making process. It also deals with considerations of the projections of need, design and environmental impact in a manner which encourages quantitative appraisal and modification in preparation for the decision making process. It serves as an excellent catalyst for productive solutions to the transportation system problems. We appreciate the opportunity to comment and to offer constructive suggestions for eventual improvement of the transportation system in the area under study.

The comments contained herein have specific relevance to Golden Valley although several of the questions raised have broader implications to other communities in the study area. They are aimed at resolution of problems even when, at first glance, some may appear to be negative since they must result in a positive resolution. They represent a preliminary analysis and may be modified by further detailed study.

The format of these comments will follow the HNTB interim report.

The methods of population projection are presumably based upon the Emperic model of the Metropolitan Council. It is not clear how they reflect current dramatic trends in decreased birth rate. Nor is it clear how the formulas reflect the changes in movement to and from major activity centers as their development is anticipated. For example, are peak hour trip destination projections based upon altered travel behavior as employment opportunities within the study area increase? To what degree is origin-destination totally contained within the study area for 1995 in contrast with "inside" vs. "inside" to "outside" patterns as currently exist? The specific impact of the Minneapolis Industrial Park, Ridgedale, Shelard Park and retail shopping development west of Hwy. 18 are not clearly indicated.

The definition of a "sensitive neighborhood" is arbitrary (pg. 35) and should include sensitivity because of potential disruption of the natural terrain and/or the ecosystem which characterizes the neighborhood.

A significant open space area was not included in the "designated open space" map opposite page 55. It is a marsh-ponding area at the northwest quadrant of the Hwy 12-100 interchange and has been designated as a "ponding area" on the Comprehensive Development Plan of Golden Valley (see report of Midwest Planning, February 1972). This information had been transmitted to HNTB by D.M.B. on February 17, 1972. This area serves as one of the few ponding areas for Golden Valley. Although the HNTB report refers to the lack of unique flora and fauna in the study area and the likelihood that animals would move to other areas when displaced by construction (pg. 118-119), these are specious arguments since it would obviously be possible to carry these thoughts to an absurd point.

Certainly one of the unique features of this portion of the metropolitan area is the relatively large amount of open space and wildlife habitat. Any loss of these areas reflects negatively on the neighborhood and the entire community.

The statement on pg. 60 referring to the origin of traffic in the Hwy 7 corridor is strong evidence for a more direct method of solving those transportation needs than simply providing increased capacity on 12 (or I-394) either as auto or transit since a new resource is needed closer to the origin of those trips; hence the need for trip capacity in the Mpls. CBD-SW corridor. The lack of designated secondary roads in the area east of 18 and south of 55 is a result of the high value residential character of the community. Development west and north of those areas should not interfere with their character by development of additional arterials.

The future system role of transit described on pg. 67-68 implies that the need for transit in the study area is predicated upon the accomodation of trip needs. It should also include the provision of significant alternatives for trip fulfillment based upon other predictable restrictions upon primary reliance on the automobile within the next decade such as fuel availability, costs, and possible direct restrictions upon the automobile in certain high-density employment areas. These additional needs may have major implications upon transit priority.

The comment on pg. 76 is not relevant or germane to the scientific nature of the study report and should be deleted. Is it an editorialization?

The statement on pg. 79 regarding the solutions suggests that the solution would be "one freeway/transit corridor". However, the transit alternatives under consideration include more than one corridor.

Considerable evidence exists that there has been disagreement as to the feasibility or reality to alternative 4 (pg. 81). Whereas it is appropriate to include an evaluation of this alternative, the reasons provided for not giving valid consideration to the referred to "modification" of Hwy 12 and of possible "contingencies" are inadequate and arbitrary. Since there is acceptance of possible modifications, it is equally valid to study them at the present time in order to evaluate the full scope of alternate 4.

The use and interpretation of the FHwA Federal Noise Guidelines (i.e., the L_{10} level) may be interpreted to indicate that an L_{10} level of 69 dBA is acceptable. Considering the generally acknowledged limitations to the ability to predict these levels accurately on a projected transportation facility, it is inadequate to base acceptibility of a corridor and of its design by this limitation without adequate design and engineering standards which provide safeguards for unavoidable errors in the projection. (The error limits or error tolerance in these projections must be included). Furthermore, these noice projections

are based primarily upon tire origin of noise and do not include considerations of contribution of truck exhausts, of grade increases, or of noises on acceleration lanes none of which is related to tire noise. The future sound projections should also take into account additional contribution by snow tires or other modifications should as studs or steel coil tires which are used for approximately 5 to 6 months a year and therefore are associated with significantly increased sound generation. Furthermore, maximization of potential sound barriers and other design treatments are imperative at this time rather than to relegate this to the design stage.

It is relevant to the concern for congestion (pg. 96) that the westbound traffic on Hwy 12 west of Glenwood Parkway is slowed during the peak hour utilization because of the reduction of lanes from 3 to 2, but when the autos are aligned in 2 lanes, traffic flows smoothly. Hence, the solution may be something other than to provide an additional lane. Further east, a similar condition exists where the I-94 ramp adjoins the Hwy 12 traffic coming from Mpls. CBD. As with many of the other problems described on pg. 96-97, solutions other than provision of additional lanes should be sought. A considerable portion of the problems on Hwy 12 in the Golden Valley area result from the fact that it must serve as a community facility.

The description of the high current noise levels (1970) along Hwy 12 (pg. 100-101) emphasize that no further deterioration is acceptable. Furthermore, any new facility should represent an improvement in these levels. Any deterioration is unacceptable and unjustifiable. This study should not place any reliance upon gaseous, heavy metal or particulate emission standards which have not been in effect since they cannot be tested at this time. Furthermore, the standards when they are enacted, will require enforcement in terms of fuel composition, vehicle manufacture and maintenance and possibly of vehicular utilization restrictions none of which is reliably predictable at this time. All references in the study (e.g., pg. 106-107) to predicted reduction in automobile emissions should be deleted.

Alternative 1 is totally unacceptable to the Village of Golden Valley and is in conflict with the previously adopted principles and guidelines adopted by the Village in January, 1972. No design modification of this alternate would be acceptable to the Village. (This statement was read and delivered to the combined meeting of the PMB, TAC, CAC on February 27, 1973). It will encroach severely into the community creating unalterably severe deterioration upon the economy, the quality of life (all aspects of pollution), many aspects of commercial interests, and several aspects of internal community circulation let alone the intolerable problems arising during construction.

The current alternate 2 is not compatible with the previously adopted principles and guidelines adopted by the Village of Golden Valley in January, 1972 and is therefore unacceptable to the Village.

The sound pollution (pg. 132-133, 136) levels are unacceptably close to the 70 dBA limits. There is little accomodation for error in these estimations and inadequate inclusion of sound abatement principles. The entire area from Turners Crossroad to east of Hwy 100 is inadequately treated. Further omissions in the sound level projections include the noises from snow tires or other winter tread modifications (pertinent at least five months a year), sound from wet pavements (causing a clearly audible increase in sound levels), and truck noises. All of these issues must be added into the noise level predictions. Sound abatement procedures should have the goal of maximum achievable reduction rather than simply to decrease the projected sound levels to be in accord with the allowable limits. The latter method will not accomodate potential error of projection or change in roadway conditions after normal wear. The increase in the number of residences within 1000 feet of the corridor right of way that would experience an increase in the sound level (85) as compared with 1972 is intolerable and unacceptable. Furthermore, 26 single family homes within 1000 feet of the corridor are projected to be subjected to sound levels in excess of 70 dBA.

Significant contributing factors to the increased sound levels include elevation of the 100-394 interchange as well as inadequate sound barrier treatment on ramps and along areas at or above grade. Simply enclosing guide rails at a height of three feet and walls of three to eight feet are inadequate. Furthermore, an acoustic wall is an inadequate, unattractive, and unimaginative sound abatement treatment for a proposed facility which should permit optimal rather than marginally acceptable techniques.

Whereas the 70 dBA limits provide a guideline for tolerance, whenever possible mechanisms must be sought and assurance given to achievement of maximum reduction in sound levels.

Problems of transportation access impact of alternate 2 on Golden Valley were referred to above (see pg. 4).

Because of the small size of School District 275 (Golden Valley) and the significant restrictions placed upon that district because of legislative regulations, any decrease in the tax base would be extremely deleterious to its operation. Hence a reduction of 2.51% (pg. 139) is a significant loss.

The visual impact of alternate 2 (as presently described - pg. 142-143) relies upon walls or partial depression of the roadway for visual compatibility. Walled barriers, as we currently know them are not esthetically acceptable. Furthermore, the visual impact created by the present configuration and elevation of the Hwy 100-394 interchange would be catastrophic. Since most aspects of both negative visual and sound impacts of the interchange is due to the significant elevation, further study of this alternate should be modified such that the 100-394 interchange be depressed by an additional 25 feet. Furthermore, barriers should be

This alternate causes severe problems with traffic flow through Golden Valley (pg. 128-129). Particularly severe impact occurs in the area east of Turners Crossroads, the overall circulation in the area surrounded by Turners Crossroad, Glenwood Avenue, Parkview Terrace, and Cedar Lake Avenue. Movement to and from any of the three quadrants around the 12-100 interchange becomes dependent upon circular movement around the periphery resulting in marked increased utilization of the three fore-mentioned streets. It turns Glenwood Avenue into a major right-of-way beyond safe capacity as a result of the circular movement plus the loss of access from Glenwood Avenue to south 100. Glenwood Ave. is the primary access route to all three of the Golden Valley School District 275 schools. It is used by children walking and bicycling to and from school. Increased traffic would seriously threaten the safety of the children and would hamper school bus movement. Furthermore Glenwood Ave. would assume a greater role in movement of traffic to and from the Minneapolis CBD, a condition which currently is excessive. Parkview Terrace would change from a residential street to a secondary road. Turners Crossroads would take the accumulation of all traffic using the previously described peripheralized movement and would assume a larger role as a secondary road. This increased utilization would be incompatible with several aspects of necessary reliance of the Village upon this road including residential use and community relationships. Since access from the east to the entertainment and employment centers south of Hwy 12 east and west of Turners Crossroad would be dependent upon the ramp ending at Turners Crossroad, an increased inefficiency of that intersection would occur.

The four level interchange at Hwy 100 and 394 is extraordinarily complex, particularly the movement at the SW quadrant. (Other aspects of the impact of this interchange will be discussed in other section of these comments).

The assumption of major movements on the southern frontage in front of Prudential into the Penn Ave. interchange will not be readily accepted.

Several unacceptable increases in exposure to pollutants are found in alternate 2 (pg. 130-131). Particularly dangerous is the area around the 100-394 interchange. For example, the exposure to lead concentrations in excess of maximum allowable limits must not be permitted. Possible decreases of any pollutants attributable to theoretically reduced ambient levels resulting from legislation cannot be projected for this facility. Several residences would be uncomfortably close to 25% limits, a condition which may be in error due to the normal limitation of accurate predictability of such parameters. Furthermore, projected elevation of the 100-394 interchange would lead to severe diffusion of pollutants to surrounding areas. Another site which may be unacceptably included in a high pollution zone is the proposed overpass between North and South Tyrol since it would be over the roadway. Recent studies of structures built over freeways have revealed unacceptably high levels of gaseous emissions including carbon monoxide.

more substantial than walls and, along ramps, should be significantly higher than the three foot guide rail, and of course, solid.

The effects of adverse visual and sound impact are psychologically damaging to humans and may have deleterious mental and pathologic consequences. Hence all design concepts must eliminate these negative factors.

Many of the same generalities referred to above regarding alternate no. 2 are applicable to consideration of alternate no. 3. However, within the context of reference to impact upon Golden Valley, less can be said since a considerable portion of the corridor is not within the Village. Striking effects are noted in several areas. First, the 12-100 interchange serves a lesser function and hence assumes dimensions more appropriate to the surrounding community than presently exists and is accompanied with the resultant decreased impact of that interchange. Secondly, there is retention of the use of Hwy. 12 as a local or community road with better E-W and N-S access. Full access to and from Glenwood Ave. is retained thus avoiding many of the problems in that area which are referred to above. The entire impact of the remaining Hwy. 12 upon the Village is lessened significantly since the quantity of traffic and rate of speed will be markedly reduced. The entire social, visual, sound and economic impacts of this corridor upon Golden Valley are reduced as compared with other alternates.

Whereas alternate no. 4 has been designated as a "do-nothing" alternate and is appropriate for study and inclusion in the report, it should not be considered to the exclusion of widely acknowledged and more reasonable alternatives in terms of moderated "upgrading". These points have been made by the Citizens Advisory Committee on several occasions during the past year (see minutes of January 27, 1972, pg. 2, item 3). Furthermore, it is acknowledged that the current lack of sound abatement on Hwy. 12 is unacceptable and should be improved. Hence, it is probable that the study of such a modified alternate would reveal some strikingly different statistics than are stated for alternate no. 4 and may, therefore, have different relativity to other alternates in this report. There are several modifications of existing Hwy. 12 which could be included in this alternate. This is not meant to imply that this concept would necessarily be more acceptable to another concept but would give more validity to an "upgrading" approach rather than the "do-nothing" alternate.

For reasons referred to in the above discussion, it may be concluded that the current effort to rank the current alternates in the study is an effort to suggest what is least bad or lest unacceptable.

I refer you to the communication of March 8, 1973 by Mayor Robert E. Riggs to Mr. Charles Burrill as to the adopted position of the Village of Golden Valley (adopted February 20, 1973) regarding the current alternates and the request of the Mayor for further study of an alternate described in his communication.

We appreciate the opportunity to be involved intimately in the planning process. We hope that a positive position regarding further planning and implementation of improved transportation facilities for the western metropolitan area will result from meaningful and true integration of citizen participation.

xhibit III

Resolution No. 585 November 5, 1973

Member Moberg introduced the following resolution and MOVED its adoption:

RESOLUTION
(Council Policy Position on I-394)

WHEREAS,

1. Golden Valley is presently divided by three major highways;

2. New major highway construction is certain to impose severe hardship upon the community during the period of construction and may have the long-range effect of permanently increasing noise, air and visual pollution;

3. The need for new super-highways cannot be accurately projected into the future because of uncertainties relating to fuel availability, vehicle availability and design, and the impact of proposed mass transit facilities;

4. The Village of Golden Valley has repeatedly tried to cooperate with the Minnesota State Highway Department and its planners in developing a plan for upgrading Highway 12 that would not have long-term harmful impact on Golden Valley;

5. The Highway Department has been unable or unwilling to produce a design for upgrading Highway 12 that would not have a harmful long-range impact on Golden Valley;

BE IT RESOLVED THAT

1. The design concepts for I-394 heretofore proposed by the Highway Department are unacceptable to Golden Valley;

2. The need for construction of I-394, regardless of design concept, has not been convincingly demonstrated; therefore the Village of Golden Valley opposes the designation of any corridor for I-394 touching on Golden Valley;

3. The Village of Golden Valley opposes further freeway construction until an overall transportation system for the western suburban area is designed;

4. The Village of Golden Valley will continue to welcome proposals for an overall transportation system that would not have a harmful long-term impact on Golden Valley.

Attest:
Helen Penniman
Village Clerk

Robert E. Rizza
Mayor

Passed and adopted unanimously by the Village Council 11/5/73.

UNITED STATES
ENVIRONMENTAL PROTECTION AGENCY
REGION V
230 SOUTH DEARBORN ST.
CHICAGO, ILLINOIS 60604

I 394
SP 2787-01

SEP 21 1977

Mr. Harry A. Reed
Deputy Commissioner
Bureau of Policy & Planning
Minnesota Department of Transportation
Transportation Building
St. Paul, Minn. 55155

Dear Mr. Reed:

Thank you for your letter of August 3, 1977, regarding the Air Quality Report for the proposed I-394 extension in Minneapolis/St. Paul. Subsequent to your letter, members of both our staffs and representatives of the Minnesota Pollution Control Agency (MPCA) have met to discuss the air quality issues which still remain in regard to this proposal. Our Agency originally reviewed the Draft Environmental Impact Statement (EIS) for this proposal on March 20, 1974. Our comments on the EIS indicated a potential for significant air quality impacts and violation of the Transportation Control Plan for the Minneapolis Central Business District. We also requested additional information with regard to specific areas of the air quality analysis.

Since our March 20th letter, changes have occurred both in air quality analysis procedures and air quality emissions. To reflect these changes in the state-of-the-art of air quality analyses, your Agency completed a revised air quality report in July 1977. This Air Quality Report and a meeting with our staffs and MPCA adequately responded to our request for information on the type of air quality model used, the traffic projections, wind direction etc. These were our general information requests. Relative to the comments on the Draft EIS and the Air Quality Report, we had two items which we were interested in having clarified further. First, we were interested in what concentrations would result if a frontage road was not present and the receptor site was moved near the edge of the right-of-way line. Second, more detail on the vehicle miles of travel and pollutant emissions for each grid (numbers 57-61) were requested.

A worst case analysis was carried out for a through section of the proposed facility with a frontage road runing parallel and adjacent to I-394. While the receptor was located very near the edge of the frontage road, it was unclear if higher concentrations would result along those sections of I-394 where there is no frontage road.

A commitment was made on the part of your staff to carry out those analyses, and U.S. EPA was subsequently contacted and informed that both the one and eight hour carbon monoxide levels decreased. These results should be discussed, along with other requested information, and summarized in an addendum to the Air Quality Reports.

The other issue involved the impact of the projection on the Central Business District (CBD) of Minneapolis where significant and frequent violations of the carbon monoxide standard have been monitored. In 1973, a Transportation Control Plan was developed to mitigate the problem and attain the standards. Any increases in emissions in the CBD could exacerbate the violations, and increases in traffic could offset the effectiveness of the strategies developed under the Plan. Our March 20, 1974, comments raised this question and the Air Quality Report of July 1977, addresses this issue. However, the discussion does not explain why emissions of hydrocarbons and carbon monoxide are slightly lower if the project is built than if it is not built. It also does not discuss vehicle miles of travel in the CBD which we would expect to increase significantly after completion of a facility which improves CBD access from suburban areas. Very little, if any change in CBD vehicle miles traveled has been projected by MDOT. It was agreed that this information and discussion would be compiled and submitted to USEPA and MPCA.

Perhaps of equal importance to these issues is the consideration of the Revised Motor Vehicle Emission Factors which have been released by U.S. EPA in June 1977. These factors have been revised to reflect exhaust emission surveillance programs through which test fleets of consumer-owned vehicles within various major cities were selected for study. Proto-type vehicle data, assembly line test data and technical judgement also form the basis for the existing and projected mobile source emisison factors. While no final and mandatory implementation schedule has been agreed upon by USEPA and the Federal Highway Administration headquarters for use in EIS's, we have had the opportunity to calculate representative emission factors based on the revised procedures.

In light of this, we feel that it is probable that the National Ambient Air Quality Standards for carbon monoxide could be violated by this project in 1985. This conclusion is based on a comparison between the new factors and AP-42 Supplement No. 5 factors on which the I-394 air quality impact analysis is based. Because of this potential, it is advisable for the revised Air Quality Report include an investigation of mitigation measures in the project's design and within the corridor.

More specifically, we recommend that high occupancy vehicle lanes for car pools, van pools and express buses be considered for implementation in the corridor, at least during peak period traffic conditions.

Park-and-ride or other fringe parking facilities should also be considered near entrances to the facility, and the potential for buses to circulate through residential neighborhoods prior to entering the facility should be explored. The potential for using bus priority ramps and ramp metering at entrances should also be addressed. These strategies could be considered in conjunction with on-street parking restrictions in the CBD and the elimination of parking garages in the CBD. This request was brought out at the meeting on August 25, 1977, and the staff of Minnesota DOT agreed to look into this and address it in the Final EIS.

USEPA believes this is a reasonable request in light of the historical development which this project has had. It is our understanding that earlier corridor evaluations completely excluded any consideration of mix-mode corridor options. The need to evaluate such multi-modal options is reinforced by the Metro Council study which indicates that mass transportation alone could not serve the corridor. We believe that since the design for the highway has not yet been finalized, there is still ample opportunity for multi-modal consideration. Furthermore, implementation of the express lane options suggested here would not require a redesign.

It should be noted that the Minnesota State Air Implementation Plan was found deficient for the attainment of the photochemical oxidant standard in 1976. All reasonable strategies were to be evaluated and submitted to USEPA by January 1979, and are to be analyzed for the target years 1982 and 1987. One type of strategy which USEPA is requiring to be evaluated is the transportation systems management strategy, an example of which would be the high occupancy vehicle lanes. Because I-394 is estimated to be completed in 1985, it's implementation with high occupancy vehicle lanes is not only compatible with transportation goals, but is consistent with air quality goals. Such action would also be in fulfillment of Federal Highway Administration's (FHWA) Urban Mass Transportation Administration joint regulations, and with the FHWA Section 109(j) processed commitments.

In summary, many of our initial questions on the Draft EIS for I-394 have been addressed. However, we still have major concerns about the air quality impact which the project may have, and believe that the potential for adverse air quality impacts requires mitigative measures. Such measures could include but not be limited to ramp metering with preferential high occupany vehicle ramps and high occupancy vehicle lanes. The metering of the entrance ramps would limit the total

number of vehicles on the roadway, maintain a design level of service, and possibly reduce the total number of vehicles entering the CBD. Again, this metering system could also incorporate preferential treatment of high occupancy vehicles.

We appreciate the opportunity to clarify our concerns about the I-394 project and the cooperation exhibited by your staff in attempting to resolve those concerns. If you have any questions in regard to our comments, please contact Mr. William D. Franz at 312-353-2307.

Sincerely yours,

Ronald L. Mustard

Ronald L. Mustard
Acting Chief
Environmental Review Section

SP 2789

Halvorson

Minnesota Pollution Control Agency

November 23, 1977

Mr. James Harrington, Commissioner
Minnesota Department of Transportation
Transportation Building
St. Paul, MN 55155

Dear Commissioner Harrington:

Thank you for providing us the opportunity to review and comment on the Air Quality Report for I-394. Since the Air Quality report and supplements discuss only preliminary designs, the staff is unable to make a final consistency determination.

However, the staff's preliminary determination is that the project would not be inconsistent with the State Implementation Plan provided transit measures (such as high occupancy vehicle lanes and Park/Ride) are included in the design and that the 3rd Avenue parking facility be completed prior to the completion of I-394.

Since the Twin Cities area most likely will be designated "non-attainment" for oxidants and carbon monoxide, it is imperative that the proposal include transit measures to insure the attainment of ambient standards.

Yours truly,

Sandra S. Gardebring

Sandra S. Gardebring
Executive Director

SSG/rmg

cc: Carl Nash, USEPA, Chicago, Ill.
Jim Halvorson, MN DOT
Terry Hoffman, DOT

CC: W. C. Merritt
E. Dean Carlson
Harry Reed - K. Y. Meise
W. M. Crawford
J. S. Katz - C Robinson
A H Hultine
H J Legler
Jim Woodruff
OEA File

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SUMMARY OF CORRIDOR LOCATION PUBLIC HEARING

The I-394 Corridor Location Public Hearing was held on February 27, 1974 at Wayzata Senior High School in Wayzata, Minnesota. The purpose of the hearing was to discuss the need for I-394, the alternative route locations, and the social, economic and environmental effects of the various alternatives as identified in the DEIS. Displays of the various alternatives were presented and handouts explaining each proposal were given to everyone present at the hearing.

The hearing moderator was John Boland, Chairman of the Metropolitan Council, and representatives of Mn/DOT (then MHD) were present to provide clarification on the alternatives.

Comments received at the hearing are assembled into 16 subjects or concerns.

Need

The need for the proposed project was questioned by citizens who feel that either there were no transportation problems or that the problems did not warrant such a major improvement as proposed.

The question of whether a transportation problem exists or will exist is related to peoples values and the amount of traffic congestion, travel time delays, safety hazards, and other related impacts that people are willing to accept. Obviously, different people will have varying opinions on this matter. The need for the facility is well documented in the "Needs" section, page 25 of the FEIS and includes criteria such as, existing and projected traffic, highway capacity analysis, safety, and community objectives.

During the course of project development, several alternatives (including "Do-Nothing") to the proposed action have been studied and dismissed for various reasons. These alternatives are discussed in the DEIS and are briefly summarized in the FEIS on page 61.

Limited Improvement

A number of people expressed the opinion that a "limited improvement" to U.S. 12 would solve the transportation problems in the corridor and be less disruptive to the communities through which it passes.

The "limited improvement" alternative was addressed in the DEIS and dismissed for several reasons. The basic problem with this approach is that existing U.S. 12 would have to be upgraded to near freeway standards to be effective. However, the problems of noise, air, and water pollution, divided neighborhoods, poor access, and local circulation would be worsened. This is briefly discussed in the "Alternatives" section of the FEIS on page 61.

Mass Transit

A majority of the views expressed concerning a mass transit system thought that it would be a better solution to the transportation problem and would negate the need for the proposed project.

The Transportation Chapter of the Metropolitan Development Framework Guide/Policy Plan calls for express buses and buses operating in mixed traffic (or reserved lanes, if necessary) as the highest form of mass transit for the I-394 corridor.

The design of I-394, through the use of "diamond" lanes and reversible lanes, will facilitate the movement of buses and other high occupancy vehicles. This is discussed in the FEIS.

Mass Transit Plus Limited Improvement to US-12

Several comments were received expressing the opinion that a combination of mass transit plus limited improvement to US-12 is the most appropriate alternative.

This alternative is basically a combination of items 2 and 3 above. Perhaps the discussion of this is best summarized in a Metropolitan Council staff report to the Physical Development Committee (April 18, 1974) which states:

"This "limited improvement" alternative is the upgrading of US-12 to freeway standards on its existing grade and alignment. It means extending the six-lane freeway that now exists within the Bryn Mawr Community in Minneapolis -- to I-494 in Minnetonka -- with minimal disruption to existing homes and businesses (using existing right of way). This alternative plus mass transit could provide almost the same transportation service for regional trips as I-394, but could not provide adequate access to development without significant disruption and cost, between SR-18 and SR-100. This alternative would not solve the problems of noise, divided neighborhoods and water pollution. However, this alternative is a design solution and could be considered during the design stages."

Mass Transit Plus Upgrading Highways 7, 12, 55, 18 and 100

Comments were received indicating that a viable alternative to I-394 would be provision of mass transit plus the simultaneous limited upgrading of SR-7, US-12, SR-55, SR-100 and CR-18.

In a report dated May 14, 1974 the Metropolitan Council stated the following position on this alternative:

"The purpose of this alternative is to spread the load over the existing highways. This means increasing the capacity of these roads and improving their safety. Highways 18 and 100 are currently four-lane freeways in the study area -- "upgrading" suggests that they should be six lanes. Highway 7 is a four-lane expressway to Lake Calhoun, where it becomes Lake Street (a four-lane arterial with traffic signals at each intersection). There is no expressway connection to downtown Minneapolis. To "upgrade" Highway 7 would be to provide a speedier connection to downtown or to I-35W which brings to mind the "Southwest Diagonal" and the "28th Street Crosstown" freeways which were dropped from

consideration many years ago because of environmental impacts. There is insufficient right of way available to add more lanes to the highly developed stretch of Highway 7 east of Highway 18.

Highway 55 is a four-lane expressway between I-494 and Minneapolis, where it is six lanes. To add more lanes in Golden Valley would require the taking of land from Wirth Park in addition to some residential land acquisition.

If it were decided to increase the vehicle capacity of each of these highways in addition to a good mass transit system, the transit system would face more competition and be less likely to succeed, than if only one highway were upgraded. Also, upgrading each highway would not reduce the traffic into downtown Minneapolis (a concern of EPA).

Upgrading these highways would not solve the problems of noise, divided neighborhoods and water pollution, but would make them worse."

Traffic, Population and Employment Projections

Many people stated that projections for future traffic, population and employment were unrealistically high and failed to consider more current trends.

The projections presented in the DEIS were re-evaluated and were deemed to be unrealistically high. The projections presented in the FEIS are more current and the population, employment and household projections are those developed and sanctioned by the Metropolitan Council.

Consistency with Land Use Policies

Comments were received expressing concern that I-394 would promote urban sprawl and therefore, be inconsistent with established policies and goals.

The "Land Use Planning" section of this FEIS contains a discussion of the relationship between I-394 and land use in the corridor. Also, the Transportation Chapter of the Metropolitan Development Framework Guide/Policy Plan calls for completion of I-394 as an integral link in the 1990 Metropolitan Highway System.

Noise

Noise pollution as a result of the proposed project.

A preliminary noise analysis has been done and is documented in a separate "Preliminary Noise Analysis Report" which is summarized in the FEIS. The noise analysis was done assuming "worst case" conditions, ie, level of Service "C" traffic volumes and design hour truck volumes.

Results of the noise analysis indicate that, with the inclusion of noise atenuation barriers, noise levels in all noise sensitive areas adjacent to I-394 will be at or below FHWA Design Noise Levels. In fact, in many areas noise levels will be lower than existing noise levels adjacent to US-12 today. For further discussion see "Noise Impacts" section of the FEIS.

Air Pollution

Air pollution as a result of the proposed project.

Air quality as a result of this project has been studied and is documented in a separate "Air Quality Report" which is summarized in the FEIS. The analysis, based on "worst case" conditions, indicated that air quality will be within state and federal standards, and better than if US-12/I-394 were not built. For further discussion, see the "Air Quality Impacts" section of the FEIS.

Relocation

Questions were raised concerning the number of homes and businesses to be displaced and their subsequent relocation.

Although the exact numbers are not yet available, preliminary estimates are that 63-83 homes and 36 commercial buildings housing 46 businesses would be acquired. Mn/DOT surveys of the study area show that there is an adequate supply of comparable homes and commercial space available to enable the displacee's to relocate in the same vicinity, if they so desire.

A Mn/DOT district office is located approximately 2 miles north of the project corridor and relocation contacts will originate from there. If necessary, an on-site field office will be opened to serve as a public information center.

For further discussion refer to the "Relocation of Residents and Businesses" section of the FEIS.

Interchange Locations

Comments were received dealing with the possible location of interchanges.

Interchanges will be located at proposed Carlson Parkway, I-494, Plymouth Road, Ridgedale Drive, CR-73, CR-18, Boone Avenue, Louisiana Avenue, Xenia/Vernon Avenue, SR-100, Penn Avenue, Wayzata Boulevard, and I-94. These locations are discussed in more detail in the FEIS.

Energy Resources

Most of the views expressed concerning energy resources indicated that the shortage and associated increased costs of fossil fuel supplies will result in a substantial change in the mode of transportation from the automobile to mass transit, which will negate the need for the proposed project.

We believe that the national effort aimed towards greater exploration of our fossil fuel reserves and increased technological research to improve fuel efficiency of vehicles and to develop feasible alternative fuels to power vehicles will be successful. There is no question of the need for an improved mass transit system and an increase in transit-ridership. However, transit ridership and auto occupancy rates will not significantly reduce automobile usage and private vehicles will still remain the dominant mode of transportation in this area. To date, the energy shortage and higher costs for gasoline have not had a significant effect on private vehicle usage and travel. The proposed project is a solution for both increased transit and private vehicle usage in the corridor.

An energy analysis was performed for this project and is summarized in the FEIS.

Water Pollution

Comments were raised concerning water pollution as a result of this project.

A separate "Water Resources" study has been prepared and is summarized in the FEIS. This study concludes that water pollution will not be a significant problem. In fact, this project could result in some benefits to the water resources in the project area by increasing the water level in certain wetlands to create better wildlife habitat.

For further discussion refer to the "Water Resources Impacts" section of the FEIS.

Construction Impacts

Impacts experienced during construction.

Construction activities will cause impacts such as inconvenience, congestion, confusion to motorists, detours, air pollution (dust and exhaust from equipment), and noise. All planning will include measures to minimize these impacts although total elimination does not seem likely. Fortunately, these impacts will be short-term impacts and will not constitute health hazards.

These impacts are discussed in the FEIS.

Local Traffic

Comments were received regarding increased traffic on local streets and disruption to local circulation patterns.

As proposed, I-394 would provide a good frontage road system and convenient grade-separations across the highway to facilitate local circulation. Although some travel patterns may be altered slightly, the overall result should be beneficial as movement will be safer and more orderly.

Also, traffic on local residential streets should not increase as a result of I-394 the operation of US-12/ I-394, but probably would if nothing is done to existing US-12, since motorists experiencing heavy congestion on US-12 would seek alternate routes. This is discussed in more detail in the FEIS.

Design Features

Several comments were recieved which dealt with specific design details.

Specific questions voiced at the hearing primarily related to details on the conceptual drawings contained in the DEIS and are no longer applicable.

Several major design details are discussed in the FEIS. Geometric layouts for this project have been developed over the past few years with constant input from the cities and neighborhood groups.



MINNESOTA HISTORICAL SOCIETY

Fort Snelling Branch (Building 25), Fort Snelling, St. Paul, Minnesota 55111 • 612-726-1171

October 29, 1974

Mr. C. P. Kachelmyer
Preliminary Design Engineer
612E State Highway Building
St. Paul, Minnesota 55155

Subject: S.P. 2789-01 (T.H. 394)

Dear Mr. Kachelmyer:

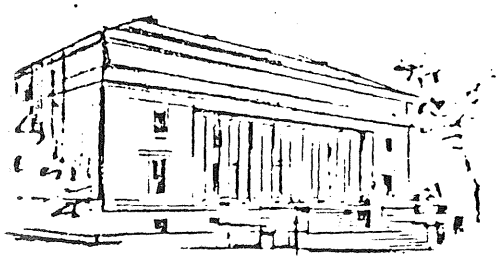
The above referenced project has been reviewed by staff of the Historic Sites and Archaeology sections of the Minnesota Historical Society and has been field surveyed under the auspices of the Highway Archaeology Survey. This research has revealed no historic or archaeological sites of proper significance for present or potential inclusion on the National Register of Historic Places. Therefore, we foresee no adverse effects if this project is implemented. Please notify this office if cultural materials are discovered during construction activities.

Sincerely,

Russell W. Fridley

Russell W. Fridley
State Historic Preservation Officer

RWF:lt



MINNESOTA HISTORICAL SOCIETY

690 Cedar Street, St. Paul, Minnesota 55101 • 612-221-2747

May 9, 1978

Mr. C.P. Kachelmyer
Preliminary Design Engineer
Department of Transportation
Room 604 - Transportation Building
St. Paul, Minnesota 55155

Dear Mr. Kachelmyer:

Re: Minn. Proj. I 394-6 ( )
SP 2789-01 (I-394)
From I-94 in Minneapolis
to I-494 in Minnetonka
Hennepin Co.

MHS Referral File #F569

Thank you for the opportunity to review and comment on the above project. It has been reviewed pursuant to responsibilities given the State Historic Preservation Officer by the National Historic Preservation Act of 1966 and the Procedures of the National Advisory Council on Historic Preservation (36CFR800).

This review reveals the location of no sites of historic, architectural, cultural, or archaeological significance within the area of the proposed project. There are no sites in the area which are on the National Register or eligible for inclusion on the National Register, and, therefore, none which may be affected by your proposal.

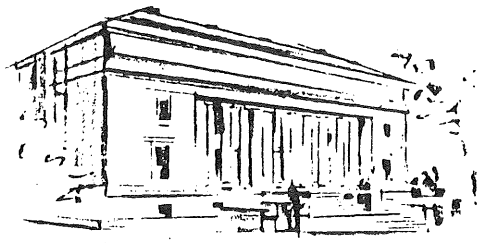
Again, thank you for your participation in this important effort to preserve Minnesota's heritage.

Sincerely,

Russell W. Fridley

Russell W. Fridley
State Historic Preservation Officer

RWF/fr



MINNESOTA HISTORICAL SOCIETY

690 Cedar Street, St. Paul, Minnesota 55101 • 612-296-2747

4 March 1981

Mr. C. P. Kachelmyer
Preliminary Design Engineer
Department of Transportation
Room 604 - Transportation Bldg.
St. Paul, MN 55155

Dear Mr. Kachelmyer:

Minn Proj. 0789-2( )

RE: S.P. 2789-01 (TH 12)
From I-494 in Minnetonka
To E. Jct. TH 101 in Wayzata
Upgrading/Hennepin County

MHS Referral File Number: M 494

Thank you for the opportunity to review and comment on the above project. It has been reviewed pursuant to responsibilities given the State Historic Preservation Officer by the National Historic Preservation Act of 1966 and the Procedures of the National Advisory Council on Historic Preservation (36CFR800).

This review reveals the location of no sites of historic, architectural, cultural, or archaeological significance within the area of the proposed project. There are no sites in the area which are on the National Register or eligible for inclusion on the National Register, and, therefore, none which may be affected by your proposal.

Again, thank you for your participation in this important effort to preserve Minnesota's heritage.

Sincerely,

Russell W. Fridley
State Historic Preservation Officer

RWF/sl

cc: Les Peterson
Fort Snelling

APPENDIX

Department of Transportation
Federal Highway Administration
E.O. 11990 - Wetland Finding
Minnesota Project S.P. 2781

This statement sets forth the basis for a finding that there is no practicable alternative to construction in the wetlands located along US 12 and I-394, from SR 101 in Minnetonka (West Terminus) to I-94 in Minneapolis (East Terminus), and that the highway proposal includes all practicable measures to minimize harm to the wetlands which may result from such use. This finding is made in accordance with the requirements to Executive Order (E.O.) 11990 on the Protection of Wetlands, dated May 24, 1977.

Description of Project

The proposed project entails construction of 10.2 miles of freeway along existing US 12 from SR 101 in Wayzata to I-94 on the western edge of the Minneapolis central business district (CBD). The 8.7 mile segment of US 12 from I-494 in Minnetonka to I-94 will be redesignated as I-394. The street system and parking facilities of the Minneapolis CBD will be linked to I-394 by the proposed 1 mile long Third Avenue Distributor.

From I-494 to SR 100, I-394 will be a six-lane freeway with the inside lanes identified as standard diamond lanes for High Occupancy Vehicles (i.e. buses, van pools, and car pools) during rush hours, and from SR 100 to I-94 near the Minneapolis CBD, it will be a six-lane freeway with the two inside lanes being reversible and physically spearated from the outer lanes. The reversible lanes will operate eastward toward the city in the morning and westward toward the suburbs in the afternoon and evening.

Cloverleaf-type interchanges will connect I-394 to the principal and intermediate arterials of I-494, CSAH 18, and SR 100. Other interchanges will be

spaced to serve local needs. Collector-distributor (C-D) roads will improve the capacity and safety of many of the interchanges. The frontage road system will be improved and bridges and underpasses for both vehicles and pedestrians will improve traffic circulation and link neighborhoods and commercial areas on each side of the freeway. I-394 will be depressed for much of its length to reduce noise and visual impact. Noise abatement walls or mounds will be built where warranted and desired by the local community.

Park-and-ride sites will be built to encourage car and van pooling and the use of public transit buses. Ramps will be built to exclusively serve the reversible lanes. The Traffic Management Center (TMC) will monitor traffic and meter entrance ramps to provide smooth traffic flow.

Alternatives Considered

Three project alternatives located along existing US 12 were considered in addition to the Do-Nothing option (Figure 13).

Alternate 1 - east and westbound lanes would divide just east of Penn Avenue. Eastbound traffic would follow a new southern alignment, and westbound lanes would be aligned mainly within the US 12 corridor to its junction with SR 100. There the westbound lanes would diverge from existing US 12 and follow a new northern alignment. Rejoining each other at Winnetka Avenue, east and westbound lanes would continue along US 12 to the western terminus of the project.

Alternate 2 - (Mn/DOT's selected alternate) would be located along US 12, approximately within existing US 12 Right-of-Way. The Alternate 2 corridor is recommended as the preferred alternate because it would follow an existing transportation corridor which has long been planned for freeway status, requires less relocation of residences and businesses, and directly serves existing and future regional population centers.

Alternate 3 - follows existing US 12 from the Hawthorne Interchange to approximately Penn Avenue in Minneapolis. The route then turns southwesterly, paralleling the Burlington Northern Railroad tracks to approximately SR 100 in St. Louis Park. At this point the route would follow a northwesterly direction along Cedar Lake Road and would rejoin the existing US 12 alignment at approximately Colorado Avenue and would continue on this alignment to the western terminus of the project.

Do Nothing Alternate - would involve no new construction and would maintain existing conditions. This will result in continued congestion on US 12 during rush hours, increased accident frequency, poor access to existing and future developments and jeopardized fire and police protection when the roadway is congested. As traffic increases, noise levels (which are currently in excess of state standards) would also increase.

Description of Wetlands

The project area contains 27 wetlands (Figure 13) totaling 582.1 acres (Table 1). Wetlands were classified according to Wetlands of the United States (U.S. Fish and Wildlife Service, Circular 39), and Classification of Wetland and Deepwater Habitats (FWS/OBS - 79/31). Definitions of the various types defined by these two systems are summarized in Appendix 1. Wetlands are usually dominated by one type, but may contain several constituent types.

Wetlands Affected

Portions of five wetland basins, totaling approximately 18.2 acres, will be filled during construction of Alternate 2. The areas impacted involve 3.1% of the total wetlands within the project corridor. There is little difference between Alternates 1 and 2 in avoiding direct wetland impacts (Table 2).

TABLE 1. Area and classifications of each wetland 1-27 (see Figure13)

Wetland Number	Area (Acres)	Circular 39 U.S. Fish and Wildlife Service (Type)	Classification of Wetlands and Deep-water Habitats of the U.S. (Codes)
1	4	4	PEM5
2	7	4	PEM5
3	6	7	PFO2
4	0.4	5	POW
5	8	4	PEM5
6	7	3	PEM3
7	8	3	PEM3
8	2	5	POW
9	4	3	PEM3
10	74	4	PEM5
11	43	1/6/7	PSS1
12a	0.8	5	POW
12b	0.3	5	POW
13	25	3	PEM3
14	4	3	PEM3
15	1	3	PEM3
16	34	2	PEM1
17	54	3	PEM3
18	105	4	PEM5
19	22	2	PEM1
20	2	5	POW
21	5	3	PEM3
22	91	3	PEM3
23	0.6	5	POW
24	0.5	5	POW
25	15	2/3	PEM1
26	29	3	PEM3
27	31	3	PEM3

Total acres = 582.1

Table 2.

Projected Direct Wetland Impacts of Alternate Routes

(estimated to the nearest tenth acre)

Wetland Number	Circular 39 Type	Total Acres	Acres of Encroachment Alt.1	Alt.2	Alt.3
6	3	7	4.9	4.9	-
9	3	4	-	-	.6
11	2/6	42	10.9	10.9	10.9
12a	5	0.8	.1	.1	.1
17	3	54	.1	.1	.1
18	4	105	3.2	3.2	3.2
Cedar Lake	5	195	-	-	2.5
Brownie Lake	5	9	-	-	.4
		Totals	18.2	18.2	17.8

Alternate 3 avoids wetland 6 but would encroach into wetland 9, Brownie Lake, and Cedar Lake. Approximately .4 acre of Brownie Lake and 2.5 acres of Cedar Lake would have to be filled or bridged under Alternate 3.

Wetlands impacted by Alternate 2 would be as follows:

Wetland 6, a seven-acre type 3 wetland will have up to 4.9 acres filled as a result of constructing the I-394/SR-100 interchange (Figure 33). The remaining wetland, plus some additional upland area, will be used for stormwater storage. This will change the wetland classification from a type 3 emergent marsh to a type 5 open water pond. Considerable fluctuation in water level is expected due to reduced size and increased runoff. Wildlife use by resident and nesting species will decrease, while seasonal use by waterfowl will increase.

Wetland 11 is a highly diverse, 43 acre, type 1, 6, 7 wetland. Construction of the Boone Avenue South extension and interchange will fill 10.9 acres of this wetland (Figure 34). The area to be filled is dominated by elm, cottonwood, maple, dogwood and hawthorn. The unique stand of tamarack will not be disturbed. This wetland offers very good habitat for a variety of wildlife species such as deer, raccoon, skunk, ring-necked pheasant, and a variety of songbirds. Removal of approximately 25 percent of the available habitat will reduce but not eliminate the wildlife value of the remaining wetland. Stormwater storage ponds may be constructed in this wetland, to replace lost floodplain storage. These ponds would be designed to increase the wildlife diversity of the remaining wetland. Valuable stands of tamarack, red maple, hawthorn, and black cherry will be preserved. Pond construction will be limited to areas of stinging nettles and red-osier dogwood.

Wetland 12a is a type 5, 0.8 acre man-made pond (Figure 34). This wetland receives some use by waterfowl, primarily Canada Geese, which nest throughout the General Mills property west of wetland 11. Approximately 0.03 acre of the southwest corner of the pond will be filled. Waterfowl use of the pond should not be affected by this small encroachment.

Wetland 17 is a 54 acre, type 3 cattail marsh. Construction of the Ridgedale Drive interchange will affect less than 0.1 acre of this wetland (Figure 35). Excavating a wildlife pond in this wetland will increase the habitat diversity and offer greater wildlife habitat for waterfowl.

Wetland 18 is the 105 acre Ridgedale Marsh, a type 4 cattail marsh. This wetland offers the best wildlife habitat within the project corridor. Species which use this wetland include, raccoons, muskrat, ringnecked pheasants, herons, egrets, and numerous species of waterfowl and songbirds. Construction of a frontage road between Ridgedale Drive and CR-73 will impact 3.2 acres of cattail fringe (Figure 35). Approximately 1.0 acre of this impact will be from the construction of a stormwater retention pond between the proposed frontage road and an entrance ramp to I-394. Due to limited space, this pond will be designed solely for stormwater retention, sediment removal and spill control.

Measures to Minimize Harm

1) Stormwater retention and wetland mitigation ponds.

   Seven ponding areas are planned to store and treat highway runoff and/or mitigate for wetland impacts (Figure 13).

   A) Ponding complex A would be excavated within and adjacent to wetland 25, which is a 15 acre type 2/3 emergent marsh. Water presently flows from

wetland 22 through this marsh into wetland 26 and eventually into Minnehaha Creek. Two to three dual purpose ponds will be excavated to provide stormwater detention as well as being designed to diversify wildlife habitat. Ultimate size and design of the ponds will not be known until the detail design phase.

B) Ponding complex B would be excavated within wetland 17, which is a 54 acre type 3 emergent marsh. This wetland is densely vegetated with cattails and has virtually no open water. Excavating several small (less than 0.2 acre) open water basins, with variable shorelines and depths, will increase the value of this wetland as wildlife habitat.

C) Pond C would be a small stormwater storage basin to be excavated within the northeast loop of the Ridgedale frontage road. This area is presently a type 3 portion of Ridgedale Marsh which is a 105 acre overall type 4 emergent marsh. Due to space limitations within the loop, this pond will be designed only for storage of runoff. The U.S. Fish and Wildlife Service recommends that level ditching be done in the dense cattail portion of Ridgedale Marsh, in order to enhance wildlife habitat. This measure will be explored during detail design and implemented if feasible.

D) Pond D would be excavated within wetland 14 which is a four acre type 3 emergent marsh. This wetland is densely vegetated with cattails and has no open water. This pond will be designed to approximate a 50:50 ratio of open water and emergent vegetation. This would be a dual purpose pond, designed for both stormwater detention and wildlife habitat.

E) One or more ponds would be excavated within wetland 11 which is a 43

acre type 1/6/7 wetland. The ponds will be designed to replace lost flood storage, retain and treat stormwater, and add further diversity to an area of good quality wildlife habitat. An effort will be made to preserve areas of unique or valuable vegetation, such as tamarack, hawthorne and red maple.

F) Pond F would be located northwest of the US 12/SR 100 interchange in wetland 6. This wetland is presently a densely vegetated 7 acre type 3 emergent marsh with no open water. Due to the extensive fill that will impact this wetland (4.9 acres) and the small amount of space available for stormwater storage, this pond will be designed only for storage.

G) Pond G would be excavated between US 12 and the Burlington-Northern railroad tracks near Penn Avenue in what is presently an upland area. Due to the small available space at this location, this pond will be designed only for storage.

2) Highway fill slopes will be constructed 4:1 or steeper adjacent to impacted wetlands (6, 11, and 17, 18) to minimize wetland encroachment.

3) Temporary erosion and sedimentation control measures will be used throughout construction, including bale ditch blocks, earth or bale diversions, and temporary sedimentation basins. Permanent measures will be initiated as early as practicable and will include replacement of topsoil, seeding, sodding, and placement of rip-rap.

4) It is anticipated that considerable quantities of excess excavated materials will be generated by the construction of I-394. Disposal of excess material

into wetlands will be avoided unless it is to mitigate for wetland and wildlife habitat losses (i.e., creating nesting islands) or is done in accordance with Guidelines for Disposal of Excess Excavated Material. These guidelines are a procedure developed by Mn/DOT, in consultation with the U.S. Fish and Wildlife Service, to determine if there is no practicable alternative to disposal of excess material in wetlands and other sensitive areas. Since quantities of excess material and locations of disposal areas will not be known until construction of I-394 in 1986, it is not possible to make a definitive statement that excess materials will not be placed in wetlands, however, it is not anticipated that wetlands will be filled.

Comments and Coordination

The impact of I-394 upon wetlands has been coordinated with the U.S. Fish and Wildlife Service and the Minnesota Department of Natural Resources (see Appendix 2). DNR protected waters and U.S. Army Corps of Engineers 404 permits will be necessary for the project.

Conclusion

The above factors and considerations establish that there is no practicable alternate to construction in the wetlands located along proposed I-394, and that the highway proposal includes all practical measures to minimize harm to the wetlands which may result from such use.

3/5/82
Date

William R. Lake
Division Administrator
Federal Highway Administration

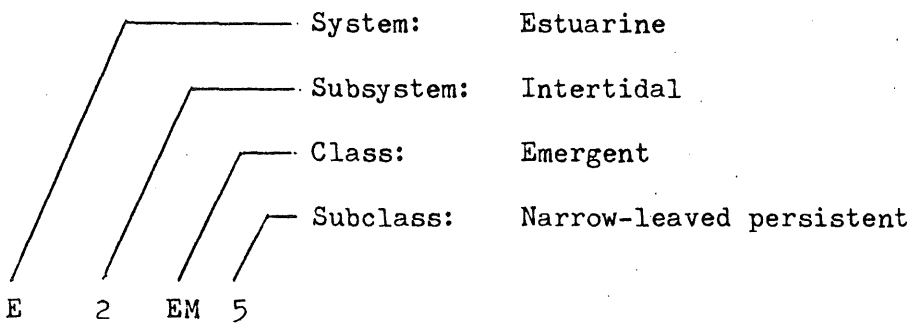
Appendix 1

Classification Codes

Codes are made up of a series of letters and numbers (alpha numerics) with the first letter representing the system and subsequent alpha numerics representing in a sequential manner. Class and subclass where classes and subclasses have been mixed are separated by a diagonal line.

Examples

a. Classification of wetlands to water regime and special modifier:



b. Mixing of Wetland classes and subclasses:

PFO2/EM3A = Palustrine, Forested, Needle-leaved deciduous (PFO2) mixed with Palustrine, Emergent, Narrow-leaved non-persistent (PFM3) with a temporary water regime.

Classifications:

Systems

[P] Palustrine** (-this is the only system involved in this project, and no subsystems). See attached figure.

Classes and Subclasses

[ ] Class

[ ] Subclass

[AB] Aquatic Bed

1 Submergent Algal
2 Submergent Vascular
3 Submergent Moss
4 Floating - Leaved
5 Floating
6 Unknown Submergent
7 Unknown Surface

[BB] Beach/Bar

1 Cobble/Gravel
2 Sand

[EM] Emergent

1 Persistent
2 Nonpersistent
3 Narrow-Leaved Nonpersistent
4 Broad-Leaved Nonpersistent
5 Narrow-Leaved Persistent
6 Broad-Leaved Persistent

[RB] Rock Bottom

1 Bedrock
2 Boulder

[FO] Forested

1 Broad-leaved Deciduous
2 Needle-Leaved Deciduous
3 Broad-Leaved Evergreen
4 Needle-Leaved Evergreen
5 Dead
6 Deciduous
7 Evergreen

[ML] Moss/Lichen

1 Moss
2 Lichen

[SS] Scrub/Shrub

1 Broad-Leaved Deciduous
2 Needle-Leaved Deciduous
3 Broad-Leaved Evergreen
4 Needle-Leaved Evergreen
5 Dead
6 Deciduous
7 Evergreen

[OW] Open Water/Unknown Bottom

Comparison of Wetland Types described in U.S. Fish and Wildlife Service Circular 39 and the new Fish and Wildlife Service, Office of Biological Services (F.W.S./O.B.S.) classification system.

Circular 39	Classification of Wetlands and Deepwater Habitats		Characteristics (description)
	Classes	Water Regimes	
1.- Seasonally Flooded Basins	Emergent Wetland Forested Wetland	Temporarily Flooded Intermittently Flooded	The soil is covered with water, or is waterlogged, during variable seasonal periods, but is usually well drained during much of the growing season. Vegetation varies greatly according to the season and duration of flooding.
2 - Inland Fresh Meadow	Emergent Wetland	Saturated	The soil is usually without standing water during most of the growing season but is waterlogged within at least a few inches of its surface. Vegetation includes grasses, sedges, rushes, and various broad-leaved plants. Wild hay is often cut from such areas.
3 - Inland Shallow Fresh Marshes	Emergent Wetland	Semipermanently Flooded Seasonally Flooded	The soil is usually waterlogged during the growing season, often covered by as much as 6 inches or more of water. Vegetation includes grasses, bulrushes, spikerushes, and various other marsh plants such as cattails, arrowhead, pickeralweed and smartweeds.
4 - Inland Deep Fresh Marshes	Emergent Wetland Aquatic Bed	Permanently Flooded Intermittently Exposed Semipermanently Flooded	The soil is covered with 6 inches to 3 feet or more of water during growing season. Vegetation includes cattails, reeds, bulrushes, spikerushes, and wild rice. In open areas pondweeds, naiads, coontails, watermil foils, duckweed, waterweed, waterlilies, or spatterdock may occur.
5 - Inland Open Fresh Water	Aquatic Bed Unconsolidated Bottom	Permanently Flooded Intermittently Exposed	Shallow ponds, lakes, or reservoirs with less than 10 feet of water and fringed with emergent vegetation, including: pondweeds, naiads, wild-celery, coontail, muskgrasses, and spatterdocks.
6 - Shrub Swamps	Scrub-Shrub Wetland	All nontidal regimes (except Permanently Flooded)	The soil is waterlogged with at least a few inches of its surface during the growing season and is often covered with as much as 1 foot of water. Trees include tamarack, arborvitae, black spruce, balsam, red maple, and black ash.
7 - Wooded Swamps	Forested Wetland	All nontidal regimes (except Permanently Flooded)	The soil is waterlogged with at least a few inches of its surface during the growing season and is often covered with as much as 1 foot of water. Trees included tamarack, arborvitae, black spruce, balsam, red maple, and black ash.
8 - Bogs	Scrub-Shrub Wetland Forested Wetland Moss-Lichen Wetland	Saturated	The soil is usually waterlogged and supports a spongy covering or mosses. Vegetation is woody or herbaceous or both. Typical plants are: heath shrubs, sphagnum moss and sedges along with leatherleaf, labrador tea, cranberries, carex, and cottongrass.

Appendix 2

Coordination

SF-00006-02

STATE OF MINNESOTA

DEPARTMENT Natural Resources

Office Memorandum

TO : Frank Pafko, Acting Supervisor
Environmental Development Unit, Minn. DOT

DATE: Oct. 29, 1981

FROM : Earl Huber, Surveys and Review Unit Supervisor
Ecological Services Section

PHONE: 6-2838

SUBJECT: Work Draft of Wetland Finding for Minnesota Project S.P. 2789 (T.H. 12 and I-394, from T.H. 101 in Minnetonka to I-94 in Minneapolis)

We reviewed the above document and attended the meeting and field reconnaissance of the project area on October 27, 1981. Those in attendance included you, the U.S.F.W.S. (Ken Carr), Minnesota Division of Waters (Judy Boudreau), various DOT District 5 personnel, and Tom Kucera (Ecological Services) and myself. From the available information we feel that the preferred alternative (#2) using the present T.H. 12 alignment is the best choice. The proposed construction appears to include all possible measures to minimize adverse impacts to wetlands and to provide mitigative measures.

In general such mitigative measures as creating open water areas in vegetation choked type III wetlands can be quite beneficial to various wildlife species. These open water areas can be created by the use of water control structures, level ditching, and dredging or blasting shallow pothole openings. In addition the formation of islands for nesting in open water areas can also be very useful. Your preliminary proposal for improving wetland areas 16 and 22 (wetland types III and II, respectively) is reasonable. There may be other such wetlands in the project corridor which could be subject to similar mitigative measures. However the location, numbers, types, and availability of various wetlands present would determine what might be most desirable or practical.

It is noted that wetland #11 in the project path may provide an additional or alternative chance for providing mitigation. The area is owned by General Mills. However the DOT has to find out how receptive the General Mills Company may be to the DOT concept for wetland development, It is our preliminary opinion that wetland 11 is quite desirable just the way it is. However if some open water areas could be provided without greatly impacting present tree, shrub, and grassland areas then possibly it will be advantageous to give variety by impounding water. If creating water areas is a possibility then the use of a water control structure on the outlet may be required.

It seems reasonable to us that whatever mitigative plans that the DOT has they should involve the expertise of Gordon Gust (Area Wildlife Manager - New Hope). He would be helpful in assessing the use and needs of various wetlands in the project corridor. The utilization of type VI and VII wetland areas for impounding waters for wildlife may or may not be that desirable - depending on the circumstances.

EHH:blt
cc: Ken Wald
Gordon Gust

United States Department of the Interior

IN REPLY REFER TO:

FISH AND WILDLIFE SERVICE
St. Paul Field Office, Ecological Services
538 Federal Building and U.S. Court House
316 North Robert Street
St. Paul, Minnesota 55101

November 17, 1981



Mr. Frank Pafko
Office of Environmental Services
Minnesota Department of Transportation
Transportation Building
St. Paul, Minnesota 55155

Dear Mr. Pafko:

This provides preliminary U.S. Fish and Wildlife Service comments regarding the contemplated wetlands mitigation plan for the I-394 project (S.P. 2789).

We generally concur with the mitigation proposals as set forth in the working draft Wetland Finding for S.P. 2789 (I-394). We understand that most of the modifications suggested during our October 27 field review of the project are now proposed for inclusion in your final Wetland Finding and Mitigation Plan. The following is our understanding of possible modifications.

1. A new wetland designation has been given to the palustrine persistent emergent/scrub shrub wetland proposed to contain Pond A. The wetland is now wetland 25, and will contain 2 or 3 dual-purposed ponding areas that will serve to increase wildlife habitat diversity in the wetland complex.

2. If possible, wetland 16 will now contain several small ponds with shallow bottoms and irregular shorelines rather than the one pond originally proposed (Pond B).

3. The use of "level ditching" will be explored for the dense stands of emergent vegetation in wetland 17 (Ridgedale Marsh) to enhance wildlife habitat. Pond C will continue to be proposed for the northwest corner of the wetland.

4. Wetland 14 be proposed for dual-purpose use as a ponding site and wildlife habitat.

5. The wetland area on the General Mills property, adjacent to the Brookview Golf Course, will receive fill on approximately 11 acres due to the extension of Boone Avenue and the construction of an access road to the General Mills building complex. We understand that MnDOT intends to construct water quality "enhancement" ponds in the more disturbed parts of the wetlands and will attempt to avoid the more "natural" areas. Attempts to provide flood storage and storm water treatment above the floodplain of Bassett Creek should aid in the mitigation of impacts to local fish and wildlife resources.

Thank you for the opportunity to review the project and MnDOT's proposed mitigation.

Sincerely,

Richard F. Berry

Richard F. Berry
Field Office Supervisor

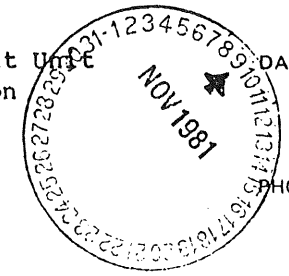
cc: Minn. DNR, St. Paul (Ecol. Serv.)

SF-00006-02

STATE OF MINNESOTA

DEPARTMENT OF NATURAL RESOURCES

Office Memorandum



TO : Frank Pafko, Environmental Development Unit DATE: Nov. 6, 1981
Minnesota Department of Transportation

FROM : Judy Boudreau, Hydrologist PHONE: 296-7523
Metro Region Waters

SUBJECT: WORK DRAFT AND FIELD REVIEW---WETLAND FINDINGS, MINNESOTA
PROJECT S.P. 2789: T.H. 12/I-394

In response to your request for comments on the above-referenced Work Draft and subsequent field inspection on October 27, 1981 (also involving Ron Peterson of your office; Tom Kucera and Earl Huber of Ecological Services; Ken Carr of USFWS; John Boynton, Hydraulic Engineer for MN/DOT, District 5, and the two project engineers for I-394), I offer the following:

From a wetland standpoint, alternative 2 seems to be the minimum impact solution in that the proposed alterations to DNR protected wetlands have appropriate mitigative solutions. Below is a list of the numbered wetlands on the route (as well as some which were not indicated, see attached map) and the corresponding DNR preliminary inventory designations:

Wetland No.-DOT	DNR Protected Waters Inventory No. ****	Flood Zone A
1	654P	
2	653P	
3	-	
Brownie Lake	38P	
4	-	
5	-	
6	652P	
7	-	
8	-	
9	-	Yes
10	711P	
11	-	Yes
12 (a & b)	-	
13	Bassett Creek	
14	729P	
15	1092W	
16	732W	Yes
	733P	
	702P	
17	734P	Yes
18	759W	
19	-	
20	737W	
21	740W	
22	741W	
23	753W	
24	743W	

**** (those wetlands not numbered do not qualify as a protected wetland)

Any alteration of those wetlands which are designated as protected should be approved by a DNR permit. In addition, Gordon Gust, Area Wildlife Manager, should be contacted for his comments if he has not already had that opportunity.

From a flood plain standpoint, I have included a column which indicates four wetlands which are within designated A zones. It is my understanding that Joe Thomas (MN/DOT, Environmental Services) and David Leuthe (Land Use Hydrologist, DNR) have reviewed the consistency of this project with State and local standards.

ch

STATE OF
MINNESOTA
DEPARTMENT OF NATURAL RESOURCES

DECEMBER 22, 1981

Mr. Frank Pafko
Office of Environmental Services
Minnesota Dept. of Transportation
Transportation Bldg.
St. Paul, Minn. 55155

Dear Mr. Pafko:

The mitigation proposals suggested in the working draft wetland finding for proposed I-394W, from the western edge of Minneapolis to Wayzata, appear to be adequate to compensate for the total of 18.2 acres of marsh that will be filled during the construction of alternate # 2, said 18.2 acres comprising 3.1% of the total wetland acres within the project corridor.

Because of the diversity of cover types on wetland # 11, adjacent to General Mills, creating open water areas by constructing dug-outs in portions of the marsh with a minimum of woody cover would be desirable, thereby avoiding the loss of woody growth that, currently, is serving as valuable winter cover for upland wildlife.

It is felt that blasting should be avoided in creating dug-outs, being the resulting openings are not as attractive to waterfowl, nor are they as permanent as dug-outs constructed using heavy equipment.

Sincerely yours,

Gordon Gust

Gordon Gust
Area Wildlife Manager
Minnesota Division of Fish & Wildlife

cc. - Roger Johnson
Judy Boudreau
Earl Huber

ADMINISTRATIVE SERVICES • WATERS, SOILS, AND MINERALS • LANDS AND FORESTRY
GAME AND FISH • PARKS AND RECREATION • ENFORCEMENT AND FIELD SERVICE

LIST OF PREPARERS

The following people were primarily responsible for preparing and reviewing the Final Environmental Impact Statement.

For the Federal Highway Administration:

Name	Profession	Project Responsibilities
Stephen J. Bahler	Area Engineer	Review the SEE impacts.
James W. McCutcheon	Division Bridge Engineer	Review the Floodplains and Structures.
Wallace O. Oien	Division R/W Officer	Review civil rights, EEO, and relocation.
James E. St. John	District Engineer	Review FEIS for compliance with Federal environmental regulations.
Ronald A. Shriver	Planning and Research Engineer	Review the Urban Transportation Planning.

For the Minnesota Department of Transportation:

Richard Borson	Engineer	Project Development
John Boynton	Engineer	Hydraulics
Scott Carlstrom	Hydrologist	Water Quality/Drainage
Andrew Datko	Planner	Socio-economics
Greg Felt	Engineer	Air Quality
Graham Ford	Geologist	Geology/Groundwater
Carrie Foster	Student Biologist	Wetlands
John Gable	Technical Writer	Writing/Editing
John Hale	Technician	Air Quality
James Hansen	Technician	Noise
Jon Henslin	Agricultural Engineer	Erosion Control
Roger Kallroos	Illustrator	Graphics
Gerald Larson	Research Analyst	Socio-economics
David Lennartson	Draftsman	Graphics
Norm Mellum	Engineer	Air Quality
Dennis Moline	Draftsman	Graphics
Frank Pafko	Aquatic Biologist	Water Quality/Wetlands
Robert Paine	Engineer	Air Quality
Ronald Peterson	Wildlife Biologist	Wetlands/Wildlife/Vegetation
Allan Pint	Engineer	Geometrics
Jim Reierson	Landscape Architect	Mitigation Design
Craig Robinson	Engineer	Noise/Project Manager
Kenneth Schrader	Engineer	Hydraulics/Drainage
Michael Spielmann	Engineer	Hydraulics/Drainge
Richard Staffon	Wildlife Biologist	Wetlands/Wildlife
Roxanne Sullivan	Geologist	Geology/Groundwater
Joseph Thomas	Hydrologist	Floodplains
Jim Woodruff	Technician	Air Quality
Steven Wyczawski	Landscape Architect	Mitigation Design

INDEX

(does not include Summary references)

	page
access to freeway	80
access to reversible lanes	80
accident rates	49
actions req'd by Fed agencies	17
ADT, forecast	34
ADT, historic	34
age distribution	125
air quality analysis discussion	341
air quality during const'n	262
air quality impact	155
air quality receptors	164, 179
air quality requirements	155
alternatives	63
architectural treatments	94
barriers	88
Bassett Creek, impacts	212, 216
bicycle facilities	90
Brookview Golf Course	279
Brookview Golf C'se, impacts	299
Brookview Golf C'se, mitigation	311
Brownie Lake	293
Brownie Lake, impacts	308
Brownie Lake, mitigation	313
Bryn Mawr, impacts	256
bus system	33
business disruption	257
carbon monoxide analysis	162
Carlson Center	140
changes made from DEIS	23
churches	129
clear zone	87
climate	100
collector-distributor roads	79
comments on DEIS	368
comments on Draft 4(f) Eval'n	353
commercial displacement	249
community centers	130
compliance in reserved lanes	70
construction impacts	262
construction noise	196
controversy to Met Council	59
coord'n with park authorities	310
corridor history	56
corridor loc'n public hearing	446
Corridor Location Study	56
cost	95
creeks	110
crossovers	86
cultural centers	130
DEIS submission	58
detector system, vehicle	89
dewatered zones	222
diamond lanes	72, 86
displacement, commercial	249
displacement, residential	246
disruption to businesses	257
disruption to public services	257
drainage	94
drainage diversion, Brownie Lk	213
drainage impacts	212
downtown development	140
dust	180
economic development	51
economic impacts	246
economy	139
effects of not building I-394	55
employers	139
employment	51, 125
endangered species	245
energy impacts	265
environmental design features	92
EPA letter	158
erosion control	220
exceptions to noise standards	196
federal legislation	51
fencing	94
fire protection	135
floodplains, impact	227
freeway to f'way interchanges	81
frontage road system	84
geology	100
geometrics	72
grade	80, 92
groundwater	109
groundwater impacts	221

habitat, wildlife 117
hazardous spills 219
heavy metal impacts 219
historic sites 135
historic sites, impact 259
history of corridor 56
hospitals 130
households 51, 124
hydrology 109

institutions 129
interchanges 80

joint development 151

labor force 143
lakes 110
land-access interchanges 82
landscaping 93
land use 99
land use, existing 144
land use, future 144
land use, impacts 258
land use planning 143
land use, secondary impacts 264
lanes 72
lead analysis 178
libraries 129
lighting 88
light rail transit alternative 71
limited improvement alternative 64
list of preparers 480
local street system 32
location of freeway 92

mass transit, impacts 264
metering, ramp 89
mesoscale air quality analysis 180
Metropolitan Council Plan 52
Metropolitan Council projections 124
Minnehaha Creek, impacts 212, 216
minorities 126
modal interrelationships 53

natural features 99
natural resources impacts 212
need for project 27, 34
neighborhood access 258
neighborhood disruptions 256
neighborhoods 126
no-build alternative 69
noise abatement 93
noise analysis discussion 339
noise during construction 262
noise impacts 189
noise level standards 190
no significant impact 20
not building I-394, effects of 55
nursing homes 130

open space 120

park-and-ride sites 87
parklands 277
parks 120, 130
participation 95
PCA letter 161
pedestrian bridges 91
pedestrian facilities 90
pesticides 220
police protection 135
ponding areas 218
population 51, 124
primary highway system 27
primary impact area 99
prime and unique farmland 259
proposed project 72
public service disruptions 257
public transit system 33
purpose of project 27

railroad bridges 86
ramp metering 89
receptors, air quality 164, 179
recipients of DEIS 365
recreational centers 130
relocation program 250
residential displacement 246
retaining walls 80
revenue sharing, impacts 256
reversible lane access 83
reversible lanes 72, 86
Ridgedale Center 140
right-of-way 80
ring-road at CR-18 86

safety 36
safety features 87
salt impacts 218
schools 129
schools, state aid, impact on 254
secondary highway system 32
secondary impacts 264
Shelard Park 139
shoulders 87
sidewalks 90
social characteristics 124
social development 51

	page
soils	100
Spring Lake	278
State Historic Preservation Officer letters	454
state legislation	52
study area	27, 99
summary	13
surface water	110
system linkage	54
tamarack bog study	347
tax base, impact	251
television surveillance system	89
temporary disruption	258
Third Avenue Distributor	83
through lanes	72
topography	99
traffic during construction	263
traffic management	88
traffic management options	79
traffic movements, impacts	264
traffic systems management (TSM) alternative	64
transit facilities	86
transit, impacts	264
transit system	33
transportation demand	34
transportation network	27
Tyrol Hills, impacts	257
unresolved issues	20
utilities	136
vegetation	110
vegetation, impacts	245
vehicle detector system	89
visual impacts	260
watercourses	110
water quality during construction	263
water quality impacts	213
water study area	110
Wetland Finding	459
wetlands	115
wetlands, impacts	234
wildlife	110
wildlife habitat	117
wildlife, impacts	245
Wirth Park	280
Wirth Park, effect on	303
Wirth Park, mitigation	311