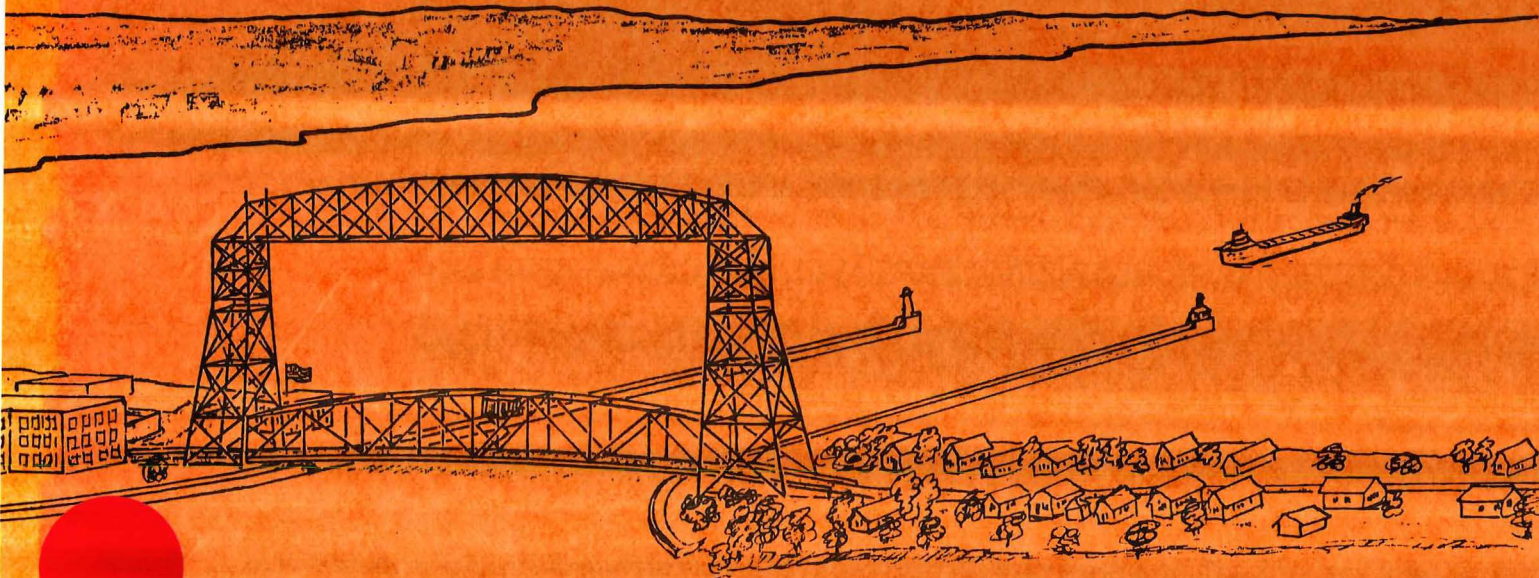




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final**ENVIRONMENTAL
STATEMENT****FOR****INTERSTATE HIGHWAY 35 (I-35)****AND****U.S. TRUNK HIGHWAY 61 (T.H. 61)****IN****ST. LOUIS COUNTY, CITY OF DULUTH, MINNESOTA****FROM****MESABA AVE. TO 10 TH. AVE. EAST**

MNDOT

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DULUTH

PREPARED BY:

Minnesota Department of Transportation

Minnesota Projects I-IG 035-6(19) 261

and F 001-4()

State Project 6982-03

Interstate Highway 35

and

U.S. Trunk Highway 61

Mesaba Avenue to 10th Avenue East

in Duluth

St. Louis County

State Projects 6982-03

ADMINISTRATIVE ACTION

FINAL

ENVIRONMENTAL IMPACT STATEMENT

State of Minnesota

Department of Transportation

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of Transportation

Submitted pursuant to Minnesota Statutes 116D.01 et seq.

Dec 2, 1977
Date


Harry A. Reed
Deputy Commissioner
Bureau of Policy and Planning
Minnesota Department of
Transportation

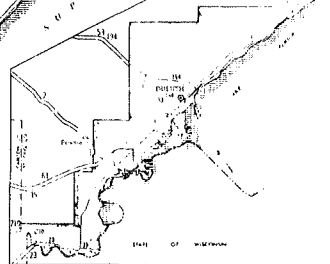
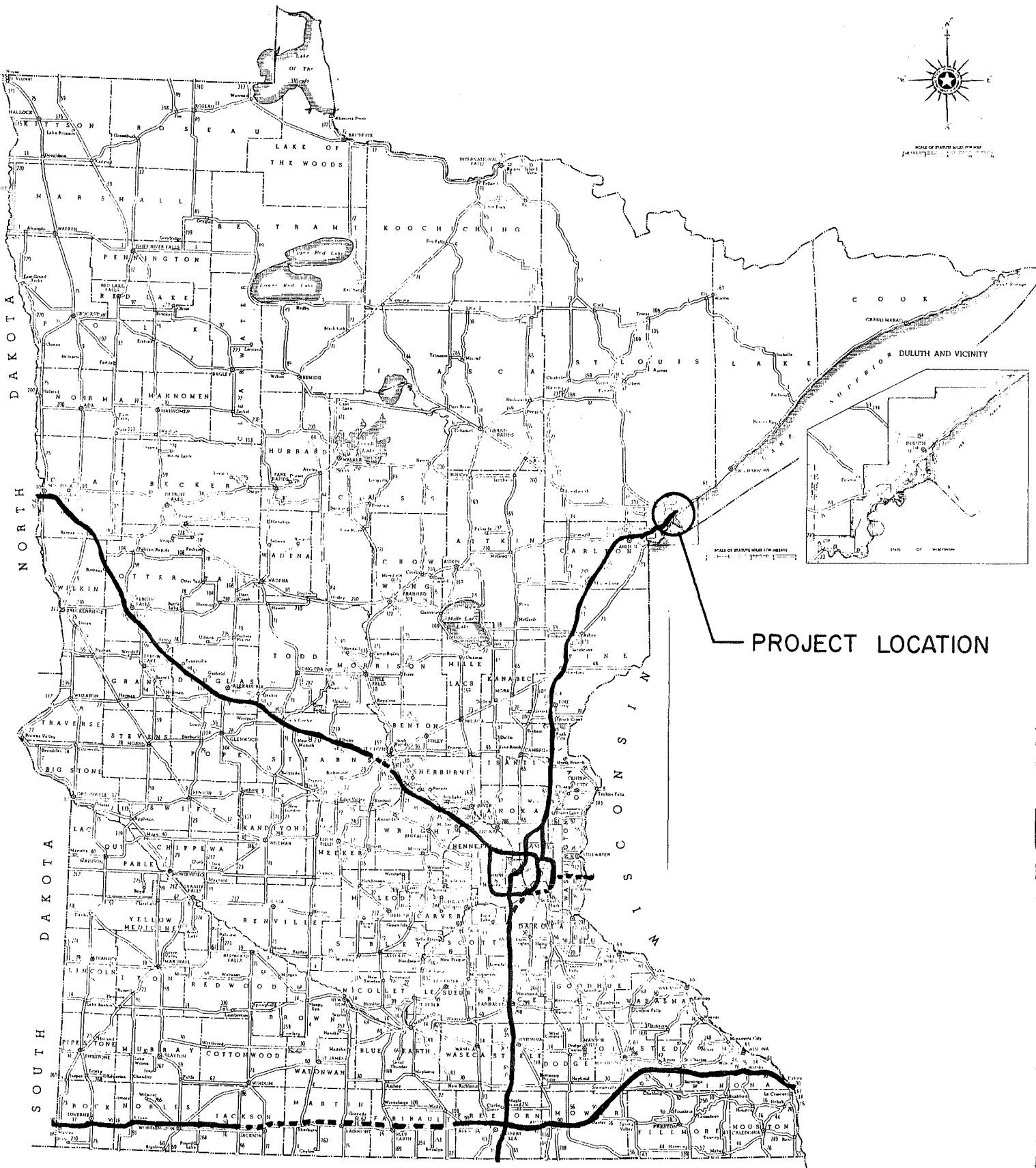
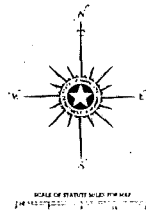
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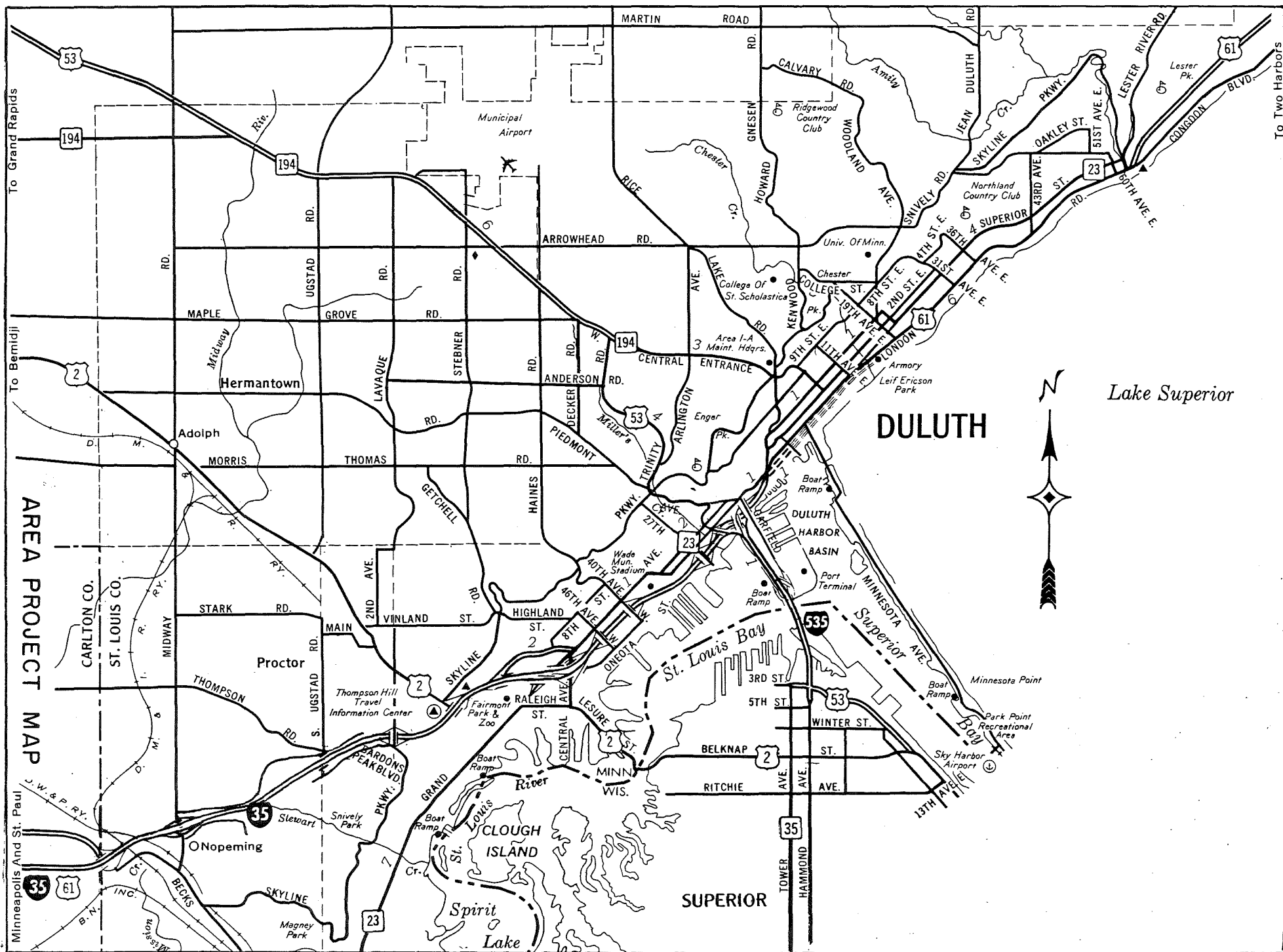
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STATE OF MINNESOTA
DEPARTMENT OF HIGHWAYS
WORK MAP



PROJECT LOCATION

STATE INDEX MAP



SECTION I

SUMMARY

I. SUMMARY

Description of the Action

The proposed project (recommended alternative) is the extension of the in-place 4-lane divided Interstate Highway (I-35) in the City of Duluth, St. Louis County, State of Minnesota. This Environmental Impact Statement (EIS) will assess the impacts on the environment of the proposed project which begins at Mesaba Avenue (current terminus of I-35), and continues eastward to 10th Avenue East.

A Citizen Advisory Committee appointed by the Mayor of Duluth has agreed on the recommended location and design for the Interstate facility to 10th Avenue East. The Mayor will appoint another committee to investigate the location and design from 10th Avenue East to 26th Avenue East.

The proposed freeway will be constructed to 10th Avenue East with a connection to London Road. The option is available to terminate the Interstate at 10th Avenue East if it is recommended by the Citizen's Committee not to construct the proposed freeway to 26th Avenue East.

The proposed freeway, from Mesaba Avenue to 4th Avenue East, will be a ground level structure along the southern edge of the Central Business District (CBD). The freeway curves northward in a depressed section at 4th Avenue East and passes beneath Superior Street at approximately 5th Avenue East. It then continues eastward in a depressed section paralleling Superior Street on the north side to 8th Avenue East. The alignment then curves southward passing beneath Superior Street between 8th and 9th Avenues East. Once the freeway passes beneath Superior Street a grade raise is initiated to meet the in-place elevation of London Road in the vicinity of 10th Avenue East. This section will result in the construction of 1.8 miles of freeway at an estimated cost of \$40.9 million. Interchanges are proposed at 5th Avenue West and Lake Avenue.

Major Alternatives

The major alternatives considered were a 4-lane divided freeway with five separate routes (corridors), Do-Nothing, and Mass Transit. An exhibit showing the location of the five corridors can be found in Section VII, Alternatives and Summary of Associated Impacts, page 140 of this document.

Corridor I:

Corridor I begins at Interstate 35 west of Duluth and Proctor and circumscribes a semi-circular path north of the Duluth International Airport. It remains outside of the major built-up portions of Duluth and terminates at T.H. 61 (an expressway between Duluth and Two Harbors) beyond Lester River near the east limits of Duluth.

This alternative was dismissed because the predicted traffic volumes indicate a freeway would not be warranted and traffic congestion in the lake shore corridor would not be relieved.

Corridor II:

This corridor follows the general north-south alignment of T.H. 53. Corridor II begins at the existing junction of I-35 and I-535 and continues north beyond Duluth International Airport to connect with the alignment of Corridor I. It then follows the alignment of Corridor I east of the airport along the fringe of the built-up portion of Duluth to T.H. 61.

This alternative was also dismissed because the predicted traffic would not warrant a freeway and traffic congestion in the lake shore corridor would not be relieved.

Corridor III:

Corridor III was routed along the south side of Duluth International Airport and the edge of some of the built-up areas of Duluth, from existing Interstate 35 (near the west limits of Duluth) to T.H. 61 (near the east limits of Duluth).

The traffic volumes on this alternative are similar to those in Corridors I and II. Therefore, Corridor III is dismissed from further consideration.

Corridor IV:

The Corridor IV Alternative follows the general alignment of the Skyline Parkway. It continues along the top of the escarpment (400-600 feet above Lake Superior) from existing I-35 near the west limits of Duluth to T.H. 61 near the east limits of Duluth.

Corridor IV west of Mesaba Avenue was dismissed because it duplicates existing Interstate 35.

Corridor IV Variation:

The Corridor IV Variation Alternative would use existing I-35 to its present termini at Mesaba Avenue. The corridor would then follow Mesaba Avenue up the escarpment to the Skyline Parkway. It then follows the Skyline Parkway to T.H. 61 near the east limits of Duluth.

This corridor was dismissed as it does not solve the transportation capacity and operational problems in the lake shore corridor. Also, there will be significant social and environmental impacts along the corridor.

Do-Nothing:

This alternative would result in no new construction. This alternative does not improve access to the CBD. Traffic congestion in the CBD and on other local streets will not be relieved by this alternative. With this alternative, the current truck route by-passing the city will continue to be routed through residential areas. The Do-Nothing Alternative was dismissed based on the above deficiencies.

Mass Transit:

This alternative considered improved mass transit service as a solution to the defined transportation problems.

Transportation studies (pages 143-145) have revealed that improved mass transit service cannot be considered a suitable alternative by itself and; therefore, was dismissed as a viable alternative.

Actions Required by Other Federal Agencies

The construction of the recommended alternative will not require any permits from the Department of Army, Corps of Engineers, or the Department of Transportation, Coast Guard Division.

Environmental Impacts

Road Traffic Movement:

The proposed freeway will greatly improve the accessibility to the CBD from the east and west. The freeway will remove most of the thru traffic from the CBD and will reduce traffic congestion in the CBD and on other local streets to the north and east. The existing designated truck route, through the residential areas along 2nd and 3rd Street, will be removed from these residential areas. The traffic volume on east/west arterials east of 10th Avenue East will be substantially greater.

Land Use:

The opportunity for new land uses and development along the proposed route is exceptionally good in the downtown area. A Multiple Use Joint Corridor Development Study of the land in and adjacent to the freeway corridor by the Minnesota Department of Transportation (Mn/DOT), FHWA, City of Duluth and several consultant firms was performed to capitalize on this potential development.

The alignment and design of the freeway will aid in the revitalization of the downtown area by removing some of the older and unsightly buildings.

Natural Features:

There will be no significant adverse effects on the vegetation within the corridor.

Social:

The proposed construction will result in the displacement of approximately 33 adults. This displacement is the result of taking 2 apartment buildings, 2 residential units above a commercial establishment, and a single residence.

Economic:

The proposed freeway construction will result in the taking of approximately 92 businesses. A majority of the business owners indicated they would relocate elsewhere in Duluth and some within commuting distance. Of the business owners contacted, 6 indicated they would liquidate instead of relocating. Eleven business owners indicated they would expand their facilities when they relocated thereby, mitigating the loss of those jobs because of liquidation of six firms. Therefore, the relocation because of the proposed freeway could result in an increase in job opportunities.

The proposed freeway will result in a loss in revenue for various businesses which provide service to firms that require relocation. On the other hand, various businesses in the CBD could realize an increase in revenues because of the improved access with the freeway.

The acquisition of right-of-way (R/W) for the construction of the freeway will result in the reduction of the local real estate tax base for Duluth which would result in a loss of a tax revenue.

This tax loss is mitigated by the revitalization of the downtown area as a result of the proposed freeway, which will result in an increase in the tax base of approximately \$18 million.

Air Quality:

The proposed freeway will result in a reduction of carbon monoxide (CO) concentrations in the CBD. Sites adjacent to the proposed freeway are expected to receive slightly higher vehicle emissions because of the increased traffic, but will be significantly below State and Federal Air Quality Standards.

Noise:

Construction of the freeway will result in two noise impact areas which will exceed both the State of Minnesota Noise Regulation (NPC-2) and the Federal Design Noise Levels (FDNL). The first area is adjacent to the CBD where the noise levels will be exceeded at the Gateway Towers and the Florman Hotel under certain conditions. The second area is the Rose Garden portion of Leif Erikson Park and the three residences on the north side of London Road between 10th and 14th Avenues East.

Water Quality:

The proposed freeway has minor construction impacts on Brewery and Grey Creeks and Lake Superior. The primary impact to the water quality of Brewery and Grey Creek will occur from construction erosion and sedimentation, which would be mitigated by various erosion control methods.

The potential impact on the water quality of Lake Superior would originate from surface run off of the finished roadway. This freeway run off drains into the storm sewer system which eventually empties into Lake Superior. Three primary methods of run off water treatment are being considered for this project. These methods consist of:

- perpetuation of the existing drainage pattern
- channelize the storm water to central locations for treatment prior to discharging into the lake
- collection of the initial 1/2 inch of rainfall run off and skimming off the pollutants then disposing of the remaining run off into Duluth sanitary sewage system.

Historical/Cultural

The proposed freeway construction will result in the demolition of Branch's Hall.

The draft environmental impact statement was distributed for comment to the following:

STATE PLANNING AGENCY
Room 101, Capitol Square Bldg.
550 Cedar Street
St. Paul, Minn. 55101

MN POLLUTION CONTROL AGENCY
1935 W. County Road B2
Roseville, Minn. 55113

ENVIRONMENTAL QUALITY COUNCIL STAFF
Room 100, Capitol Square Building
550 Cedar Street
St. Paul, Minn. 55101

DEPARTMENT OF AGRICULTURE
Room 420, State Office Bldg.
St. Paul, Minn. 55155

DEPARTMENT OF HEALTH
717 Delaware Street S.E.
Minneapolis, Minn. 55440

DEPARTMENT OF NATURAL RESOURCES
3rd Floor, Centennial Office Bldg.
658 Cedar Street
St. Paul, Minn. 55155

MN ENERGY AGENCY
740 American Center Bldg.
160 East Kellogg Boulevard
St. Paul, Minn. 55101

GOVERNOR'S OFFICE
Special Assistant to the Governor
Room 130, State Capitol
St. Paul, Minn. 55155

CITIZEN EQC MEMBERS

Richard Magnuson
Wesley Ohman
Barbara Lukermann
Mrs. Gwen Schwartz

REGIONAL DEVELOPMENT COMMISSION
Region 3 (Arrowhead)
Rudy Esala, Executive Director
200 Arrowhead Place
211 West Second Street
Duluth, Minn. 55802

LOCAL UNITS OF GOVERNMENT

St. Louis County Board
Alvin S. Hall, Chairman
County Office
Ely, Minn. 55731

CITY OF DULUTH

Office of the Mayor
Mayor Robert Beaudin
City Hall
Duluth, Minn. 55802

Dept. of Planning & Development
Richard Loraas, Director
City Hall
Duluth, Minn. 55802

Duluth City Council
Meg Bye, President
City Hall
Duluth, Minn. 55802

CITY OF TWO HARBORS

Office of the Mayor
Mayor Lyle Northey
City Hall
Two Harbors, Minn. 55616

SECTION II

NEED FOR PROJECT

II. N E E D

This section will describe the need for a major type of transportation facility in eastern Duluth.

STATUS AND HISTORY OF INTERSTATE 35 IN DULUTH

Interstate 35 (I-35) begins in Laredo, Texas and enters Minnesota at the Iowa State Line approximately ten miles south of Albert Lea. It proceeds north through the Minneapolis-St. Paul Metropolitan Area to the City of Duluth. In Duluth, I-35 is presently constructed to Mesaba Avenue (10th Avenue West).

The following is a chronological listing of the major events leading up to the preparation by the Draft EIS.

July 7, 1958 - The Minnesota Department of Highways (MHD)¹ requested the extension of I-35 from Mesaba Avenue to 68th Avenue East.

August 5, 1958 - The Bureau of Public Roads (BPR)² denied the MHD request for the extension to 68th Avenue East. However, they indicated an extension to the vicinity of 10th Avenue East would be satisfactory.

September 8, 1958 - The MHD received approval for additional mileage to the Interstate System from Mesaba Avenue to 10th Avenue East.

April 7, 1959 - The first public hearing was held in Duluth, Minnesota to consider the location for the extension of I-35 from Mesaba Avenue to 10th Avenue East.

The alignment proposed at this hearing continued east from Mesaba Avenue paralleling the south side of Michigan Street to approximately 6th Avenue West. The alignment then curved south to follow behind the buildings along the lower side of Michigan Street. The alignment continued behind these buildings to 7th Avenue East. It then paralleled the lower side of Superior Street to Leif Erikson Park.

¹ The MHD is the predecessor of Minnesota Department of Transportation (Mn/DOT) - Highway Division

² The BPR is the predecessor of the Federal Highway Administration (FHWA).

With this alignment, the railroad would be located on the south side of the freeway. Placement of fill material into Lake Superior would be required from 3rd Avenue East to Leif Erikson Park to allow the relocated railroad to co-exist with the freeway through this area.

September 25, 1959 - The alignment presented at the public hearing was approved for further study by the BPR.

December 28, 1961 - A second public hearing was held in Duluth, Minnesota for public reaction to the revisions of the original (1959) alignment. The major objection to the approved alignment was the loss of truck and rail access to the rear of the buildings along the lower side of Michigan Street and the demolition of Union Depot.

The revised alignment curved south at Mesaba Avenue to approximately 7th Avenue West, then ran parallel along Commerce Street to Lake Avenue. The freeway passed over Lake Avenue and curved north behind the buildings of Michigan and Superior Street to approximately 8th Avenue East. The alignment then continued along the south side of London Road through Leif Erikson Park along the north side of the Duluth Missabe and Iron Range Railroad (DM&IR)

Under this modified alignment, the freeway would be an elevated structure from Mesaba Avenue to 4th Avenue East. Lake fill would be required from 1st Avenue East to 10th Avenue East to accommodate the freeway and railroad.

Access between the Central Business District and the freeway was provided by interchanges at 5th Avenue West and 2nd Avenue East. A northbound and a southbound ramp in the vicinity of 9th and 10th Avenue East would provide access between London Road and the freeway.

This alignment would locate the railroad on the north side of the freeway from Mesaba Avenue to approximately 4th Avenue East. From this point, the railroad would then pass beneath the freeway and continue along the south side of the freeway. From 4th Avenue East to 10th Avenue East the railroad would be located on the lake fill.

March 8, 1962 - The BPR approved the revised alignment for I-35.

March 14, 1962 - Authorization by the BPR was received for the MHD to begin detailed design of I-35 with the exception of the 5th Avenue West interchange.

September 5, 1963 - The BPR approved the alignment and design of I-35 from Garfield Avenue to 2nd Avenue West which included the design of the 5th Avenue West interchange. The alignment and design from 2nd Avenue West to 10th Avenue East was approved on the condition that a direct ramp connection between I-35 and London Road be made. This would provide for the extension of the roadway east from 10th Avenue East as T.H. 61. On October 22, 1963, a ramp connection to London Road was included in the layout.

December 2, 1963 - The BPR approved the revised layout showing a direct ramp connection to London Road.

June of 1965 - The Minnesota Department of Highways began purchasing R/W for the extension of I-35. This R/W acquisition was based on the alignment approved by the BPR on December 2, 1963.

August 25, 1965 - A meeting was held in Duluth with MHD, D.M.&I.R. Railroad, and City of Duluth and Two Harbors representatives to discuss the proposed railroad relocation.

October 26, 1965 - The BPR concurred in further development of the D.M.&I.R. relocation proposal.

December 3, 1965 - The I-35 alignment was revised from 4th Avenue East to 10th Avenue East. This alignment revision eliminated the D.M.&I.R. Railroad tracks through this area. With this alignment, it was felt that a seawall would have to be constructed along the entire lake fill area.*

March 1, 1966 - The BPR approved the proposed relocation of the D.M.&I.R. Railroad.

March 21, 1966 - The BPR approved a plan for cast-on-ground and trestle construction of I-35 from 5th Avenue West to Lake Avenue.

June 4, 1968 - The Washington Office of the BPR recommended to the MHD that an alternate seawall protection design be considered.

* The recommended alignment does not require any lake fill.

This was a result of a review of the consultants proposed seawall protection plans by the Coastal Engineering and Research Center (CERC), Department of the Army. The CERC Alternative consisted of fill and stone or concrete facing which was considered to be less costly both initially and in terms of maintenance than what was proposed by the consultant.

June 17, 1968 - The BPR approved the revised layout (D-400) for future development of plans. The approved alignment curved south at Mesaba Avenue to approximately 7th Avenue West, then ran parallel along Commerce Street to Lake Avenue. The freeway passed over Lake Avenue and curved north and passed behind the Fitger Brewery Buildings between 5th and 6th Avenues East and the buildings on the lower side of Superior Street to 8th Avenue East. The freeway then continued along the south side of London Road through Leif Erikson Park along the north side of the D.M. & I.R. Railroad.

Proposed interchanges at 5th Avenue West and 2nd Avenue East would have provided access to the CBD. A northbound and southbound ramp provided access to London Road from the freeway at 10th Avenue East.

With this alignment, the railroad would be located on the north side of the freeway and terminated at approximately 6th Avenue East.

November 13, 1968 - The MHD was notified by the BPR that based on a field trip in October, the CERC was considering an inland location for I-35.

February 20, 1969 - A discussion on the inland route vs the shoreline route with shore protection was held between the MHD and BPR. The Minnesota Department of Highways indicated that an inland route would be possible.

During 1970 - the last of the R/W between Mesaba Avenue and 1st Avenue East was acquired along the BPR approved alignment. The approximate costs incurred include:

R/W acquisition	:	\$3,700,000
Construction	:	\$2,200,000
Utilities	:	\$1,300,000
R.R. Relocation (Does not include DM&IR)	:	<u>800,000</u>
Approximate Total Costs	:	\$8,000,000

In 1970, the Citizens for the Integration of Highways and Environment (CIHE) was formed. CIHE advocated halting construction of the freeway at Mesaba Avenue until a complete analysis could be performed to indicate the need and the proper location and kind of facility or facilities to solve east-west traffic problems and protect the environment.

In 1973, a study on the location and design of the freeway was completed and a Federal Draft Environmental Impact Statement (FDEIS) was prepared.

October 9, 1973 - a public hearing on the FDEIS was held.

During 1975, a Citizen Advisory Committee was appointed by the Mayor of Duluth to study the design of the freeway to 10th Avenue East.

September 15, 1976 - a public hearing was held for review and comments on the recommendations made by the Citizen Advisory Committee.

In June, 1977 - an FHWA Final Environmental Impact Statement was approved for circulation.

Construction of the freeway is scheduled for letting in February, 1981. It is anticipated that it will take approximately 3 years to complete construction.

EXISTING FACILITY

The City of Duluth is served by five highways:

- I-35 co-designated T.H. 61 south of Duluth
- T.H. 61 a four-lane expressway northeast of Duluth
- T.H. 23 a two-lane highway also to the south of Duluth
- T.H. 2 a two-lane highway west and east of Duluth
- T.H. 53 a four-lane divided highway northwest and south of Duluth

Two state highways generally parallel the proposed improvement - T.H. 61 and T.H. 23. Presently, T.H. 61 is designated on I-35 entering Duluth from the south through western Duluth, is on Superior Street in the Central Business District (CBD), and on London Road in eastern Duluth. T.H. 23 is designated on Grand Avenue in western Duluth, on 2nd and 3rd Streets (a one-way pair) in the CBD, and on Superior Street in eastern Duluth to its junction with T.H. 61 at Lester River (60th Avenue East).

These facilities are 2 to 4-lane east-west city streets with cross-streets (at grade intersections) generally every block, no access control, signalized at major intersections, on street parking, and transit stops at specified locations with basic right-of-way widths ranging from 66 feet

to 88 feet (see Roadway Characteristics and Traffic Control Devices, page 15 and Street Functional Classification, page 16.

TRANSPORTATION STUDIES

In recent years there have been four studies concerning transportation problems within the City of Duluth and one related study concerning the development potential of Duluth.

TOPICS Report

The first of these studies was the TOPICS Program (Traffic Operation Program to Improve Capacity and Safety) completed in 1971. This study made many recommendations for improvement of existing facilities. In the downtown and eastern corridor of Duluth; however, it recognized that these improvements were only an interim solution until the freeway is built.

Transportation Plan for Downtown Duluth

A report by Bather, Ringrose & Wolsfeld (BRW), Transportation Plan for Downtown Duluth, December, 1975, states that:

"I-35 should be constructed around the downtown area to provide a better route for thru-downtown traffic and to provide better access to the downtown area."

In recommending the construction of I-35 around the downtown area, the report states that:

"The extension of I-35 at least as far as 8th Avenue East is strongly needed to provide convenient access to downtown from the west and to divert through traffic from local downtown streets."

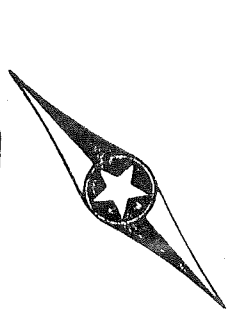
This report also recommends the establishment of a transit/pedestrian mall on Superior Street between 4th Avenue West and Lake Avenue. The construction of I-35 would complement this improvement when completed.

Eckbo Corridor Study Report

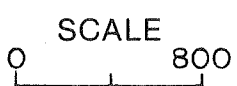
The Eckbo Corridor Study Report was a study on the transportation needs in eastern Duluth. The report emphasized that a major transportation facility was needed. This report studied various types of solutions to the transportation problems. Several locations for a major highway and various types of highways were included in the study. It concluded that the transportation facility should be a freeway to 26th Avenue East and a parkway to 68th Avenue East in the DM&IR Railroad Corridor.

FUNCTIONAL CLASSIFICATION

1975 STREET NETWORK

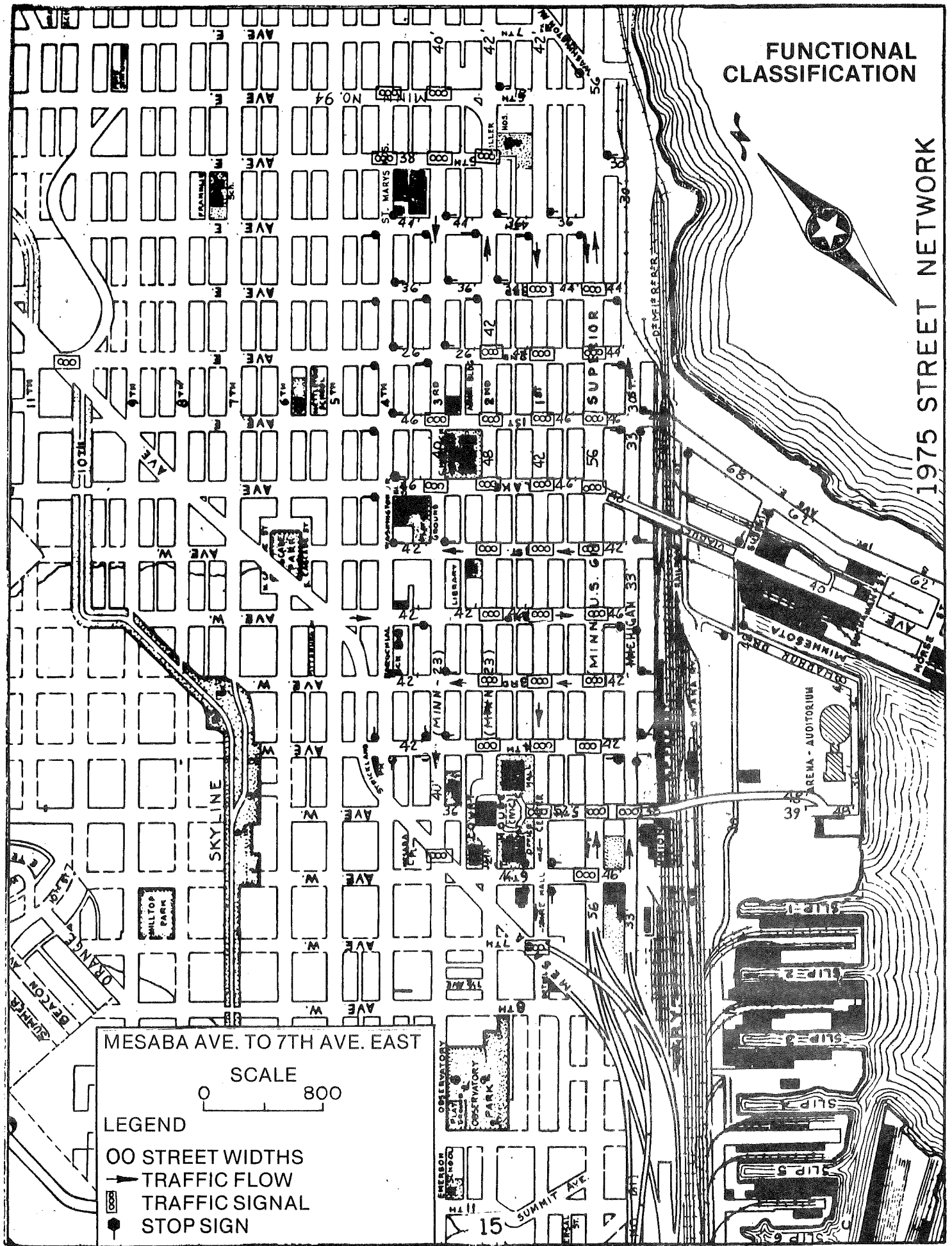


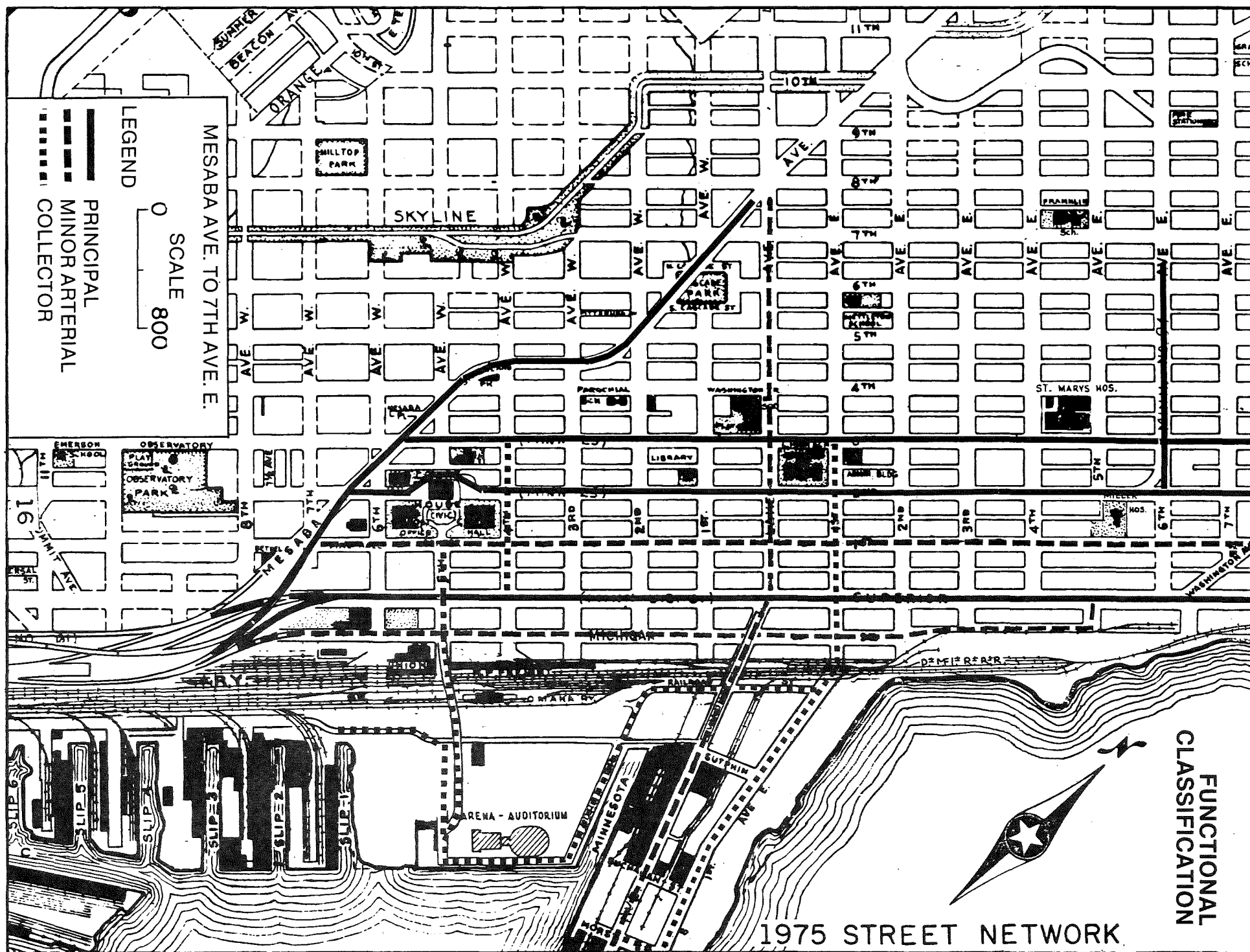
MESABA AVE. TO 7TH AVE. EAST



LEGEND

- OO STREET WIDTHS
- TRAFFIC FLOW
- TRAFFIC SIGNAL
- STOP SIGN





Urban Transportation Plan

The Metropolitan Interstate Committee (MIC) is approaching completion of an update of the Urban Transportation Plan for the Duluth-Superior Metropolitan Area. A technical report was prepared by BRW, (Forecasts and System Development, December, 1976) for the Transportation Advisory Committee (TAC). The TAC in suggesting a new system plan to MIC recommends that further studies and information are necessary to determine the need for I-35 east of 10th Avenue East. The MIC has already given favorable review of this proposed project.

Related Study

A report on the development potential of Duluth (Downtown Duluth Development Potential, 1975) recommends:

"Improvement of the access to downtown through completion of the freeway and its connecting streets."

It states further a need for:

"Improvement in the transportation and circulation system in Downtown Duluth."

These improvements would assist in the redevelopment of downtown Duluth, a major objective of the City of Duluth.

GOALS AND OBJECTIVES

One of the tasks of the Eckbo Corridor study process was to establish goals and objectives. The following traffic movement objectives were established jointly by citizen groups, local agencies, and the consultant to evaluate alternate transportation improvement proposals along with social, economic and environmental objectives.

Road Traffic Movement Objectives

1. Improve access to commercial facilities in the downtown area.
2. Reduce congestion throughout the city.
3. Minimize the impact of seasonal peak traffic demands.
4. Enhance feasibility of public and non-automotive transportation.
5. Reduce accidents and related costs.
6. Reduce commercial vehicle and passenger car operating cost and cost of time.

The above related transportation studies and local transportation objectives support the need for a freeway to at least 10th Avenue East. The Mn/DOT's analysis of forecasted traffic volumes and existing streets also clearly shows the need for a freeway to 10th Avenue East. This analysis is documented in the System Planning Analysis Report U-43A and is summarized in the traffic table below:

TRAFFIC TABLE

Year 1971 and 2000 Daily Traffic Volumes

Location	Street Width	Dir. of Flow	Capacity* w/Parking	1971 Traffic Volumes	2000 Traffic Do-Nothing	2000 Traffic w/Freeway
6th Ave. East						
Michigan St.	32'	1 way	6,500	5,000	3,700	2,100
Superior St.	56'	2 way	14,260	20,200	23,500	4,250
1st Street	42'	1 way	9,530	6,300	7,100	2,950
2nd Street	42'	1 way	11,610	9,800	12,300	10,550
3rd Street	42'	1 way	<u>12,660</u>	<u>8,200</u>	<u>12,000</u>	<u>8,750</u>
TOTAL			54,560	49,500	58,600	28,600

As shown in the Traffic Table all east/west streets in downtown Duluth carry substantial traffic and a capacity problem presently exists on Superior Street. Forecasts for the year 2000 indicate that traffic on Downtown streets (58,600) will increase and in fact exceed corridor capacity (54,560).

Conflicts occur between autos, trucks (service, local and through), buses, on-street parking, and pedestrians along Superior Street and other downtown streets. Since buses and pedestrians must remain on Superior Street, the only way to eliminate these existing conflicts is to significantly reduce and/or completely remove autos and trucks from Superior Street. I-35 must be constructed to 10th Avenue East to significantly reduce traffic volumes and modal conflicts in downtown Duluth. As shown in the Traffic Table, I-35 construction will remove 30,000 vehicles a day from downtown streets (58,600 to 28,600).

Based on community objectives and present and forecasted travel demand there is a need for construction of I-35.

* Capacity at level of service "C". Level of service is a measure of various levels driving conditions ranging from free flow to total congestion. Level of service "C" or better is the desired objective for streets in the CBD and eastern corridor.

Traffic Quality

The requirements of through traffic are different than those of local traffic. The primary need of through traffic is to pass smoothly and efficiently through an area. The primary need of local traffic is access to and from the roadway at many points, either at cross streets or into driveways. The proposed freeway will provide a through route around the CBD while at the same time providing access to the local street system for local traffic.

MODAL INTERRELATIONSHIPS

The proposed freeway will interconnect with other modes of transportation in Duluth. It will provide convenient vehicular access to the rail passenger depot (Amtrak), located at 5th Avenue West and Michigan Street.

The freeway will interface with parking lots, ramps, and garages located on the southern fringe of the CBD. It would be possible to walk to the CBD from these parking areas or transfer to mass transit (buses).

The proposed freeway will result in significantly reduced traffic on downtown streets and existing bus routes. This will reduce transit travel time on many transit routes and will improve express bus service to eastern neighborhoods. The proposed freeway will also provide the opportunity to implement the proposed transit/pedestrian mall on Superior Street in downtown Duluth.

The freeway will provide the Duluth Port with ease of access for some cargos to T.H. 61 northeast of Duluth. However, the freeway will block routes now used for the movement of excessively overweight and oversized cargos through Duluth. One possible solution to this problem, being studied at the present time, is to design the Lake Avenue bridge so that additional temporary support could be installed when needed.

BENEFITS TO STATE, REGION AND COMMUNITY

If nothing is done the general effect on the Duluth area would be negative due primarily to increase in traffic congestion. This increase in congestion would result in additional noise pollution, loss of business in the CBD, and reduced accessibility to various parts of the city. To do-nothing would hinder the implementation of some proposed transit system improvements in Duluth (transit/pedestrian mall and express bus service).

The benefits generated by construction of this new facility fall into several categories:

1. Air and noise pollution increases will be minimized. In many cases, reductions will result.
2. The facility will provide the motorist with a better sense of orientation, it will open up pleasant lake views not now available, and will improve appearance of the corridor.
3. The facility will encourage economic development by giving improved access to existing and proposed industrial and commercial areas.
4. The facility will create opportunities for joint use of highway right-of-way for expansion of park and recreation land in Duluth.
5. The facility will restore the proper functions of city streets throughout the corridor area by relieving them of non-local traffic.
6. Freeway use yields lower accident rates and user operating costs than arterial streets and highways.
7. Ease of access will encourage better utilization of the recreational potential of Duluth and the North Shore Drive.
8. The new facility would have a positive short and long range effect on business and employment, and would help preserve the CBD as a viable economic unit.
9. The feasibility of public transportation is enhanced. Buses operating on less congested streets, express buses, reduced travel time, and stabilized schedules make riding the bus more attractive.

SECTION III

DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVE SELECTED

III. DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVE SELECTED

This section will discuss the recommended alternative, a 4-lane freeway located in Corridor V. This alternative was selected because it best meets the goals and objectives of various citizens groups and local agencies and satisfies the need for an east-west transportation facility in the eastern portion of Duluth.

RECOMMENDED CORRIDOR

Numerous route alternatives along which a transportation facility could be built in the eastern portion of Duluth were evaluated and Corridor V was chosen as the most prudent alternative. Corridor V begins at the present terminus of I-35 near Mesaba Avenue. It runs in a north-easterly direction, just south of the CBD (Central Business District), roughly paralleling the Lake Superior shoreline. Corridor V eventually merges with the Duluth-Two Harbors expressway near 68th Avenue East, but for the purpose of this document it can be considered to terminate at 10th Avenue East, giving it a length of 1.8 miles.

RECOMMENDED ALTERNATIVE WITHIN CORRIDOR V

The recommended alternative within Corridor V is a 4-lane freeway from Mesaba Avenue to 10th Avenue East. (Map, pages 22-24). This extension of I-35 from its present terminus at Mesaba Avenue has been at a stalemate for a number of years. Business and civic interests favored extending the freeway because alleviation of the traffic congestion on local streets would open the door for economic development in the CBD. Environmental groups, on the other hand, feared that extending the freeway would permanently damage the unique environmental setting of Duluth.

In late 1975, the Mayor of Duluth appointed a Citizen Advisory Committee to determine the design of I-35 to 10th Avenue East. This committee was made of citizens representing pro and anti-freeway factions, business and community leaders, environmental protection advocates, and professional planners. After seven months of deliberations, the committee agreed on a location and design for the freeway to 10th Avenue East which was largely acceptable to both pro and anti-freeway factions. Their proposal was presented at a public hearing on September 15, 1976, and involves a temporary and possibly permanent terminus of I-35 near 10th Avenue East.



SCALE
0 500

RECOMMENDED ALIGNMENT





Location and Design

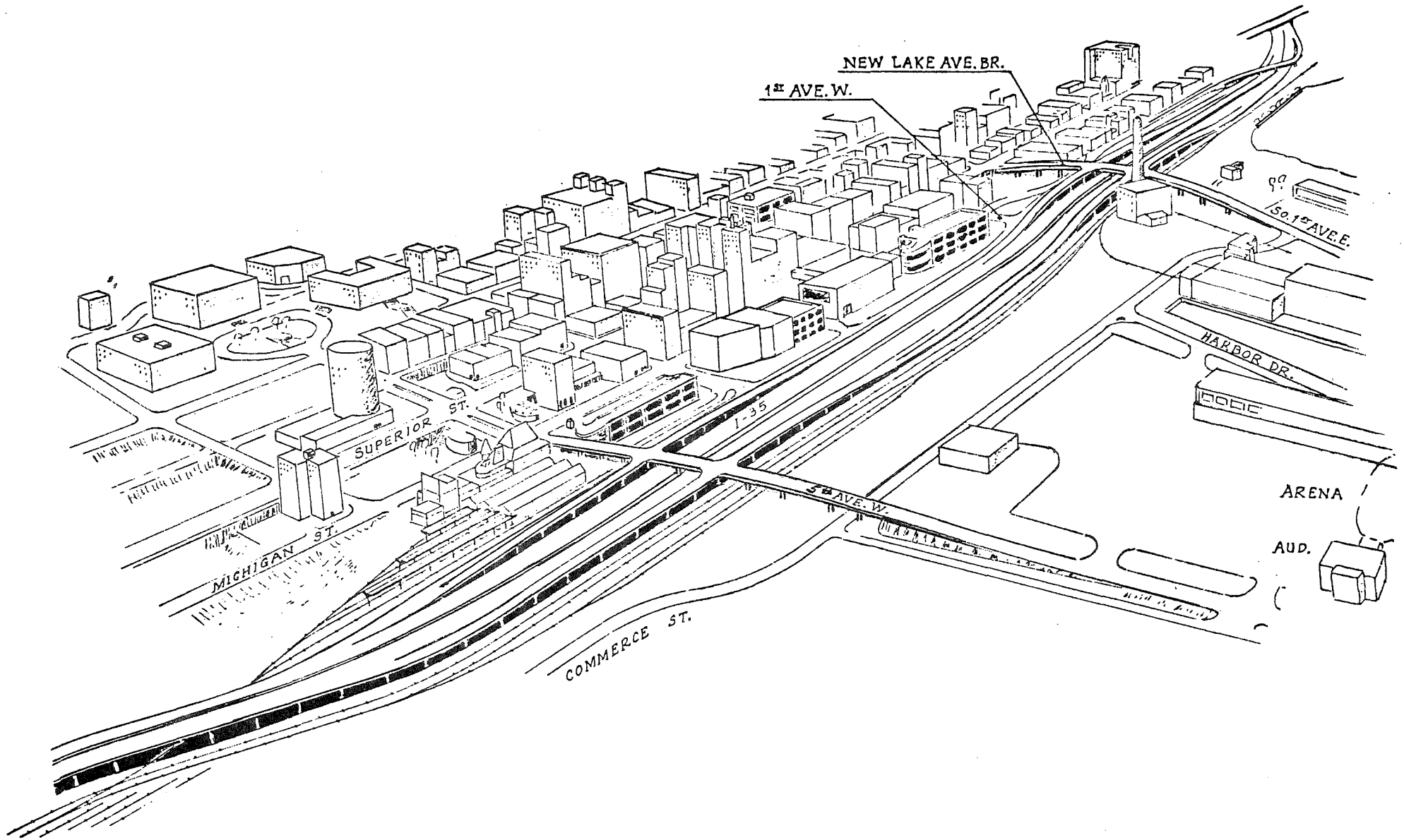
The location and design features recommended will integrate the highway into its surrounding environment while providing a smooth operating transportation facility. The discussion will be divided into two areas to aid in following its location and design. (Map, page 22-24).

Mesaba Avenue to 3rd Avenue East. The freeway continues easterly from Mesaba Avenue and curves south bridging the exit ramps to Mesaba Avenue, Michigan Street, and Superior Street. After crossing the ramps, it curves to the north and continues adjacent to the municipal parking lot below Michigan Street. At approximately 2nd Avenue West the freeway again curves to the north bringing it closer to Michigan Street. It then parallels the south edge of Michigan Street to approximately 3rd Avenue East. The freeway is at ground level throughout this entire segment with the exception of the bridge work near Mesaba Avenue (see Concept Drawing, page 26).

The first of three interchanges in this segment is located at Mesaba Avenue. This directional interchange is presently in use providing access to Superior Street, Michigan Street, and Mesaba Avenue for northbound traffic, and access to the freeway for southbound traffic.

The second interchange will be located at 5th Avenue West. This modified diamond interchange will use the existing 5th Avenue West bridge. Northbound traffic will have direct access to and from the freeway at this point. The northbound on-ramp of this interchange will divide; one portion merging with the freeway, and the other continuing as a frontage road south of the freeway connecting this interchange and the Lake Avenue interchange. Direct access to Southbound I-35 is provided at 5th Avenue West. Access to 5th Avenue West is provided by the frontage road on the north side of the freeway.

The third interchange is located at Lake Avenue. This interchange will use a reconstructed and realigned bridge connecting Superior Street and South 1st Avenue East. Southbound traffic will have direct access to and from the freeway at this point. At this interchange the southbound off-ramp divides; one portion ramps to meet Lake Avenue, and the other portion continues as a frontage road providing access to the CBD and the 5th Avenue West interchange before merging with the freeway. Direct access to northbound I-35 is provided at Lake Avenue. Access to



Lake Avenue is provided by the frontage road on the south side of the freeway.

Several changes will be made to the existing streets between Mesaba Avenue and 3rd Avenue East. Commerce Street will be extended to South 1st Avenue East and upgraded to better serve future development adjacent to the freeway. As stated previously, the intersection of Superior Street and Lake Avenue will now be connected to South 1st Avenue East. Railroad Street from 1st Avenue East to the Arena-Auditorium Complex will be eliminated.

There are two major multiple land use options in this area. They are options because no funding commitments have been made to date. They are:

- A retail platform over the freeway at approximately 3rd Avenue West. This platform would be connected to the Arena-Auditorium and Downtown Area by the pedestrian skywalk presently under contract. The alternative to building this platform is, of course, not building it.
- A wall and cover extending over the freeway and railroad from approximately 2nd Avenue East to 4th Avenue East. This type of facility would provide both wave spray protection for the freeway and pedestrian access from Superior Street to a shoreline park which is being considered in this area. Constructing only the wave spray protection wall is the alternative to this proposal.

A more detailed discussion of these proposals is located in Section V, Land Use Planning, pages 59 and 67.

3rd Avenue East to 10th Avenue East. At approximately 3rd Avenue East the freeway begins curving north and enters a depressed section. When it reaches a point north of Superior Street between 5th and 6th Avenues East, it curves east and roughly parallels Superior Street. The freeway curves south at approximately 8th Avenue East and begins rising in elevation to either permanently or temporarily connect with London Road near 10th Avenue East. The freeway is approximately 20 - 25 feet below the elevation of Superior Street in a depressed section throughout the majority of this area.

Superior Street will remain at approximately its present location, bridging the freeway at 5th and 8th Avenues East. These bridges may be either:

- Conventional structures
- Landscaped platforms which would enhance this area where the historically significant Kitchi Gammi Club, Hartley Building, October House, and Fitger Brewery are located.

Michigan Street will now terminate at 3rd Avenue East. Access to the freeway from Michigan Street will be provided by an on-ramp which crosses over the freeway between 3rd and 4th Avenues East and later joins the northbound roadway.

Tenth Avenue East will continue to be a two-way street with the following traffic movements allowed:

- A right turn for westbound London Road traffic onto 10th Avenue East
- A right turn from 10th Avenue East to London Road and southbound I-35.

Twelfth Avenue East will remain a one-way street providing both eastbound and westbound access to London Road. Traffic movements at 12th Avenue East and London Road are aided currently by a fully actuated traffic signal.

Fourteenth Avenue East becomes a major dispersal route for eastbound I-35 and London Road traffic. Fourteenth Avenue East will remain a one-way street. Both right and left turns from London Road to 14th will be permitted. There is a possibility that a traffic signal will have to be installed to allow for the left turn from London Road because of the amount of traffic on the westbound lane of London Road.

Co-existence with the Railroad

Co-existence with the railroad is assured to 10th Avenue East. The mainline trackage, four tracks in the CBD and one track further east, will be relocated immediately south of the freeway. A spur track serving the Railroad Museum and Amtrak depot (5th Avenue West) will pass beneath the freeway near Mesaba Avenue.

Cost

The estimated costs of the freeway are:

- Right-of-way	6.0 million
- Relocation	1.0 million
- Construction	<u>33.9</u> million
TOTAL	40.9 million

Right-of-Way

The right-of-way for the freeway will be newly acquired right-of-way virtually throughout its entire length. This right-of-way will have fully controlled access (access provided only at interchanges).

It will have a minimum width of approximately 130-feet and will be wider in areas such as interchange locations. Section VI (c)

Economic Impacts discusses in detail the property that is necessary to be acquired. See page 88.

Acquisition of Railroad Marshalling Yard

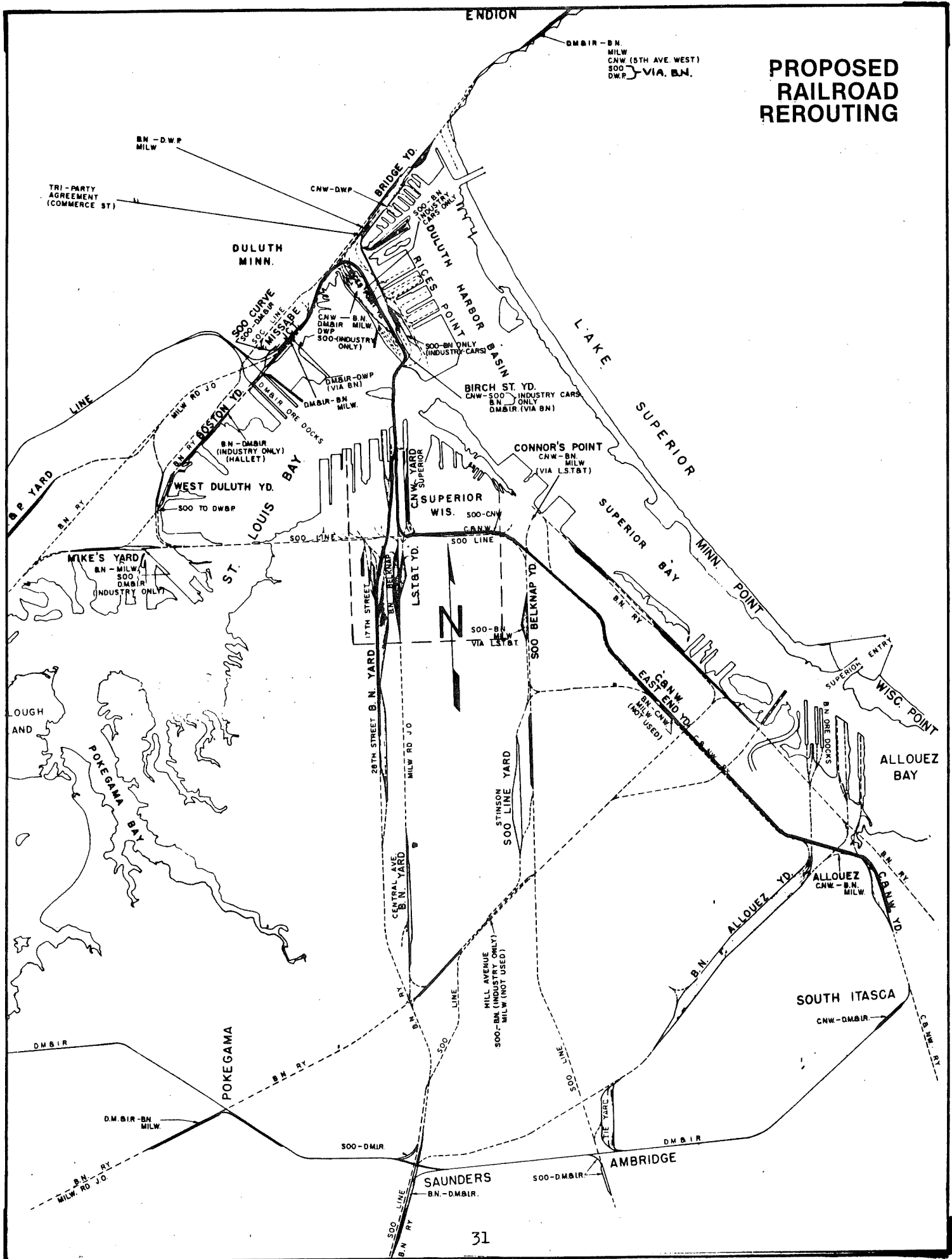
Construction of the freeway will require acquisition of slightly more than one-half of the railroad marshalling yard known as the Bridge yard. This yard extends from Garfield Avenue into the CBD and is owned by the Burlington Northern (BN) and Chicago and Northwestern Transportation Company (C&NWT) railroads. It is used for railroad car storage and the assembly of full-length road trains.

In the early 1970's, usage of this yard began to decline and reached a low point. At the same time, studies were under way concerning shifting the route of I-35 north to avoid the use of lake fill and to eliminate the high level structures associated with this more southerly alignment. This decline in usage made this alignment shift seem even more prudent.

In the mid 1970's, an agreement was reached between the BN, C&NWT, and Duluth, Winnipeg & Pacific (DWP) railroads. This agreement allowed the DWP to deliver full length trains from Canada to the Bridge Yard in Duluth. The BN and C&NWT engines then come from Superior, hook on the opposite end of the train, and take it into Wisconsin. This type of operation has increased usage of this yard and now all of the railroads involved feel that if the capability to handle and deliver full length trains is lost at the Bridge Yard, (due to decrease in overall length), it must be replaced elsewhere. Meetings with railroad officials and the City of Superior have been held, with more meetings scheduled for the future.

The capability to handle and deliver full length trains can be replaced with a minimal effect on the environment. The DWP can be rerouted through the Rices Point Yard, across the drawbridge spanning St. Louis Bay, and into Superior, Wisconsin (see map, page 31). The BN and C&NWT railroads have yards which could serve as drop-off points for their cars returning from Canada. A railroad consultant will be hired in the future to examine the intricacies of this rerouting, and if a route other than the one discussed is chosen, a study will be made to assess the impact on the environment.

PROPOSED RAILROAD REROUTING



SECTION IV

SOCIAL, ECONOMIC & ENVIRONMENTAL CONTEXT OF THE AREA

IV. SOCIAL, ECONOMIC AND ENVIRONMENTAL CONTEXT OF THE AREA

The examination of a study area must take into consideration the components of the total environment which affect the people living there. This section will present a broad scope viewpoint of the natural, social, and economic factors.

NATURAL ENVIRONMENT

The natural environment encompasses the land features of geology, soils, topography, hydrology, vegetation, fish, wildlife, meteorology, climatology, and aesthetics.

Geology¹

A series of complex rock formations converge at the western tip of Lake Superior. One of the predominant rocks is the Duluth Gabbro, a famous mass of igneous rock that lies under much of Duluth and the North Shore area. Other types of rock are present but the Gabbro makes up three quarters to nine tenths of the mass.

Soils²

Within the I-35 corridor study area, there are three major natural soil types. These soil types vary in thickness (0 to 50 feet), desirability for highway construction, and erosion potential. Part of the study area is located in an area of manmade fill consisting of building debris, sawmill waste, and peat/muck. The erosion potential of a particular soil type is dependent upon the existing vegetative cover and slope of the exposed surface.

The Corridor V alignment passes through an area in which the majority of the soil is type (1), deep clayey soil. Part of the corridor passes over an area of manmade fill, type (4). The land surface slope within Corridor V varies from 0% (flat) to 6% (mild slope). The soil types within the Corridor will have a small erosion potential due to the nearly flat surface.

¹ "Minnesota's Rocks and Waters," Schwartz & Thiel, U. of M. Press, 1963, Bulletin No. 37.

² Duluth Corridor Study, Volume 1, pages 86-89.

<u>SOIL TYPE</u>	<u>CONSTRUCTION DESIRABILITY</u>	<u>EROSION POTENTIAL</u>
(1) deep clayey soil	(1) somewhat undesirable because of settlement	(1) moderate
(2) shallow loamy & clayey soils over bedrock	(2) desirable because of lack of settlement	(2) high
(3) deep loamy soil	(3) somewhat undesirable because of voids and settlement	(3) high
(4) manmade fill	(4) undesirable because of voids and settlement	(4) low

Topography

A conspicuous feature of Duluth's topography is the high bluff that overlooks the St. Louis River and Lake Superior. This bluff is formed by the massive, resistant rocks of the Duluth Gabbro complex. The bluff varies in height from 400 to 600 feet above Lake Superior and $\frac{1}{2}$ to $1\frac{1}{2}$ miles from the shore. The area between the lake and the toe of the bluff is relatively flat. The upland area north and west of the bluff is characterized by gently rolling to flat land. The steep hillside of the bluff has deep gorges cut in the rock by creeks flowing towards the lake.

Hydrology³

The most imposing water feature of the area is Lake Superior. Duluth is located along the shoreline at the western tip of the lake. Surface drainage within the study area and the upland area beyond the bluff is accomplished primarily by three creeks as shown on page 109. Located from west to east they are: (1) Clarkhouse Creek (2) Brewery Creek (3) Grey's Creek. The total area drained by these creeks is 3.29 square miles. Several of the streams have their headwater in the upland area from which they generally meander through the gently rolling landscape. As they leave the upland and flow through the bluff, they enter deep channels have profiles with 10 percent or more slopes and land surface profiles up to 30 percent. There is virtually no floodplain or flat area near the mouth of the creeks.

The largest area drained by any one creek is the 1.66 square miles by Brewery Creek. Most of the creeks have year around flow although the quantity varies greatly due to the fast run off characteristics.

³ Duluth Area Stormwater Study, Draft Feasibility Report - U.S. Army Corps of Engineers, August, 1975.

Portions of the creeks in the study area are in conduits as they pass through heavy urbanized areas. The underlying rocks in this area tend to yield small quantities of groundwater. Water quality is variable, but tends to be mineralized. Most groundwater movement is lateral to established water courses and then to Lake Superior.

Vegetation

The plant materials within the generally urbanized study area are basically remnants of native vegetation. Many plants within the City are volunteer species typical of disturbed and abandoned land. No major stands of trees exist in the study area. Open undeveloped areas have mixed grasses and weeds with a scattering of aspen, birch trees and shrubs. Vegetation along the creeks in the city is usually heavy and consists of a mixture of conifers (pine, fir, spruce), and hardwoods such as maple and basswood. Volunteer vegetation such as aspen is also present in the overall mixture. The bands of heavy vegetation are usually narrow and are limited to creek beds and immediately adjacent valley.

Fish and Wildlife

The natural vegetation corridors within the city are most commonly associated with the creeks. Most wildlife is by necessity associated with these creeks, and because of urban development, populations are small. The most common small mammals are squirrels, chipmunks, and rabbits with an occasional porcupine and striped skunk.

Game birds that frequent the area are the ruffed grouse and various species of ducks. Resident populations are extremely small. Other birds such as blackbirds, warblers, sparrows, miscellaneous songbirds, along with hawks and owls are rather common. The aquatic organisms in the creeks are as varied as the creeks themselves. The population of invertebrate fauna is relatively sparse and when found are characteristic of high gradient creeks. Those species found such as mayflies, caddisflies, leeches and snails all have an adaption for maintaining position in moving water. Burrowing types are limited to impoundments and silt deposits. Minnows are the primary fish in the streams and are also limited to impoundments. All populations vary greatly because of the intermittent flow of the streams.

Meteorology and Climatology⁴

The major influence of the climate is the passage of a succession of high and low pressure systems that continually move across the United States from west to east. The proximity of Lake Superior with its cold water materially influences local climate, particularly in spring and summer. The average minimum temperature ranges from +2° F. in February to +56° F. in July and August. The average maximum temperature ranges from +17° F. in January to +79° F. in July. The prevailing winds are easterly May through August and west to northwest for the remainder of the year. The average wind speed is 11.5 miles per hour. Since the air is moderately free from particulates and pollen, the city is a haven for asthma and hayfever sufferers.

The average snowfall ranges from 55 inches in downtown Duluth to nearly 75 inches at the airport, 6 miles away from the lake. The heaviest rainfall occurs in the summer months, falling from showers and thunderstorms. Average precipitation is about 30 inches per year. Heavy fog occurs occasionally when moist air from over the lake rises abruptly upon meeting the rock bluff. In downtown Duluth, this condition usually does not last longer than one day.

Visual

The visitor approaching from the southwest on Interstate 35 and T.H. 61 first sees the Duluth area as they clear the bluff at the top of Thompson Hill. The expanse of water of St. Louis Bay, the natural harbor, and Lake Superior stretching to the horizon is truly spectacular at day or night. The City of Superior, Wisconsin, and the industrialized area of Duluth lie below the bluffs along the lakeshore.

From Thompson Hill the highway descends to the narrow plain between Lake Superior and the bluff. Duluth is located on this moderately sloping incline, stretching out to be about 26 miles long and 2 to 3 miles wide. Traveling easterly, the highway gradually approaches Lake Superior, passing through residential, industrial, and finally the business district.

⁴ National Oceanic and Atmospheric Adm., Asheville, N.C. 1974 Summary - Duluth, Minnesota.

Continuing easterly from the business district and the western "tip" of Lake Superior, the traveler passes Leif Erikson Park, and progresses through the eastern commercial/residential area of Duluth, catching glimpses of the lake along the way. To the left, the residences expand upward and beyond the bluff. The eastern terminus of residential Duluth joins with and begins the famous North Shore Drive as it parallels the shoreline of Lake Superior.

Approaching Duluth from the southeast through Superior, Wisconsin is also a view to behold. The crossing of the John Blatnik Bridge with its 120 feet of clearance for passage of the ocean and lake ships presents an unsurpassed scene of the bustling seaport below you. Ships from around the world exchange their cargoes here. Grains from America's heartland, coal from the west, and industrial goods from the east are transshipped here. Lying before you is the elongation of the city. The corridor selected for this project is roughly parallel to the linear development.

Approaching Duluth from the east, (along the North Shore of Lake Superior), the visitor has traveled either the T.H. 61 expressway or the scenic route (Old T.H. 61). Both routes afford a panoramic view of Lake Superior. Near the outskirts of the eastern residential area the skyline of downtown Duluth appears on the horizon. At approximately 68th Avenue East (Lester River) both routes come together and continue through eastern Duluth along London Road. From Lester River to 26th Avenue East T.H. 61 is routed through a residential area. From 26th to 10th Avenue East T.H. 61 travels along London Road through a commercial/light industrial area.

SOCIAL ENVIRONMENT

Other components of the total environment more closely associated to direct human involvement are components such as land heritage, neighborhoods, population, housing, transportation facilities, recreation, and cultural aspects.

Land Heritage

The first permanent settlers arrived about 1820 and established a fort in far western Duluth. The Treaty of LaPointe (January 10, 1855) allowed individuals to acquire ownership of the land they had settled. In 1856, towns were platted in the vicinity of present day Duluth.

Neighborhoods

Land development practices following the initial government sale of land had much to do with the eventual development patterns. Distinct areas were platted with little improvement in the area separating these developments. The harbor area was utilized for industrial and transportation oriented purposes because of its level features. This resulted in little residential development occurring on the harbor front and is found only on the lakeshore at the outer extremities of developed areas.

The original residential areas began to grow outward from locations close to places of work. Transportation was a problem, making it necessary for people to live as close to work as possible. Commercial facilities also located close to residential areas to serve the people living there. The residential-commercial area would be formed near each concentration of employment. This was the basis for today's isolated neighborhoods.

With the harbor and western portion of the city occupied, the natural expansion was to the north and east. This residential expansion created or added to the neighborhoods of: Duluth Heights, Piedmont Heights, Kenwood, Woodland, and Lakeside-Lester Park. The majority of today's growth is taking place in the upland area with the exception of Lakeside-Lester Park, in far eastern Duluth. As the expansion occurs, it is leap-frogging; that is, little residential construction is taking place in the areas separating existing residential concentrations. The leap-frogging is partially due to the natural separations formed by the rugged terrain.

Population

The population of Duluth based on the 1960 census was 106,884. Anticipated impetus from the opening of the St. Lawrence Seaway in 1959, along with passage of the Taconite Amendment in 1964, led to forecasts of a 1970 population of approximately 114,000. However, the 1970 census showed that Duluth's population had declined to 100,578.

This loss of population is attributable to many factors. One of the major influences was probably the national trend in the 1960's of people moving to the suburbs and outlying districts. Present indicators show that this trend is reversing slowly and the population for Duluth in the year 2000 is estimated to be at about 102,190.

Housing

Linear development is encouraged by the topography of the land and the proximity of the lake and harbor. Heavy industry, shipping interests, and transportation facilities are located in a narrow strip adjacent to the waterfront. Farther away from the lake, along T.H. 61, another narrow strip containing commercial properties is located between the industrial area and the hillside. The residential area is spread out on the hillside and parallel to the lakeshore.

The location of today's various districts reflect historical trends and the influence of zoning controls over the years. The zoning boundaries are well defined but an intermingling of types can still be found near the extremities of each zone.

From Mesaba Avenue to about 10th Avenue East the corridor of proposed I-35 is located between industrial development and the Central Business District (CBD). The residential population is small and there are no single or two family dwellings. People living in the area are located in small permanent or transient occupancy hotels, second story apartments over commercial establishments, or apartment buildings.

Transportation Facilities

Several modes of transportation are available such as water, air, rail, public bus, and private vehicle.

Highways - Duluth is at the northern terminus of I-35, an interstate highway which has its southern terminus on the U.S. - Mexico border at Laredo, Texas. Highway I-535 junctions with I-35 in western Duluth and extends southeasterly to Superior, Wisconsin.

Access to Canada north of Duluth is via U.S. 61, a primary north-south highway through Minnesota. The major east-west highway is U.S. 2, a coast to coast highway passing through western Duluth. U.S. 53 links Duluth with the Iron Range and continues north providing another access to Canada at International Falls. Minnesota T.H. 23 originates in the southwestern corner of Minnesota, traverses diagonally across the state and terminates in eastern Duluth.

Within Duluth I-35 enters the western neighborhoods of the city at about 62nd Avenue West and continues easterly to Mesaba Avenue near the center of Duluth where it terminates. U.S. 61 co-exists with I-35 through western Duluth, continuing from Mesaba Avenue along Superior Street and London Road to eastern Duluth where it heads northeasterly to Canada. I-535 junctions with I-35 at 22nd Avenue West, forming an

east-west connection between Duluth, Minnesota and Superior, Wisconsin. U.S. 53 co-exists with I-535 from Superior to Duluth, then winds its way up the hill to the northerly outskirts of Duluth and on to International Falls. Minnesota T.H. 23 enters Duluth at the far western city limits (Fond du Lac), follows Commonwealth and Grand Avenue through west Duluth, by-passes the CBD on 2nd and 3rd Streets (one-way pair), and terminates in eastern Duluth at 60th Avenue East, where it junctions with U.S. 61.

City Streets - In Duluth the streets generally parallel the lakeshore while the avenues are perpendicular to the streets and shoreline. Superior Street is the zero point with the other streets numbered in ascending numerical order both to the north and south. In the downtown and shoreline area some of the streets are named in lieu of numerical assignment.

Lake Avenue is the zero point with other avenues numbered in ascending numerical order both to the east and west. Occasionally some of the avenues are named in lieu of numerical assignment.

Major arterial city streets between the lakeshore and the top of the bluff run in a general northeast - southwest direction. These arterials are: Commonwealth and Grand Avenues in western Duluth; Superior, 2nd and 3rd Streets through the CBD; and Superior Street and London Road in eastern Duluth. Routes above the bluff are portions of Skyline Drive, 9th Street, Kenwood and Woodland Avenues, Arrowhead and Jean Duluth Roads and Glenwood Street. Primary routes going up the hill and connecting the street and highway network paralleling the lakeshore are: 40th, 27th, 24th Avenues West; Piedmont, Mesaba, and Lake Avenues; 6th, 10th, 21st, 36th, 43rd and 60th Avenues East.

Airports - Duluth International Airport is served by North Central Airlines which has direct flights to major cities in the central United States and Canada. The runway facilities are also used by a United States Air Force group stationed here and the Minnesota Air National Guard. Private charter flights are also available.

Railroads - Duluth is a regional center for several railroads which trans-ship freight, iron ore, grain and coal through here. Railroads serving the area are the Duluth, Missabe & Iron Range (DM&IR), Burlington Northern (BN), Chicago Northwestern (C&NWT), Minneapolis, St. Paul and Sault Ste. Marie (Soo), and the Duluth, Winnipeg and Pacific (DWP). Passenger service is provided via a connection to the nationwide Amtrak system.

Water - Based on total tonnage handled the Duluth-Superior port is one of the largest bulk traffic ports in the world. Passenger service is not presently available.

Buses - Public bus transportation within the City of Duluth is provided through the Duluth Transit Authority (DTA). Operating a fleet of 98 buses in 1975 the DTA served over $4\frac{1}{2}$ million passengers. Interstate bus service is provided by two companies: Greyhound and Northern Transportation. Charter bus service for special interest occasions is available from six local companies.

Taxis - Taxi service is provided by 6 local companies. The City of Duluth regulates the size of the taxi fleet through a licensing system. The maximum number of licenses issued is currently 32.

Recreation

The recreational aspects of the Duluth area include both indoor and outdoor facilities through parks, playgrounds, forest preserves, museums and arenas.

Parks - Duluth is handsomely endowed with many parks and open space land scattered throughout the city. Many of the parks are associated with the natural watercourses extending from the bluff to the lake. Leif Erikson Park is adjacent to the I-35 development and is located on the Lake Superior shoreline between 8th and 13th Avenues East. The parks have varied uses from the passive (large parks and forest preserves), to the active (athletic fields and playgrounds). The total area reserved in the City of Duluth is 6,200 acres.

Arenas - The Duluth Arena-Auditorium and Pioneer Hall is a large multipurpose facility located on the bayfront near the center of Duluth. The three building complex is capable of handling large crowds for separate activities simultaneously. Pioneer Hall is used for hockey, curling,

skating, and conventions. The Arena is used for conventions, rodeos, major sports activities, and home shows. The Auditorium is used for plays, musical concerts, lectures, and film shows.

Museums - Located in downtown Duluth is the Union Depot, a former railroad station of national historic significance. Housed within the building are the A.M. Chisholm Museum, St. Louis County Historical Society, and Lake Superior Transportation & Industry Museum. Near the Aerial Bridge and entry to the Duluth harbor is the Canal Park Visitor Center & Marine Museum.

Cultural Aspects

Fundamental to the makeup of the social environment is the ancestral and intellectual backgrounds of the existing population. These would include an appreciation for the fine arts, humanities and folklore.

Fine Arts - Other attractions located in the Union Depot building are the Duluth Art Institute (Minnesota's oldest art institute), Duluth Playhouse (one of the oldest community theaters in the U.S.), the Duluth Ballet (one of two in Minnesota), and the Duluth-Superior Symphony (performing since 1932).

Libraries - Across Michigan Street from the Union Depot (northwesterly) is the proposed site of the new main branch of the Duluth Public Library.

Ethnic Culture - An annual event held at Leif Erikson Park is the Duluth Folk Festival, an exhibition of ethnic clothing, food, dancing and crafts.

Public Institutions - No public institutions are located within the Corridor V alignment. The nearest institutions are:

- St. Mary's Hospital, 407 East 3rd Street
- Miller-Dwan Hospital, 504 East 2nd Street
- St. Lukes Hospital, 915 East 1st Street

Community Facilities - There are no facilities located within the Corridor V alignment. Nearby facilities are:

- Duluth Curling Club
1330 London Road
- Duluth Fire Department - Main Hall
602 West 2nd Street
- Duluth Civic Center, three building complex
at 5th Avenue West & 1st Street, consisting of
Federal Building, St. Louis County Court House,
and City Hall.
- YMCA, 3rd Avenue West & 1st Street
- YWCA, 2nd Avenue West & 2nd Street
- Public Library - Main Branch
1st Avenue West & 2nd Street

ECONOMIC SETTING

The economic setting is characterized by land and improvements, tax base, income, and labor force. Other areas of study include Duluth area occupations, and typical salaries within the I-35 corridor.

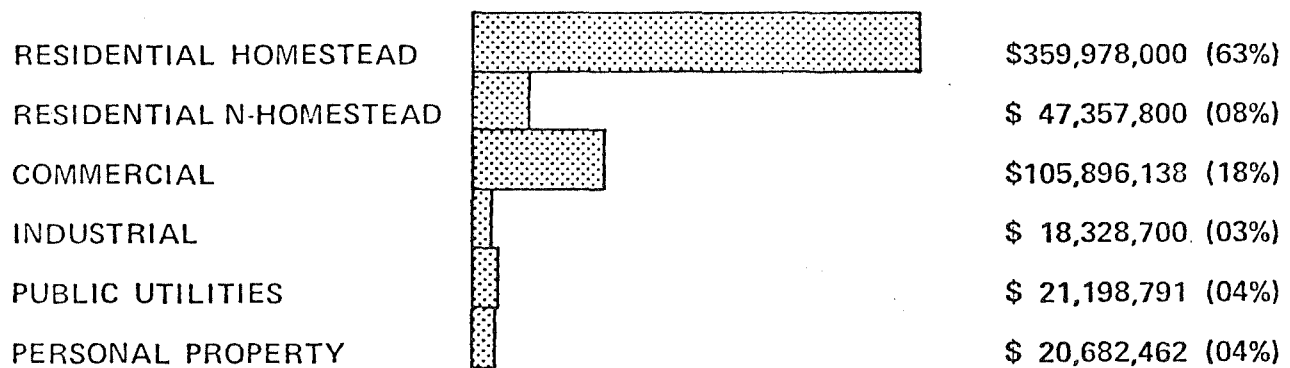
Land and Improvements - The I-35 corridor from Mesaba Avenue to 3rd Avenue East occupies part of the railroad marshalling yards. This area is behind the buildings on the lower side of Michigan Street. These buildings are used for light manufacturing, warehouses and trucking, wholesale printing, wholesale plumbing supplies, and auto banks. Most of the buildings are old, 60 years or more.

From 3rd Avenue East to 10th Avenue East the area of the corridor contains auto dealers, warehouses, gas stations and retail sales. This area also contains five historic buildings.

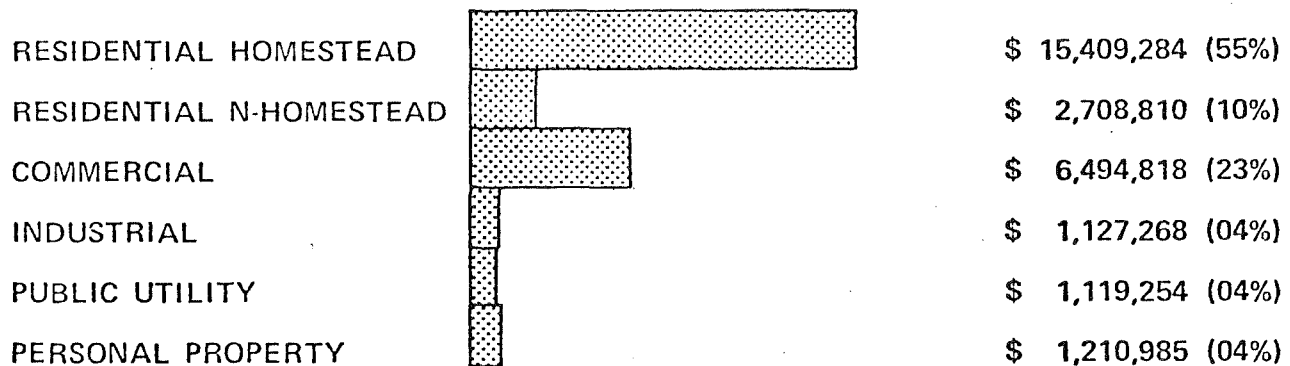
Tax Base

The following two bar charts illustrate the relationship of the real estate market value to the taxes that are generated. Both charts include items of machinery and personal property as well as land and buildings.

CITY OF DULUTH
TOTAL MARKET VALUE = \$573,441,891



REAL ESTATE TAX GENERATED = \$28,070,419



Income

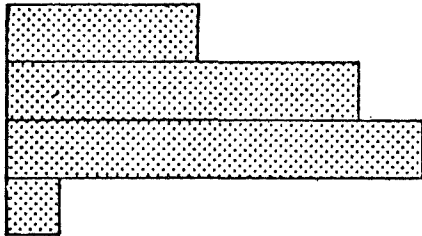
The following bar charts and map are used to illustrate the relationship between income levels for the City of Duluth to the income levels within the I-35 corridor. The data from census tracts 17 and 19 was used for Mesaba Avenue to 10th Avenue East.

The census tract data is from the 1970 census of population and housing for the Duluth-Superior Standard Metropolitan Statistical Area, prepared by the U.S. Department of Commerce, Social and Economic Statistics Administration, March 1972.

CITY OF DULUTH (INCOME 1969)

NUMBER OF FAMILIES = 24,839

FAMILY INCOME

LESS THAN \$ 1,000 TO \$4,999		4,827 (19%)
\$ 5,000 TO \$ 9,999		8,815 (36%)
\$10,000 TO \$24,999		10,442 (42%)
\$25,000 TO \$50,000 OR MORE		755 (03%)

DULUTH MEDIAN INCOME \$ 9,313

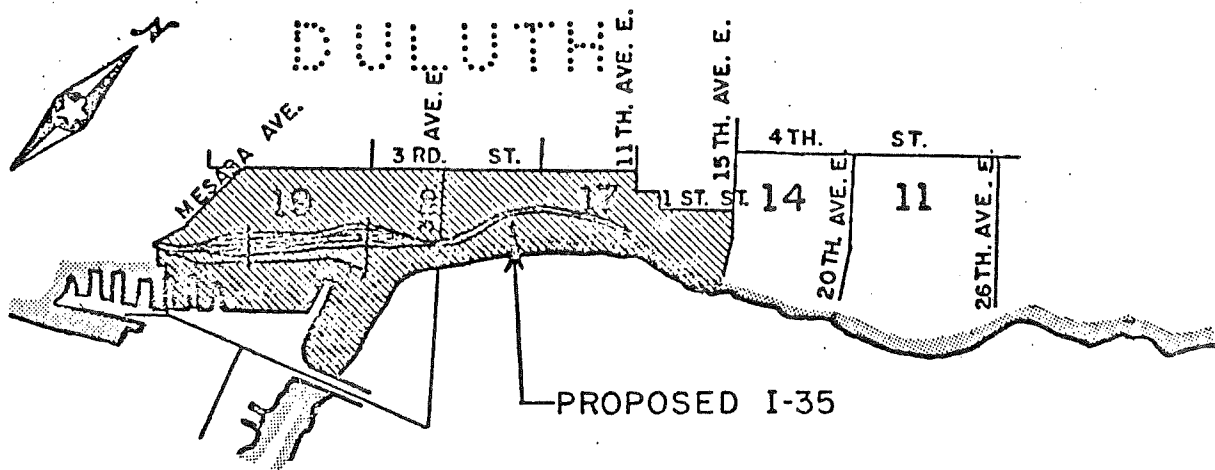
DULUTH MEAN INCOME \$10,300

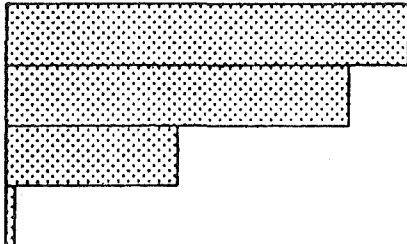
FAMILIES BELOW POVERTY LEVEL - 74%

I-35 CORRIDOR (INCOME 1969)

NUMBER OF FAMILIES = 698

MESABA AVE. TO 15th. AVE. E.



LESS THAN \$ 1,000 TO \$4,999		299 (43%)
\$ 5,000 TO \$ 9,999		259 (37%)
\$10,000 TO \$24,999		130 (19%)
\$25,000 TO \$50,000 OR MORE		10 (01%)

NUMBER OF FAMILIES = 698 (INCOME 1969)

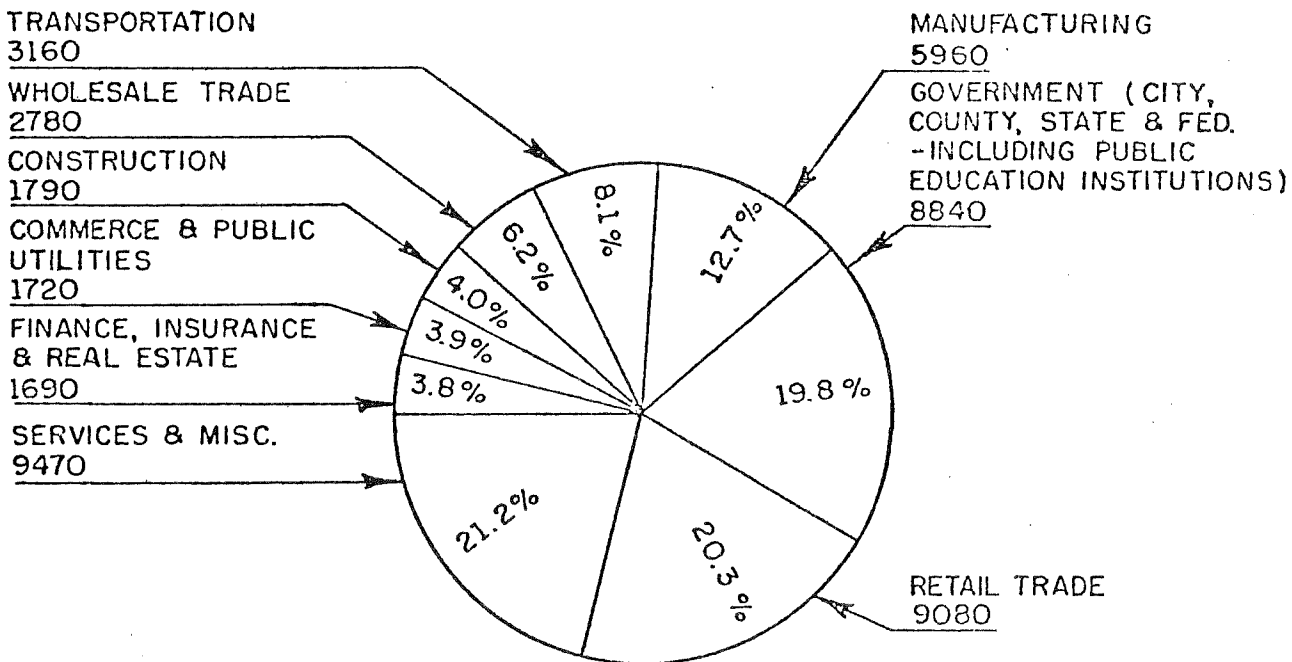
Labor Force

The labor force in the City of Duluth is characterized by the diversity of occupations, representative occupations within the I-35 corridor, and income.

LABOR FORCE:

OCCUPATIONS (CITY OF DULUTH) - DEC. 1976

SOURCE: MINNESOTA DEPT. OF EMPLOYMENT SVCS.



TOTAL NONAGRICULTURAL EMPLOYMENT = 44,670

TOTAL UNEMPLOYMENT (APPROX.) NOV. 1976 = 5.5%

Representative occupations within the I-35 corridor are:

<u>Skilled Workmen</u>	<u>Office & Sales Personnel</u>	<u>Professional</u>
Draftsmen	Countertermen	Accountants
Welders	Salesmen	Buyers
Auto_Mechanics	Typists	Management Trainees
Truck Drivers	Warehousemen	Auditors
Roofers	Deliverymen	Civil Engineers

Income⁵

The monthly income of people employed by businesses within the I-35 corridor is represented in the following income ranges.

<u>Skilled Workmen</u>	<u>Office & Sales Personnel</u>	<u>Professional</u>
\$825-\$1370/mo.	\$370-\$1150/mo.	\$775-\$1530/mo.

⁵ Minnesota Department of Employment Services, Wage Data, October 1975.

SECTION V

LAND USE PLANNING

V. LAND USE PLANNING

Land use planning is comprised of a study of the existing zoning districts, present uses and occupancy, and the potential for future development. This section is divided into two parts for clarity of discussion.

The first part is a discussion of existing land uses and zoning districts, proposed land use and development, and the compatibility of future land uses as a result of the proposed freeway construction. The actions and proposed construction as outlined in this part are firm proposals with funding commitments.

The second part is a discussion of a plan for potential multiple use/joint development projects within, adjacent to, and over the I-35 corridor. This plan was developed to mitigate the adverse effects of freeway construction in the CBD area. This multiple use/joint development is proposed to be financed through the actions of government agencies, private organizations, and individuals, although no funding commitments have been made to date.

PART NO. I

The area referred to as the "freeway corridor" is considered to be the anticipated right-of-way limits. The freeway corridor generally parallels the alignment of the in-place railroad tracks and associated storage yards. An exception to this alignment is from 3rd Avenue East to about 10th Avenue East where the freeway passes under Superior Street.

Existing Land Use and Zoning Districts

The area along the freeway corridor is divided into zoning districts as shown on the Existing Zoning Map, page 49 . Within each zoning district various land uses are permitted. The zoning generally establishes land uses which are compatible with each other. The land use classification of a particular plat or area within a zoning district is determined by the facility, building, or industry using that area of land.

The freeway corridor passes through four designated zoning districts. The zoning district designation, permitted land uses, and examples of uses within the district are:

M-1 and M-2 - Manufacturing District

Permitted uses are buildings and premises for petroleum products distribution; manufacturing, compounding, and processing of various products. Businesses within these districts are food processors, concrete ready mix plant, and trucking terminals.

C-2 - Highway Commercial

Permitted uses are sales rooms, bowling alleys, drive-ins, and restaurants. Businesses within this district are drive-ins, service stations, and restaurants.

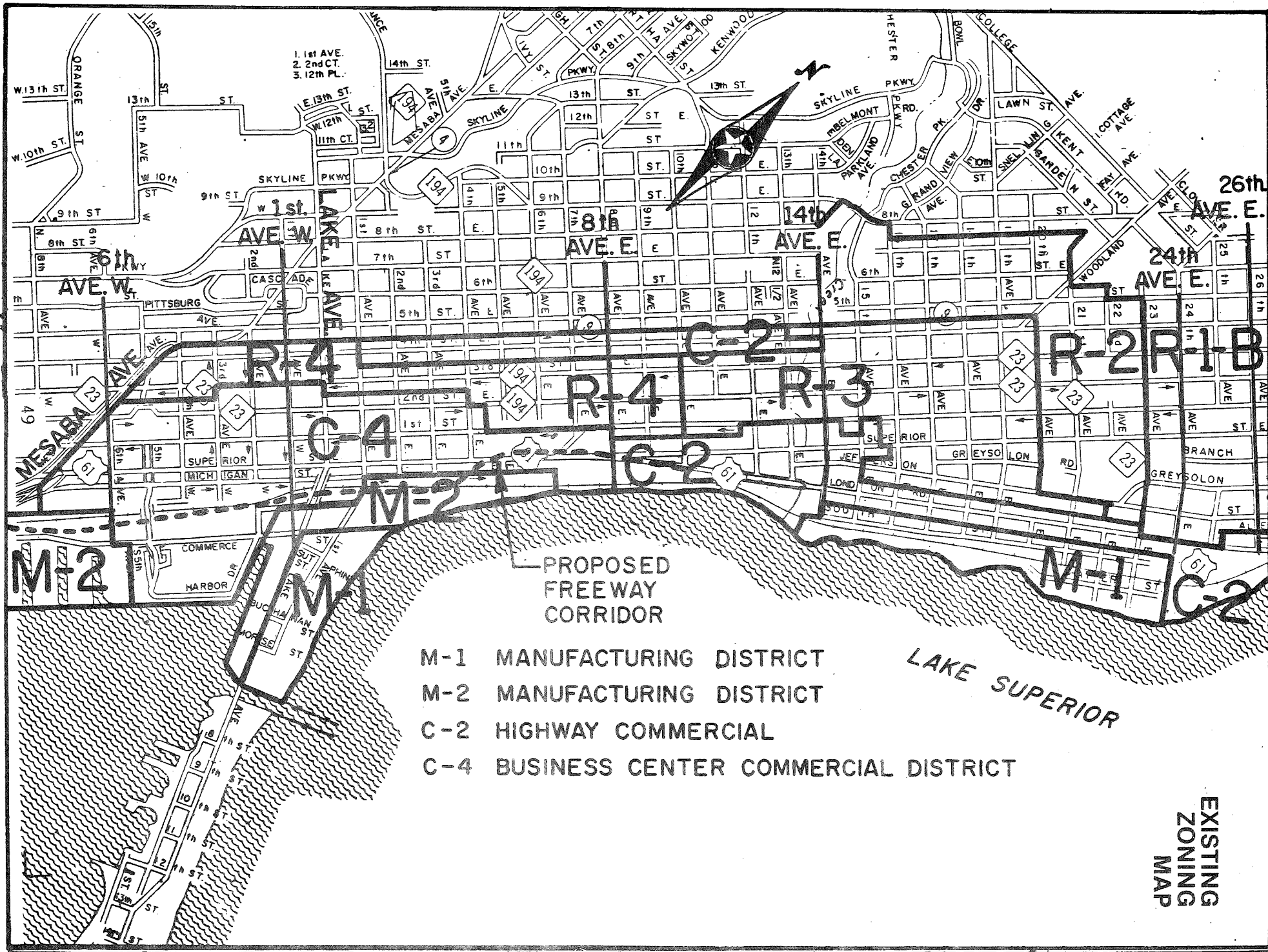
C-4 - Business Center Commercial

Permitted uses are wholesale and retail trade; and service related industries. Businesses in this district are service stations, auto banks, retail department stores, and wholesale suppliers.

The northerly side of the previous zoning districts are bordered by a series of "R" zones which contain residential apartment buildings and single and multiple family dwellings.

Proposed Land Use

The City of Duluth Planning and Development Office has not officially formulated a land use plan for the area along the proposed freeway corridor.



The proposed projects that are discussed have funding commitments and will be implemented with the freeway construction.

The extension of I-35 easterly of Mesaba Avenue requires the relocation of the existing railroad yards. At 6th Avenue West the corridor passes south of the developing Cultural District with its museums and theaters. The corridor passes between the Central Business District (CBD) and the Arena-Auditorium recreational complex. An enclosed pedestrian concourse (skywalk) connects the recreational complex with a CBD hotel/retail complex at 3rd Avenue West.

A combination pedestrian/bikeway system will be constructed on freeway right-of-way easterly from Mesaba Avenue. Landscaping of the right-of-way with earth mounding and plantings will be provided. At approximately 2nd Avenue East the corridor passes near the tip of Lake Superior. At this point, a wall will be constructed to protect the freeway and railroad tracks from wave and spray action.

At about 3rd Avenue East the freeway corridor begins to swing northward and passes under Superior Street at about 5th Avenue East. This alignment passes to the south of the Entertainment District (Exhibit on page 53), and to the north of the developing Historic District. Railroad trackage in this area remains in its present location. The freeway swings back under Superior Street at about 8th Avenue East. Bridges will be constructed over the freeway at about 5th and 8th Avenue East to perpetuate the continuity of Superior Street.

The freeway continues easterly to 10th Avenue East where it aligns with and joins London Road.

Compatibility of Land Uses

The proposed freeway crosses zoning district boundaries and land use groups. This action has the potential for segregating the land uses and thereby promoting development which is incompatible with adjacent land uses. This discussion will examine the compatibility between the existing and proposed future land uses along the route of the proposed freeway. Future land use is evaluated for consistency with local ordinances, established goals, and compatibility with the freeway.

Relocation of railroad tracks to the south of the freeway corridor will maintain service to those industries which require rail transportation. A spur track into the newly constructed Amtrak Station at 5th Avenue West is needed to provide continuity of service. Pedestrian/bicycle traffic easterly of Mesaba Avenue is impeded by the land forms and traffic congestion of the CBD. Construction of this pathway system will alleviate this blockage and also allow for future ties to the bayfront recreation area.

The freeway corridor will reinforce the division of the CBD - bayfront recreational area. Only part of this adverse effect will be mitigated by the pedestrian skywalk connecting these areas at 3rd Avenue West. Freeway construction will eliminate parking spaces along the southern edge of the CBD. Landscaping and planting along the freeway corridor will enhance the visual quality of the corridor.

Construction of the wall in the vicinity of 2nd Avenue East will protect the railroad and freeway from the wave action and water spray of Lake Superior. The freeway alignment which swings northward at about 3rd Avenue East preserves the majority of the historic buildings on the south side of Superior Street between 5th and 8th Avenue East.

PART NO. II

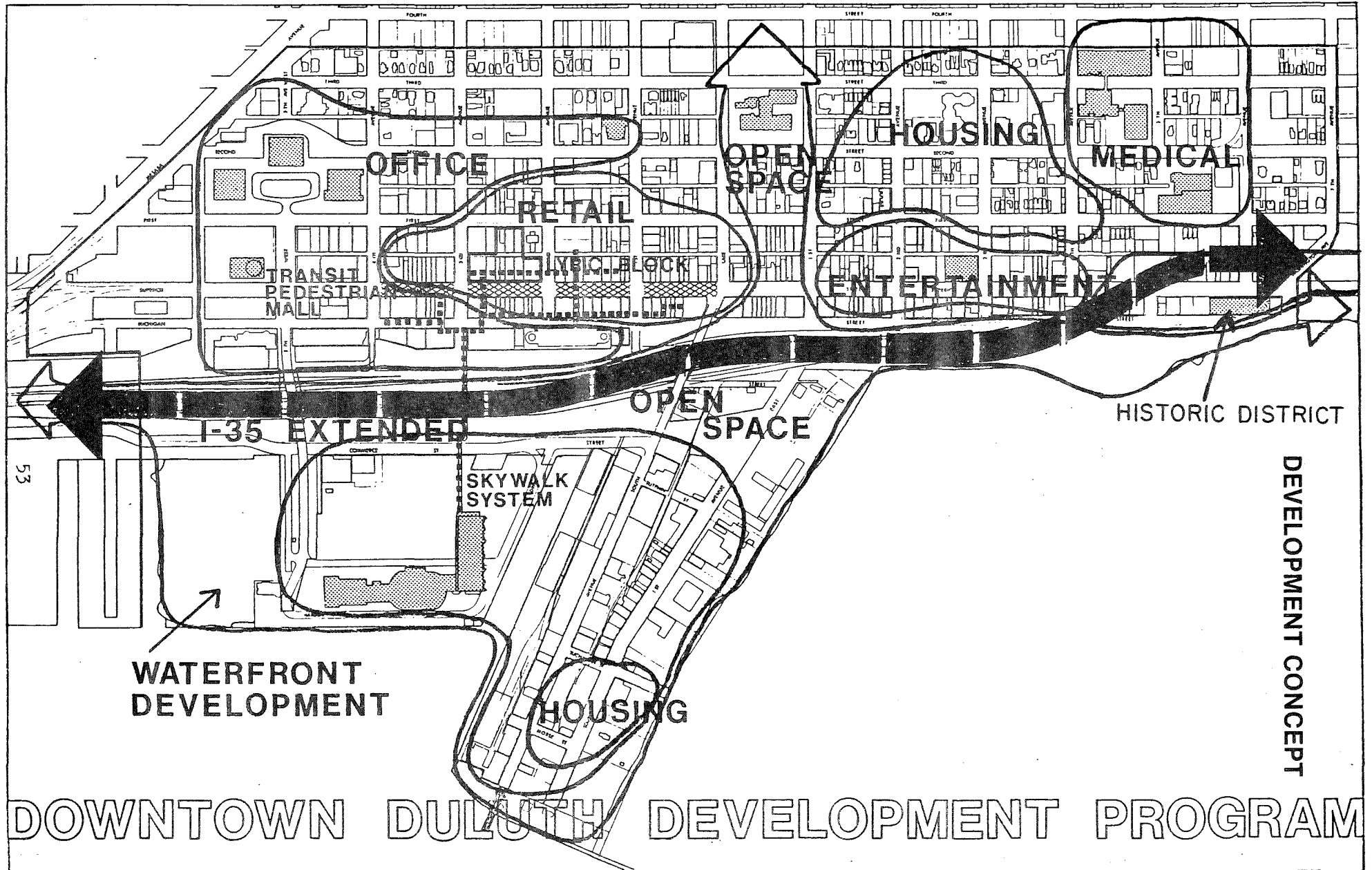
This part of Land Use Planning will summarize potential multiple use/joint corridor development projects. These potential projects were developed to integrate the highway into the community environment and minimize adverse land use impacts resulting from freeway construction. A study was performed to identify the areas of potential development which will assist Duluth in its stated goals and objectives to:

- revitalize the downtown commercial area
- consolidate the Central Business District
- create better public access to Lake Superior
- promote multiple use of the available land area
- enhance continuity between the Arena Complex and the CBD
- expand downtown parking facilities
- eliminate conflicting land use patterns
- develop the Lake Superior shoreline for public usage
- eliminate traffic congestion in the CBD
- preserve and enhance historic sites

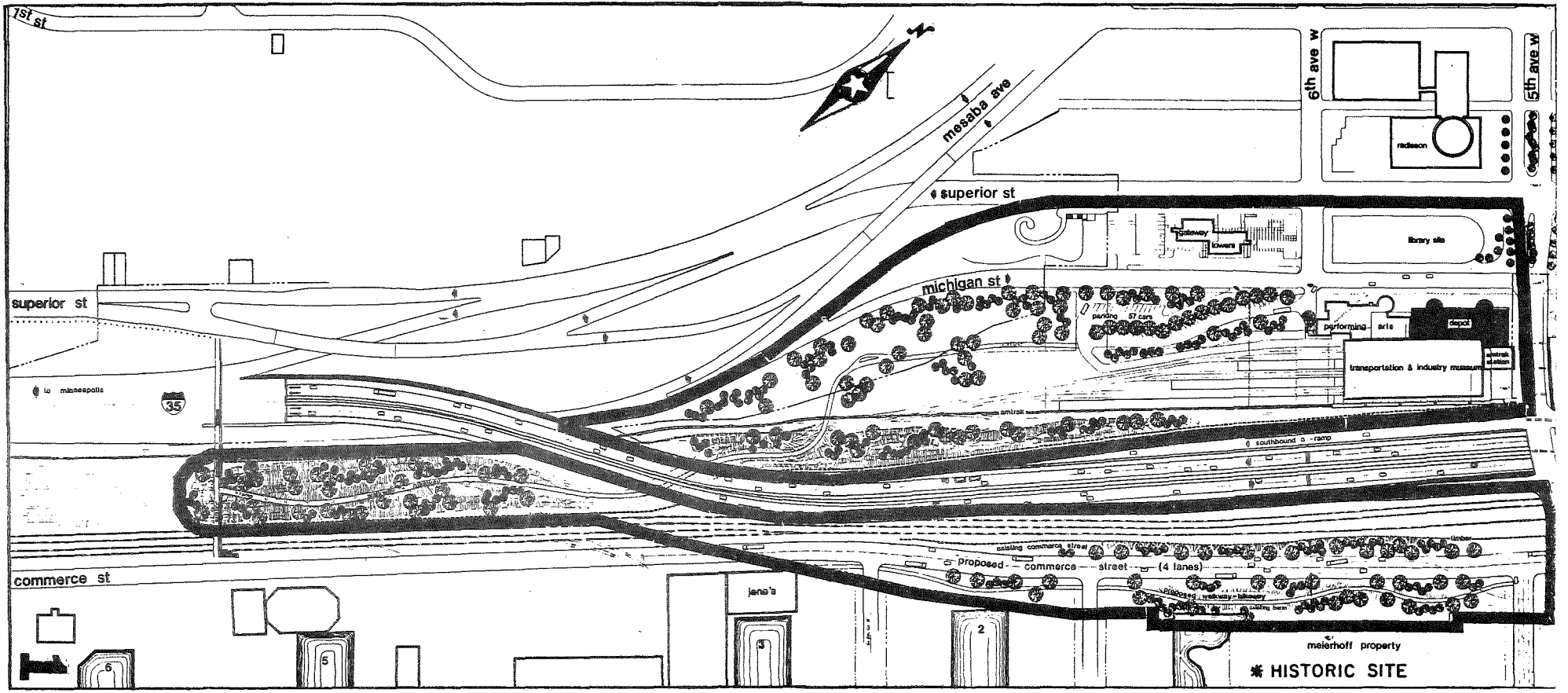
The City of Duluth Planning and Development Office has not officially formulated a land use plan for the area along the proposed freeway corridor. However, the Downtown Development Corporation (Municipal), in a joint effort with the City Planning and Development Department, and with the aid of private consultants, has developed a land use plan to revitalize the downtown area. (Development Concept, map on page 53).

The Downtown Development Corporation initiated a Multiple Use and Joint Corridor Development Study in 1976. This study concentrated on the land adjacent to and over the freeway corridor. Joint participants in the study were: City of Duluth, Federal Highway Administration, Mn/DOT - Division of Highways, and private consultant firms specializing in multiple use design and planning.

Implementation of the multiple use concepts developed in the study are vital to accomplish Duluth's goals and objectives. All of the potential projects are compatible with the noted goals and objectives. The Multiple Use and Joint Corridor Development Study was divided into nine project areas. The narrative will describe the project area, impacts from freeway construction, and projects which will mitigate the adverse effects of the freeway construction. A map showing the project area is located on the page facing the project description.



The Multiple Use and Joint Corridor Development is proposed to be financed through the actions of government agencies, private organizations, and individuals although no funding commitments have been made to date. Copies of the study can be obtained from the Mn/DOT.- Division of Highways, 1123 Mesaba Avenue, Duluth, Minnesota 55811.



PROJECT ONE

Identification

Project One is in an area bounded by the Fifth Avenue West overpass, Superior Street on the north, Commerce Street on the south, and the existing pedestrian overpass on the west. The area just east of the pedestrian overpass between Commerce Street and the existing railroad grades is undeveloped railroad property that is proposed to be used to implement the pedestrian/bicycle connection. This is not a part of highway right of way, but it is anticipated that Burlington Northern, Inc. will donate the land as a public service.

Existing

The project area encompasses the existing railroad marshalling yards, the St. Louis County Heritage and Arts Center/Lake Superior Museum of Transportation and Industry, and the Gateway Towers apartment complex. Adjacent land uses include the Arena-Auditorium Complex and a large land area along the water front presently used in a limited industrial nature. The industrial area, because of its proximity to the Arena and water front, has been designated as a potential redevelopment area involving possible marina, housing and commercial improvements.

Impacts

The easterly extension of the freeway will provide a visual entry to the CBD that will aid the driver by establishing a sense of direction and orientation. The proximity of the freeway to the waterfront industrial area will have an adverse aesthetic impact to the development of the property. Parking spaces for downtown workers will be eliminated.

Proposed

Project One can additionally improve the visual entrance to the western CBD by establishing a parklike character along the roadway. The improvements can be accomplished by reshaping of existing contours and planting of native plant species. Designated areas can be redeveloped to provide parking for the Cultural District. The corridor improvements can encourage development of adjacent waterfront property.

PROJECT TWO

Identification

Project Two is located in the area between Commerce and Superior Streets, and between Second and Fourth Avenues West.

Existing

The project area includes railroad marshalling yards, and a ground level municipal parking lot. Adjacent land uses include the Arena-Auditorium Complex on the south and existing parking ramps along the edge of the CBD.

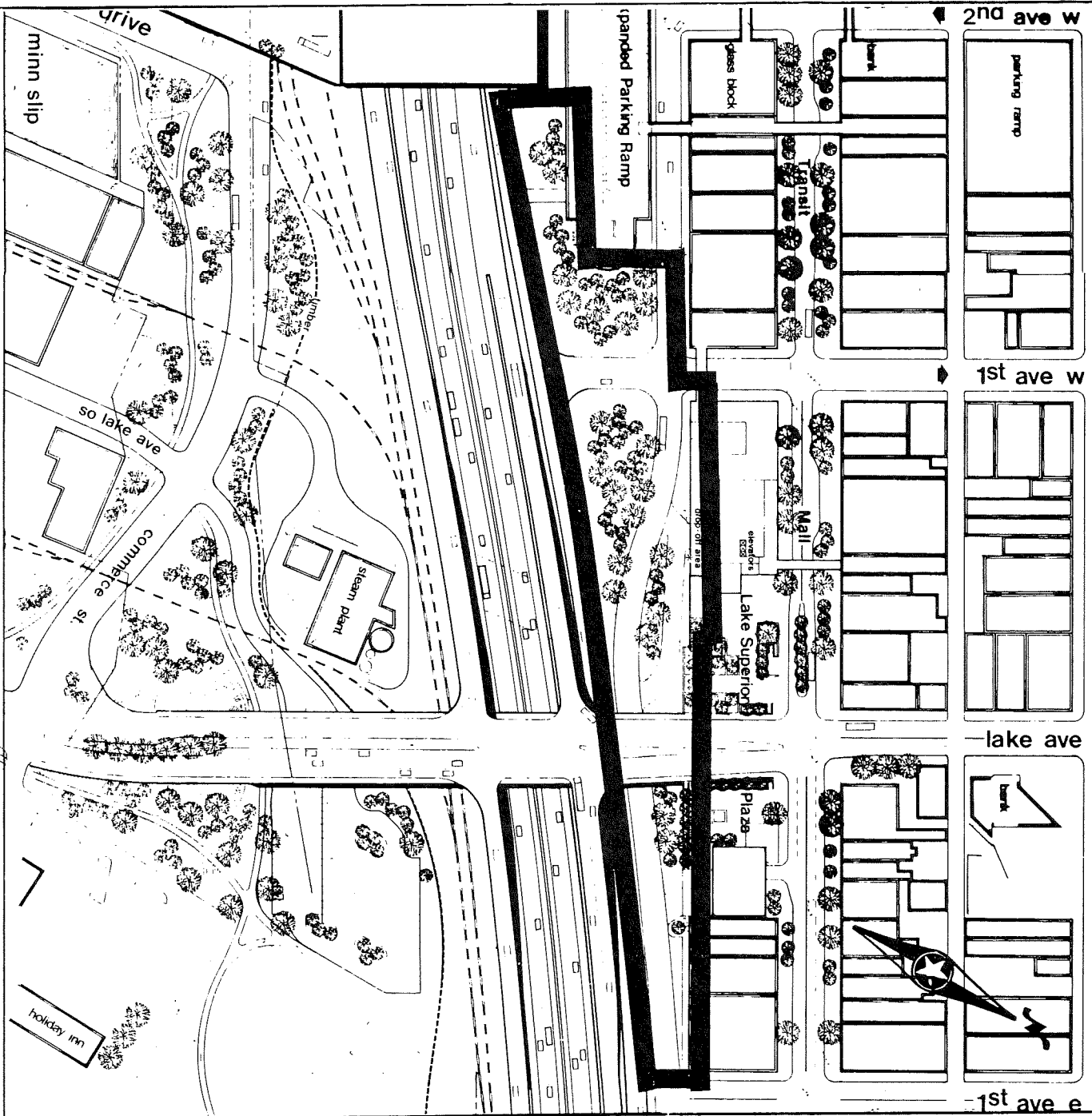
Impacts

The freeway extension will improve accessibility to the CBD and the Arena-Auditorium Complex. Most of the through traffic will be removed from Superior St. which will eliminate much of the downtown congestion. The freeway will reinforce the railroad barrier between the CBD and the Arena-Auditorium Complex. Acquisition of right-of-way will eliminate parking used heavily by downtown workers.

Proposed

Project Two envisions the construction of a rectangular shaped platform over I-35, extending from relocated Commerce Street to Superior Street. In width, the platform extends easterly for 520 feet from the east edge of the pedestrian skywalk. A two-story retail complex can be developed on the platform with 260,000 square feet of space for two major retailers and a variety of specialty shops. Parking will have to be developed in several locations to serve the retail complex. A new parking ramp with 325 spaces can be constructed immediately northwest of the platform, between Third and Fourth Avenues West. This parking ramp would have access and entry points on Michigan Street and the southbound frontage road. An additional level with 116 spaces could be added to the Town Park ramp immediately northeast of the platform. An additional level with 66 spaces can be added to the First National ramp immediately north of the platform.

A parking deck attached to the southern edge of the platform would provide 401 spaces. The deck would extend approximately 400 feet from the platform into the Arena parking lot.



PROJECT THREE

Identification

Project Three includes two areas of land located between the freeway and Michigan Street. The first is a triangle bounded on the west by First Avenue West and extending easterly under the new Lake Avenue Bridge to First Avenue East. The other is an irregular-shaped parcel directly west of First Avenue West.

Existing

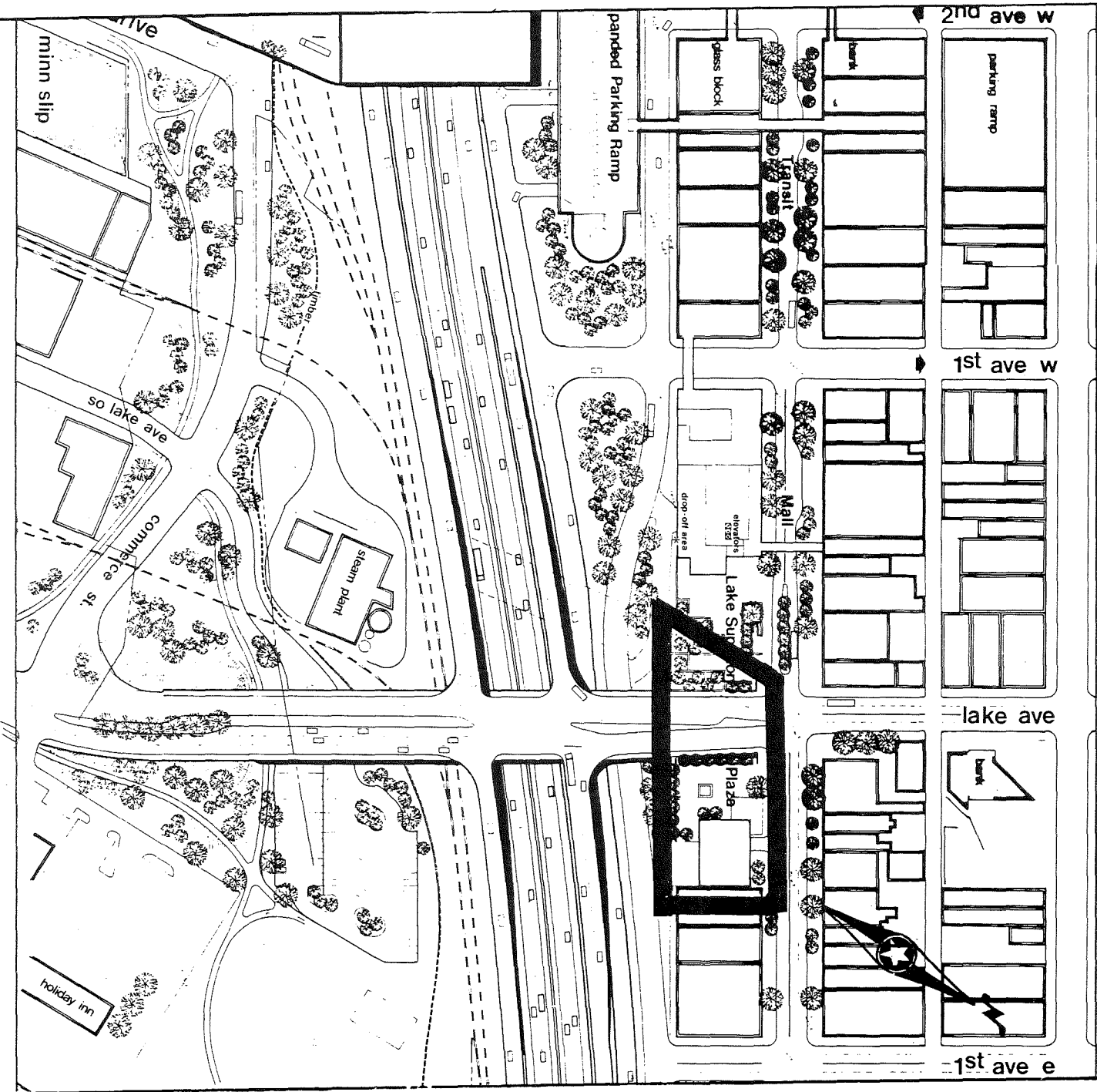
Several small commercial buildings presently occupy the project site. Adjacent land uses include the Minnesota Power and Light Company Office Building, the Lake Superior Plaza Development, several downtown parking ramps, and the municipal parking lots.

Impacts

After construction of the freeway, portions of the right-of-way will be available for nonhighway uses. Freeway construction will eliminate low cost all day parking for workers in the downtown area. The commercial buildings will be removed from the project area.

Proposed

Project Three would consist of major landscape improvements between the roadway and the southerly edge of the CBD. The design incorporates earth-mounding, planting of native tree species, and establishment of turf. The planting on the perimeter of the area will be kept low to insure safe driver/pedestrian visibility. Part of this site was originally proposed for replacement of some parking lost as a result of right-of-way acquisition, but further study indicated that the site was not large enough to accommodate safe parking improvements.



PROJECT FOUR

Identification

Lake Superior Plaza Extension is the area that is proposed as Project Four. Project Four is located at the intersection of Superior Street and the newly aligned Lake Avenue Bridge. It includes the area between Michigan and Superior Streets under and adjacent to new Lake Avenue. To the west it will extend as far as the original Lake Superior Plaza and to the east it will extend for 185 feet from the eastern edge of newly aligned Lake Avenue. This area includes the access road that will service the Lake Superior Plaza office building.

Existing

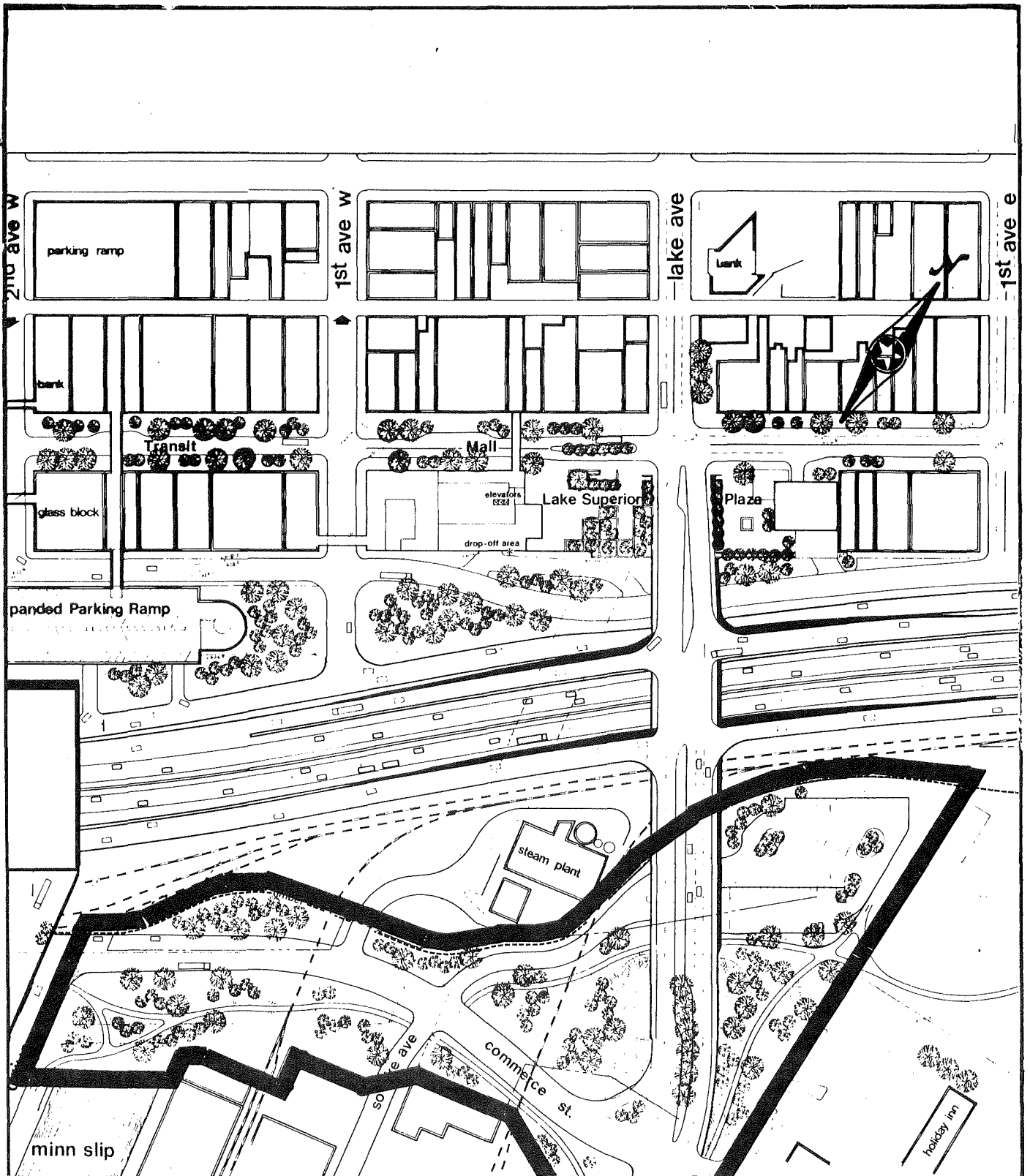
The Lake Superior Plaza Project is a private development encompassing a new office building at Lake Avenue and Superior Street, adjacent parking facilities, and a plaza which extends from the new office building to the westerly edge of existing Lake Avenue.

Impacts

Acquisition of right-of-way for freeway extension will eliminate parking in the vicinity of Lake Avenue and the functionally obsolescent buildings along the edge of the CBD. Realignment of South Lake Avenue will utilize unused capacity of First Avenue East and will consolidate further industrial uses to the south and west.

Proposed

The Lake Superior Plaza Extension can provide 220 parking spaces in a split-level parking scheme consisting of four levels. There is one level at the Michigan Street elevation, with a level above and two levels below the Michigan Street elevation. These parking levels will connect with parking in the existing Lake Superior Plaza Development. The parking levels will be covered by landscaped decks, one extending from the west side of new Lake Avenue to the existing Lake Superior Plaza (West Extension). Plantings will function as visual screening. They will define outdoor spaces, channel views, and add color and texture to the Plaza. Evergreens will be used to maintain color during the winter and to help establish continuity of visual elements between the freeway and the Superior Street Transit Mall.



PROJECT FIVE

Identification

Project Five includes the area between the freeway and Commerce Street, extending from the Arena marina slip to vacated First Avenue East.

Existing

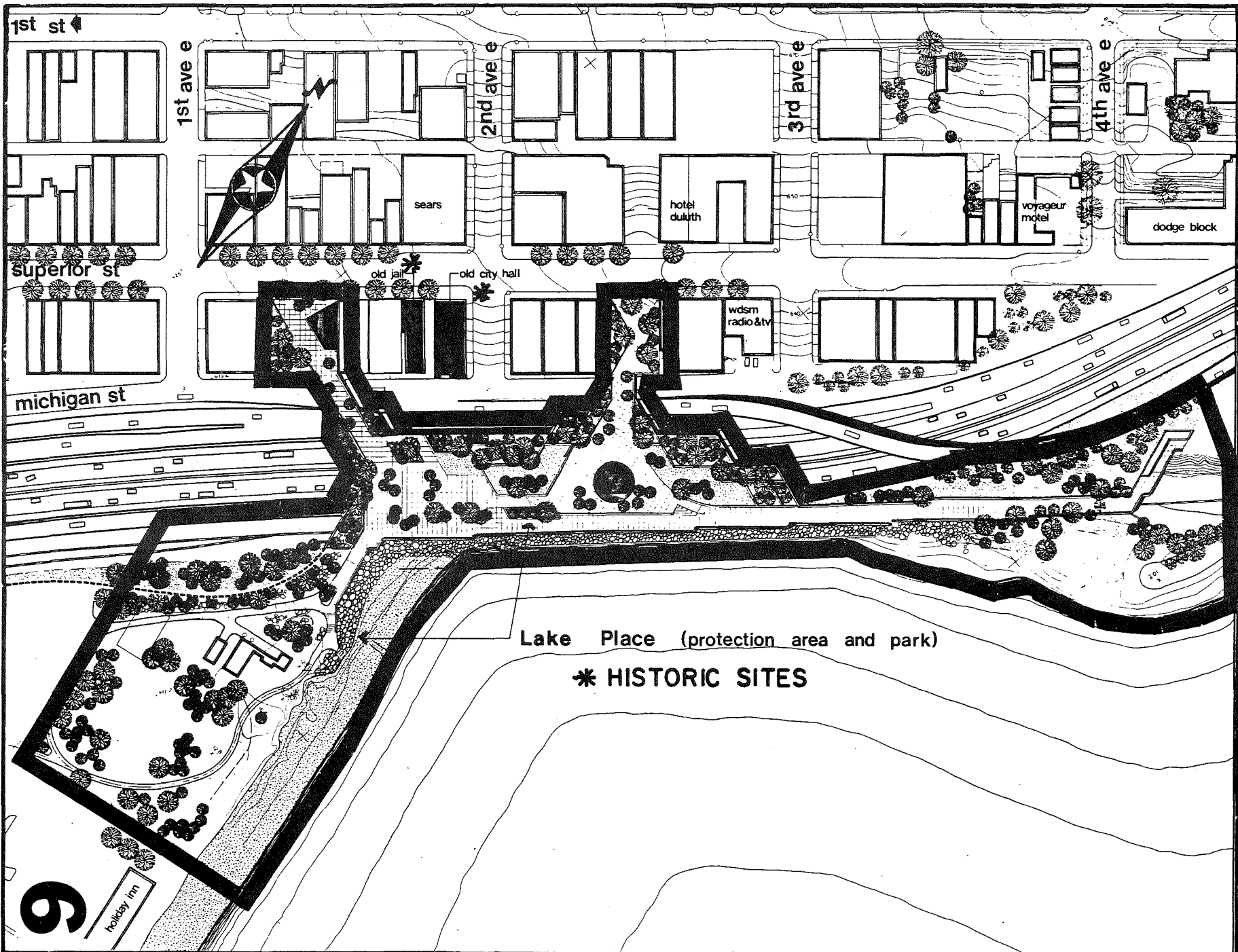
The area includes railroad marshalling yards, the Duluth Steam Plant, several small businesses, and more than 500 parking spaces.

Impacts

The freeway extension will alter existing land use and vehicular/pedestrian circulation patterns between the Central Business District, the lake-front, the Arena-Auditorium, and Park Point. Acquisition of right-of-way will eliminate all-day worker parking spaces in the vicinity of Lake Avenue, and the railroad marshalling yards except for two rail lines. Construction of a new bridge at Lake Avenue necessitates the realignment of Commerce Street and other street improvements south of the freeway.

Proposed

Project Five incorporates major landscaping to visually improve the area between the Arena and Lake Place (Project Six), parking to serve Lake Place, and a circulation system providing vehicular and pedestrian access to adjacent uses. Commerce Street can be realigned and extended to provide convenient and safe access for industrial uses on South Lake Avenue, the Duluth Steam Plant, Holiday Inn, and Lake Place. An access drive can be constructed to serve the steam plant, and extend under new Lake Avenue to serve the parking area at Lake Place. Approximately 100 parking spaces will be provided for Lake Place to accommodate the anticipated user demand. Major landscape elements include the use of timber walls and earthmounding. Vegetative plantings will provide screening for the freeway, industrial uses, and parking areas.



PROJECT SIX

Identification

Project Six (Lake Place) is located adjacent to Duluth's lakefront within an area extending along the lakeshore from the Holiday Inn on South First Avenue East to approximately Fourth Avenue East.

Existing

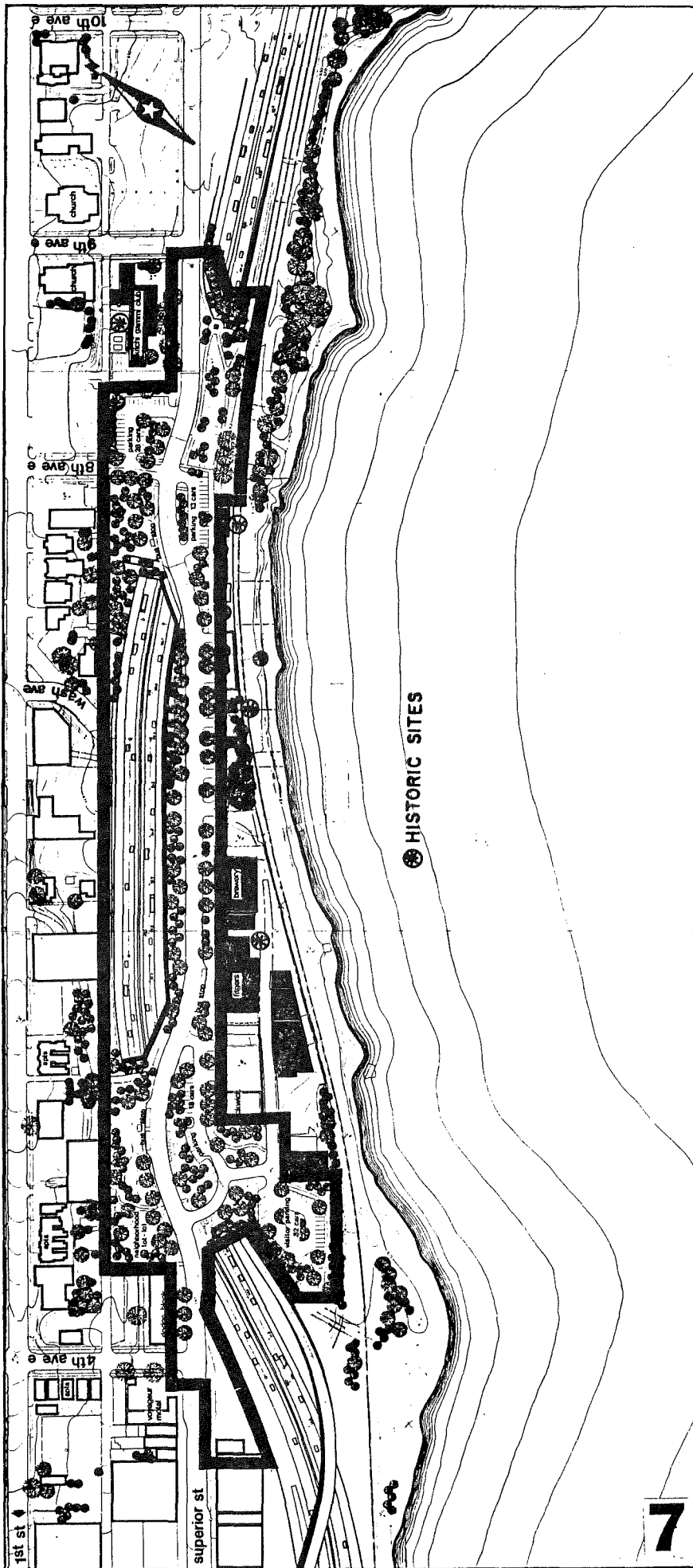
Existing development within the Project Six area consists primarily of a few scattered businesses located along the south side of Michigan Street, and one entertainment-oriented business located on South First Avenue East. The Duluth-Two Harbors main line railroad tracks parallel the lakefront, with additional rail spurs serving businesses presently located within the freeway right-of-way. A proportionately large area of Project Six is underdeveloped lakeshore open space.

Impacts

The alignment of the freeway near the lakeshore will create a visual and physical barrier between commercial/residential areas and the lakeshore. The existing parking in this area is also removed. The construction of the freeway will eliminate any significant future potential for lakeshore open space in this vicinity. Severe weather conditions from Lake Superior will have an adverse impact on the roadway and railway.

Proposed

The design for Lake Place incorporates several components. The first, and primary component involves the construction of a wall and a platform over the railway/roadway to minimize the adverse impacts of Lake Superior on the roadway. The second major component utilizes this protective structure to provide a visual and physical link with adjoining amenities. Development of a lakeshore park, in conjunction with the protective structure improvements, will provide for a continuation of the lakefront open space system. The platform covers an area of approximately 3.4 acres. The deck consists of upper and lower level pedestrian circulation and assembly areas which comprise the major multiple use activity spaces. Two walkways will extend from the platform surface to the southerly edge of the existing building lines on Michigan Street, and connecting to Superior Street. Large planted areas will be provided at varying levels on the platform to accomplish screening and buffering of the freeway, collect wind-driven moisture, give definition and form to various use spaces, and to provide a major visual identification for this project.



PROJECT SEVEN

Identification

Project Seven is located between 4th and 9th Avenues East and generally from the south side of existing Superior Street to the alley above Superior Street. A large portion of Project Seven is within the proposed Historic District.

Existing

The Historic District has been identified as the area extending from Fourth Avenue East to Ninth Avenue East, between the water front and the alley above Superior Street.

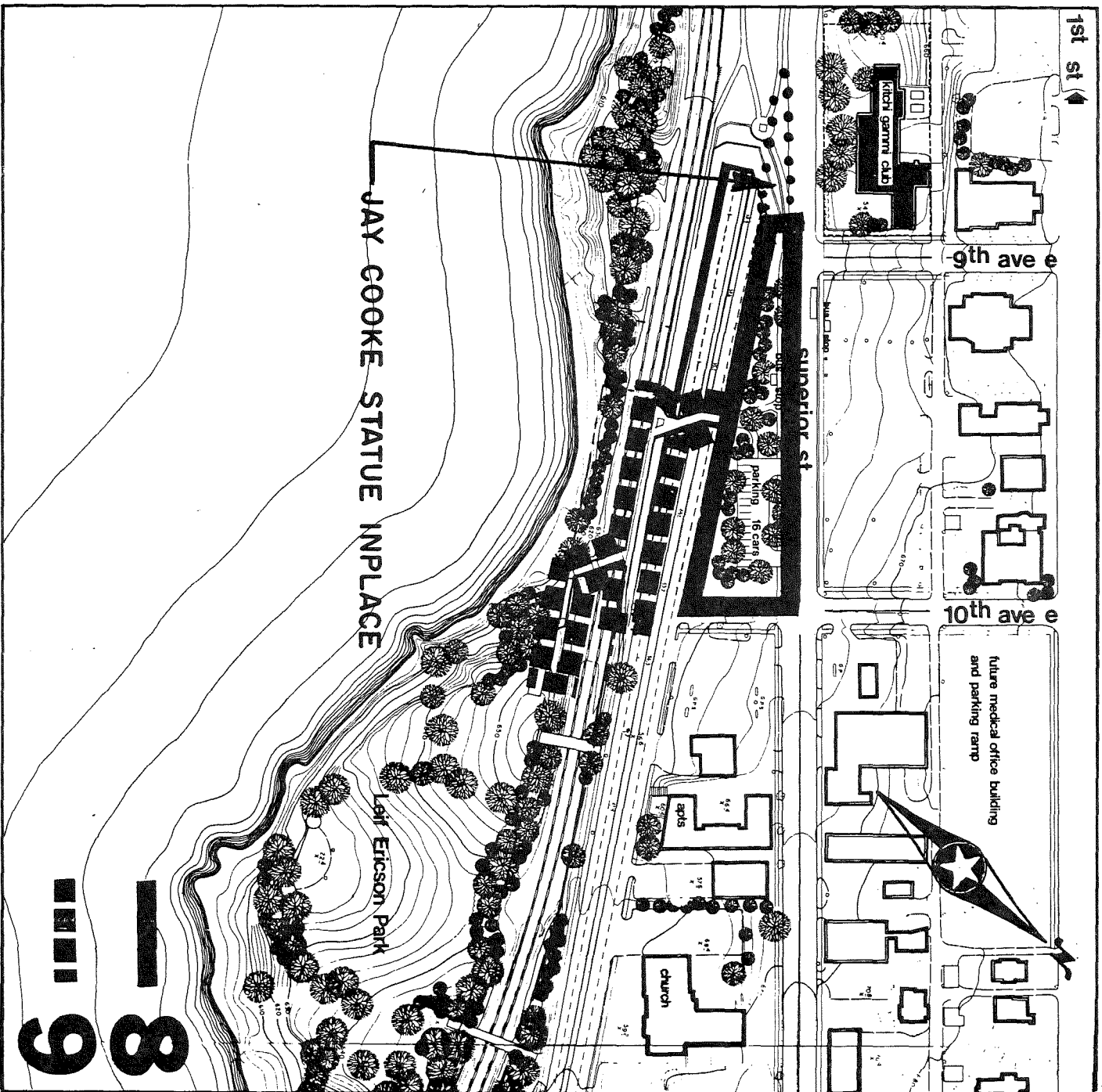
Existing land uses in this area include a variety of automotive and small commercial businesses. D.M. & I.R. main line track extends along the waterfront adjacent to the Historic District.

Impacts

The alignment of the freeway will require acquisition and removal of Branch's Hall, a historic building which is considered eligible for the National Register. Right-of-way acquisition will eliminate low cost, all day worker parking. The freeway creates a physical barrier between downtown, adjacent neighborhoods, and the Historic District. Extension of the freeway will provide an opportunity to consolidate existing and proposed land uses in the Historic District. Implementation of Project Seven will not cause air pollution impacts on the Historic District. Ventilation beneath the freeway will not be necessary.

Proposed

Project Seven incorporates two multiple-purpose structures over the freeway for pedestrian/vehicular access to the Historic District, landscape improvements, and parking. Seventy-six parking spaces will be provided in Project Seven. Parking has been designed to offset the loss resulting from freeway construction and to serve new development. Landscape improvements, special lighting, and interpretive signing can be used to reduce the impact of the freeway in this area and to improve the quality of the Historic District.



PROJECT EIGHT AND NINE

Identification

Project Eight encompasses a triangular area bounded by Superior Street, Tenth Avenue East, and London Road. This area includes two separate blocks of property. The first of these is a City-owned parcel bounded by Superior Street, Ninth Avenue East and London Road. The second block is much larger, and is bounded by Superior Street, Tenth Avenue East, London Road, and Ninth Avenue East.

Existing

The small triangle is presently developed as a landscaped right-of-way and includes a prominent bronze statue of Jay Cooke surrounded by trees, shrubs, and flowers. The larger block includes several commercial businesses fronting on Superior Street including a service station, an interior decorator, an art gallery, and a laundromat. Adjacent land uses include Leif Erikson Park, two prominent historical structures, and a large undeveloped block of property.

Impacts

Construction of the freeway will eliminate on-street parking, reduce pedestrian access serving Leif Erikson Park, separate surrounding neighborhoods from the park, and increase traffic on London Road. The landscaped right-of-way where the statue of Jay Cooke presently stands will be eliminated by acquisition for the freeway.

Proposed

Project Eight can minimize the impacts of the freeway on adjacent land uses and provide landscape treatment at the eastern entrance to the freeway. The statue of Jay Cooke will be relocated to the Historic District just west of Project Eight.

Project Eight can be developed as open space and a drop-off point for Leif Erikson Park. A parking area for 16 vehicles will have access to Superior Street. The remainder of Project Area Eight will be planted to blend with the Historic District and to strengthen the quality of the view towards Leif Erikson Park.

Project Nine involves the construction of a pedestrian overpass connecting Project Area Eight with Leif Erikson Park. The overpass will allow direct access into the park by visitors and residents of adjacent neighborhoods. The parking area in Project Eight will insure the success of the overpass and establish this point as the main access to Leif Erikson Park.

SECTION VI

PROBABLE IMPACT OF THE PROPOSED ACTION ON THE ENVIRONMENT

VI. PROBABLE IMPACT OF THE PROPOSED ACTION ON THE ENVIRONMENT

Impacts from the proposed construction could be far reaching in their effects. Individual impacts to segments of the environment will range from negligible to severe. Examination of the segments will determine the degree of this impact and discuss efforts to minimize adverse effects. The in-depth study will also reveal actual and potential positive effects from the proposed construction. Segments of the environment to be discussed are:

- (a) Natural, Ecological or Scenic Resources
- (b) Relocation Impacts
- (c) Social and Economic Impacts
- (d) Air Quality
- (e) Noise Impacts
- (f) Water Quality Impacts
- (g) Wetlands and Coastal Zones Impacts
- (h) Stream Modification or Impoundments Impacts
- (i) Flood Hazard Evaluation
- (j) Construction Impacts
- (k) Historic & Cultural Impacts

VI (a) NATURAL, ECOLOGICAL OR SCENIC RESOURCES

Potential effects from the proposed construction are the addition or deletion of vegetation along the corridor, significant landform changes, and possible changes to wildlife population and habitat.

Vegetation

The primary impact to vegetation from this proposal will be the elimination of trees within the construction limits. The total number of trees in the study area is relative small, and in many cases are poor in quality.

In the area between 2nd and 3rd Ave. E. is a small patch (approximately 1 acre) of mixed vegetation (weedy vacant lots and clumps of brush) that will be eliminated.

Wildlife

Because of the urban character of the study area, the presence of wildlife is rather limited. Vegetated sections to be eliminated currently provide marginal habitat for small wildlife such as rabbits, squirrels, porcupines, and skunks.

During construction of this proposal, the existing wildlife will be forced out of the project limits. This will be a short term impact because these types of animals are adaptable to an urban environment.

The Mn/DOT Wildlife Biologist has reviewed this project and determined that there is no involvement with threatened or endangered species at the State or Federal level.

Alterations to the Land

Through the CBD (5th Ave. W. to 4th Ave. E.) the freeway will be a ground level facility. There will be no change to the shape of the area because of this facility.

At approximately 3rd Ave. E. the freeway enters a depressed section. This depressed or "cut" section will continue to approximately 10th Ave. East.

The size of this cut section will vary depending on the location, but the approximate dimensions will be 20' deep, 100' wide at the bottom and 135' wide at the top.

This depressed section will form a physical barrier to pedestrian and vehicular traffic except at selected locations. It will hinder views from the freeway of the historic and commercial areas on Superior Street.

This section will also create a physical barrier preventing easy movement between First Street and Superior Street.

Current estimates are that approximately 250,000 cubic yards of dirt and rock will be removed from the cut section. Because of the ground level design of the remainder of the project, this material will not be needed as fill on this project but a substantial portion will be used for landscaping the project area. Methods for disposal of this material are discussed in the Construction Impact Section of this document (see page 122).

Prime and Unique Farmlands

The U.S. Department of Agriculture - Soil Conservation Service has been consulted on involvement with Prime and Unique Farmlands. They have indicated that there are no Prime or Unique Farmlands that will be affected by this project.

Measures to Mitigate Harm

In the construction of a new freeway, certain measures must be taken to lessen the adverse impacts to the natural, ecological and scenic resources. In most instances, these impacts can be lessened by comprehensive planning and design (Multiple Use Studies - Mn/DOT, 1123 Mesaba Avenue, Duluth, Minnesota 55811).

Through the entire project extensive landscaping and planting will be done. This will involve the planting of trees, shrubs, and grasses which are tolerant to deicing chemicals used on highways.

Landscaping development which will be done to make the area esthetically pleasing and available to the public will include:

- retaining wall treatments
- coordinated lighting
- development of additional land forms (mounding)
- bike/hike trail system.

VI (b) R E L O C A T I O N I M P A C T S

A preliminary relocation plan for this project has been prepared and is available at the Minnesota Department of Transportation, 1123 Mesaba Avenue, Duluth, Minnesota 55811. The requirements for this plan are stated in the Federal-Aid Highway Program Manual, Volume 7, Chapter 5, Section 1, Paragraph 11. The plan is necessary to estimate the availability of decent, safe and sanitary housing for the displaced persons affected by this acquisition.

Consultation

The Mn/DOT relocation advisor has consulted the following resources for information pertaining to the relocation plan for this project:

- Housing and Redevelopment Authority of Duluth
- City of Duluth Offices
 - 1) Planning and Development
 - 2) Industrial Development
- The Duluth Chamber of Commerce
- Multiple Listing Service
- Field Drive

Analysis of Relocation Needs

The Mn/DOT District 1 Relocation Unit has identified 30 apartment rental units within the project limits. This number was established by a field investigation. At this time the occupancy rate for these units is 100%. No personal contacts were made with the owners or tenants of the affected apartment buildings.

Discussions with the Housing and Redevelopment Administration (HRA) indicate that income levels in this area are in the medium to low range. Some of the residents of this area are receiving HRA housing assistance. All of the apartments in this area have one occupant except two apartments, one with two occupants and the other with three. An inventory of occupant ages and length of time in these apartments is unavailable at this time. There are no minorities involved.

I-35 Building Survey
Residential Sites Affected by Relocation

<u>Building Address</u>	<u>No. Bldgs.</u>	<u>Res. Units</u>	<u>No. Res.</u>
324-326 East Superior St. (Monte Carlo Apts.)	1	19	20
509-509 $\frac{1}{2}$ East Superior St. (Murphy's Cocktail Lounge)	1	2	4
741 East Superior Street (Libby Apts.)	1	8	8
130 East Michigan Street	1	1	1

The District 1 Relocation Advisor, and a representative of the Duluth Chamber of Commerce contacted and interviewed most of the business owners which would be affected by this project. A Sociological-Economic Impact Survey questionnaire was filled out by most of the business owners contacted. The results of the survey indicated that the majority of the businesses interviewed will relocate within the Duluth Metropolitan Area.

Field investigations and the Sociological-Economic Impact Survey indicate that there are 92 businesses located in 54 buildings which would require relocation. For a detailed analysis of the economic impacts of these relocations, see the Economic Impacts section, page 86 thru page 88.

Summary of Relocation Assistance

The following is a summary of owner and tenant entitlements under the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, Public Law 91-646:

1. Owner - Occupant of at least 180 days (residential)
 - a. Replacement housing payment or rent supplement
 - b. Moving expenses
 - c. Closing costs (replacement dwelling)
 - d. Interest differential
 - e. Appraisal fees
2. Owner - Occupant of less than 180 days but more than 90 days (residential)
 - a. Rent supplement or downpayment
 - b. Moving expenses
 - c. Appraisal fees
 - d. Closing costs (replacement dwelling)

3. Owner - Occupant of less than 90 days (residential)
 - a. Moving expenses
 - b. Appraisal fees
4. Tenants of at least 90 days (residential)
 - a. Rent supplement or down payment
 - b. Moving expenses
 - c. Closing costs
5. Tenants of less than 90 days
 - a. Moving expenses
6. Business
 - a. Moving expenses - including actual direct loss of tangible personal property or payment in lieu of moving expenses
 - b. Payment for time spent in searching for replacement business or site
 - c. Appraisal fees (to owner of real property)
7. Non-Profit Organization
 - a. Moving expenses - including actual direct loss of tangible personal property
 - b. Payment for time spent in searching for a replacement site
 - c. Appraisal fees

Replacement Housing

The Mn/DOT Relocation Advisor has made a survey of available houses and rental units in the City of Duluth. This survey indicates that there is and will be sufficient housing available for all individuals and families who will be displaced by this project. The survey indicates six areas in Duluth that have houses and rental units comparable to those in the project area. These areas are shown on the map on the following page.

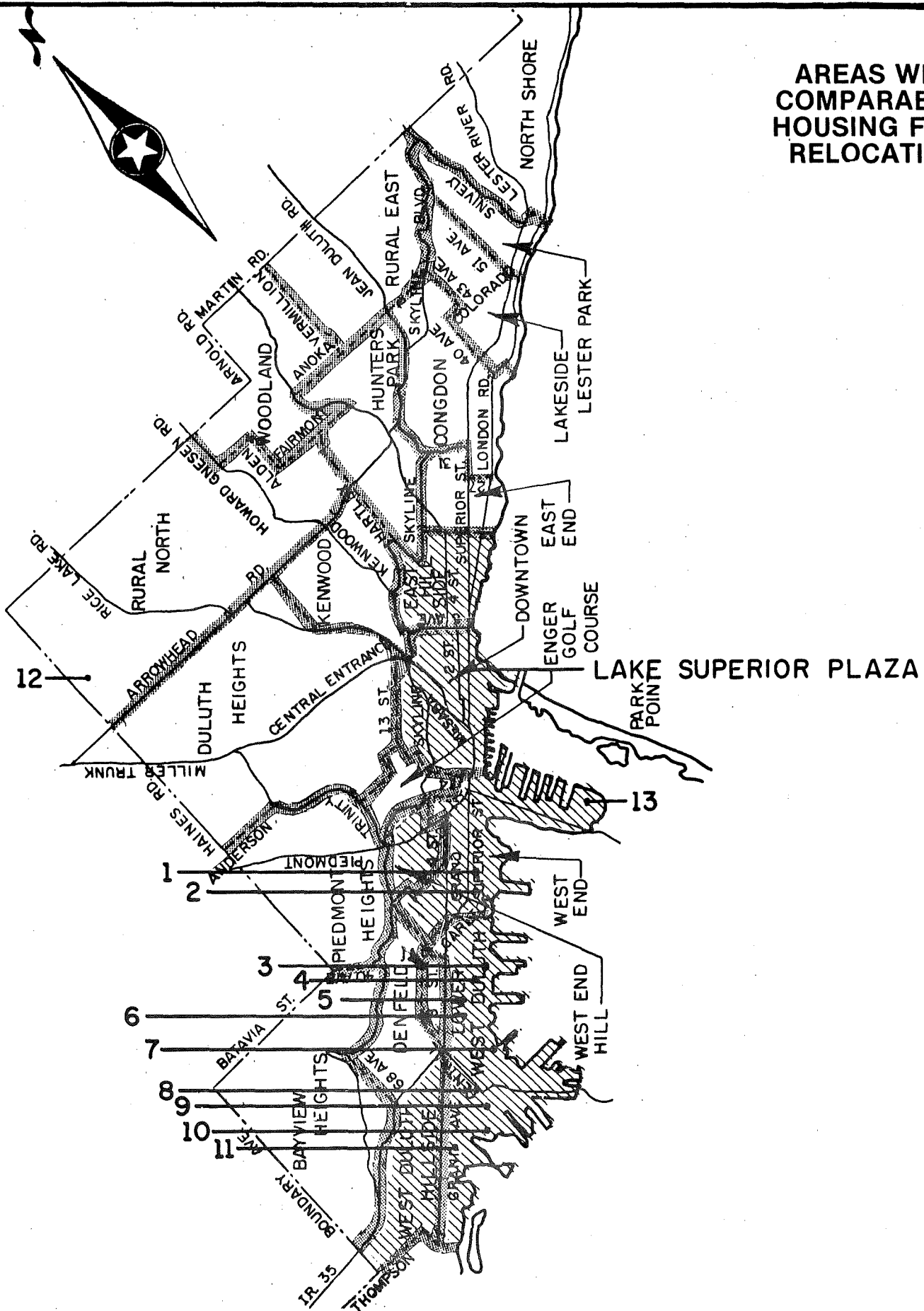
Annual Unit Sales² 1973-1976

<u>Area</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u> ³
East Hillside	89	76	71	82
Downtown	18	13	12	15
West End	20	17	10	22
West End Hillside	41	35	26	34
Lower West Duluth	10	12	8	16
West Duluth Hillside	<u>26</u>	<u>25</u>	<u>23</u>	<u>40</u>
	204	178	150	209

² All sizes and price ranges, Houses Only

³ First nine (9) months.

AREAS WITH COMPARABLE HOUSING FOR RELOCATION



Few houses are currently listed for sale (March, 1977). However, trends indicate that the greatest number of listings occur during spring and summer.

Current Housing (Sales Units) Availability*
(Local News Ad's & MLS Listings)

<u>Area</u>	<u>1 Bedroom</u>	<u>2 Bedroom</u>	<u>3 Bedroom</u>	<u>4 Bedroom</u>	<u>5 Bedroom</u>
East Hillside	1	3	2	3	
Downtown		2	3	1	1
West End			3		
West End Hillside		1	4		
Lower West Duluth	2		1		
W. Duluth Hillside	1	2			

* The listed prices for these units ranged from \$6,900 to \$29,900.

The average size and selling price for houses in these areas for the previous year (1976) are:

East Hillside	3 Bedroom	\$21,300
Downtown	"	\$21,000
West End	"	\$15,600
West End Hillside	"	\$17,200
Lower West Duluth	"	\$19,000
West Duluth Hillside	"	\$21,000

Duluth's housing stock⁴ declined from 1960-1970 but showed an increase from 1970-1975. Population is showing a slight decline; however, a rising birth rate, economic development and population forecasts indicate that this trend should be reversed by 1980.

From 1970 to 1975 apartment construction outpaced single family construction nearly 3-1. Low and moderate income construction was nearly all apartment units, except for a few FHA-235 Housing Program Units, constructed by Project Hope and Townview Improvement Corporation, and 90 units of scattered-site housing.

The City of Duluth Housing Policies Plan has a stated objective to construct an average of approximately 150-200 new single family homes per year during each of the next three construction seasons (1977-78-79), and an average of at least 400 new rental units per year for each of the next three construction seasons.

⁴ Housing Stock - The total of all structures used for residential occupancy.

A study by the Duluth Housing and Redevelopment Authority (HRA) indicates that there are currently 34,766 housing units in Duluth. Of these, the study shows that there are 418 vacant units potentially available for occupancy. A break-down of these available units shows that there are 97 owner occupied sales units and 321 rental units.⁵ The study also indicates that the current vacancy rate for owner-type units is 0.8 percent and for renter-type units 3.0 percent.

In addition to the existing units listed above, a number of new apartment units are planned for completion in 1977. Low and moderate income apartments presently under construction include 232 units of Section 8 housing for the elderly; Gary-New Duluth (60 units), Morgan Park (80 units), and Duluth Heights (92 units).

Also, the HRA will, in 1977, begin acquiring land and building a new low income senior citizens high rise located on 2nd St. between 2nd and 3rd Avenues East. This housing project is scheduled for completion in 1978.

Between 1977 and 1979 there will be approximately 140 units of open market rentals constructed. Rental rates for these units are not known at this time.

At this time no other Federal, State or local programs will affect housing availability.

Replacement Business Sites

A survey was made by the Mn/DOT Relocation Advisor to establish available buildings and warehouses to which the businesses can relocate. This survey indicates that there are sufficient buildings available to which the businesses could relocate.

For those businesses who have plans to build new facilities, there are numerous vacant commercial lots and two large industrial parks with a total acreage of approximately 120 acres.

The following is a partial listing of sites available in the City of Duluth for commercial or industrial development. This listing is from a Development Prospectus prepared by the City of Duluth - Department of Planning and Development in 1975, for the Seaway Port Authority of Duluth. Inquiries about the current availability of these sites should be directed to the Office of Industrial Development - Seaway Port Authority of Duluth.

⁵ This data related to the City as a whole.

<u>Site Name</u>	<u>Location</u>	<u>Size</u>	<u>Map Ref.</u>
Michigan 26	26th Avenue West & Michigan St.	1.5 Acres	1
Superior 26	26th Avenue West & Superior St.	1.0 Acres	1
Huron 31	31st Avenue West & Michigan St.	1.7 Acres	2
Michigan 32	32nd Avenue West & Michigan St.	5.0 Acres	2
Oneota 39	39th Avenue West & Oneota St.	4.8 Acres	3
Michigan 39	39th Avenue West & Oneota St.	1.2 Acres	3
Superior 40	40th Avenue West & Superior St.	2.7 Acres	4
Superior 41	41st Avenue West & Superior St.	2.6 Acres	4
First 44	44th Avenue West & First St.	5.5 Acres	5
Superior 44	44th Avenue West & Superior St.	5.8 Acres	5
Superior 47	47th Avenue West & Superior St.	4.8 Acres	6
Nicollet 51	51st Avenue West & Nicollet St.	4.5 Acres	7
Nicollet 52	52nd Avenue West & Nicollet St.	6.0 Acres	7
Raleigh 55	55th Avenue West & Raleigh St.	1.2 Acres	8
Redruth 56	56th Avenue West & Redruth St.	2.5 Acres	9
Sherburne 57	57th Avenue West & Sherburne St.	1.0 Acres	9
Waseca 61	61st Avenue West & Waseca St.	7.5 Acres	10
Sherburne 66	66th Avenue West & Sherburne St.	2.8 Acres	11
Grand 67	67th Avenue West & Grand Avenue	3.0 Acres	11
Air Park	Haines Road & Airport Road	360 Acres	12
Port Terminal	Port Terminal Road	N/A	13

Along with these sites for new development, Minnesota Power and Light Company will be acquiring and removing 6 businesses between Lake Avenue and 1st Avenue West on the lower side of Superior Street. New buildings will be constructed for the expansion of their own offices and new commercial space will be available. This development is known as the Lake Superior Plaza.

VI (c) S O C I O - E C O N O M I C I M P A C T S

The socio-economic environment consists of a number of human, cultural and economic factors. These would include employment, education, housing, public services, population trends and economic base.

Social Impacts

In the realm of social impacts some areas of consideration would include community cohesion, ethnic groups, mobility, neighborhood environment, and age of the residents.

Neighborhood and surrounding area

This densely developed urban area is primarily the commercial district of Duluth. A few apartments are located upstairs over commercial establishments. Individual apartment houses containing single unit apartments are also scattered throughout the district.

Resident population

The only residential population in the commercial district which may be affected by the proposed construction is located between 3rd and 10th Avenues East.

There are several single unit apartments located in commercial buildings on the lower side of Superior St. between 4th and 7th Ave. E. Occupancy is limited to people without children and/or pets. These residential sites are not required to be relocated. Impacts to these people will be positive due to the reduction of traffic volumes on Superior St. The reduction in traffic will reduce the noise levels and potential safety hazards.

Residential sites affected by the proposed construction and requiring relocation are the Monte Carlo Apartments (19 units), Libby Apartments (8 units), and 2 units above Murphy's Lounge. One resident is living in a converted diner at Michigan St. and 3rd Avenue East. The proposed construction will displace about 33 adults from these sites. Impacts from relocation could possibly change the life style of these people because they now can:

- walk to work from their place of residence
- catch a bus nearby to their place of work
- walk to areas of recreation or entertainment
- observe the downtown activity
- observe activity on Lake Superior

Relocation assistance is described in a previous section, page 77. Attempts are made to relocate people as near as practical to situations paralleling their former environment and domicile.

Transportation

The physical rearrangement of the land forms resulting from construction of I-35 will necessitate changes in travel patterns and access. Vehicular access to the lakeshore or properties south of the proposed I-35 corridor is restricted at the present time. The restrictions are buildings in the CBD and railroad trackage. Specific access points existing now and those proposed after construction are discussed in Section III, page 25.

Construction of I-35 will result in a substantial increase of traffic on London Road easterly of 10th Avenue East.

There are no bicycle or pedestrian pathways existing along the lakeshore or through the CBD area. A proposed route will connect with the existing pathway near Mesaba Avenue, provide a passage through the CBD area, and continue easterly to Leif Erikson Park. Future spur paths off the main route can provide access to Canal Park and the Arena-Auditorium complex.

The proposed freeway construction will not cause any significant changes to the existing bus routes. The addition of an express run serving Lakeside/Lester Park along the route of the freeway is anticipated.

Recreational facilities

No recreational facilities are affected by freeway construction.

Indirect impacts

Freeways are generally considered traffic generators in that they draw traffic to them. One beneficial effect of this is the reduction of traffic on adjacent city streets. This reduction in traffic results in quieter, safer neighborhoods and fewer accidents. One of the other characteristics of freeways is that they concentrate traffic at the access and exit locations. The avenues of 10th, 12th and 14th will experience an increase in traffic

volumes. The traffic volume on east/west arterial streets east of 10th Ave. E. will be substantially greater.

Economic Impacts

The extension of Interstate 35 will have both positive and negative effects on the economy of Duluth. The economic impacts were analyzed on the basis of published data, personal interviews, and a Sociological-Economic Impact Questionnaire. The positive and negative effects of I-35 construction will be discussed under three broad areas:

- Employment, Income, and Business Activity
- Effects on Property Taxes
- Resources.

Employment, Income and Business Activity - The negative impacts resulting from the extension of I-35 are as follows:

- Approximately 92 businesses will be displaced by the freeway extension. The businesses affected are categorized into 5 types:

- Construction	1 business
- Manufacturing	2 businesses
- Wholesale	20 businesses
- Retail	34 businesses
- Service	<u>35</u> businesses
TOTAL	92 businesses

- All 92 business owners were contacted and asked to complete a Sociological-Economic Impact Questionnaire. Approximately 77% returned their questionnaire, which contained the following data:

Approximately 1,007 employees will be affected by the extension of I-35. A further breakdown of employees affected:

- 905 full time (Duluth's full time employment 1976 = 44,670 employees)
- 83 part time
- 19 seasonal
- 1,007 TOTAL

In terms of full time employment, the I-35 extension will affect approximately 2% of the total employee work force.

- A further analysis of the economic impacts resulting from I-35 extension indicated that a number of businesses would relocate in Duluth. The following chart indicates how many businesses will relocate or liquidate:

92 Businesses Contacted

71 Business owners returned their questionnaires
(representing 77%)

Relocate In Duluth	Relocate in Commuting Area	Uncertain	*Liquidate	Total
58	4	3	6	71

* Liquidate - of the businesses that will liquidate, total employment of these 6 firms is estimated at 17 employees.

- There will be some loss of business during construction due to increase in congestion, and difficulty of access to a few commercial properties within the corridor area of I-35.
- There will be an adverse impact to the Duluth Steam Corporation due to loss of revenue resulting from the right-of-way acquisition of approximately 23 businesses that presently are served by Duluth Steam Corporation. This loss has been calculated as a revenue loss of \$100,459 or 4.4% of total revenue. In terms of loss of steam production, the loss is 3.9% of the total steam production.

The positive impacts to employment, income and businesses are as follows:

- Of the 71 business owners responding, 11 business owners indicated they would increase employment from their current levels.
- Business activities that will benefit from increased accessibility due to I-35 completion are: (1) Duluth Central Business District (2) Arena-Auditorium with its related convention/tourist business.
- With construction of I-35 certain businesses in Duluth will benefit due to increased income and employment from the stimulus of expenditures for labor and materials. Based on an estimated expenditure of \$33.9 million for labor,

fuel, construction equipment operations, and construction materials, the affect to the Duluth-Superior Growth Center (Duluth-Superior, Cloquet and Two Harbors) would be as follows:

- 1) The multiplier* for this area is 1.21 which includes petrolaum-refining, salary expenditure and construction costs. This multiplier is based on a model developed by Dr. Richard W. Lichty, Associate Professor of Economics, University of Minnesota, Duluth. This multiplier on the Duluth-Superior Growth Center would generate \$41 million due to highway expenditure of \$33.9 million.
- 2) In terms of employment, it is estimated that approximately 4,200 jobs would be dependent on this expenditure of 33.9 million (both direct and indirect). This is also based on Dr. Lichty's model.

Effects on Property Taxes

The negative impacts resulting from the acquisition of land and buildings on local tax revenues are as follows:

- Approximately \$2,526,200 of assessor's market value will be removed from the local real estate tax base. This is computed as a loss of tax revenue of approximately \$155,360.
- There could be some small reductions in the market value of certain properties adjacent to the freeway (I-35) due to controlled access or severance damages. It is difficult to estimate the loss of market value without the benefit of knowing the exact right-of-way limits.

Construction of I-35 in Duluth will have positive impacts on the local real estate tax base. Direct or indirect effects as a result of this construction are as follows:

- According to two consultants, Bather-Ringrose-Wolsfeld, Inc. and Economic Research Corporation, "A key element in relieving the downtown traffic problem along Superior Street is completion of I-35 around the downtown. Completion of I-35 around the downtown will greatly improve access to the parking ramps and lots located along Michigan Street. A conclusion of the economic analysis is that in order to realize the market potential for new retail, office and residential facilities in downtown Duluth, it is critical

* Multiplier - A factor that shows what any dollar added to the economy, in wages or other expenditures, will be spent and respent several times over.

that the vehicular circulation be improved and traffic congestion reduced...no question implementation of I-35 will be the most positive force in allowing the downtown to resolve its problems and to begin a revitalization program."

Therefore, certain revitalization in the downtown area has already been started with the construction of I-35 in mind. These new developments are as follows:

- 1) The Lyric Block Development - (construction of the Normandy North Hotel complex with related small retail shops) \$11.84 million
- 2) The Lake Superior Plaza (a 5-story office building) \$6.2 million
- 3) Arena Concourse (public access concourse from the downtown area to the Arena-Auditorium) \$1.3 million

The above items (#1 and #2) would generate an additional tax base for Duluth of approximately \$18 million or \$1,207,000 additional real estate taxes.

Approximately 11 of the 71 business owners personally interviewed along the proposed I-35 corridor stated they will expand their present operations in the Duluth area. This will definitely improve the local tax base for Duluth with this future expansion.

Due to increased accessibility in the downtown area, other businesses located adjacent to the freeway will experience this positive impact. The exact dimensions of this impact are difficult in determining at this time; however, it should be noted as part of this impact section.

Effects on Resources

There will be negative impacts on resources due to construction of I-35. The following chart is based on U.S. Weighted Averages for Federal-Aid Primary Projects and is not intended to reflect the specific quantities for this project.

	Unit	No. of Units Per Million \$ of Const. Cost ⁷	Duluth Freeway Requirements (33.9 M Est. Cost) ⁸
Cement	Barrels	13,600	461,040
Bituminous material	Tons	856	29,018
Aggregates ⁹			
Purchased by contractors	Tons	42,000	1,423,800
Produced by contractors	Tons	30,000	1,017,000
Steel			
Structural	Tons	182	6,170
Reinforcing	Tons	230	7,797
Culvert Pipe	Tons	19	644
Miscellaneous joint devices, tubular piling, etc.	Tons	22	746
Concrete pipe			
(plain & reinforced)	Tons	343	11,628
Clay pipe and tile	Tons	12	407
Lumber (all lumber products)	Board Feet	49,000	1,661,100
Timber piling	Linear Feet	885	30,002
Petroleum products ¹⁰	Gallons	125,000	4,237,500
Explosives (exc. weights of caps & fuses)	Pounds	50,000	1,695,000
Fencing (all types)	Linear Feet	9,800	332,220
Guardrail (all types)	Linear Feet	4,700	159,330
Bridge railing (all types)	Linear Feet	800	27,120
Corrugated aluminum culvert	Pounds	190	6,441
Cast iron pipe	Tons	5	170
Signs (complete in place)	Dollars	9,600	325,440
Lighting (complete in place)	Dollars	8,700	294,930
Labor	Man-hours	68,000	2,305,200

⁷ U.S. Weighted Averages for Federal-Aid Primary Projects, 1975 U.S. Dept. of Transportation, Environmental Assessment Notebook Series (Book 3) p. 197.

⁸ Right-of-way, preliminary engineering & construction engineering costs excluded.

⁹ Incls. sand, gravel, clay gravel, slag, crushed stone, etc. used for all highway construction incl. bases, subbases, concrete surfaces, bituminous surfaces, structural concrete and drainage work.

¹⁰ Fuel and lubricants for equipment and trucks. Grease converted to gallons on basis of 8 pounds per gallon.

VI (d) A I R Q U A L I T Y

The air quality impact of I-35 was analyzed and reports prepared and submitted to the Minnesota Pollution Control Agency (MPCA), U.S. Environmental Protection Agency (EPA), the Wisconsin Department of Natural Resources and the City of Duluth Planning Office. This section contains a summary of the report and addresses the comments made by the reviewing agencies. Copies of the air quality report are available at the District 1 Headquarters of Mn/DOT.

The air quality report analyzed carbon monoxide (CO) concentrations at selected locations in the CBD and along the proposed I-35 route. CO has been identified as the primary transportation related pollutant in the Duluth-Superior Metropolitan area and in 1975 the MPCA indicated that CO may be a problem pollutant in the Duluth CBD.

The air quality studies follow the U.S. EPA Guidelines for Air Quality Maintenance Planning and Analysis, Volume 9 and EPA-AP-42 Second Addition Supplement 5.

The meteorological assumptions of the worst case, 1 meter per second wind speed, a wind angle of 10^0 for free flowing traffic or of variable directions for intersection analysis, an 8 hour persistence factor of 0.6, and a Pasquill Gifford stability class D as contained in Volume 9, were used in performing this analysis.

Receptor site locations were selected in areas of highest traffic demand, traffic congestion, or general public usage. MPCA monitoring data from the Superior Street (Torrey Building) monitor site were used to estimate the background concentrations for the one and eight hour analysis at receptors near the CBD. U.S. EPA Guidelines, Volume 9, suggest 1975 background values of 5ppm and 2ppm for one and eight hour periods respectively which were used at other receptor sites. (See Air Quality Map, page 93).

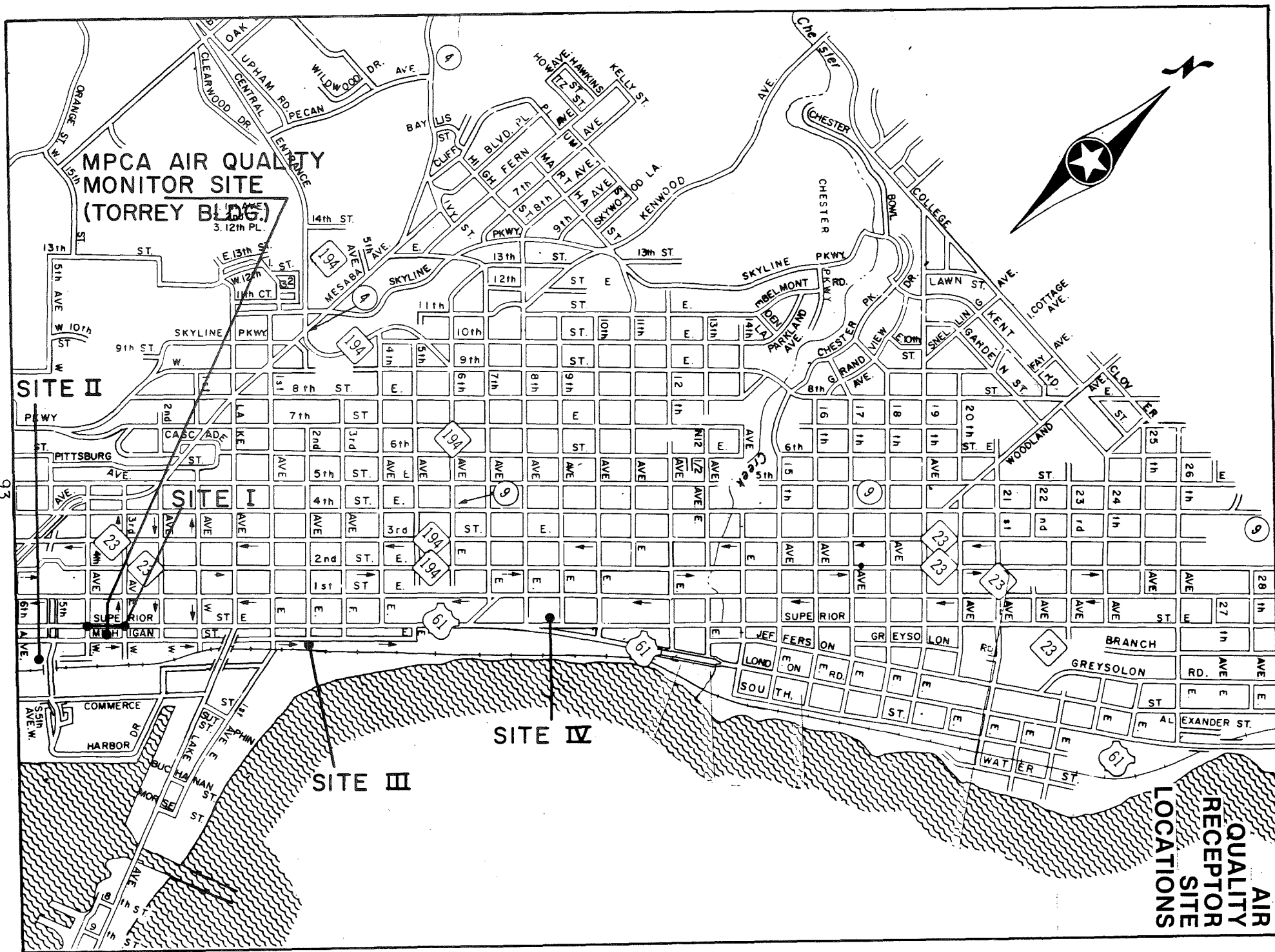
Total CO concentrations consist of computed values emanating from the roadways which directly affect the receptor site, plus concentrations from other roadways and various other sources (background). These values are listed in parts-per-million or ppm, as shown in the following chart.

<u>Receptor Sites</u>	<u>1985</u>	<u>1985</u>	<u>1990</u>	<u>1990</u>	<u>2000</u>	<u>2000</u>
	<u>No build</u>	<u>Build</u>	<u>No build</u>	<u>Build</u>	<u>No build</u>	<u>Build</u>
I. Sidewalk on south side of Superior St. between 3rd and 4th Avenues West						
1 hour	9.5	8.2	6.3	5.4	6.3	5.4
8 hour	5.2	4.2	3.4	3.2	3.4	3.2
II. Cultural Center at 5th Avenue West						
1 hour	6.0	6.9	4.0	5.3	4.0	5.4
8 hour	3.2	4.1	2.1	2.8	2.1	2.9
III. Michigan St. at 2nd Avenue East						
1 hour	6.7	7.5	4.4	5.1	4.4	5.2
8 hour	3.6	4.0	2.4	2.7	2.4	2.7
IV. Kitchi Gammi Club						
1 hour	4.9	3.5	3.2	2.3	3.5	2.4
8 hour	2.3	1.5	1.4	1.0	1.4	1.0

The Rose Garden area of Leif Erikson Park (12th to 14th Avenue East), would be influenced by the I-35 traffic funneled onto London Road. The signalized intersection at 12th Avenue East would be the area of greatest traffic congestion and, therefore, would result in the highest vehicle emissions. The predicted emissions at 12th Avenue East were analyzed because of general public usage. Results of the analysis in ppm are:

	<u>1985</u>		<u>1990</u>		<u>2000</u>		<u>Standards</u>	
	<u>No build</u>	<u>Build</u>	<u>No build</u>	<u>Build</u>	<u>No build</u>	<u>Build</u>	<u>Federal</u>	<u>State</u>
1 Hr.	6.5	9.7	4.4	6.5	4.7	7.2	35	30
8 Hr.	2.7	4.3	1.9	2.9	2.0	3.1	9	9

Vehicle emissions at the sidewalk adjacent to the Rose Garden (easterly of 12th Avenue East and along London Road), were analyzed using the maximum worst case CO concentrations. The analysis was averaged for the length of the sidewalk. The results predict 1 hour concentrations of 7.4 ppm for 1985 and 5.0 ppm for the year 2000. The 8 hour concentrations are predicted to be 2.6 ppm for 1985 and 1.7 ppm for 2000.



AIR
QUALITY
RECEPTOR
SITE
LOCATIONS

The Federal and State Ambient Air Quality Standards state that CO concentrations can not be exceeded more than once per year for the 1 and 8-hour averages respectively.

In comparing the build and no build alternatives, a reduction in the CBD CO concentrations is predicted with the build alternative simply because of reduced vehicle travel in the CBD. Reduced CO concentrations are also predicted in the vicinity of 8th Avenue East primarily because of the decrease of vehicles using Superior Street and London Road, the faster driving mode of freeway traffic, and relocation of the existing signalized intersection to 10th Avenue East.

All other sites are expected to receive higher vehicle emissions with the build alternative but will be significantly below State and Federal Air Quality Standards.

A system analysis¹¹ of the Duluth-Superior Metropolitan Area was prepared in December, 1976. This analysis presents gross emissions of carbon monoxide (CO), oxides of nitrogen (NOx) and hydrocarbons (HC) for various transportation alternates in Duluth. The following table presents emissions in Kgms. per Sq. Mi. per day and also shows the percent reduction of the pollutant from the base year of 1971, for each alternative. The Duluth CBD is a one square mile area. The Duluth non-CBD area is 300 square miles.

Gross Emissions in Kgms. per Sq. Mi. per Day
(% reduction from 1971)

Year of Analysis:	1971	2000	2000
Alternate:	Base Year	No-Build	Build to 10th Ave. E.
Duluth CBD			
CO	7,400 (-)	2,200 (70%)	1,450 (79%)
NOx	300 (-)	150 (50%)	200 (33%)
HC	900 (-)	200 (78%)	150 (83%)
Duluth non-CBD			
CO	480 (-)	124 (74%)	114 (76%)
NOx	32 (-)	19 (41%)	20 (37%)
HC	63 (-)	14 (78%)	14 (78%)

¹¹ Duluth-Superior Metropolitan Area Transportation and Planning Study, December, 1976, Technical Report, Forecasts and System Development, available at Mn/DOT, 1123 Mesaba Avenue, Duluth, Minnesota 55811.

The preceding table shows a substantial reduction in the three pollutants by the year 2000. A significant reduction will also occur upon completion of this project. In the year 2000, the CO and HC emissions will be lower (or the same) for the "Build" alternative than for the "No-Build" alternative. The NOx, however, will be higher for the "Build" alternative in 2000. CO and HC emissions decrease with increased average route speed while NOx emissions increase.

Summary

The air quality analysis demonstrates that the maximum CO concentrations for both alternatives will be within the Federal and Minnesota Ambient Air Quality Standards and the alternatives are consistent with the State Implementation Plan (SIP).

COMMENTS FROM OTHER AGENCIES

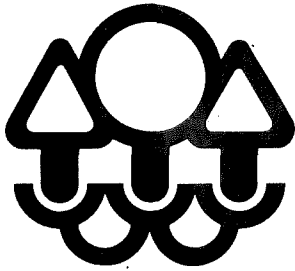
The MPCA has stated that this project is "not inconsistent" with the SIP. Their response to the air quality report addressed three areas of concern; the current high CO background levels in the vicinity of the project (CBD), Congress' present consideration of relaxing auto emission standards, and ventilation of a tunnel under Leif Erikson Park.

The following discussion has received MPCA concurrence.

Data obtained from the MPCA monitor site (Torrey Building) shows existing CBD background CO concentrations for 1 hour periods to be substantially below State and Federal Standards. The 8 hour standard of 9 ppm has been exceeded nine times since the monitoring system became operational in 1975. These reported violations have occurred during off peak traffic volume (10:00 PM to 6:00 AM) time periods. It is not known whether these violations are due to peak traffic influence, meteorology, or the 8-hour averaging procedure.

The full extent of anticipated auto emission standards changes cannot be evaluated until congressional action is implemented. Any necessary changes to listed CO predictions will be addressed in the required MPCA indirect source permit application.

The MPCA comment regarding tunnel ventilation is not applicable because a tunnel under Leif Erikson Park is not within the limits of this project. The proposed freeway construction terminates at 10th Avenue East and is at the same elevation as London Road. The expressed concern about the tunnel will be addressed in a subsequent EIS if additional improvements to the east are proposed.



RECEIVED

JUN 16 1976

COMMISSIONERS OFFICE
Minnesota Pollution Control Agency

June 11th, 1976.

Mr. Frank D. Marzitelli, Commissioner,
Minnesota Department of Highways,
State Highway Building,
St. Paul, Minnesota. 55155.

RE: 330
Minnesota Project I-35-6
State Project 6982-03 (I-35)
From Nesaba Avenue East
Duluth, St. Louis County, Minnesota

Dear Mr. Marzitelli:

The Division of Air Quality has reviewed the Air Quality Report on the above referred to project and finds that the project is not inconsistent with the State Implementation Plan's Transportation Control Section since that section only concerns the Minneapolis Central Business District.

A finding of consistency or inconsistency requires, I believe, a portion of the State Implementation Plan against which the proposed highway can be measured. Since there is no portion of the SIP relevant to Duluth's carbon monoxide problem, to say that the project is not inconsistent is, at best, an acknowledgment that there is no visible conflict between the project and the non-existent portion of the State Implementation Plan.

We have several reservations concerning this project; specifically, the Air Quality Report's tunnel analysis, currently high CO background levels in the vicinity of the project, and Congress' present considerations on relaxing auto emission standards.

Since the proposed tunnel under Leif Erickson Park is not planned to have a mechanical ventilation system, emergency preparedness actions should be investigated due to the possible occurrence of accidents and traffic congestion in the tunnel.

Frank D. Marzitelli.

-2-

June 11th, 1976.

The air quality analysis contained in the report predicts that National Ambient Air Quality Standards for Carbon Monoxide will be met at date of opening (even though current background concentrations are in violation). However, if Congress does grant auto-makers further extensions the possibility remains that the proposed development could jeopardize Carbon Monoxide standards at the date of opening.

Hopefully, these concerns will be addressed in the near future as we are anticipating continued cooperation from your department on this matter.

Sincerely,



Peter L. Gove
Executive Director

PLG/rmg

COPIES:

F.D. Marzitelli
E. Dean Carlson
F.C. Marshall
L.A. Korth
Paul G. Velz
J.T. Pawlak
C.P. Kachelmyer
E.H. Jonassen-J. Thorson
R.M. Canner
A.J. Berka
J.P. Halvorson
P.H. File ✓
File



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



SEP 1 1976

Mr. Paul G. Velz
Road Design Engineer
Department of Highways
State of Minnesota
St. Paul, Minnesota 55155

Dear Mr. Velz:

We have completed our review of the Air Quality Report for I-35 in Duluth, Minnesota as requested in your letter of May 6, 1976.

The Air Quality Report adequately addresses the comments which EPA has previously made on this project. We do not anticipate adverse air quality impacts to be realized due to the completion of this proposed transportation facility. Our conclusion is based on the results of the analysis which generally utilized U.S. EPA recommended procedures (Guidelines for Air Quality Maintenance Planning and Analysis, Volume 9; Evaluating Indirect Sources), in addition to the fact that the facility would not be completed until 1985. Thank you for the opportunity to review this Air Quality Report.

Sincerely yours,

Gary A. Williams
Chief,
Environmental Review Section

COPIES:

F.D. Marzitelli
F.C. Marshall
L.A. Korth
L.V. Pearson
J.T. Pawlak
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File



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

Anthony S. Earl
Secretary

BOX 450
MADISON, WISCONSIN 53701

May 19, 1976

IN REPLY REFER TO: 4520

Mr. Frank D. Marzitelli, Commissioner
State of Minnesota
Department of Highways
St. Paul, Minnesota 55155

RECEIVED

MAY 21 1976

COMMISSIONERS OFFICE

Dear Mr. Marzitelli:

Re: 330 - Minn. Proj. I-35-6 ()
State Proj. 6982-03-(I-35)
Air Quality Report From
Mesaba Avenue to 26th Avenue East
Duluth, St. Louis County, Minnesota

The Air Management Section for the State of Wisconsin has reviewed the "Air Quality Report" on the above project and finds the analysis method used is adequate and satisfactory.

Further, we note that the air quality projection computations for future years up to 2000 A.D. indicates an improvement in the quality of the air and hence we feel this project is consistent with Wisconsin's State Air Quality Implementation Plan.

Sincerely,
Bureau of Air & Solid Waste Management

Subroto Mitro, Engineer
Air Management Section

SM:bf

COPIES:

F.D. Marzitelli
F.C. Marshall
L.A. Korth
Paul G. Velz
John T. Pawlak
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P.H. File ✓ File

VI (e) NOISE IMPACTS

Noise impacts associated with this proposal were evaluated according to Federal-Aid Highway Program Manual 7-7-3 using the National Cooperative Highway Research Program (NCHRP) Report 117 and NCHRP Report 144 methods for computing noise impacts. Both reports have been computerized by the Minnesota Highway Department and are approved by the Federal Highway Administration.

Noise impacts are expressed as L_{10} -dBA, the sound level that is exceeded 10% of the time for the period under consideration, and measured in decibels (dB) that involves the human audibility of certain frequency levels (A), commonly referred to as dBA.

Permitted noise levels vary with the type of land use predominating within an area. Both the FHWA and the State of Minnesota have adopted regulations aimed at controlling noise pollution. The Minnesota Pollution Control Agency's (MPCA) Noise Standards (NPC-2) are:

LAND USE	DAY (0700-2200)		NIGHT (2200-0700)	
	L_{50}	L_{10}	L_{50}	L_{10}
NAC-1 Residential	60	65	50	55
NAC-2 Commercial	65	70	65	70
NAC-3 Industrial	75	80	75	80

The FHWA design noise levels are based on the following:

LAND USE CATEGORY	DESIGN NOISE LEVEL - L_{10}	DESCRIPTION OF LAND USE CATEGORY
A	60 dBA (exterior)	Tracts of land 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, play grounds, 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.

In the development of the noise study, ambient noise levels were monitored at various locations that could be affected by the proposed construction (exhibit page 101). Monitored noise levels on Michigan Street and Superior Street to 8th Avenue East range from 68 to 75 dBA. Future (1985) noise levels along these streets are expected to remain similar for both the build and no build alternatives because of the close proximity of receptors and noise characteristics from urban streets.

In performing this noise analysis, the proposed freeway route is divided into sections according to adjacent land uses.

Mesaba Avenue to 3rd Avenue East

This section is identified as an area where measures to reduce traffic noise impacts would produce little benefits to the human environment. Present and projected land uses are commercial and industrial that have limited outdoor use.

Gateway Towers (elderly housing complex) is located at 6th Avenue West between Michigan Streets and Superior Street. The building was constructed in the early 1970's having a cast in place concrete exterior and double glazed windows. The building presently receives traffic noise from the surrounding street system and from the railroad marshalling yard on the opposite side of Michigan Street. The proposed freeway will utilize the railroad marshalling yard. The existing noise level on Michigan Street and 6th Avenue West was recorded at 70 dBA during peak hour traffic conditions.

The projected (2000) total noise impact to the Michigan Street side of the building is 70.5 dBA from which 69 dBA results from Michigan Street traffic and 65 dBA will emanate from the proposed freeway. The projected Superior Street noise impact to the building (2000) is 75 dBA for the no-build and 69 dBA for the build conditions. (Peak Hour)

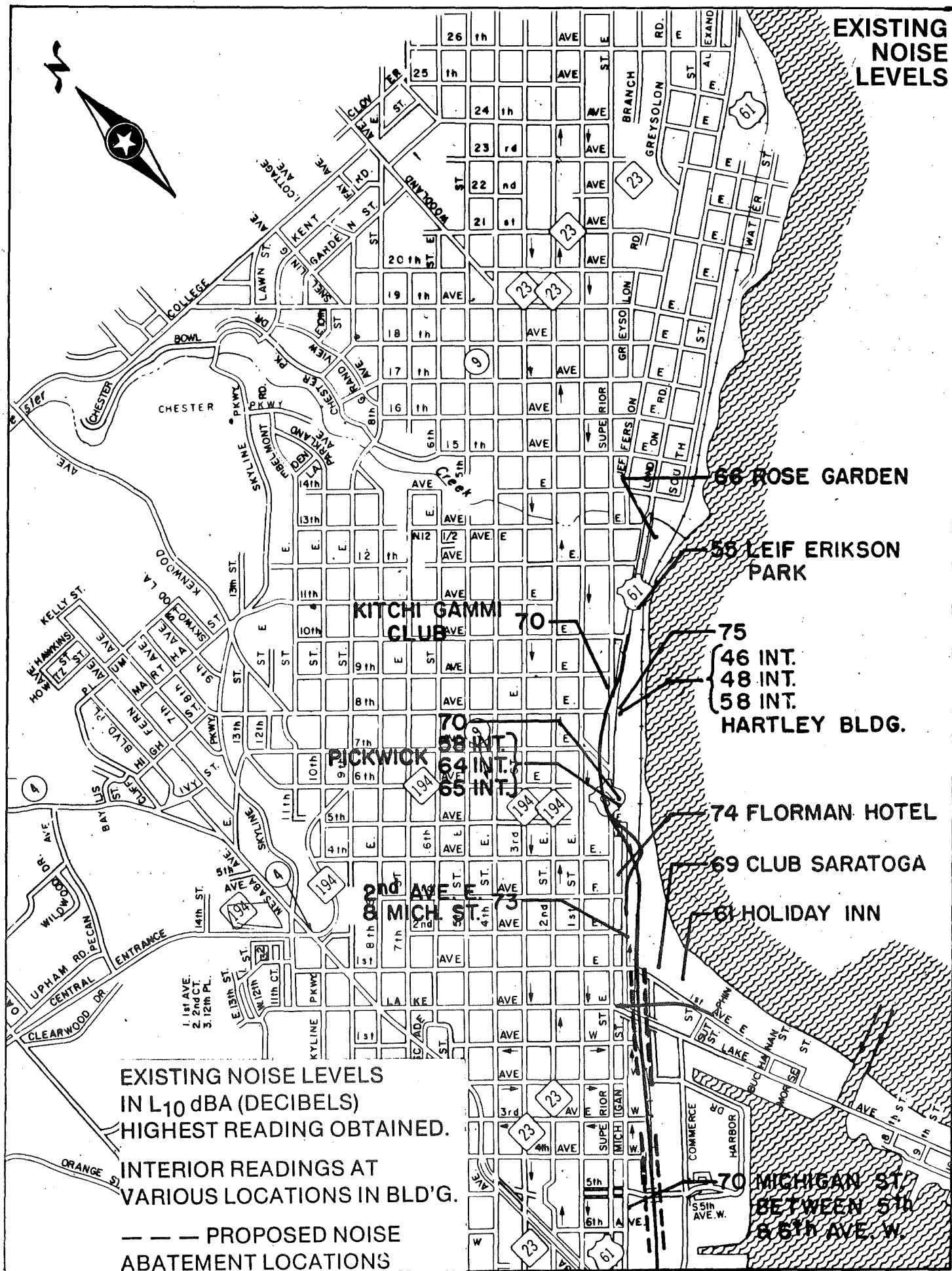
Since several of the buildings double glazed windows are capable of being opened and the building does not have a central air conditioning system, interior noise levels will exceed both the State noise standards and the Federal Design Noise Levels (FDNL). The predicted interior noise levels are 35 dBA with closed window and approximately 60 dBA with open window for both the build-no-build conditions. Mn/DOT will request an exception to the FDNL as there is presently no acceptable method to reduce the interior noise for the open window condition.

The Cultural Center (Railroad Museum) is located at 4th Avenue West and Michigan Street. Existing noise levels to the museum resulting from railroad switching operations range from 73 to 79 dBA. The construction of the freeway will eliminate switching operations adjacent to this structure.

The proposed southbound frontage road alignment passes approximately 25' from the southeast corner of the Museum. This site is also traffic noise impacted from the 5th Avenue West - I-35 interchange. Design features at the interchange include the construction of noise barriers under ramp bridges for noise control from mainline traffic. Using this criteria, the predicted noise impact (1985) to the exterior of the building is 71 dBA of which 69 dBA originates from the frontage road. Noise reduction due to building construction was measured at 26 dBA making the predicted interior noise level 45 dBA. This is 10 dBA below the FDNL of 55 dBA. The projected exterior noise impact will exceed the state noise level standards for peak hour traffic volume periods.

The Club Saratoga, South 1st Avenue East, will benefit from the noise barrier construction under the Lake Avenue ramp bridges and also from the wave protection wall below 2nd Avenue East. Projected noise level (1985) to the building is 70 dBA. With the multiuse concept this building will be demolished.

The Holiday Inn is located at 250 South 1st Avenue East. The projected noise level (1985) to the motel is 80 dBA, a significant increase over the existing 61 dBA. The increase is due to the realignment of Lake Avenue which will merge with 1st Avenue East adjacent to the motel. The area between 1st Avenue East and the motel is the motel's parking lots and no outdoor activities are associated with this facility. These noise levels will exceed state noise standards to the building and also to the motel's parking areas. Noise attenuation resulting



from the building masonry and double glazed window construction is 35 dBA. Therefore, interior noise levels during peak hour traffic condition is predicted to be 45 dBA and will not exceed the interior FDNL of 55 dBA.

The Florman Hotel occupies the top (second) floor of the building located at 310 East Superior Street. Eight apartment units are located at the rear of the building facing Michigan Street. The building is a brick structure and all windows facing Michigan Street have permanently installed storm windows. Noise reduction factors contained in FHPM 7-7-3 allow for a 35 dBA noise reduction for this type of building construction. Since the predicted noise level (1985) to the building is 76 dBA during peak traffic volume periods, interior noise levels for the closed window condition will be 41 dBA. However, the hotel manager has stated that room temperature is influenced by heating requirements of commercial business on the ground floor and that tenants often open both interior and storm windows for ventilation and cooling. The open window condition will result in interior noise levels predicted to be up to 66 dBA during peak hour traffic periods. Mn/DOT will request an exception to the Federal Design Noise Level at the hotel as there is presently no acceptable method to reduce the interior noise impact for the open window condition. The projected noise impact to this building will exceed state noise standards for peak hour traffic volume time periods.

3rd Avenue East to 10th Avenue East

In this area the proposed freeway alignment enters a depressed section that passes under Superior Street at 5th Avenue East, then parallels and recrosses under Superior Street at 8th Avenue East, and continues easterly to junction with London Road at 10th Avenue East. Land use adjacent to this segment is mainly commercial with the Hartley Building and the Kitchi Gammi Club having second story apartments. Freeway traffic noise to all buildings will be greatly reduced because of the I-35 depressed section.

The primary source of noise to these buildings is Superior Street traffic with existing noise levels ranging from 70 dBA to 74 dBA during peak hours. The projected (1985) noise levels are 70 dBA (60 dBA from Superior and 62 dBA from I-35). A solid concrete wall is proposed replacing the safety fence located on top of the retaining walls between the Superior Street bridge structures at 5th and 8th Avenues East. The walls will give added noise protection against the reflective noise from the bridge structures and both retaining walls.

10th Avenue East to 14th Avenue East

Existing land use along the northwesterly side of London Road consists of six commercial buildings; the Plaza Shopping Center, the National Guard Armory, one church, and four houses or apartment buildings.

Land use bordering the southeasterly side of London Road are the Leif Erikson Park, the Rose Garden portion of the park, the Duluth Curling Club, and one service station.

In performing the noise analysis for this area, the following were considered:

- existing conditions
- no-build alternative
- build alternative

The chart below shows the present and predicted (1985) noise levels for each alternative at various locations in dBA.

LOCATION	EXISTING	NO-BUILD	MESABA TO 10TH	FDNL	STATE	
Traffic Volumes on London Road (ADT)	12,250	17,000	28,250		DAY	NIGHT
Sidewalks between 10th Avenue East & 14th Avenue East	78	80	85		80	80
Closest residential Building on N.W. side of London Road	68	73	78	70	65	55
Leif Erikson Park Interior Entrances	58	63	65	70	70	70
	-	72	74	70	70	70
Rose Garden Interior	68	70	75	70	70	70
Curling Club	68	70	75	70	65	55
Service Station	68	70	75		70	70

Measures to Mitigate Harm

The freeway location and design incorporates several noise mitigation measures. These include the less sensitive land uses adjacent to the CBD, the wave protection wall at 2nd Avenue East, the depressed section between 5th and 8th Avenues East, and the bridges over the freeway at 5th and 8th Avenues East. In addition, partial noise control measures recommended for inclusion in the freeway design are the walled ramps at the 5th Avenue West and Lake Avenue interchanges, and the solid concrete walls between the Superior Street bridges at 5th and 8th Avenues East. As there appears to be no feasible method in reducing interior noise in the Florman Hotel, an exception to PDNL is being requested at this location.

Between 10th and 14th Avenues East, there is no totally acceptable solution to the noise problems in this area. There is no feasible method other than by acquisition, to reduce noise levels to the residence on the north side of London Road. Both entrances and their knoll areas within Leif Erikson Park ($\frac{3}{4}$ acres) are predicted to receive traffic noise up to 74 dBA during peak hour conditions. A wall would reduce the noise impact at the Park entrances and the Rose Garden interior but would both block the view of Lake Superior and the Rose Garden from London Road, and increase noise levels on the opposite side of the street because of reflected noise.

Coordination

Coordination with local officials has been an integral part of the project's decision making process (see Coordination Section, pages 161 thru 163). The MN/DOT has provided both the City of Duluth and the Mayor's Citizen Advisory Committee technical assistance pertaining to this project's environmental concerns including noise impacts. The technical assistance included furnishing these agencies with copies of "The Audible Landscape," a document advising local officials when dealing with noise sensitive land uses. Both agencies were also furnished preliminary copies of the FHWA Final Environmental Impact Statement, including the project noise analysis, for review and comment.

VI (f) WATER QUALITY

BACKGROUND

The Duluth storm water drainage area is divided into two contrasting types of surface terrain. The upland part is gently rolling to flat land with meandering streams and small swamp areas which retard stream flow. The stream sections near Lake Superior have extremely steep slopes which rise from the lakeshore 600 to 700 feet above the lake level to form a bluff parallel to and between $\frac{1}{2}$ mile to $1\frac{1}{2}$ miles westerly from the shore. The upland portion above the bluff is not highly urbanized and much of it is open grassland, brushland or timber. The steep hillside below the bluff and in the study area is almost totally urbanized. Creek channel profiles with slopes of 10% or more and land surface profiles of up to 30% are common below the bluff. The stream channels are well defined and occupy deep stream carved gorges in the bedrock below the bluff, some of which run all the way to the lake. In the study area, the steep slope and urban development below the bluff contribute to very rapid storm water run off.

The rapid run off resulting from spring snow melt or from heavy or prolonged rainfall produces profound effects on the biota of streams. The greatly increased volume and discharge rate of water tend to scour the creek channel and its banks, resulting in increased erosion accompanied by increased turbidity and nutrient load. The fluctuating water level has had adverse effects on vertebrate populations, especially fish, stream invertebrates, algal communities, and rooted plants. Animal populations in the creek valleys are limited in both size and variety as a result of the urban development.¹²

Three creeks (Clarkhouse, Brewery and Grey) will be crossed with the extension of the freeway. (See creek location layout page 109).

Because of the freeway alignment closely parallels the lakeshore, no more than 200' of each creek may carry the proposed freeway storm water before being discharged into the lake. Water quality upstream of this project will not be affected.

¹² Duluth Stormwater Flood Control Project. Revised Draft Environmental Statement, March, 1976, availability of detailed information is on file at Mn/DOT, 1123 Mesaba Avenue, Duluth, Minnesota 55811.

Clarkhouse Creek

The headwaters of this creek are located at the top of the bluff near Central High School. From this point the creek flows through an open channel and a series of culverts for about half of its total length. Then it continues in underground storm sewers for almost one mile flowing along 1st Avenue West before discharging into the St. Louis Bay, just east of the Arena-Auditorium. The Clarkhouse basin covers one square mile of which over 50% is developed. The lower half is nearly developed consisting of both residential and commercial uses. Peak discharges at the mouth in cubic feet per second (cfs) are:

- 10 year frequency storms 470
- 25 year frequency storms 550
- 100 year frequency storms 670

Brewery Creek

This creek traverses the hillside area in the vicinity of 5th to 7th Avenue East through a series of stone arches, concrete box culverts, and pipes before discharging into Lake Superior near 8th Avenue East. The drainage basin covers an area of about 1.7 square miles of substantially commercial and residential development. Peak discharges at the mouth in cubic feet per second (cfs) are:

- 10 year frequency storms 480
- 25 year frequency storms 570
- 100 year frequency storms 730

Grwy Creek

Grey Creek originates near the top of the bluff and traverses the hillside through a series of open channel sections, culverts and storm sewers before discharging into Lake Superior at 9th Avenue East. The drainage basin covers an area of about 0.6 square miles, 60% of which is residentially and commercially developed. Peak discharges at the mouth in cubic feet per second (cfs) are:

- 10 year frequency storms 330
- 25 year frequency storms 380
- 100 year frequency storms 460

Existing Water Quality

The water quality of these creeks is influenced by storm water run off of the City street system, public usage, residual garbage disposal areas, and the City's antiquated sanitary sewer system. Visual inspection and water quality sampling during the past 3 years indicates the presence of high coliform counts and of raw sewage in all of the creeks, although

improvements made in the Clarkhouse Creek system during 1975 and 1976 has lowered pollution levels substantially.

The creeks were sampled by the Western Lake Superior Sanitary District (WLSSD) for the five parameters that best indicate the presence of sewage. For further information refer to the Supplemental Water Quality Analysis, Mn/DOT, 1123 Mesaba Avenue, Duluth, Minnesota 55811.

Modifications to Inplace Systems

The existing drainage conduit systems of Brewery and Grey Creeks will be affected by this proposal as both systems are in the freeway's deep cut section between 4th and 10th Avenues East.

Required modifications include the lowering of the systems to pass under the proposed freeway and possible realignment changes to reduce construction impacts to land uses between the freeway and Lake Superior. Modifications of these systems capacities may be necessary to carry storm water run off from the freeway.

The existing Clarkhouse Creek conduit system will not be disturbed except for possible modifications of the system to receive freeway storm water run off.

The Corps of Engineers has proposed improvements to several of Duluth's storm water systems¹³ including the creeks affected by the freeway extension. The freeway storm water run off design will be coordinated with affected improvements proposed in the Corps of Engineers plan.

Potential Impacts

The potential effects of this project on the existing storm water systems, Lake Superior, and mitigation measures are as follows:

Construction Erosion and Sedimentation - The major areas of concern regarding water quality during construction are the deep cut sections between 4th and 8th Avenues East and the impact on Lake Superior because of the close proximity of the project to the lake. These types of pollution can be mitigated by judicious use of temporary erosion control measures such as the use of berms, dikes, dams, sediment basins, fiber mating, stand pipes and other control devices and methods.

¹³ IBID - page 107.

Some control measures such as haul routes and clean-up procedures resulting from the transportation of the projects excess earth material to designated disposal sites will be governed in the construction contract "Special Provisions." Other identifiable control measures will be incorporated in the construction plans, while others will require identification and correction at the project site. The "Standard Specification for Highway Construction" also specifies measures that must be taken to mitigate construction effects.

Finished Roadway Impacts - Highway surface contaminants are deposited from many sources within the surrounding area. Pollutants from industrial operations, land use activities, fallout of air pollutants, roadway usage, roadway maintenance, and other sources have been identified in roadway storm water run off. Less than 5% of these roadway pollutants originate from motor vehicles, however, they are among the most important because of their potential toxicity. These pollutants are grease and petroleum products, lead, zinc, copper, nickel, chromium and asbestos.

Deposition rates¹⁴ were used to predict the freeways maximum sediment accumulations and the pollutant concentrations contained in the storm water run off. The study indicates that contaminants accumulate on the roadway at a nonuniform rate, building up to a maximum value. This maximum accumulation remains until flushed from the roadway (see page 112 column A).

Other EPA studies¹⁵ indicate that by the next rainfall or snow-melt event a $\frac{1}{2}$ inch total rainfall will remove 90% of all the accumulated sediments on the roadway surface. Maximum pollutant concentrations of the freeway run off, based on computations using a $\frac{1}{2}$ inch rainfall are listed on page 112 column B.

¹⁴ Contributions of Urban Roadway Usage to Water Pollution (EPA-600/2-75-004) March, 1975.

¹⁵ "Loading Functions for Assessment of Water Pollution From Nonpoint Sources" (EPA-600/2-76-151) May, 1976.

Highway Related Pollutants

<u>Parameter</u>	A.	B.
	Maximum Load- ing Factors <u>Pounds/Mile</u>	Concentration of Vehicle Pollutants <u>Milligrams/Liter</u>
Dry Weight	238	-----
Volume	63.3 quarts/mile	-----
Volatile Solids	12.1	6.61
BOD	0.543	-----
COD	12.8	6.99
Grease	1.52	-----
Total Phosphate-P	0.14	0.08
Nitrate-N	0.02	0.01
Nitrite-N	0.002	0.001
Kjeldahl-N	0.04	0.02
Chloride*	0.22	0.12
Petroleum	0.85	-----
Paraffins-N	0.60	-----
Asbestos	3.86×10^{10} fib/mile	465,000 fib/lit
Rubber	1.24	-----
Lead	2.79	1.52
Chromium	0.019	0.01
Copper	0.03	0.02
Nickel	0.04	.02
Zinc	0.35	-----
Magnetic Fraction	12.6	6.88

* From sources other than chemical deicing applications (see text).

Sample calculation:

Volatile Solids Concentration =

$$12.1 \frac{\text{lbs.}}{\text{mi.}} \times 2.5 \text{ mi.} \times 0.9$$

$$\times (36.40)^{**} = 6.61$$

$$0.5 \text{ in. rainfall} \times 120 \text{ ft.} \times 2.5 \text{ mi.}$$

** Conversion Factor

In response to comments received on the FHWA draft EIS, Mn/DOT and the University of Minnesota, Duluth conducted an environmental assessment¹⁶ of the impacts of deicing chemicals on the natural waters in the extension area. This report concludes that average deicing chemical concentration contained in run off from the freeway extension is expected to be 1,750 milligrams per liter during the winter period. Concentrations after the winter run off period will be minimal. The highway run off when mixed with deicing chemical concentrations will be well below levels harmful to fish and aquatic organisms. Highway deicing chemicals entering Lake Superior are expected to have minimal affects on the lake due to their rapid mixing by wave action and currents with the lake water.

Another potential source of highway stormwater runoff contamination is from petroleum and chemical spillage. The current policies of the Minnesota Highway Patrol and the City of Duluth is to flush potential hazardous roadway spillage into the existing stormwater system and if necessary apply sand to slippery areas. To date this procedure has not produced any known violations to St. Louis Bay or Lake Superior waters as reported by the U.S. Coast Guard in Duluth. However, the freeway's spillage potential because of the extensions close proximity to Lake Superior and traffic congestion resulting from the CBD interchange system is of concern.

Drainage Alternatives

Three primary methods of freeway stormwater drainage systems or a combination thereof, are being evaluated. The selection of the hydraulic design will determine the potential impact of a catastrophic chemical spill to the existing water systems.

- 1) Normally the drainage system constructed with highway projects perpetuates the existing drainage patterns. This is the first drainage method considered for this project. Highway run off will be channeled to the existing conduits or creek via storm sewer or open ditch in such a manner that the drainage areas shown on creek maps will not be changed. Highway contaminants will be transported to the respective drainage systems and ultimately Lake Superior for mixing and dilution.

¹⁶ "Estimate of Chloride Concentration in I-35 Extension Runoff and Effect on Natural Water Systems of the Extension Area" prepared by the Hydraulics Unit, Mn/DOT.

In the event that a major hazardous material spill occurs on the freeway system, the transporter has the responsibility for containment and clean up. The close proximity of the freeway to Lake Superior reduces the chance for containment of spills prior to entering the lake. A cooperative formed by local industry has various types of equipment available for containment and recovery of petroleum spills. The U.S. Coast Guard has a limited facility for petroleum clean up in Duluth.

- 2) The second method is to channel the storm water to central locations for treatment before being discharged into the lake. Treatment of the highway run off would consist of sediment traps for collection of the roadway sediments and installing skimmers to collect highway related petroleum products and petroleum spillage. Most of the other highway related contaminants can only be removed from the run off with great difficulty and at great expense. The low concentrations of these contaminants would not adversely affect Lake Superior fish or aquatic organisms and their mixing with the lake water is expected to be rapid.
- 3) The third method being evaluated consists of collecting the initial $\frac{1}{2}$ inch of rainfall run off, separating the roadway sediments, petroleum products and highway spills at the collection points, then disposing the remaining run off into Duluth's sanitary sewage system. With this method approximately 90% of the freeway contaminants would be removed or processed through the Western Lake Superior Sanitary District (WLSSD) treatment plant before discharge into St. Louis Bay.

WLSSD officials have provided the following information and limitations to this concept:

- 1) Contaminants in concentrations contained in the freeway run off would not adversely affect the treatment plant operations.
- 2) Some of the contaminants would not be digested in the treatment plant and would be discharged into St. Louis Bay.
- 3) Large amounts of petroleum products from highway spills which are not removed before entering the sewage system could adversely affect or shut down the treatment plant.
- 4) Certain chemical spills such as pesticides entering the sewage system would disrupt the treatment operations causing plant shut down for extended periods.
- 5) Cost of highway run off treatment would be nominal.

VI (g) WETLANDS AND COASTAL ZONES IMPACTS

The term wetlands as used in this report refers to lowlands covered with shallow and sometimes temporary or intermittent waters. The term coastal zone refers to the coastal waters and the adjacent shoreline of Lake Superior.

Coastal Zone Management Plan

The Minnesota Coastal Zone Management (CZM) plan, now being developed, will be a comprehensive land management plan to ensure land uses which are compatible with the Lake Superior Coastal zone environment. The Lake Superior shoreline and harbor areas in the City of Duluth will be included within the Coastal Zone boundary. The Minnesota Department of Transportation (Mn/DOT), Division of Highways is cooperating in the development of the CZM plan, which is still in the data collection and analysis phase. The CZM plan time table calls for final adoption of the plan in December, 1977.

The Minnesota State Planning Agency (SPA), and the Arrowhead Regional Development Commission (ARDC), are the designated lead agencies for the development of the CZM plan. The ARDC is also the A-95 clearinghouse.

Discussions with ARDC personnel indicate that their review included CZM plan considerations. They have determined that there are no potential conflicts between this project and the CZM plan.

Wetlands

There is no involvement with wetlands (marshes, swamps) in the project study area.

VI (h) S T R E A M M O D I F I C A T I O N O R I M P O U N D M E N T

Grey, Brewery, and Clarkhouse Creeks flow through the highway corridor. These creeks are completely enclosed in conduit (concrete pipe, metal pipes, brick facia storm conduit) within the proposed highway right-of-way. Construction of the freeway will not change this conduit system although the pipes may be improved within the highway right-of-way.

In the area of the trench section between 4th Avenue East and 8th Avenue East the flow line elevation of Grey and Brewery Creeks may have to be lowered and the alignment of the conduit system improved. Location of the creeks can be seen on page 109.

Coordination with the Minnesota Department of Natural Resources, U.S. Corps of Engineers, and other governmental agencies is an "on-going" process and will continue throughout the development of this project.

VI (i) FLOOD HAZARD EVALUATION

Flooding caused by the heavy rains of 20 August and 20 September 1972 in the Duluth, Minnesota area resulted in estimated damages of \$6.1 and \$3.8 million respectively. The 1972 floods were only two of 40 recorded floods in the area which caused public and private damages during the past 74 years. The floods were directly related to excessive rainfall occurring over short periods of time. Most of the damage was caused by water rushing down the steep hills at high velocity, undermining and eroding streets, curbs, walks, foundations, and buildings. A substantial portion of the damages was attributed to stream overflow or backup in storm-water conduits and tunnels which pass under the heavily developed portions of Duluth.¹⁷

The extensive damage which occurred throughout Duluth in 1972 and the obvious inadequacy of the stormwater removal facilities prompted city officials to request that the U.S. Army Corps of Engineers undertake a study of the flood problem.

This study constitutes an evaluation of structural and nonstructural alternatives to alleviate flood damages. The study was carried out in close cooperation with city officials and several alternatives were developed utilizing their recommendations.

The Corps of Engineers has submitted copies of their study reports and Draft Environmental Impact Statement (DEIS) on Duluth Stormwater Flooding to the Hydraulics Section of the Mn/DOT. The Corps of Engineers DEIS has recommended improvements to two drainage facilities in the freeway area:

- Brewery Creek - from Lake Superior to 10th Street
- Clarkhouse Creek - from mouth to Mesaba Avenue

Construction of freeway drainage facilities by the Mn/DOT will be coordinated with the Corps of Engineers and their Final Environmental Impact Statement of the Duluth Stormwater Flood Control Project.

Interstate freeway storm sewers are designed for a 10 year frequency storm except that the capacity of outfall sewers from low points is designed for a 50 year frequency storm to prevent ponding of water on roadways.

¹⁷ Duluth Area Storm Water Study, Final Feasibility Report (Syllabus), Department of the Army-Corps of Engineers.

Drainage culverts will be designed for a 50 year frequency storm. Culverts on streams designated as public waters will be analyzed for a 100 year frequency storm. This analysis is done to meet Minnesota Department of Natural Resources requirements as specified in Chapter Seven - Statewide Standards and Criteria for Management of Flood Plain Areas of Minnesota - Minn. Reg. NR 85 through 93.

The above evaluation complies with the requirements of the Federal-Aid Highway Program Manual (FHPM) 6-7-3-2, Hydraulic Design of Highway Encroachments on Flood Plains.

A review of the Floodprone Areas map prepared by the U.S. Geologic Survey and the City of Duluth indicates that this project is in an area identified as floodprone. The previously mentioned design evaluation will consider the 100 year frequency storm in floodprone areas. (Flood-prone Area Map - Flood Hazard Map, available from the City of Duluth, Department of Planning and Development).

VI (j) C O N S T R U C T I O N I M P A C T S

The construction of a highway project of this size often results in a short-term decrease in the environmental quality of the project area. The following discussion will identify the probable construction impacts and discuss construction methods that can be used to mitigate harm.

Changing Traffic Patterns and Access

During the construction of this project, it will be necessary to close or periodically interrupt traffic flow on several streets. This will be done both to facilitate completing the project and to insure the safety of the traveling public.

The bridge construction in the vicinity of Mesaba Avenue may cause short duration traffic delays. These delays would be necessary if construction equipment has to be moved across the road or if overhead work creates a hazardous situation, and will be scheduled only in off-peak hour periods. If it is anticipated that the delay could be for any appreciable length of time, it may be necessary to specify that the work causing such a delay be accomplished at night.

When the 5th Avenue West bridge is modified, traffic will be restricted to a minimum of two-lanes. Pedestrians will be accommodated at all times. During Arena-Auditorium events, it may be necessary to use two-lanes of the bridge for traffic going towards the Arena immediately prior to an event with the procedure reversed at the events completion. The skywalk at 3rd Avenue West, which will be completed prior to the freeway, will provide additional pedestrian access to the Arena.

Access to Canal Park, Park Point, Commerce Street, and the commercial area south of the freeway will be provided at all times during construction of the Lake Avenue bridge. This can be accomplished by building the new Lake Avenue bridge prior to closing South 1st Avenue East. This will cause a short detour for Lake Avenue traffic.

It will be necessary to detour T.H. 61 traffic during the construction of the depressed section between 4th Avenue East and 8th Avenue East. T.H. 61 traffic will be detoured via T.H. 23 (2nd Street and 3rd Street) between Mesaba Avenue and 12th and 14th Avenues East. Local traffic on Superior Street will utilize available adjacent streets and avenues. Vehicular access to the properties on the south side of Superior Street between 5th Avenue East and 8th Avenue East will be maintained at all times.

London Road will be closed to through traffic between 8th and 12th Avenues East during construction of the connection to London Road. The properties on the upper side of London Road between 10th and 12th Avenues East will have vehicular access to Superior Street and 12th Avenue East.

Erosion

The possibility of erosion and the subsequent sedimentation of streams and lakes exists anytime the soil is exposed by removing the vegetation. Erosion is a potential problem on virtually all new highway construction projects and special construction methods have been developed to control it.

Work such as construction of drainage facilities, seeding, and sodding all contribute to erosion control and will be done concurrently with earth-work operations or as soon after as possible. Erosion control during construction will be made a part of the design and specifications. The contractor will be required to submit and obtain approval of an erosion control plan. Special consideration concerning erosion control will be given Clark House Creek, Greys Creek, and Brewery Creek. Temporary erosion control will consist of, but not be limited to, bituminous berms, curb and gutter, catch basins, storm sewers, sediment basins, hay bales, rip-rap, culverts, and other erosion controls.

Dust

The dust generated by the construction of I-35 is a sporadic short-term impact not anticipated to be a significant problem. The types of soil present in the construction area such as clay and beach gravel do not produce large amounts of dust. In addition, studies have shown that dust tends to settle out of the air within the construction area. Dust control measures such as water and calcium chloride will be provided for in the contract. All temporary road connections and detours will have paved surfaces.

Utility Involvement

Construction of this project will require removal or relocation of public utilities such as storm and sanitary sewers, gas and water mains, and telephone and electric lines. Studies will be made jointly with the various utility agencies to determine which utilities are involved and require relocation. This work will be accomplished in accordance with all State and City codes and environmental regulations. Relocation will be designed in the construction plans or performed separately by the utility company (by agreement) to provide a minimal interruption of service during construction.

Waste Disposal Areas

Basically there will be two types of materials that must be disposed of: natural materials (various types of soil and rock), and rubble from demolished buildings. The excess natural materials, probably over 250,000 cubic yards, are a valuable resource in that they can be used for fill material at a different location. It appears the majority of this material can be used in the construction of the earth mounds associated with the landscaping in the CBD. The rubble from demolished buildings will be disposed of at a location that will not harm the environment such as a sanitary land fill.

When specific waste disposal sites are found, consideration will be given to alternative routes over which the material will be hauled. The route selected will be one on which the increased truck traffic will not cause severe problems. Special provisions such as water tight boxes on trucks hauling wet material will be used to avoid spillage along the haul road.

Construction Noise

The changes in traffic patterns will increase traffic generated noise along the designated detour routes. This noise impact will vary due to several factors which include construction procedures, adjacent land use, duration and/or amount of traffic restriction.

The noise impacts adjacent to the CBD due to traffic restrictions at 5th Avenue West and Lake Avenue will be minimal because of the areas less noise sensitive land use.

The routing of T.H. 61 traffic during the construction of the depressed section between 4th and 8th Avenues East will result in a general increase in noise levels along the detour route (2nd and 3rd Streets), and also on several additional city streets. The other city streets are expected to carry overflow traffic from 2nd and 3rd because the added traffic from T.H. 61 will cause capacity problems at various sections on the detour route during peak traffic volume periods. The increase in noise levels during peak traffic hours will range from 0 to 3 dBA depending on location. Noise levels during the higher volume non-peak time periods will be greater and of longer duration than present. The detouring around the CBD is expected to last approximately 2 years.

The other major source of noise in the project corridor will be generated by construction activities. While all construction operations produce noise, pile driving, rock drilling, and blasting are expected to cause the most significant impact.

Pile driving operations will be extensive in the CBD especially in the areas of bridge construction. In areas that are less noise sensitive (railroad yards) the noise impact is not a significant factor. It will probably be necessary to limit pile driving operations to daytime hours in the vicinity of Gateway Towers.

Preliminary investigations indicate that pile driving may also be required for the Superior Street bridge structures. If pile driving is required at these locations, the noise impact to adjacent residential land uses will be minimized by the anticipated short pile lengths and reduced pile driving times. Shorter pile lengths provide the opportunity to effectively shield adjacent property from pile driving noise by the use of temporary noise barriers or other acceptable means. Pile driving operations will be restricted to daytime hours in the residential areas.

Extensive rock drilling and blasting will be required in the depressed section between 4th and 8th Avenues East. Due to the noise generated by these operations, the contractor will be required to erect noise barriers which will be effective in reducing the impact to adjacent property. The contractor will be required to comply with the Duluth blasting permit requirements issued through the Duluth Fire Department.

Present Mn/DOT specifications require that any piece of equipment used on a project be adequately maintained including mufflers and other noise abatement devices. Construction machinery suppliers have indicated that the noise generated by the majority of the construction equipment has been reduced to 85 dBA or lower. The contractor will be required to use this type of equipment in noise sensitive areas.

VI (k) THE IMPACT ON PROPERTIES AND SITES OF
HISTORIC AND CULTURAL SIGNIFICANCE

This discussion outlines the impact on properties protected by Section 106 of the National Historic Preservation Act of 1966 and the Procedures of the National Advisory Council on Historic Preservation (36 CFR 800).

Section 106 property includes sites of historic, architectural, cultural, or archaeological significance that are either on or eligible for inclusion in the National Register of Historic Places. The Federal Highway Administration Division Administrator, in consultation with the State Historic Preservation Officer, has identified the historic properties located within the area of the proposals potential environmental impact, and has applied the National Advisory Council on Historic Preservations "Criteria of Effect" and "Criteria of Adverse Effect." They have determined that Branch's Hall (eligible for National Register) will be adversely affected by the proposal.

They have determined that the following six properties will not be adversely affected by the proposal:

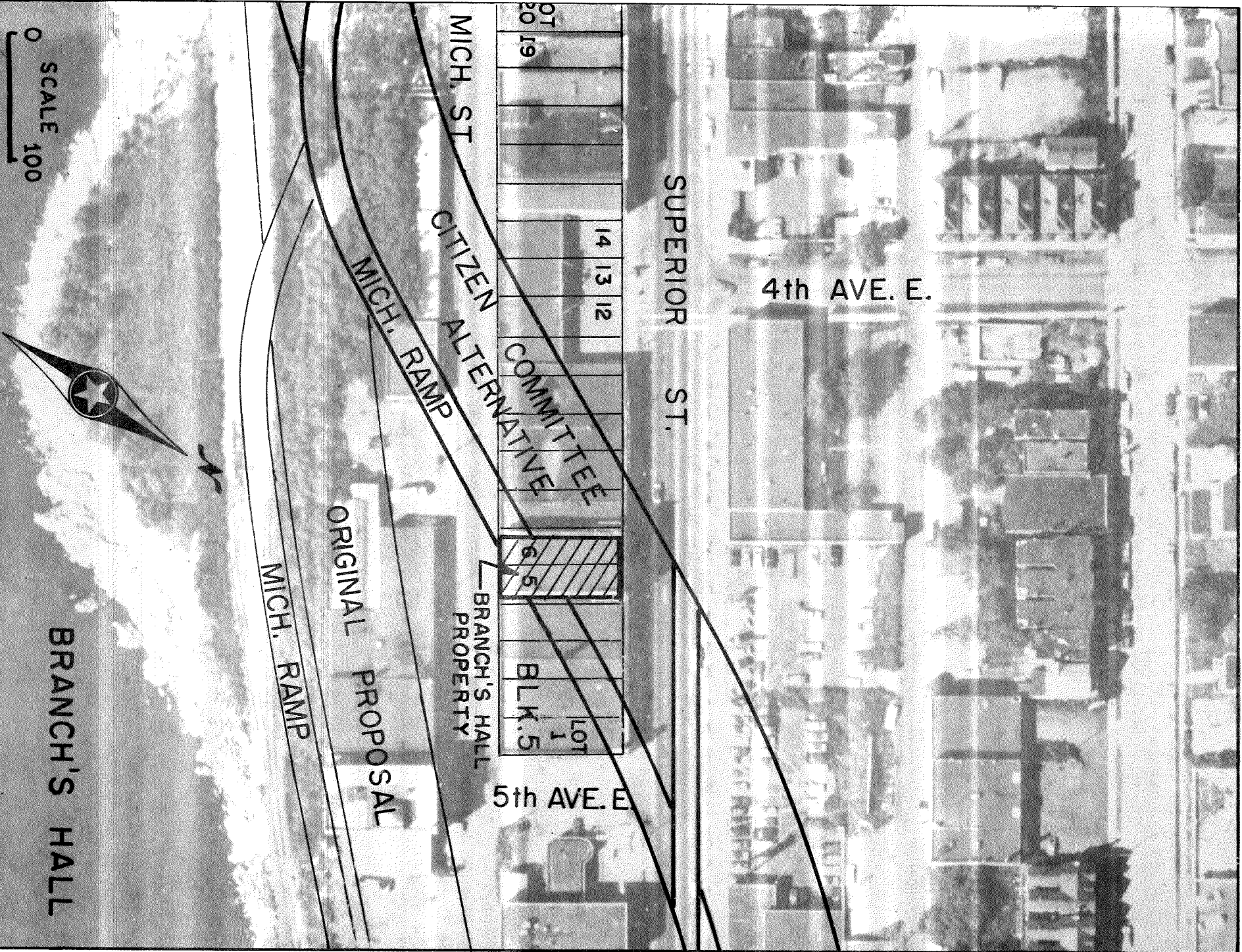
- Fitger Brewery (eligible for National Register)
- October House #1 (eligible for National Register)
- Hartley Building (eligible for National Register)
- Old City Jail and Hall (eligible for National Register)
- Union Depot (on National Register)
- Kitchi Gammi Club (on National Register)

Property Adversely Affected

The property to be discussed is Branch's Hall. Included in this discussion will be a description of the property, the effect of the project on the property, and measures proposed to mitigate harm.

Branch's Hall - Branch's Hall is located at 416 East Superior Street in the downtown business district of Duluth (see map, page 125). This property is eligible for inclusion on the National Register of Historic Places.

Property Description and Usage - Branch's Hall is a 48' x 100' two story brick building. It occupies a land area of 4875 square feet, or 0.11 acres. The more noticeable architectural features on this building are its tall arched windows,



stone quoins¹⁸ at the corners, and a heavy bracketed cornice at the top.

The historical background begins with the fact that it was the first brick business building built in Duluth. It was built by William Branch, J.D. Ray, and Sidney Luce in 1870. Its original notable use was a public auditorium. Through the years usage of the building has changed many times, and presently it houses O.K. Auto Parts, an auto parts retail store.

Both the exterior and interior of this building have been extensively altered. A structural glass front has replaced the original first floor exterior wall on the Superior Street side. The original brick interior partition walls on the basement and first floor levels have been removed. The second floor is not being used and is in a general state of disrepair. The second floor exterior walls of Branch's Hall are the only parts of the building that are original in appearance.

Effects on the Historic Property - The freeway alignment passes through the Branch's Hall property from its S.W. to N.E. corner. This will necessitate acquisition of this entire 4875 sq. ft. site and either demolition or relocation of Branch's Hall.

Mitigation Measures - Branch's Hall will either have to be relocated or demolished. Relocation is obviously the better of these options from a historical standpoint so this was investigated to see if it was feasible.

A very important consideration in making the final decision is the future plans of the building owner. Mr. Chester Peterson, owner of O.K. Auto Parts, was contacted and he indicated it was his desire to use the building as an auto parts store and not maintain it as a historic site. This meant a suitable relocation site should both enhance the building's historical significance and be suitable for a commercial establishment.

¹⁸ An external solid angle of a wall of the like.

Several different relocation sites were evaluated. Moving the building west on Superior Street into the CBD was judged to be inconsistent with Duluth's downtown redevelopment plans. This move would also require acquisition of other commercial or residential property. Moving Branch's Hall either up or down the hill would be extremely difficult and costly due to the size of the building.

This left only one direction to consider, east on Superior Street. The area from approximately 5th Avenue East to 8th Avenue East was closely investigated because of the other historically significant property in the vicinity. It was found; however, that moving the building to this area would require either demolition of other historically significant property. Neither of these alternatives are prudent especially when considering this area for use as an auto parts store.

The City of Duluth was contacted and expressed no interest in having the building moved into the Central Business District (CBD), a fringe area of the CBD, or maintaining it as either office space, meeting space, or a historic site. The City also stated that Community Development Funds have been obligated by the City Council to other high priority needs in the community. (See letter on page 129.)

It now appears the only option left open is demolition of Branch's Hall. The absence of a suitable relocation site, the reluctance of both the owner and city to maintain the building as a historic site, and the extensive interior and exterior remodeling make this the only prudent alternative. Prior to the demolition of Branch's Hall a coordinated effort will be made by the Federal Highway Administration and the Minnesota Department of Transportation to obtain photographs of the building acceptable to the Minnesota State Historic Preservation Officer and to salvage significant objects for the archives of the Minnesota Historical Society.

Properties Not Adversely Affected

The following properties will not be adversely affected by the proposal:

- Fitger Brewery - 600 East Superior Street
- October House #1 - 716 East Superior Street
- Hartley Building - 740 East Superior Street
- Old City Hall and Jail - 132 and 126 East Superior Street
- Union Depot - 506 West Michigan Street
- Kitchi Gammi Club - 831 East Superior Street

This determination is documented in a Preliminary (Draft) Section 4(f) Statement/Historic and cultural Preservation Report and Supplement to the Draft in which the project's impacts on all of the historic properties were evaluated. These documents are available for review at:

Duluth Public Library, Main Branch
1st Avenue West & 2nd Street
Duluth, Minnesota 55802

or

Minnesota Department of Transportation
Division of Highways
1123 Mesaba Avenue
Duluth, Minnesota 55811

Concurrence with this determination is in letters from the State Historic Preservation Officer and the Advisory Council on Historic Preservation on pages 131-135. The building known as "Endion Station" is not within the limits of this project.

RICHARD C. LORAAS • DIRECTOR

January 7, 1977

Mr. John Pawlak, District Engineer
Minnesota Department of Transportation
1123 Mesaba Avenue
Duluth, Minnesota 55811

RE: Supplement to Draft Section 4(f)
Historic and Cultural Preservation
Report, Duluth, Minnesota,
Project I-IG 035-6 SP 4982 (I-35)

Dear Mr. Pawlak:

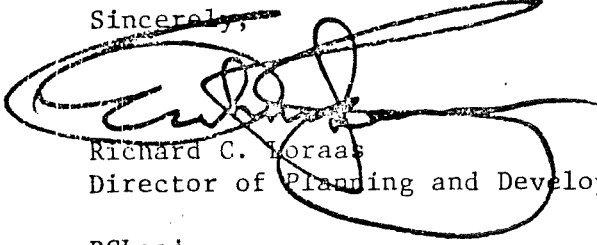
Previous investigation has determined that moving Branch's Hall east on Superior Street would require either demolition and relocation of commercial property or demolition of other historically significant property. This relocation site study also concluded that moving the building on Superior Street to the CBD was inconsistent with Duluth's downtown redevelopment plans. There are several other considerations which support the view that it would not be desirable for the City to move Branch's Hall to the CBD.

1. The configuration of the building is such that it must be located on the south side of Superior Street; there is no site available that would not require demolition of commercial property.
2. The building would be inappropriate for the CBD as the City has no use for this type of facility downtown. Ample office and meeting space is available in City Hall, the Depot and the Arena-Auditorium. The cost of operating and maintaining a building which serves no real need would be difficult to justify.
3. The building has been extensively remodeled inside and out and very little of it's original character remains.
4. Since there are no appropriate sites available within the CBD, relocation to a fringe area site would be inconsistent with the goal of downtown consolidation.

January 7, 1977
Page 2

5. The size of the building is such that not only would it be very costly to relocate, but the logistics of moving the building down Superior Street with only 60 feet of clear width would be very difficult.
6. The Community Development Funds available have been obligated by the City Council to other high priority needs in the community.

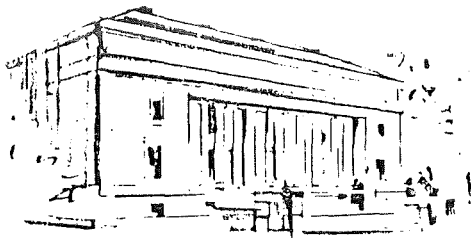
Sincerely,



Richard C. Loraas
Director of Planning and Development

RCL:ej

cc: Mayor Beaudin
Lauren Larsen



MINNESOTA HISTORICAL SOCIETY

690 Cedar Street, St. Paul, Minnesota 55101 • 612-296-2747

23 April 1976

Mr. C.P. Kachelmyer
Preliminary Design Engineer
Room 612E
Highway Building
St. Paul, Minnesota 55155

Dear Mr. Kachelmyer:

RE: Minnesota Project I-IG 035-6
S.P. 6982 (I-35)
Duluth, Minnesota
St. Louis County

I have examined the "Layout E-1" plan for I-35 in Duluth. I am aware of the great effort that has gone into its development and presentation. I am also aware of the very great interest in the City of Duluth in the prompt construction of I-35 through the area in question.

As you are well aware, I have corresponded with you several times in the past on this subject. In reply to the 4-f statement prepared on I-35 I agreed that the highway, if built as proposed, would adversely affect four buildings of National Register quality. These four were the Fitger's Brewery, the Hartley Building, October House, and Endion Station. In that letter to you of March 16, 1976, I regretted their destruction; I would, of course, prefer that those buildings be preserved.

In "Layout E-1" which you have supplied me since I wrote that letter of March 16th, only Branch's Hall, which I said in my letter of December 19, 1975, meets National Register criteria, will be destroyed as a result of the realignment of the highway. Another, happier consequence of the realignment is that three of the buildings discussed in the 4-f statement will not be affected by I-35. (Endion Station would still be destroyed, unless relocated.)

As you can understand I am in somewhat of a quandry. As I would regret the destruction of three of the four structures analyzed in the 4-f statement I would regret now the destruction of Branch's Hall. Branch's Hall was built in the early 1870s in an Italianate style. It is reputedly the oldest brick building in the City of Duluth. Over the years it has been the scene of many historic and cultural events. Historically speaking I believe the building meets the Register criteria.

Mr. C.P. Kachelmyer

2

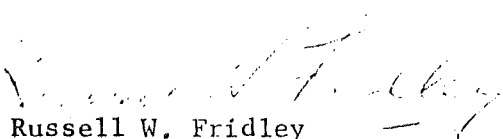
23 April 1976

While I am happy to think that three of the four buildings discussed in the 4-f statement will not under "Layout E-1" be affected by the construction of I-35 I am naturally perplexed at the thought that the price of saving those buildings is the destruction of Branch's Hall.

To reiterate, the only property on or eligible for the National Register which will be adversely affected by "Layout E-1" is Branch's Hall. The only other structure of those I have discussed in my letters on the general subject of I-35 which will be adversely affected by "E-1" and the remainder of I-35 construction will be the Endion Station.

I hope that these comments are sufficient for your purpose. If not please do not hesitate to contact me.

Sincerely,


Russell W. Fridley
State Historic Preservation Officer

RWF/fr

EIS 23-

Suite 490, Metro Square Building
St. Paul, Minnesota 55101

September 21, 1976

Mr. Robert R. Garvey, Jr.
Executive Director
Advisory Council on Historic Preservation
Suite 1030, 1522 K Street N.W.
Washington, D.C. 20005

Dear Mr. Garvey:

On February 6, 1976, we sent for your comments four copies of a draft Section 4(f) Statement and Historic Cultural Preservation Report for proposed Interstate Highway 35 in Duluth, Minnesota. Later, we informed you in an April 6 letter that an additional alternative location was being considered and requested that you defer your comments until we could furnish you a supplement to the report.

Enclosed are four (4) copies of the draft supplemental report. This supplement documents my determination of the adverse effect of this alternative I-35 location on Branch's Hall which is eligible for inclusion in the National Register of Historic Places. This alternative is the one recommended by a Citizens' Advisory Committee which was appointed by the Mayor to study several locations and then recommend the one they considered to be the best. On the basis of the Advisory Committee's recommendation, the Duluth City Council approved this alternative location.

The comments of the Advisory Council are requested. The State Historic Preservation Officer's comments on the additional alternative location are reproduced on p. 23-24 of the attached supplement.

My office is prepared to assist you and your staff in any way possible that would help expedite resolution of this matter. If additional information or other assistance is desired, please contact Mr. Dave Orr of my staff, telephone 612-725-5957.

Sincerely yours,

[Signature]
JOHN S. BOWERS

[Signature] E. Dean Carlson
Division Administrator

[Signature] Enclosures

DHO:pi

Orig. + 1 cc R. Garvey w/4 encl.

1 cc R. W. Fridley, SHPO

690 Cedar St., St. Paul, Mn. 55101

1 cc Lacy/Miller

1 cc W.O. HEV-10

1 cc R.O. 05-00.5

1 cc MHD - H. Legler

✓ 1 cc File EIS 73-5

1 cc Orr

1 cc R.F.

Advisory Council on
Historic Preservation
1522 K Street N.W.
Washington, D.C. 20005

November 1, 1976

A	I	TO	INT
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Mr. E. Dean Carlson
Division Administrator
Federal Highways Administration
U. S. Department of Transportation
Suite 490, Metro Square Building
St. Paul, Minnesota 55101

Dear Mr. Carlson:

Thank you for your letter of September 21, 1976, requesting the comments of the Advisory Council pursuant to Section 106 of the National Historic Preservation Act of 1966 (16 U.S.C. 470f, as amended, 90 Stat. 1313) on the proposed Interstate Highway 35 in Duluth, Minnesota, which will have an adverse effect upon Endion Depot, Duluth, Minnesota, a property included in the National Register of Historic Places and upon Branch's Hall, Duluth, Minnesota, a property eligible for inclusion in the National Register of Historic Places.

The Federal Highway Administration (FHWA) has also determined that the same undertaking will have no adverse effect on Union Depot, Old City Hall and Jail, Kitchi Gammi Club, Hartley Building, Fitger's Brewery, and October House #1, Duluth, Minnesota, properties either included in or eligible for inclusion in the National Register of Historic Places.

After a review of your documentation the Executive Director notes no objection to your determinations of no adverse effect. The Executive Director further notes that your suggested treatment of Branch's Hall and Endion Depot appears to satisfactorily mitigate the adverse effect of your undertaking, and that there appears to be general agreement as to the adequacy of the mitigation.

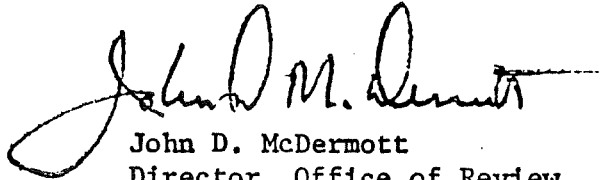
We request that, at the appropriate time, you send us a proposal for inclusion in the Memorandum of Agreement detailing actions to be taken to mitigate the adverse effect. We will then conclude the consultation process and prepare a Memorandum of Agreement pursuant to Section 800.5(g) of the Council's "Procedures for the Protection of Historic and Cultural Properties" (36 C.F.R. Part 800).

(Page 2)

Pending receipt of the Council's Comments, the Council requests that you refrain from taking any action with regard to the undertaking that will foreclose proper Advisory Council consideration of existing alternatives to avoid or satisfactorily mitigate any adverse effects on the properties in question.

Should you have any questions, please contact Charles Spilker of the Council staff at 202-254-3380. The Council appreciates your cooperation in this matter.

Sincerely yours,

A handwritten signature in dark ink, appearing to read "John D. McDermott", with a long horizontal flourish extending to the right.

John D. McDermott
Director, Office of Review
and Compliance

VI (1) E N E R G Y

A comparison of motor vehicles fuel consumption in the CBD and the surrounding city street system predicts a significant fuel savings with the construction of the freeway. The analysis¹⁹ considered the build - no-build alternative traffic volumes and driving conditions in the areas bounded by Mesaba Avenue to 14th Avenue East and 4th Street to St. Louis Bay and Lake Superior. Results of the analysis indicate a potential savings of 6000 gal. (29% reduction) of gasoline daily and 265 gal. (41% reduction) of diesel fuel daily with the build alternative. This is primarily due to the elimination of thru traffic on Superior Street, the reduction of traffic volumes on the CBD feeder streets, and the transfer of the designated thru truck routes from 2nd and 3rd streets to the freeway.

19.

Energy Impact Analysis Resource Information
June 1976; U.S. Department of Transportation
Federal Highway Administration, Washington, D.C. 20590

SECTION VII

ALTERNATIVES AND SUMMARY OF ASSOCIATED IMPACTS

VII. ALTERNATIVES AND SUMMARY OF ASSOCIATED IMPACTS

This section is a summary of the rationale for the selection of Corridor V as the recommended location.

In addition to the recommended location, this section also discusses a number of other location alternatives; the no-build alternative, mass transit, location and design alternatives within Corridor V, and various facility types. The basis for dismissing these alternatives is also contained in this section.

RECOMMENDED CORRIDOR (Corridor V)

The recommended alignment and design of the proposed freeway within Corridor V is discussed in detail in Section III, Description of the Proposed Action and Alternative Selected (pages 21 - 31).

Corridor V was selected because it best meets the transportation needs. The traffic table below indicates the superiority of Corridor V in terms of achieving the major transportation goal of reducing traffic on the east/west arterial streets below the hill. Corridor V (to 68th Avenue East) substantially reduces traffic below the hill (61,600 to 22,750), while all other corridors will result in a slight decrease in traffic below the hill. The following table shows a comparison of projected daily traffic volumes on the east/west arterial streets at an area along 14th Avenue East between London Road and 9th Street under the following conditions:

TRAFFIC BELOW THE HILL (year 2000)

Location at 14th Ave. E.	Do- Nothing	Build Corridor I	Build Corridor III	Build Corridor IV	Build Corridor V 68th Ave. E	Build Corridor V 10th Ave. E Termini
London Road	17,000	21,199	21,299	21,977	3,300	24,250
Superior St.	10,500	12,209	12,280	12,673	3,300	6,050
1st Street	6,600	3,052	2,988	2,665	2,800	6,200
2nd Street	10,600	3,663	3,586	3,168	4,400	8,900
3rd Street	5,900	3,163	3,044	2,716	3,200	6,800
4th Street	6,000	5,160	4,944	4,426	1,800	not available
9th Street	<u>5,000</u>	<u>7,103</u>	<u>6,194</u>	<u>2,665</u>	<u>3,950</u>	not <u>available</u>
TOTAL	61,600	55,549	54,335	50,290	22,750	N/A

In addition to the transportation needs, this corridor best meets the goals and objectives established by various citizen groups and local agencies.

LOCATION ALTERNATIVES

The Duluth Corridor Study¹ generated numerous route alternatives along which transportation facilities might be built, assuming that there was a need for construction of a major transportation facility. The alternative route locations were established jointly by citizen groups, local agencies and a consultant. The numerous route alternatives were combined into five general corridors (see Corridor Exhibit, page 140). with Corridor V being the recommended location.

Corridor I

Corridor I begins at Interstate 35 west of Duluth and Proctor and circumscribes a semi-circular path north of the Duluth International Airport. It remains outside of the major built-up portions of Duluth and terminates at T.H. 61 (an expressway between Duluth and Two Harbors) beyond Lester River near the east limits of Duluth.

Trips desiring to bypass Duluth, from Interstate 35 to T.H. 61 will be served by Corridor I. However, these trips are relatively insignificant in number and are projected to be approximately 2,900 vehicles per day by the design year 1995. Trips desiring to stop in Duluth or trips made by Duluth residents out of Duluth would generally not be satisfied by Corridor I. Because of the sparse development along Corridor I, very few trips originating and terminating within Duluth could be expected to use Corridor I.

Evaluation of the predicted traffic volumes for the year 1995 in the Corridor I alternative resulted in the following findings:

- Travel demand is not sufficient enough (less than 8,000 vehicles per day [VPD]) to warrant more than a normal city street.
- Analysis of the effects of Corridor I in terms of reducing traffic in areas below the hill reveals about a 10 per cent decrease.

¹ Eckbo, Dean, Austin & Williams, Vol. I-III.

Corridor I was, therefore, dismissed as predicted traffic volumes with this alternative did not warrant a major transportation facility and traffic congestion below the hill would not be relieved with this alternative.

Corridor II

This corridor follows the general north-south alignment of T.H. 53. Corridor II begins at the existing junction of I-35 and I-535 and continues north beyond Duluth International Airport to connect with the alignment of Corridor I. It then follows the alignment of Corridor I, east of the airport along the fringe of the built-up portion of Duluth to T.H. 61.

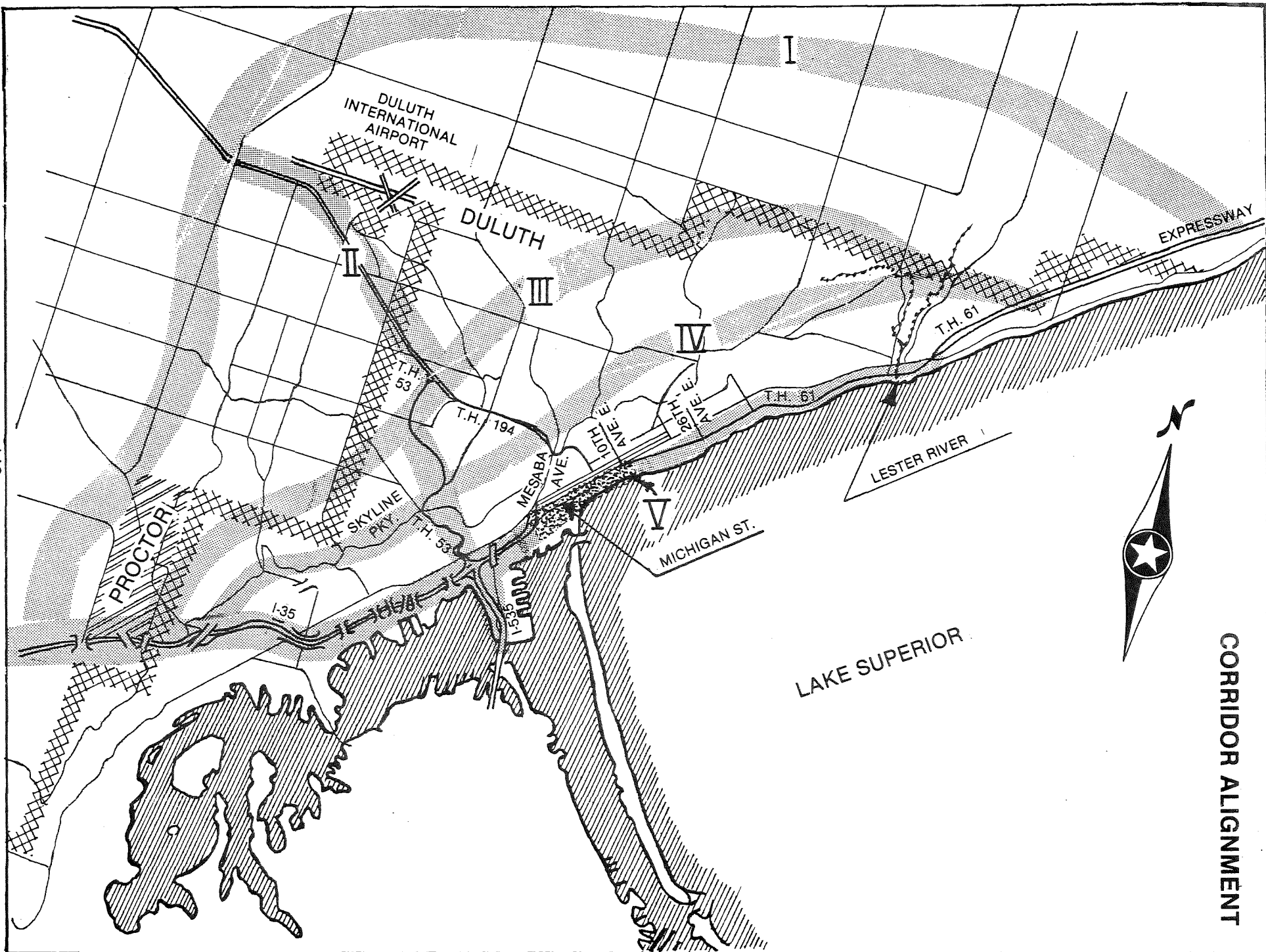
Corridor II does not satisfy the east-west travel demand below the hill (the major transportation goal of the study). This alternative will not attract a sufficient number of east-west trips to warrant a major transportation facility. The north-south portion of Corridor II in the T.H. 53 corridor does satisfy a large travel demand and reconfirms planned improvements of T.H. 53. Due to the low traffic demand, the duplication of existing street facilities, the lack of traffic relief in the area below the hill, and its orientation at 90 degrees to the east-west travel demand, Corridor II was dismissed from further consideration.

Corridor III

Corridor III is along the south side of the Duluth International Airport and the edge of some of the built-up areas of Duluth, from existing Interstate 35 (near the west limits of Duluth) to T.H. 61 (near the east limits of Duluth).

Evaluation of the 1995 predicted traffic volumes in Corridor III resulted in the following findings:

- Traffic capacity problems in the areas below the hill will still exist with Corridor III.
- The western portion of Corridor III to T.H. 53 is a duplication of existing I-35. The travel time difference between the two routes is only four minutes.
- Corridor III, from T.H. 53 to the eastern corporate limits of Duluth attracts approximately 6000 VPD from existing and planned roads. These roads already have the capacity to serve these trips.



- The eastern portion of Corridor III is a duplication of existing and planned routes. This corridor will not attract a sufficient number of trips (less than 8000 VPD) to warrant more than a normal city street.

Corridor III was dismissed from further consideration due to the low traffic demand, duplication of facilities, and the lack of traffic relief below the hill.

Corridor IV

Corridor IV follows the general alignment of the Skyline Parkway. It continues along the top of the escarpment (400-600 feet above Lake Superior) from existing I-35 near the west limits of Duluth to T.H. 61 near the east limits of Duluth.

The 1995 traffic volumes indicate the traffic between I-35, near the western limits of Duluth and Minnesota T.H. 194 (Mesaba Avenue) will be near the same level as in the year 1971 on Skyline Parkway. There are low traffic volumes in Corridor IV in this area because existing I-35 satisfies the increased traffic demands. Therefore, the Skyline Parkway as it now exists in this area, can accommodate the predicted traffic for the year 1995.

Corridor IV Variation

The Corridor IV Variation would use existing I-35 to its present termini at Mesaba Avenue. This alternative then follows Mesaba Avenue up to the top of the escarpment and meets the Skyline Parkway. It then continues in the Skyline Parkway corridor to T.H. 61 near the east limits of Duluth.

The quality of the Corridor IV Variation in terms of its effects on the community was found to be so poor that if a freeway were constructed along this route irreparable harm would have been done to the natural environment. This corridor also has adverse social impacts to the immediate area and results in the taking of approximately 160 dwellings and the displacement of 502 people.

The Corridor IV Variation would not solve the transportation capacity and operational problems below the hill. Therefore, this alternative was not further considered because of the impact on the natural environment, social impacts, and it does not solve the transportation problems below the hill.

DO-NOTHING ALTERNATIVE

The "do-nothing" alternative would result in no additional major construction. The present terminus of I-35 at the Mesaba Avenue, Superior and Michigan Street junction would be permanent.

The "do-nothing" alternative would mean an increase in traffic on the existing streets and; therefore, a general increase in traffic noise in the east-west shoreline corridor.

The "do-nothing" alternative does not strengthen the downtown area. Without the construction of the freeway, congestion will increase in the downtown area and this could encourage businesses to relocate over the hill. Strip commercial development would be likely to continue along existing arterial streets resulting in further traffic congestion and related safety problems.

Businesses in the CBD will be adversely affected by the increase in traffic congestion. The local patrons may become less willing to enter the CBD especially if another alternative is available. Increased traffic congestion on London Road would result in access problems, which will probably have an adverse effect to London Road businesses.

The "do-nothing" alternative does not reduce traffic on neighborhood streets, does not improve access to the CBD, and does not relieve congestion in the CBD. This alternative will not remove the truck traffic from the local heavily traveled streets.

The "do-nothing" alternative provides no extra margin for peak travel demands. Even under off-peak conditions, the "do-nothing" alternative will result in congestion on local streets in the corridor along the lake and in the CBD. Peak demand periods will only compound the problem.

The "do-nothing" alternative was dismissed based on the above deficiencies.

MASS TRANSIT ALTERNATIVE

Improved mass transit service as an alternative to the construction of I-35 in Duluth can be put into perspective by referring to related local transportation studies. The studies used in evaluating the mass transit alternative are:

- Guide to Metropolitan Growth - Transportation Chapter
- The Duluth-Superior Transit Development Program (TDP)
- Transportation Plan for Downtown Duluth

Guide to Metropolitan Growth - Transportation Chapter

The Duluth-Superior Metropolitan Interstate Committee (MIC) is currently updating the transportation chapter of the Guide to Metropolitan Growth. The four Intra City Transportation Policies adopted by MIC which identify objectives for meeting travel demand are as follows:

- The MASS TRANSPORTATION RIDERSHIP should increase to the point of carrying 40% of all CBD work trips by 1985 compared to 15% in 1970, and 8% of all intra community trips compared to 4% in 1970.
- The home based WORK TRIP AUTO OCCUPANCY RATE should increase to 1.6 by 1985 compared to 1.4 in 1974, and 1.2 in 1964.
- The AUTOMOBILE is the only current viable means of serving the bulk of personal transportation.
- The rubber tire BUS is the best "fit" means of providing mass transportation although light rail or Aerobus could perhaps better handle the function in several major travel corridors.

Achievement of these objectives will require improvements of the mass transit service and car pooling incentives and would result in the following:

- Reduction of the year 2000 westbound morning peak hour traffic assigned to I-35 at 14th Avenue East from approximately 1950 to 1300 vehicles.² (The effect of this would be that morning and afternoon peak hours would become off-peak hours and peak hour traffic would occur during the middle of the day)
- Reduction of the year 2000 average daily traffic assigned to I-35 at 14th Avenue East from approximately 38,950 to 35,400 vehicles.²

² The transit ridership and auto occupancy objectives as stated above were also used for the year 2000 analysis. The increase in transit ridership accounts for approximately 40% of this reduction.

- Increase of approximately 1,200 transit passengers to the CBD during the morning peak hour in the year 2000.
- When compared to existing transit ridership rates, this will require approximately 24 additional 50 passenger buses operating at capacity.

Duluth-Superior Transit Development Program (TDP)

Short range mass transit policies and plans are documented in the adopted Duluth Superior Transit Development Program (TDP). The TDP is a detailed, documented, and scheduled program for the promotion of mass transit in the Duluth-Superior Metropolitan Area over a six year period (1976-1981). The TDP is the product of time consuming and costly research into all phases of mass transit and takes into account the needs and opinions of thousands of Duluth-Superior residents - bus users and non-users alike.

A few of the stated objectives in the TDP for development of mass transit in the Duluth-Superior area (in addition to providing transportation to people who can't or prefer not to drive) are:

- to relieve traffic congestion (particularly within the two CBD's)
- to minimize pollution
- to conserve energy

A related specific objective is to substitute wherever possible, mass transit improvements for added parking facility construction and/or street and highway capacity increases.

Other recommendations of the TDP which relate to I-35 project planning are:

- to stagger work and school arrival and departure times
- to implement express bus service
- to double transit ridership for CBD work trips
- to eliminate parking on Superior Street during peak hours to allow exclusive bus lanes.

The TDP estimate of future ridership based on projected passengers per mile indicates that ridership will rise to over 8.3 million in 1981. This is a sizeable increase over the 1974 figure of 414 million riders, but not so large relative to 1957 ridership of 9.4 million. This projected increase equates to the need for 14 additional buses operating on regular routes during the peak hours.

Transportation Plan for Downtown Duluth

The Transportation Plan for Downtown Duluth (December, 1975) recommends construction of I-35 in downtown Duluth and a transit/pedestrian mall along Superior Street between 4th Avenue West and Lake Avenue to remove conflicting automobile traffic and on-street parking. The plan also recommends express bus service between downtown and outlying portions of the City and nearby communities to increase the attractiveness of transit for downtown work trips.

Evaluation of Local Transportation Studies

The following are conclusions derived from these transportation studies as they relate to improved mass transit service as an alternative to the construction of I-35 in Duluth.

- 1) Achievement of local mass transit ridership and auto occupancy objectives will not significantly reduce daily traffic volumes in the corridor.
- 2) Staggered school arrival and departure times have been implemented in Duluth and staggered work hours will be studied and considered in the future. This is not; however, expected to have any significant effect on the objective to more than double transit ridership for CBD work trips.
- 3) The elimination of parking and the provision of exclusive bus lanes on Superior Street in downtown Duluth and the provision of express bus service to eastern portions of Duluth will either require or be aided by the construction of I-35.
- 4) Implementation of the proposed transit/pedestrian mall along Superior Street and reduction of traffic volumes in the downtown can only be accomplished by construction of I-35 through the downtown area.

Improved mass transit service and increased ridership are desirable objectives and strong efforts are being made, and should continue to be made, to achieve these objectives. However, the transportation studies discussed above make it clear that improved mass transit service will not significantly reduce daily traffic volumes in the corridor. Thus, mass transit as a separate alternative has been dismissed from further consideration.

LOCATION ALTERNATIVES WITH CORRIDOR V

The location alternatives are analyzed in relation to the recommended alternative by varying the horizontal alignment. The alternatives discussed in this section are "more southerly alignments" and "more northerly alignments." The "more southerly alignments" refer to all those alternatives lying southerly of the recommended alternative alignment. Likewise, "more northerly alignments" refer to those alternatives lying to the north of the alignment of the recommended alternative.

More Southerly Alignment

In 1970, the Citizens for the Integration of Highway and Environment (CIHE) was formed. The CIHE did not agree with the existing plan and advocated halting the freeway at Mesaba Avenue until a complete analysis could be made to determine the best location and type of facility needed to protect the environment and solve the east-west transportation problems. As a result of this objection, the M.H.D. hired a consultant to determine the type of transportation facility required and the best possible location for it.

Based on the consultant's and Mayor's Citizen Advisory Committee analysis the freeway alignment described in Section III, Description of the Proposed Action (pages 25 thru 28) had the least impact to the environment. The following discussion will deal with the more southern alignment previously considered and the reasons it was dismissed as the preferred location alternative.

Mesaba Avenue - 1st Avenue East - the freeway alignment, from its current termini at Mesaba Avenue, curved southward towards Commerce Street. At approximately 7th Avenue West the alignment then ran east to parallel Commerce Street. The freeway passed over Lake Avenue and then curved slightly to the north, crossing over 1st Avenue East. This alignment (1961) was approved by the BPR in March of 1962 and was later dismissed because of the following disadvantages:

- The railroad would run along the north side of the freeway. Spurs from this railway would be required to pass under the freeway to serve buildings on the south side of the freeway.

- The freeway would be highly visible from the Central Hillside area.
- The construction of a high level freeway bridge would be required over Lake Avenue and 1st Avenue East which would be unsightly and costly.

1st Avenue East to 6th Avenue East - This area contains three separate alternatives; one alternative is the M.H.D. alignment of 1961; the 2nd alternative is a revision of the 1961 alignment (1968); the third alternative is the FHWA Draft Environmental Statement (D.E.I.S.) recommended alignment.

The M.H.D. alignment of 1961 and approved by the BPR in 1962 continued on a straight line from 1st Avenue East to 6th Avenue East. This alignment would require fill to be placed into the lake. The lake fill area was located between 1st Avenue East and 6th Avenue East. The freeway from 1st Avenue East to approximately 4th Avenue East would continue as a high level structure. This high level structure would allow the railroad to cross under the freeway at approximately 4th Avenue East and continue along the south side of the freeway. This alternative was dismissed because of the fill required in the lake and the facility would be highly visible from the downtown and Central Hillside area.

Revised 1961 M.H.D. alignment. This alignment was revised in December of 1965 and approved by the BPR in June, 1968. The alignment with this alternative continues on a straight line from 1st Avenue East to 6th Avenue East behind the Fitger's Brewery buildings. The railroad with this alignment would be on the north side of the freeway and would be terminated in this area. This revision proposed that a seawall be constructed to protect the lake fill. This alternative was dismissed because of the lake fill and, it required termination of the D.M. & I.R. railroad.

FHWA Draft EIS recommended alternative alignment is located along the lower side of Michigan Street from 4th to 6th Avenues East. This alignment would require the demolition of Fitger's Brewery which is eligible for inclusion on the National Register of Historic Places according to the State Historic Preservation Officer.

There was a disagreement within the local community whether the freeway should be constructed to 26th Avenue East. Because of this disagreement, the Mayor of Duluth appointed a Citizens Advisory Committee in late 1975 to study the location and design of the freeway to 10th Avenue East. Due to the historically significant buildings and the nearness of Lake Superior, the Citizens Advisory Committee determined that the alignment between 4th Avenue East and 10th Avenue East should be altered.

Therefore, because of the local sentiment, the FHWA draft recommended alternative is dismissed in this area.

6th Avenue East - 10th Avenue East - the alternatives discussed in this section are the M.H.D. alignment of 1961, revised 1961 M.H.D. alignment (1968), and the FHWA D.E.I.S. recommended alternative.

The M.H.D. 1961 alignment from 6th Avenue East continued eastward behind the buildings on the lower side of Superior Street to 8th Avenue East. The alignment then curves slightly to connect with London Road at 10th Avenue East.

The railroad through this area will be located on the south side of the freeway. Because the railroad is located on the south side of the freeway, lake fill will be required throughout this area.

This alternative was dismissed because of the large amount of fill required to be placed into the lake.

Revised 1961 M.H.D. alignment (1968). This revision resulted in the elimination of the D.M. & I.R. Railroad in this area. With the removal of the railroad, less fill was required to be placed into Lake Superior. The alignment of the revision is basically the same as the 1961 alignment with

the exception of the railroad. This revised alignment was dismissed because it eliminated the railroad in this area and lake fill was required.

FHWA Draft recommended alternative alignment continues eastward just south of Superior Street to 8th Avenue East.

The alignment then curves to the right continuing along the south side of London Road to 10th Avenue East.

This alternative would result in the demolition or relocation of the buildings on the lower side of Superior Street.

Because two of these buildings have historical significance, the Citizens Advisory Committee recommended that alternative alignments should be studied to determine if these buildings could be saved.

More Northerly Alignments

These alignments would result in the removal of a considerable number of buildings between 6th Avenue West and 10th Avenue East. The buildings requiring removal are:

- variety of business establishments
- historical and cultural buildings
- residential dwellings

The terrain features in the area between 4th and 6th Avenue East make it very difficult to construct a freeway on this alignment.

Because of the above disadvantages, this alternative was dismissed from further considerations.

DESIGN ALTERNATIVE NOT FURTHER CONSIDERED IN CORRIDOR V

The design alternatives discussed in this section are an elevated facility and a depressed facility.

Elevated Freeway

This alternative follows the same alignment as the recommended alternative. This alternative is visually undesirable and very costly. Therefore, this alternative was not further considered.

Depressed Freeway

This alternative also follows the same alignment as the recommended alignment. This alternative between Mesaba Avenue and 4th Avenue East has a high probability for severe flooding. The prevention of this flooding would require

the installing of very expensive pumping equipment. Also, throughout this area the lake water level is very close to the existing ground elevation which will result in a problem of seepage with a depressed section. Therefore, this alternative was dismissed.

FACILITY TYPE ALTERNATIVES

Other types of transportation facilities evaluated were an arterial highway and a parkway.

Arterial Highway

This alternative was dismissed for the following reasons:

- A downtown pedestrian mall is presently being proposed by the Downtown Development Corp. on Superior Street between Lake Avenue and 4th Avenue West. This mall will permit pedestrian and bus access but will restrict car access to this area. The result of this proposal will put additional traffic on a transportation facility that would service this area. The arterial facility could not handle this expected increase of traffic and at the same time provide adequate access to the downtown area.
- The proposed facility from approximately 4th Avenue East to 9th Avenue East is in a depressed section to avoid a high negative impact to historically significant buildings. Because the facility is below the ground level of the adjacent land, access to local streets through this area would be impossible.

Parkway

With the parkway alternative, heavy commercial traffic is excluded from using the facility. One of the main objectives for the construction of a transportation facility is to remove the truck traffic from local streets and residential areas. Because the parkway alternative does not meet this objective, it is not further considered.

SECTION VIII

**PROBABLE ADVERSE ENVIRONMENTAL
EFFECTS WHICH CANNOT BE AVOIDED**

VIII. PROBABLE ADVERSE ENVIRONMENTAL EFFECTS
WHICH CANNOT BE AVOIDED

Should the proposal be implemented, probable adverse effects which cannot be avoided or reduced to an acceptable level are:

- Interior noise levels will exceed the federal standards (55 dBA) at the Florman Hotel (310 E. Superior St.). The standards for interior noise levels will be exceeded during periods of rush hour traffic if the windows are open.
- Taxable property in the form of commercial buildings will be taken off the tax rolls. The loss in tax revenue will be about \$155,360 for the year 1976. The tax revenue is calculated from the assessors market value of \$2,526,200 (1976).
- The development of the facility being proposed will displace 92 businesses in 54 buildings. The owners of 71 of the 92 businesses responded to a questionnaire of which 6 indicated they would liquidate instead of relocating. These 6 businesses employ about 17 employees.
- The construction of the freeway will cause the loss of a historic building known as Branch's Hall.

SECTION IX

**RELATIONSHIP BETWEEN LOCAL SHORT
TERM USES OF THE HUMAN
ENVIRONMENT AND THE MAINTENANCE
AND ENHANCEMENT OF LONG-TERM
PRODUCTIVITY**

IX. RELATIONSHIP BETWEEN LOCAL SHORT TERM
USES OF MAN'S ENVIRONMENT AND THE MAIN-
TENANCE AND ENHANCEMENT OF LONG TERM
PRODUCTIVITY

This evaluation outlines the immediate environmental benefits derived from the proposed construction as opposed to the future environmental losses caused by the proposed action. The obvious gains obtained from the proposed action are examined only to the extent that they may foreclose future options of development.

SHORT TERM GAINS

Implementation of the proposed construction will immediately create a demand on the local job market. The increased need for workers will precipitate an influx of people into the area. Positive benefits will be experienced by the real-estate and housing industry, commercial and retail sales, along with increased City of Duluth sales taxes. Increased sales taxes will also be derived from the purchase of construction materials.

SHORT TERM LOSSES

As the proposed construction nears completion, most of the non-local construction workers will move on to other projects. The possibility exists that some workers will remain in the area and become permanent residents. The labor market may not be able to absorb the additional personnel and the result will be increased unemployment.

The construction will necessitate local and through city traffic to be detoured around the project, thus consuming above average quantities of fossil fuels. Disruption of travel habits by local citizens will lead to more circuitous patterns and traffic congestion which will use additional fuels.

Some of the land that will be used for the freeway, ramps, and interchanges was formerly occupied by commercial and residential real estate. Real estate taxes paid for these properties will be lost. In some instances, the displacement of commercial buildings will result in the loss of jobs by people working there. See Section VI (Economic Impacts), page 86. Another change in land use that will occur is the loss of parking spaces, particularly in the area of the CBD.

Construction of the freeway will remove existing vegetation within the construction limits. Inherent in all construction is the temporary erosion problem along with increased air and noise pollution. The location of the proposed freeway is such that public service utilities will have to be relocated.

LONG TERM GAINS

Long range benefits attributable in part to the completion of the freeway will begin to accrue immediately. Fuel economy from elimination of stop and go driving along with higher average speeds allowed on freeways increase the efficiency of today's internal combustion engines. Safety records of existing freeways show that the accident rate is lowered dramatically from that experienced in the congested downtown areas. Decreased travel time will benefit local drivers and commercial haulers.

The proposed construction will bypass the Duluth CBD and relieve traffic congestion on Superior St. Traffic desiring to travel through Duluth will not be impeded by the downtown shopping district. Commuter time of local people traveling to work and time to complete intracity trips will be lessened.

Reduction of congestion in the CBD will be a safety factor to both motorists and pedestrians. The continuous flow traffic pattern typical of freeways reduces noise and air pollution. Vehicles moving out of the residential neighborhoods to use the freeway will also reduce noise and air pollution in those areas along with accident reduction.

As shown in the economic study in this report (Section VI, page 87). the majority of the commercial companies that are relocated will remain in this area. Some of these companies are planning to build new buildings and a substantial number are expecting to expand their businesses. The expansions will create new job openings, and the new buildings will add to the tax base, both of which will help the economy of the area.

The possibility of the freeway extension around the Duluth CBD has already created an impetus for new construction. Large multi-level commercial buildings are under construction in the CBD while others are in the planning stage. Multi-level parking facilities are planned to replace and add to those lost from freeway construction. The proposed freeway construction will strengthen and consolidate the downtown business area.

Throughout the construction area of the freeway, floodwater run off controls will be installed to reduce potential damage from heavy rainfalls. Aesthetic reestablishment of compatible vegetation and trees will surpass the existing natural scrubby and deteriorating trees. The existence of the freeway itself will create more jobs in the highway maintenance field. Even though the roadway is new, periodic and seasonal upkeep is necessary, one such activity being snow plowing.

LONG TERM LOSSES

The physical occupancy of the land by a highway facility most generally removes the possibility of the land contributing to the real estate taxing base. Multiple use development on the land will provide tax revenues through another medium such as personal property taxes.

The freeway will become a permanent barrier to access to the lakeshore except at selected locations.

Construction activity will use up petroleum based fuels and oils in the heavy equipment needed to build the project.

The historic structure known as Branch's Hall will have to be demolished to make room for freeway construction.

SECTION X

IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

X. IRREVERSIBLE AND IRRETRIEVABLE
COMMITMENT OF RESOURCES

The loss of resources considered to be irreversible are those that are permanently removed from the environment. The loss of resources considered to be irretrievable are those that cannot be replaced within the human life span, approximately 100 years.

One resource considered to be lost as a result of this project is Branch's Hall. A description of the property and the efforts taken to mitigate the adverse effect are discussed in Section VI, pages 124-127. Other resources committed in the fulfillment of the proposed project are composed of labor, materials and fossil fuels. The commitment for this section of the project is estimated at 33.9 million dollars (1976). The components of this cost and their approximate quantities are shown in Section VI, Economic Impacts, page 90.

Real estate consisting of business buildings, property, and apartment buildings will be acquired to facilitate construction. Even though the properties acquired for construction may be replaced with equal or better structures in other locations, the tax revenues received from the original structures is lost. The estimated loss of tax revenues (1976) is \$155,360.

SECTION XI

STATE GOVERNMENT AND MULTI-STATE RESPONSIBILITIES

XI. STATE GOVERNMENT AND MULTI-STATE RESPONSIBILITIES

A. Impact on State Government of any Federal Controls associated with the proposed action.

Federal regulations require a Section 4(f) Statement whenever any publicly owned park, recreation area, wildlife and water fowl refuge or historic property is directly or indirectly affected by a proposed action. Because there were several historic buildings in the corridor a Section 4(f) Statement and Historic and Cultural Preservation Report was required for the proposed extension of the freeway. This Section 4(f) regulation resulted in a longer Environmental Impact Statement process.

In order to receive federal funding for this project the Mn/DOT Design Standards must conform to the AASHTO (American Association of State Highway Transportation Officials) standards. This requirement of the FHWA (Federal Highway Administration) when adopted resulted in a more stringent design standard.

B. Even though the project lies entirely within Minnesota borders, there are two areas involving multi-state responsibilities. They are air quality and the possible relocation of the railroad marshalling yards.

An air quality report was prepared and submitted to the Wisconsin Department of Natural Resources. In their review, they agree with the report that there are no adverse impacts to the air quality because of the proposed action. See pages 91-99 of Section III (d) Air Quality.

As stated on pages 29 and 30, the railroads which presently use the Bridge Yard feel the capability to handle and deliver full length trains must be replaced. One possible solution involves re-routing trains into Superior, Wisconsin, where the railroads involved have yards. A railroad consultant will be hired in the future to examine alternatives and their impacts on the environment. The alternative selected may or may not involve relocation into Wisconsin.

SECTION XII

COORDINATION

XI. C O O R D I N A T I O N

Throughout the Duluth transportation and highway studies, coordination with Federal, State and local interests has and continues to play an important role in development of a transportation plan for Duluth. Close coordination has been maintained with the City of Duluth, particularly the engineering and planning offices.

The first public hearing for this project was held on April 7, 1959, since then, four more public hearings have been held:

- December 28, 1961
- November 2, 1965
- October 9, 1973
- September 15, 1976

Through the years these meetings have attracted a large number of people. The 1973 hearing was attended by approximately 1100 people.

Public hearings have not been the only means of communication and coordination between the Minnesota Highway Department/Mn/DOT and the public and private sectors in Duluth. There have been a large number of open forums and meetings. Governmental agencies, private businesses, and organizations which have been involved in the planning process are as follows:

- U.S. Environmental Protection Agency
- Federal Highway Administration
- Dept. of the Army-Corps of Engineers
- Minn. Pollution Control Agency
- City of Duluth
- St. Louis County
- Duluth Plan Committee
- Mayor's Citizens Advisory Committee
- Model Cities Administration
- Arena-Auditorium Board
- Arrowhead Regional Development Commission
- Metropolitan Interstate Committee
- Duluth Park Board
- Western Lake Superior Sanitary District
- Holiday Inn's, Inc.
- Northern Pacific Railroad
- Fitger Brewing Company

Chicago Northwestern Railroad
Duluth, Missabe and Iron Range Railroad
AFL-CIO Central Labor Body
Duluth Chamber of Commerce
Citizens for Integration of Highway and Environment
Stop the Freeway
Duluth Preservation Society
Downtown Development Corporation
League of Women Voters
St. Louis County Historical Society
Minn. Historical Society
Duluth Building Owners and Managers Association
Duluth Engineers Club
Duluth Property Owners Association
Womens Institute
Rose Garden Society
Northern Environmental Council
Duluth Architects Committee on Urban Design
Junior League of Duluth
Duluth Scottish Rite Bodies
Congdon Park P.T.A.
Lions Club
Rotary Club
Optimists Club
Izaak Walton League of Minnesota

This list is representative of the large number of groups and individuals which have participated in the development of this project.

The Mn/DOT and FHWA have actively sought public participation at all stages of this project. Minority groups in the Duluth area have elected not to become involved in this process.

Along with this extensive community involvement there have been several private engineering and architectural firms employed for study and design. In 1971, Eckbo, Dean, Austin and Williams were contracted to do the Duluth Corridor Study. This firm had been recommended to the M.H.D./Mn/DOT by the Mayor of Duluth and a citizens committee (Citizens for Integration of Highway and Environment). In September of 1976 the M.H.D./Mn/DOT, at the request of the Mayor's Citizens Advisory Committee, employed Architectural

Resources of Duluth, Thomas-Vechi of Duluth, and Bather, Ringrose and Wolsfeld of Edina, Minnesota, for multiple use, traffic, and geometrics design studies for this project.

SECTION XIII

COMMENTS & RESPONSES

XII. COMMENTS AND RESPONSES

The following substantive comments concerning the Draft EIS were received at the August 25, 1977 Informational Public Meeting:

NEED

IN VIEW OF THE COMING SHIFT FROM PRIVATE AUTOMOBILE TO PUBLIC TRANSPORTATION, EXTENSION OF I-35 IS UNNECESSARY. OTHER HIGHWAYS IN THE STATE, SUCH AS THE UPGRADING OF US 2, ARE NEEDED FAR WORSE THAN BUILDING I-35 THROUGH DULUTH.

The need for extension of I-35 to 10th Avenue East is documented in Section II Need (pages 9-20) of this environmental statement. As stated in the need section one of the objectives of this project is to improve the mass transit system. The extension of I-35 will reduce traffic congestion on the city streets in the CBD and the Duluth Transit Authority feels that this will help to improve the Duluth bus system. Reduced congestion will allow freer movement of city buses on these streets. (See Section II Need pages 9-20 and Section IV Alternatives and Summary of Associated Impacts pages 140-143).

The need for improvements to T.H. 2 has been recognized and a program of improvements has been initiated. These improvements began with the construction of right turn lanes along T.H. 2 from T.H. 33 to T.H. 200. Other improvements that have been made or will be made in the near future are shoulder widening, bituminous surfacing of shoulders, resurfacing of driving lanes and improvements to sight distances.

EARLY EXTENSION

THE MINNESOTA DEPARTMENT OF TRANSPORTATION IS LOOKING AHEAD TO EARLY COMPLETION OF THE FREEWAY FROM 10TH AVENUE EAST TO 68TH AVENUE EAST. THE STOP THE FREEWAY ACTION GROUP APPROVES OF EXTENSION TO 8TH, THE DEPARTMENT INTENDS TO CAUSE IMPOSSIBLE TRAFFIC CONDITIONS ON LONDON ROAD NECESSITATING THIS FURTHER EXTENSION.

Various alternatives which would end the freeway at 8th Avenue East to allow drivers a choice of routes (Superior Street or London Road) have been investigated. The geometrics of the freeway design to terminate at this point would require the use of historic property which is highly undesirable. The proposed highway has very little effect on historic property.

London Road is presently designated T.H. 61 and is capable of handling the additional traffic generated by the freeway. Superior Street is more of a residential street with many private driveways making it less desirable as a major arterial. Construction of the freeway to 10th Avenue East will not necessitate further extension easterly. This decision will be made by a second Citizen Advisory Committee to be appointed by the Mayor of Duluth.

DESIGN

A CONCERN WAS EXPRESSED THAT THE ECKBO STUDY SAID A DEPRESSED STRUCTURE WOULD NEVER WORK.

In recommending a preferred alternative the Eckbo Study stated, "Profile: Low profiles (tunnels, cuts) are preferable to high profiles (elevated structures) in terms of total impacts."¹ As can be seen by the above statement the Eckbo study did not totally dismiss a depressed highway. A depressed highway section was dismissed in the CBD area (Mesaba to 1st Ave. E.) as being impractical.

¹ Duluth Corridor Study, Eckbo, Dean, Austin, and Williams, Volume II, page 206.

COST

THE COST OF THE FREEWAY SHOULD BE ITEMIZED AND INCLUDE THE COST OF MULTIPLE USE PROJECTS.

The cost figures shown in the EIS are intended to show the approximate total cost of only the freeway to 10th Avenue East. A more detailed breakdown of estimated freeway costs are on file with the Minnesota Department of Transportation, Duluth, Minnesota.

The multiple use projects were not included in the cost of the freeway, as these are potential projects which are being studied as to their feasibility and funding. If all of the multiple use projects are implemented, the total cost would be \$35,000,000.² The cost of these projects could be shared between city, state and federal governments and private sources.

URBAN FLIGHT & URBAN SPRAWL

THE FREEWAY WILL HAVE A DEVASTATING EFFECT ON THE CENTRAL BUSINESS DISTRICT. RESIDENTS, STORES AND INDUSTRY WILL MOVE AWAY FROM THE FREEWAY AREA. TRAVEL AND DEVELOPMENT PATTERNS PRODUCED BY THE FREEWAY WOULD CREATE URBAN SPRAWL BURYING THE NORTH SHORE.

According to a business survey conducted in the Summer of 1976, a relatively small number of businesses (6 businesses employing 17 people) indicated that they would liquidate if I-35 were extended to 10th Avenue East.

The survey results as shown on pages 86-87 do not indicate a devastating effect on the Central Business District.

The Mn/DOT survey of businesses is further documented by two consultant studies as shown on pages 88 and 89.

MULTIPLE USE FACILITIES

THE CITY OF DULUTH WILL BE UNABLE TO FINANCE MULTIPLE USE PARKS ON THE RIGHT-OF-WAY. THESE BEAUTIFUL PARKS ARE DESIGNED MERELY TO SELL THE IDEA OF THE FREEWAY. THEY WILL NEVER BECOME REAL.

² A detailed cost breakdown can be found in the I-35 Multiple Use and Joint Corridor Development Study, Duluth, Minnesota, on file with the Minnesota Department of Transportation, Duluth, Minnesota.

MULTIPLE USE FACILITIES (cont'd.)

One of the objectives stated in the Federal-Aid Highway Program Manual (FHPM 7-7-8) is that highways should make a positive contribution toward enhancement of the environment of communities which they pass through.

At the present time, these proposals are being studied by both FHWA and Mn/DOT to determine the feasibility of the projects and the amount of participation required by each agency. As soon as these determinations are made, the decision will be publicly announced.

ECONOMICS

BLOCKING OF OVERSIZED AND OVERWEIGHT CARGOS FROM THE PORT. WHAT IS THE ECONOMIC IMPACT?

As mentioned on page 19 of the DEIS, ways of routing these types of cargo through Duluth is being studied. Since these cargos are few and infrequent, the impact on Duluth's economy would be insignificant.

AIR & NOISE

STATEMENTS IN THE DRAFT EIS THAT AIR POLLUTION WILL BE MINIMIZED WERE REFUTED. IT WAS POINTED OUT THAT THE DRAFT EIS SECTION ON AIR POLLUTION GOES AGAINST THE FINDINGS OF THE CALIFORNIA AIR RESOURCES BOARD.

This comment does not specify which California Air Resources Board Study or studies contradict the Draft EIS statement on minimizing air pollution. However, the Draft EIS does follow Federal and State guidelines. The development of these Federal and State guidelines has incorporated several of the California Air Resources Board's findings.

WHAT IS THE NOISE INPUT TO THE HOSPITAL IF THE FREEWAY IS BUILT TO 10TH AVENUE EAST?

Traffic noise to St. Lukes Hospital will be reduced with the construction of the freeway as a significant volume of traffic presently using 1st and

AIR & NOISE - (cont'd.)

2nd Streets are projected to use the proposed freeway. Traffic noise from the freeway in the vicinity of the hospital will be greatly reduced because of the depressed freeway section between 4th and 8th Avenues East and the bridge/platforms over the freeway at 5th Avenues East and 8th Avenue East.

WATER QUALITY

ITEMIZE WATER POLLUTANTS AND GIVE CONCENTRATIONS AND VOLUMES.

A list of highway related water pollutants are given on page 110 of the DEIS (page 112 FEIS) along with their concentrations and volumes.

PUBLIC TRANSPORTATION

FREEWAY EXTENSION WILL DO NOTHING TO ENHANCE PUBLIC TRANSPORTATION.

The extension of the freeway will improve public transportation as indicated in the Mass Transit portion of Section VII Alternatives and Summary of Associated Impacts pages 142-145. Extension of the freeway will reduce traffic congestion in the CBD along local bus routes and also provides the opportunity for "express" bus routes on the freeway. In addition, the proposed transit/pedestrian mall along Superior Street can only be implemented with the construction of the freeway through the downtown area.

Copies of the draft EIS were distributed to 15 agencies for review and comment. Three of these agencies responded to the draft. Their letters are reproduced in this subsection along with a discussion of concerns expressed.



MINNESOTA ENERGY AGENCY

720 AMERICAN CENTER BUILDING
150 EAST KELLOGG BOULEVARD
ST. PAUL, MINNESOTA 55101

612-296-5120

September 15, 1977

Mr. Leonard G. Eilts
Design Engineer
Department of Transportation
Room 604, Transportation Building
St. Paul, MN 55155

Dear Mr. Eilts:

The Energy Agency has reviewed the draft EIS on Interstate Highway 35 in Duluth. The EIS should include a fuller treatment of energy issues.

1 Page 152 implies that vehicles achieve greater fuel economy at freeway speeds. In fact, studies of fuel consumption for automobiles show optimal fuel economy at 35-40 mph. Greater fuel requirements for travel at freeway speeds may be offset by the elimination of congestion and frequent stops and starts. The EIS should discuss the net effect of these factors on fuel consumption for travel on the proposed stretch.

2 The EIS should compare the energy requirements for travel on corridor V to the requirements for other corridors.

3 One benefit of the proposed project discussed by the EIS is a stronger central business district. A central development pattern may minimize the energy requirements for transportation. Will the project also encourage the sprawled development of outlying areas?

Thank you for the opportunity to comment on the EIS.

Sincerely,

Karen Cole

Karen Cole
Environmental Coordinator

KC/djg

MINNESOTA ENERGY AGENCY

Comments:

1. The maximum speed limit on the proposed freeway extension will be 40 or 45 MPH, which is close to the optimal efficiency of the internal combustion engine. In this respect the proposal will afford a considerable reduction in fuel consumption over the stop and go traffic made on adjacent city streets. The multi use concept as proposed by the City of Duluth will eliminate thru traffic on Superior Street (presently the main east-west traffic thoroughfare in the CBD). See page 136.
2. An energy requirement comparison, between the corridors, was not developed because of the dismissal of these corridors very early in the planning process. These corridors were dismissed because they did not meet the traffic needs of the area. At that time, energy requirements were receiving little or no consideration in the planning process.

Because of these early dismissals, detailed studies of these corridors were not undertaken. Without these detailed studies a comparison of energy requirements, between corridors, would be extremely difficult.

3. The only area that does not have public services and where more than normal residential growth might be influenced by freeway construction is the T.H. 61 corridor northeast of the built up portion of Duluth. Any significant high density growth and land development in this area would be incompatible with metropolitan area land use policies. This particular area generally has poor soil conditions which limit developments utilizing individual sewage disposal systems. Desirable land use development is achieved primarily through local health, zoning, and sub-division regulations. Control of land use development is thus in the hands of local governmental bodies. The freeway is expected to encourage development of vacant lands in the City of Duluth which are presently served by public facilities. This "urban infill" is desirable and compatible with metropolitan land use policies.



STATE OF
MINNESOTA
DEPARTMENT OF NATURAL RESOURCES
CENTENNIAL OFFICE BUILDING • ST. PAUL, MINNESOTA • 55155

DNR INFORMATION
(612) 296-6157

September 15, 1977

Leonard G. Eilts
Design Engineer
Room 604
Transportation Building
St. Paul, Minnesota 55155

RE: 330-DEIS for I-35 and T.H.
61 (S.P. 6982-03) in the
City of Duluth, St. Louis
County

Dear Mr. Eilts:

We have reviewed the above referenced document and offer the following comments.

- 1 The document states that permits from the US Army Corps of Engineers or the US Coast Guard will not be needed. A discussion with the project engineer, however, indicated that permits may be needed, therefore the EIS should identify all federal, state and local agencies which might require permits for the proposed project.
- 2 The flow line elevation of Grey and Brewery Creek may have to be lowered and the alignment of the conduit system improved on the proposed section between 4th Avenue E and 8th Avenue E. The document should state that a permit may be required from DNR if these alterations become necessary.
- 3 In Section II, history of the project, the document states that fill may have to be placed into Lake Superior. The presently proposed project has been modified and fill into the lake will no longer be necessary. To avoid confusion, the DEIS should state this change directly.
- 4 The extension of the freeway will cross Clarkhouse, Brewery, and Grey Creek. The peak discharges shown in the EIS for these creeks were apparently extracted from the 1974 Corps Hydrology Report (Duluth Area Storm Water Study, Hydrologic Analysis of Streams, Duluth, Minnesota, November 1974). These estimates vary from those in the Duluth Flood Insurance Study (FIS). While the revised hydrology for the FIS does not include the immediate study reaches, an attempt should be made in the EIS to resolve those discrepancies in the discharge analysis.

5 Modification of the drainage conduit systems of Brewery and Grey Creek may be necessary with the proposed construction under Superior Street between 4th Avenue E. and 10th Avenue E. These changes may be necessary to carry stormwater runoff from the freeway. The methods of temporary erosion control, other control measures to be outlined in any contracts and construction plans, and the specific measures ("Standard Specification for Highway Construction") for mitigating construction impacts should be described and quantified in the DEIS.

The DEIS also discusses the three primary methods of freeway stormwater drainage systems:

- 1) Perpetuate the existing drainage patterns;
- 2) Channel stormwater to central locations for treatment before being discharged into the lake;
- 3) Collect the initial $\frac{1}{2}$ inch of rainfall runoff, separating the roadway sediments, petroleum products and highway spills then disposing the remaining runoff into Duluth's sanitary sewage system.

6 The preferred method of freeway storm water drainage and the impacts associated with it for this project should be further described.

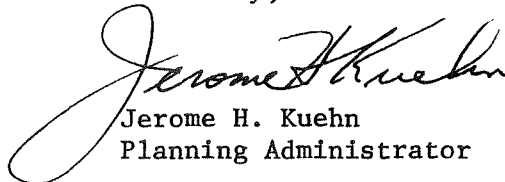
7 The DEIS indicates that designated trout streams are analyzed for a 100-yr. frequency storm to meet the standards and criteria of the Flood Plain Management Act. Streams are analyzed for this frequency because they are public water (NR 85) not necessarily because they are trout streams.

8 State approved Flood Plain Management regulations will be adopted in the Spring of 1978 concurrently with the publication of the Duluth FIS, the letting date of the project is 1981, proposed plans within flood hazard areas identified in the FIS will have to be consistent with Flood Plain Regulations.

9 For review purposes a more detailed description of the alternate corridors and a more clarified map would be appreciated.

If further question arise pertaining to permit requirements for work in public waters please contact the Regional Hydrologist in Grand Rapids (218-326-8307).

Sincerely,

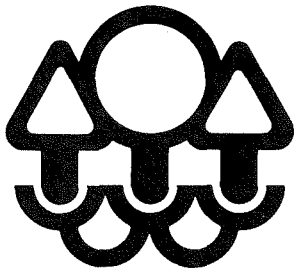

Jerome H. Kuehn
Planning Administrator

JHK:aa:dh

cc: Milt Stenlund
Al Wald

RESPONSE TO COMMENTS OF
DEPARTMENT OF NATURAL RESOURCES

1. The District Hydraulics Engineer has reviewed the project and has determined that no COE or DNR permits are required with the present alignment and grade proposal in accordance with present DNR and COE criteria. If changes to the present alignment and grade proposal are implemented in the design stages of the project, further hydraulic analysis will determine if any permits will be required.
2. With the existing proposal the flow lines of Brewery and Grey Creeks will be lowered. Drainage areas are 1.7 square miles and 0.6 square miles respectively. These streams are not included within Minn. Reg. (NR 85-93) under present guidelines for determining public waters.
3. Community response to the I-35 proposal indicated that all alignments which required lake fill were totally unacceptable. Therefore, any alternative requiring lake fill was dismissed. See Pages 148-149.
4. The consultant performing the Duluth Flood Insurance Study has stated there are no discrepancies in peak discharges between the two studies.
5. Specific methods for erosion controls at the creeks cannot be evaluated at this time due to the uncertainty of their existing alignment flow lines and subsurface conditions in the construction area. A detailed soils analysis will be conducted throughout the corridor prior to the freeway's final design at which time specific erosion control measures can be applied to any apparent erosion prone areas. The general erosion control methods outlined on pages 110 and 121 of the DEIS are "catchall methods" designed to minimize all erosion impacts encountered with any construction proposal.
6. The final design method to control highway runoff is not limited to the three proposals presented in the text because modifications may be necessary to conform with the proposed Water Quality Standards Revisions presently being formulated by the MPCA.
7. Changes in text, see page 119.
8. This proposed project will conform to all applicable Flood Plain Management regulations.
9. The descriptions and map in the alternatives section of the report (pages 137-142) are all that is available on these alternate corridors. These general corridors were established very early in the planning process. Preliminary studies of these corridors indicated that they would not meet the traffic needs of the area and therefore were dismissed. Because of these dismissals further detailed studies were not made. Also because of these dismissals, exact termini and mid-route touchdown points were not identified.



Minnesota Pollution Control Agency

September 23, 1977

Leonard G. Eiltes
Design Engineer
Department of Transportation
Room 604
Transportation Building
St. Paul, Minnesota 55155

Dear Mr. Eiltes:

The Minnesota Pollution Control Agency staff has received and reviewed the Draft Environmental Impact Statement for Interstate Highway I-35 and U.S. Trunk Highway 161 in St. Louis County, Minnesota. Please consider the following comments:

1. On page 5, the summary of the projected noise impacts indicates that construction of the freeway will result in two areas which will experience noise levels in excess of Federal Design Noise Levels. This discussion does not include any mention of Minnesota Noise Regulation NPC-2. This regulation is the overriding noise standard in the State of Minnesota for any project, including projects proposed, constructed and operated by a State agency. Therefore, the EIS represents an incomplete discussion of the possible noise impacts of this project, particularly for a person who is not intimately involved in environmental review or highway construction.
2. On page 99, in the first line on this page, it is indicated that MPCA Noise Regulations are, "...goals for noise level control." I must emphasize that Minnesota Noise Regulations NPC-1 and NPC-2 are not goals but State regulations with the force of law.
3. At the bottom of page 99, it is indicated that the exterior noise impact at the Gateway Towers will exceed the State Noise Standards for peak hour traffic. NPC-2(i) does provide for exceptions which indicate that buildings may be located in such noisy areas by designating adequate attenuation of noise between the exterior and interior.

4. On page 104, measures to mitigate noise impacts are discussed. No discussion of the use of proper road surfaces is provided (e.g., bituminous, decreased speed limits or truck traffic restrictions).

5. Page 119 provides a discussion on fugitive dust as a result of construction of I-35. It should be noted that fugitive dust emissions are regulated via Minnesota Air Quality Regulation APC-6. Construction of I-35E must be performed in accordance with this regulation.

6. This DEIS does not include a section which is required by the Minnesota Environmental Quality Board Regulations. This section is the impact on State government of any federal controls or multi-state responsibilities. This is a very important section considering the federal design and financial approval necessary for MN/DOT to proceed.

7. The DEIS should reflect the fact that some of the present traffic problems are related to an apparent lack of adequate traffic control and enforcement of parking laws.

8. Mass transit should be integrated into a total transit system; rather than rejecting this alternative simply because it will not, by itself, provide all the improvements needed.

9. It is not clear whether permits for activities in the bed of public waters will require permits from the Corps of Engineers. If so, can MN/DOT assure that water quality standards will not be violated as a result of the proposed action.

10. The methods identified in the EIS for handling petroleum and chemical spills by flushing the materials down the storm sewer to Lake Superior is unacceptable to the Agency. Spilled materials should be recovered and disposed in a manner approved by the Agency. The MPCA Regional Office in Duluth will contact the District Office of MN/DOT to discuss a spill contingency plan.

The above comments relate to specific discussion in the document. However, as you are aware, since the printing of this EIS, the project description has been substantially revised. In particular, the development of the Metro Retail Center over the proposed highway and adjacent to Harbor Drive is not included in the air quality or noise analyses. As such,

11 the air quality and noise analyses included in this document are inadequate. In addition, the Division of Air Quality cannot make a determination on consistency of this project with the State Implementation Plan until a revised air quality analysis is performed and presented to the MPCA.

12 A second major area of concern is that this State Draft EIS discusses impacts as a result of I-35 extension to Tenth Avenue East. The Federal Environmental Impact Statement submitted to FHWA apparently discusses the project with the terminus at 26th Avenue East. This discrepancy has an extensive impact on the State's ability to analyze the impact from this project. Specifically, the MPCA cannot adequately review the I-35 proposal in a segmented fashion. If MN/DOT is, in fact, planning to extend this highway to 26th Avenue East, the impacts as a result of the total project, including this additional length, should be included in the Draft EIS. The Minnesota Pollution Control Agency cannot adequately fulfill its responsibilities of environmental review if the total project is not included in the environmental impact analyses.

In conclusion, for the reasons given, because of the change in the proposed action and because of the possible segmentation of environmental review of I-35, MPCA staff feel that this Draft EIS is inadequate.

Yours truly,


Sandra S. Gardebring
Executive Director

SSG:es

cc: MN/DOT Dist. 1 Office, Duluth
Terry Hoffman, Tech. Rep., MN/DOT
John Pegors, MPCA Reg. Director, Duluth
Peter Vanderpoel, Chairman, EQB

MPCA COMMENTS

1. Subsequent to the writing of the DEIS, it was discovered that several windows in the Gateway Towers can be opened and that interior noise levels will exceed State noise regulations and the EDNL for the open window condition. Corrections have been made in the text.
2. Corrections have been made in text, page 100.
3. Corrections have been made in text, page 101.
4. The noise analysis presented in the EIS addresses some known noise reduction measures such as vehicle speed reductions, (45 MPH on the I-35 extension and 30 MPH on London Road), and reduced roadway gradients. The analysis does not address noise reduction due to surface types as the roadway surface types have not yet been determined, therefore, the noise analysis presents the greatest "worst case" noise impact for unknown conditions and may be influenced by the final surface determination.
5. I-35 will be constructed in accordance with Minn. Air Quality Reg. APC-6.
6. A new section was added to the text on page 159 covering the impacts on state government of any federal controls associated with the proposed action and multi-state responsibilities.
7. In the CBD every intersection on Superior Street, 1st Street, 2nd Street and 3rd Street has been signalized from 5th Avenue West to 3rd Avenue East. The signal system is traffic actuated and considered one of the best of its kind. In addition, the City of Duluth has changed location of bus stops, eliminated parking at corners to provide for right turn lanes and prohibited left turns at 4th Avenue West from Superior Street.

Traffic along Michigan Street is controlled by traffic lights at 5th Avenue West and stop signs at 4th, 2nd Avenues West and 1st Avenue East. This one-way street is principally used as access by suppliers to businesses and as access to parking ramps.

Parking is allowed on both sides of Superior Street and 1st Street and on one side only on Michigan Street, 2nd Street and 3rd Street. Parking spaces on Michigan Street, Superior Street and 1st Street are metered from 5th Avenue West to 3rd Avenue West. On 2nd Street they are metered from 4th Avenue West to Lake Avenue and East of Lake Avenue 2-hour parking is allowed along with 3rd Street. Parking on the Avenues are also metered. These streets are constantly being patrolled by the Duluth Police Department (meter maids) for enforcement of Duluth's parking regulations.

8. An objective of this project is to enhance mass transit (page 17). On page 19 of the DEIS it is stated "The proposed freeway will result in significantly reduced traffic on bus routes. This will reduce transit travel time on many transit routes and will improve express bus service to eastern neighborhoods." Also, on page 19, "The freeway will provide the opportunity to implement the proposed transit/pedestrian mall on Superior Street in downtown Duluth." These improvements to the mass transit system in Duluth will assist in making it more desirable to the public.

As stated on page 143, "Implementation of the proposed transit/pedestrian mall along Superior Street and reduction of traffic volumes in the downtown can only be accomplished by construction of I-35 through the downtown area."

For this reason and other reasons stated in the DEIS, mass transit is not a viable separate alternative, but part of the total solution to the transportation problem in Duluth.

9. Permits will not be required from the Corps of Engineers. See response to DNR comments page 174.
10. Both offices have had in the past year informal meetings pertaining to a spill contingency plan for this area.
11. The air quality and noise analysis were performed using the best information available at the time of analysis. Since better information becomes available during a projects development both studies could be continually updated and refined. Specifically, the addition of the "Metro Retail Center" and the multi-use concept will significantly change the traffic pattern in and around the CBD. When a revised traffic analysis and a detailed "Metro Center Plan" including parking lot locations and usage become available both studies will be re-evaluated. Mn/DOT will

maintain close coordination with the MPCA on the development of this project. An application to the MPCA for an Indirect Source Permit and the FHWA final noise report will be based upon I-35 construction plans at that time. The DEIS and FEIS are for I-35. Future reports/applications will consider I-35 and the multi-use concept together or separately.

12. The Minnesota Highway Department originally intended to evaluate the impacts of extending the freeway in the vicinity of 10th Avenue East in an Environmental Impact Statement (EIS). However, the Federal Highway Administration objected to this termini. They indicated the freeway extension should be impacted beyond Leif Erikson Park. The most logical place beyond the park was considered to be at 26th Avenue East. Therefore, the Federal EIS with the 26th Avenue East termini was written for impacting purposes only. Mn/DOT only has plans to construct the freeway to 10th Avenue East, as approved by a Citizens Advisory Committee which was appointed by the Mayor of Duluth.

A second Citizen Committee may be appointed by the Mayor at a later date to study the following:

- should the freeway be extended beyond 10th Avenue East, and if so, what should be the final termini. In the event there is a need for an extension, a separate State EIS will be prepared.
- if an extension is needed, should the extension be done by some other type of transportation facility such as an arterial, expressway or a parkway.
- whether some alternative other than a transportation facility could be instituted.

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