

REPORT OF THE HOAN BRIDGE SOUTH TASK FORCE

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Louise M. Tesmer Wisconsin State Representative

Robert Ullenberg President, Bay View
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MEMORANDUM REPORT NUMBER 6

**REPORT OF THE HOAN BRIDGE
SOUTH TASK FORCE
MILWAUKEE COUNTY, WISCONSIN**

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December 1986

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REPORT OF THE HOAN BRIDGE SOUTH TASK FORCE

INTRODUCTION

At its meeting on Monday, March 3, 1986, the Southeastern Wisconsin Regional Planning Commission (SEWRPC) created a Task Force to guide a citizen-based effort to seek a consensus as to how to resolve traffic problems while preserving community values at the south end of the Daniel Webster Hoan Memorial Bridge. The Task Force was created at the request of Commissioner Harout O. Sanasarian, Milwaukee County Board Supervisor and SEWRPC Vice-Chairman, in response to requests by the following citizen leaders in the Bay View and St. Francis areas: Nancy Cannon, John Gurda, Audrey Quinsey, Henry Syzmanski, and Mayor Milton Vretenar of the City of St. Francis. These citizens were concerned over the failure to achieve a community consensus on this long-standing problem, despite the many proposals advanced by agencies and groups over the past 50 years, as indicated in Table 1.

The Task Force membership was drawn to provide representation of the full spectrum of viewpoints on this important issue, including citizen, business, and labor leaders, and concerned state, county, and local officials. All State Senators, State Representatives, and County Supervisors from the area were invited to serve on the Task Force. The membership of the Task Force is presented in Table 2.

This report presents information which was requested by the Task Force to permit thoughtful consideration of the existing and potential future traffic and related community development problems at the south end of the Daniel Webster Hoan Memorial Bridge, and the costs and benefits of alternative actions which could potentially alleviate those problems. The information is presented basically for the study area shown on Map 1 which is bounded on the north by the stub end of the Hoan Memorial Bridge at approximately E. Lincoln Avenue; on the east by Lake Michigan; on the south by E. Layton Avenue; and on the west by S. Howell Avenue and S. First Street.

This report presents information on both existing and probable future conditions within the study area, including pertinent information on resident population, households, employment levels, and land use. Information describing the arterial street system in the study area is also presented, including data on the width of existing arterial streets and the traffic control on arterial streets. Existing and forecast year 2000 traffic volumes on the arterial street system are also presented. The existing public transit system within the study area is described. Following this description of existing and probable future conditions within the study area is a discussion of the existing

Table 1

MAJOR HISTORICAL EVENTS CONCERNING LAKE FREEWAY
AND ARTERIAL IMPROVEMENTS IN SOUTHERN MILWAUKEE COUNTY

1. Pre-World War II Era

In the 1930s public support began to develop for a high level harbor bridge between the Bay View area and downtown Milwaukee in order to permit traffic to bypass rush hour congestion at low level bridges over the Milwaukee River, particularly when boat traffic disrupted arterial street traffic.

2. 1952--City of Milwaukee Expressway System

In 1952 a plan for an expressway system was prepared by the City of Milwaukee. This plan envisioned connections with a high level harbor bridge along the Milwaukee lakefront then under consideration by the Milwaukee County Park Commission as an extension of Lincoln Memorial Drive over the harbor entrance.

3. 1955--Milwaukee County Expressway System Plan

In 1955 the first expressway system plan was adopted by the Milwaukee County Expressway Commission. This plan included a high level bridge over the Menomonee River that would carry a north-south freeway but at a location about one mile west of the present harbor crossing location.

4. 1960--State Highway Commission Study of the Kenosha-Milwaukee Corridor

In a report completed by a consultant for the State Highway Commission in 1960, it was recommended that a limited access highway be provided between Milwaukee, Racine, and Kenosha within the corridor formed by IH 94 on the west and Lake Michigan on the east.

5. 1963--Lake Freeway Addition to Expressway Plan

In 1963 the Lake Freeway was added to the Milwaukee County expressway plan by the Milwaukee County Expressway Commission. The route was proposed to extend from an intersection with the Park Freeway at the Juneau interchange south along the lakefront to a terminus at Lincoln Avenue extended, where a connection to local arterials was contemplated.

6. 1964--Interstate Designation of Lake Freeway

In 1963 Milwaukee County petitioned the State of Wisconsin and the federal government to designate an interstate highway route on the East-West Freeway east of the Marquette Interchange and on the Lake Freeway-South to the contemplated terminus at Lincoln Avenue. This designation was approved by state and federal officials in 1964. As a condition of that approval, the federal government required that freeway connections be provided both north and south of the Lake Freeway segment of the new interstate route. The then planned Lake Freeway extending north to connect with the Park Freeway fulfilled the northerly freeway connection requirement.

7. 1967--Lake Freeway Extension Placed on Expressway Plan

In 1967 Milwaukee County, responding to a federal requirement, added the Lake Freeway-South extension from Lincoln Avenue to Layton Avenue to the County expressway plan.

Table 1 (continued)

8. 1966-1967--Regional Transportation Plan

In 1966 and 1967, the Regional Planning Commission completed and adopted its first regional transportation system plan. The Lake Freeway from the Park Freeway south to Layton Avenue was considered in that planning effort to be a committed freeway facility and, accordingly, the specific need for that facility was not examined. The Commission added to the proposed freeway system a further southerly extension of the Lake Freeway from Layton Avenue to Racine and Kenosha.
9. 1970-- Construction Initiated on Hoan Bridge

During June 1970, contracts were awarded for the initiation of construction on the Daniel Webster Hoan Memorial Bridge.
10. 1977--Opening of Hoan Memorial Bridge

On November 5, 1977, the Daniel Webster Hoan Memorial Bridge was opened to traffic.
11. 1981--Amendment to Regional Plan

In response to community concerns attendant to neighborhood disruption, particularly in the Bay View area, the regional plan was amended in 1981 to eliminate the previously proposed six-lane Lake Freeway south of the Hoan Bridge in favor of a surface arterial facility.
12. 1983--WisDOT Lake Arterial Preliminary Engineering Study

In 1983 the Wisconsin Department of Transportation retained a consultant to undertake preliminary engineering studies to define a surface arterial facility that would connect to the Hoan Bridge. In 1985 this work was suspended in light of action taken by the Wisconsin Legislature to eliminate funding for the proposed facility. The Wisconsin Legislature also took action in 1985 to require connection of the Hoan Bridge to Bay Street, but the Governor vetoed this connection.
13. 1984--Lake Arterial Alternative Committee Proposal

As a part of the public involvement program attendant to the WisDOT preliminary engineering study, the Lake Arterial Alternative Committee, a Bay View citizen-based organization, proposed an alternative alignment that would extend the lake arterial from the Hoan Bridge south to and along the Chicago & North Western Railroad right-of-way to Kinnickinnic Avenue and thence south along Kinnickinnic Avenue to S. Nicholson Avenue. At that point, the arterial traffic would be carried along both S. Nicholson Avenue and Kinnickinnic Avenue to Layton Avenue.
14. 1985--Causeway Proposal

In November 1985 several county and state elected officials suggested the construction of an arterial highway along a causeway in Lake Michigan extending from the Hoan Bridge south to either Howard Avenue or Layton Avenue. This alternative met with strong citizen opposition.

Table 2

HOAN BRIDGE SOUTH TASK FORCE

Harout O. Sanasarian.....SEWRPC Commissioner and
Chairman Supervisor, Milwaukee County
Board of Supervisors

Kurt W. Bauer.....Executive Director, Southeastern
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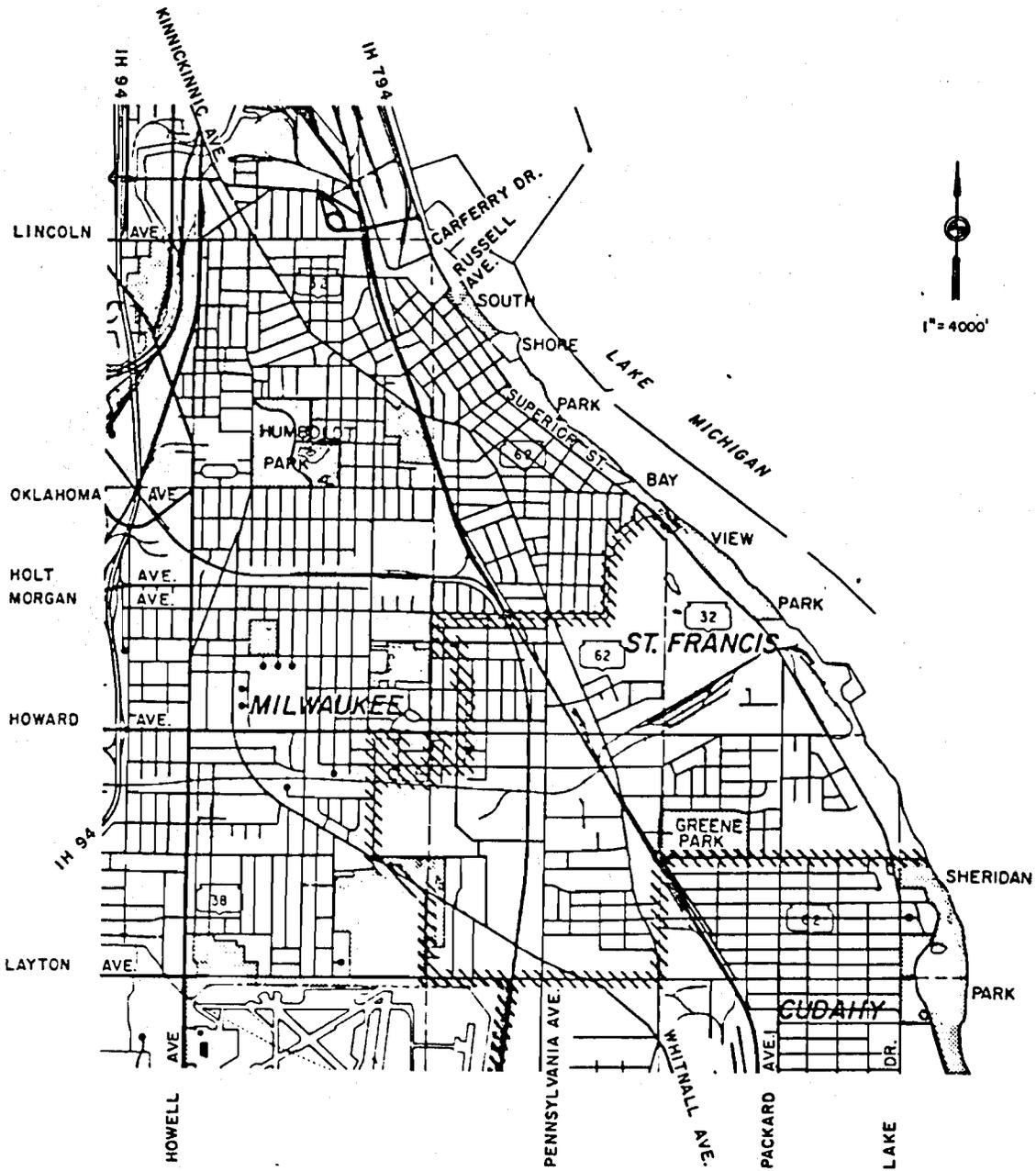
Robert Ullenberg.....President, Bay View
Business Association

Milton Vretenar.....Mayor, City of St. Francis

Evan Zeppos.....Designee for State
Representative Walter J. Kunicki

Map 1

HOAN BRIDGE STUDY AREA



Source: SEWRPC

and probable future traffic and related problems in the study area. Following the discussion of these problems is a definition and evaluation of a wide range of potential alternative actions which could potentially resolve those problems, and a comparison of the advantages and disadvantages of these alternatives to each other and to a do-nothing alternative.

EXISTING AND FORECAST CONDITIONS WITHIN THE STUDY AREA

Employment, Households, and Population

Presented in Table 3 are existing 1980 and forecast year 2000 population, household, and employment levels for southeastern Milwaukee County, including the study area and that portion of Milwaukee County south of the study area which contributes to traffic within the study area, as shown in Map 2. Population, households, and employment in this southeastern portion of Milwaukee County are presently concentrated principally in its northern portion, including the Bay View, Tippecanoe, St. Francis, Cudahy, and South Milwaukee areas. About 90 percent of the existing population, households, and employment in southeastern Milwaukee County are located in these areas. As noted in Table 3, this northern portion of southeastern Milwaukee County is projected to experience some modest decreases, particularly with respect to employment to the year 2000. The southern portion of southeastern Milwaukee County, consisting of part of the City of Oak Creek, on the other hand, is projected to experience substantial increases, particularly with respect to population and households. However, this southern portion would still represent in the year 2000 a relatively small proportion, about 15 to 25 percent, of the total population, households, and employment of southeastern Milwaukee County. In total, it is forecast that southeastern Milwaukee County would experience an increase in population and households of about 25 percent to the year 2000, and a decline in employment of about 10 percent.

It may be noted that these year 2000 forecasts of population, households, and employment presented above for southeastern Milwaukee County are based upon the Commission's adopted long-range year 2000 land use plan for the seven-county Southeastern Wisconsin Region, which envisions very modest total regional employment growth of about 15 percent to the year 2000, well below historic levels of increase of 20 percent per decade. The land use plan also envisions a very modest growth in households in the Region of about 15 percent, which also is less than historic levels of about 20 percent per decade. The plan proposes the strengthening of the central city of Milwaukee and inner Milwaukee County suburbs, and a slowing in the trend of decentralization of development to outlying counties of the Region.

Land Use

The existing land use in 1980 within the study area is shown on Map 3 and is summarized in Table 4, along with the planned land use in the study area in the year 2000. The predominant existing land use in the study area is residential, representing about 40 percent of the total land area in the study area, and little change is anticipated to the year 2000.

Of the five communities within southeastern Milwaukee County, only the City of Oak Creek has a recently prepared comprehensive plan.

Table 3

EXISTING 1980 AND FORECAST 2000 EMPLOYMENT, HOUSEHOLDS, AND POPULATION
WITHIN THE STUDY AREA AND AREAS WHICH CONTRIBUTE TRAFFIC TO THE STUDY AREA

Subarea Number Description	Employment					Households					Population				
	1980		2000		1980-2000	1980		2000		1980-2000	1980		2000		1980-2000
	Number	Percent of Total	Number	Percent of Total	Change (percent)	Number	Percent of Total	Number	Percent of Total	Change (percent)	Number	Percent of Total	Number	Percent of Total	Change (percent)
1 Bay View ^a	7,890	20	7,170	20	-9.1	7,930	23	7,850	18	-1.0	20,050	21	18,720	15	-6.6
2 Tippecanoe...	3,870	10	3,290	9	-15.0	7,060	20	7,430	17	+5.2	18,200	19	19,760	16	+8.6
3 St. Francis..	2,530	6	1,880 ^b	5	-25.7	3,940	11	4,140 ^b	10	+5.1	10,110	11	11,840 ^b	10	+17.1
4 Cudahy East..	3,210	8	4,260	12	+32.7	3,260	9	3,260	7	--	7,980	8	9,460	8	+18.5
5 Cudahy West..	9,960	25	7,290	20	-26.8	2,170	6	3,260	7	+50.2	7,050	7	9,170	7	+30.1
6 Airport.....	1,210	3	1,410	4	+16.5	50	--	50	--	--	140	--	130	--	-7.1
7 South Milwaukee...	8,130	20	6,490	19	-20.2	7,320	21	7,830	18	+7.0	20,790	22	22,390	18	+7.7
8 Oak Creek 1..	1,110	3	1,040	3	-6.3	1,310	4	4,020	9	+206.9	4,530	5	12,020	10	+165.3
9 Oak Creek 2..	720	2	1,250	4	+73.6	1,120	3	3,660	8	+226.8	3,270	3	10,940	9	+234.6
10 Oak Creek 3..	1,110	3	1,470	4	+32.4	1,220	3	2,690	6	+120.5	4,070	4	8,140	7	+100.0
Total	39,740	100	35,550	100	-10.5	35,380	100	44,190	100	+24.9	96,190	100	122,570	100	+27.4

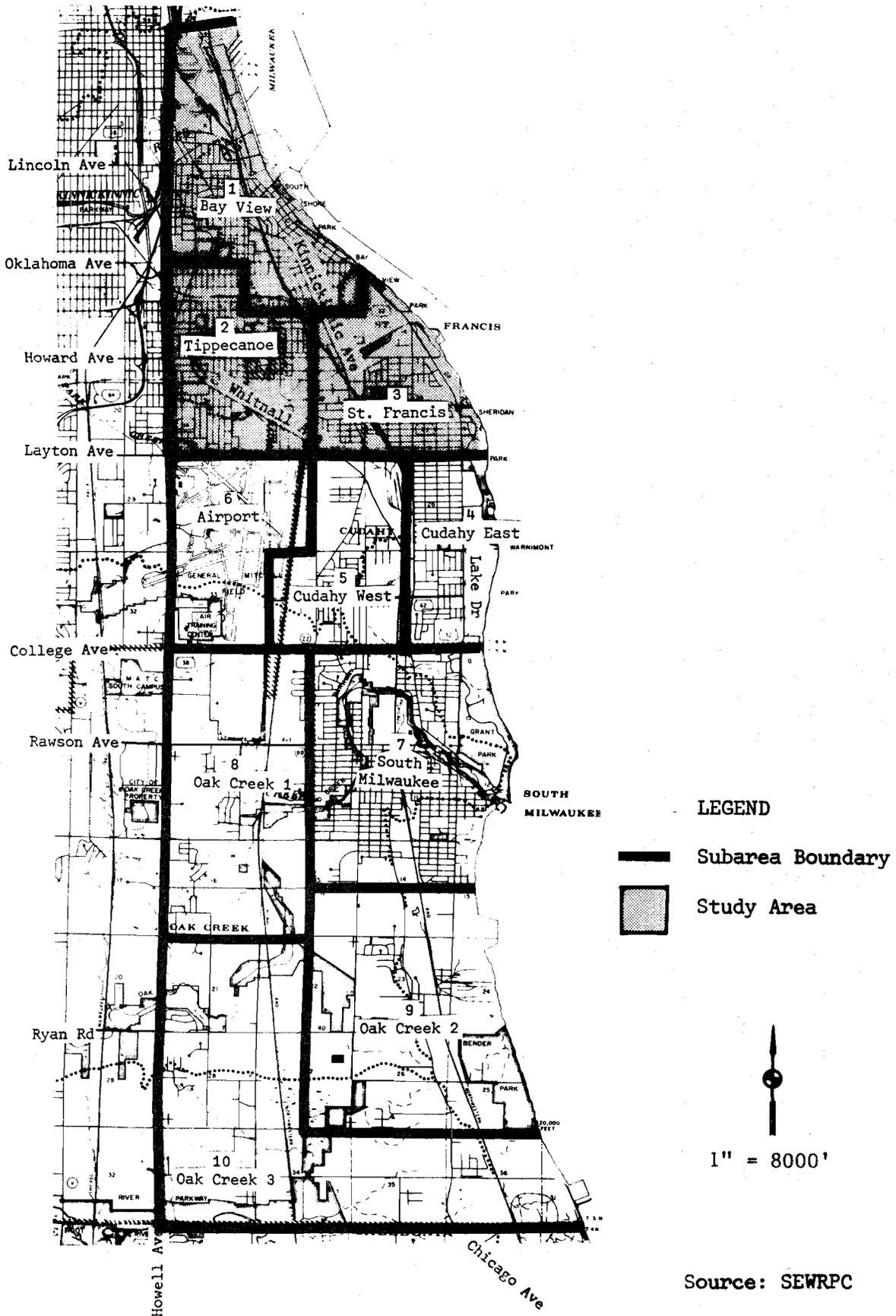
^aThe forecasts for Bay View envision a continuation of existing trends of no housing growth and declining household size. There is potential for this to change due to its proximity to a growing downtown Milwaukee and the Milwaukee lakefront. Some believe that this change is already occurring with a younger and growing population.

^bProposed development at former lakefront power plant site in St. Francis would add an estimated 1,500 households, 3,200 population, and 200 jobs to Sub-area 3.

Source: SEWRPC.

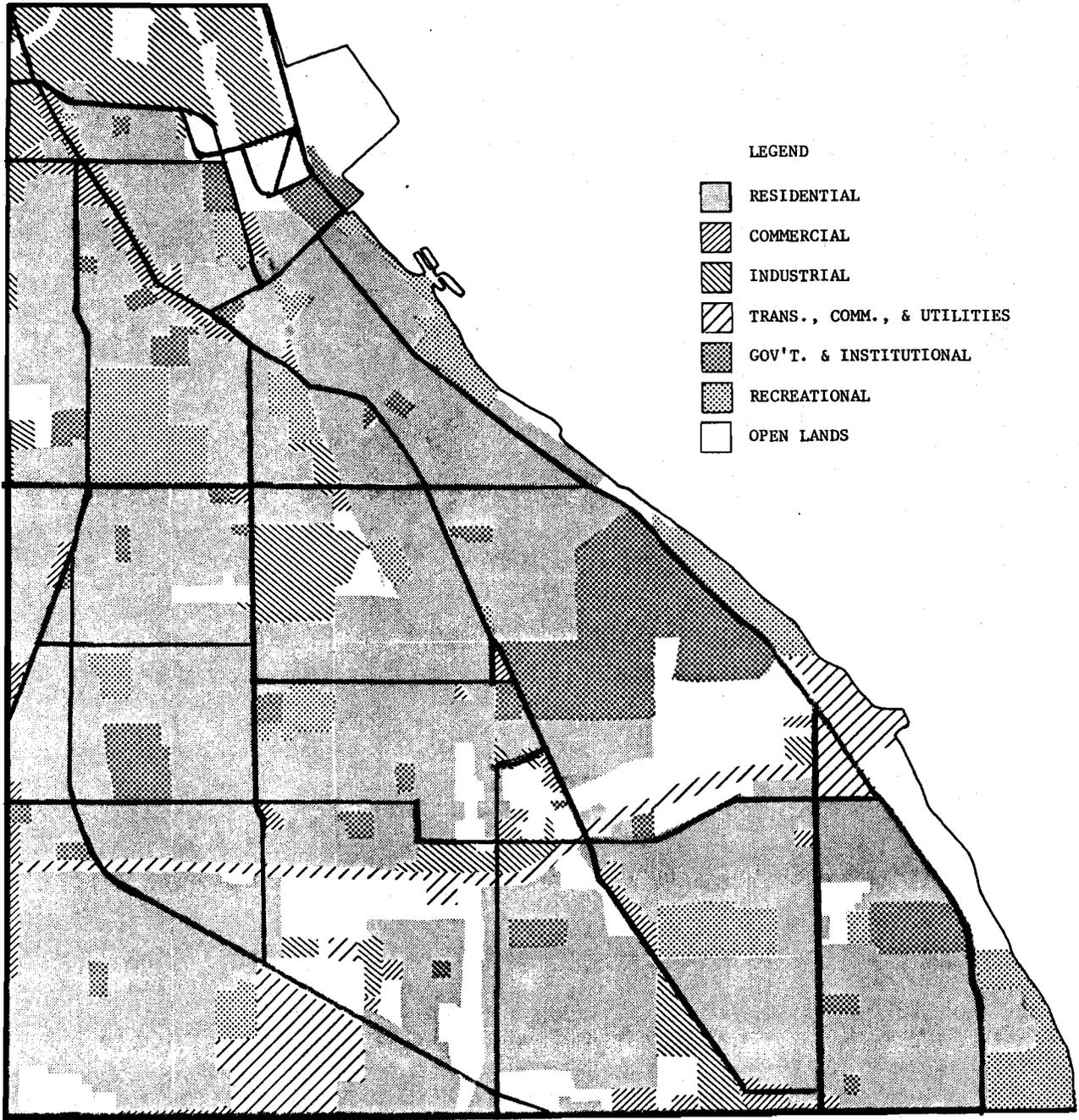
Map 2

SUBAREAS OF SOUTHEASTERN MILWAUKEE COUNTY INCLUDING STUDY AREA AND AREAS TO THE SOUTH CONTRIBUTING TRAFFIC TO THE STUDY AREA



Map 3

EXISTING LAND USE WITHIN THE STUDY AREA: 1980



Source: SEWRPC.

Table 4

EXISTING 1980 AND PLANNED YEAR 2000 LAND USE IN SOUTHEASTERN MILWAUKEE COUNTY

Generalized Land Use Category	Study Area ^a				Remainder of Southeast Milwaukee County ^a				Total ^a			
	Existing 1980 (acres)	Planned 2000 (acres)	1980-2000 Increment (acres)	Percent Change 1980-2000	Existing 1980 (acres)	Planned 2000 (acres)	1980-2000 Increment (acres)	Percent Change 1980-2000	Existing 1980 (acres)	Planned 2000 (acres)	1980-2000 Increment (acres)	Percent Change 1980-2000
Residential.....	1,934	2,046	112	5.8	3,475	4,676	1,201	34.6	5,409	6,722	1,313	24.3
Commercial.....	106	108	2	1.9	208	219	11	5.3	314	327	13	4.1
Industrial.....	198	198	--	--	534	604	70	13.1	732	802	70	9.6
Transportation, Communication, and Utilities.....	1,364	1,402	38	2.7	3,640	4,123	453	12.3	5,034	5,525	491	9.8
Government and Institutional...	286	290	4	1.4	615	649	34	5.5	901	939	38	4.2
Recreational.....	263	267	4	1.5	683	873	190	27.8	946	1,140	194	20.5
Open Lands.....	693	533	-160	-23.1	9,044	7,085	-1,959	-21.7	9,737	7,618	-2,119	-21.8
Total	4,844	4,844	--	--	18,229	18,229	--	--	23,073	23,073	--	--

^a See Map 2 for the limits of the study area and the southeast Milwaukee County area.

Source: SEWRPC.

Amount of Weekday Travel

The existing 1980 and forecast year 2000 travel generated within southeastern Milwaukee County are shown on Map 4. It is estimated that the population and employment within southeastern Milwaukee County generated about 492,000 person-trips on an average weekday in 1980. Based on the forecast population, households, and employment levels in this area, the level of weekday travel may be expected to increase by about 20 percent by the year 2000, to about 590,300 trips per average weekday.

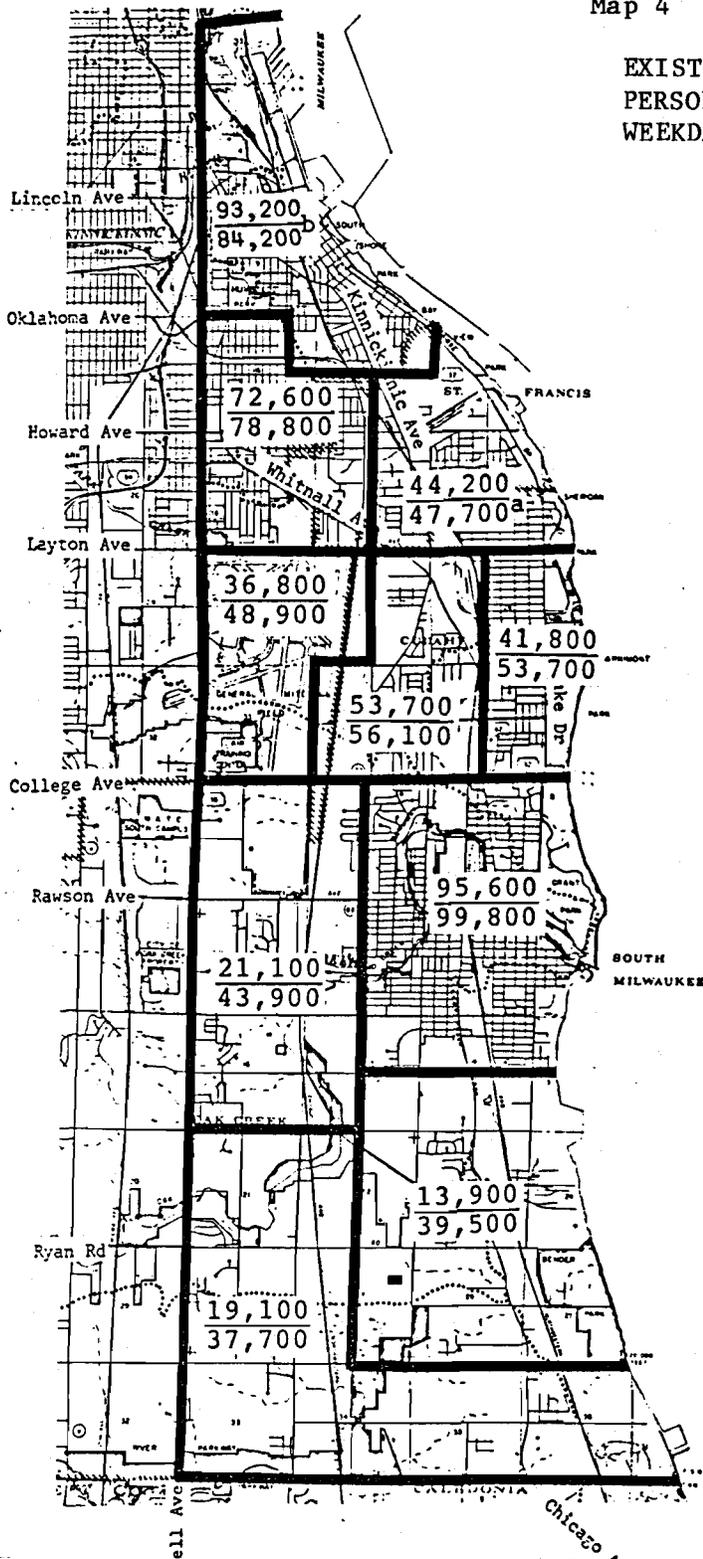
The number and percentage of the existing 1980 and forecast year 2000 transit trips expected to be made by public transit under each of the 11 Hoan Bridge connection alternatives, including the "do-nothing" alternative, is shown on Map 5. It should be noted that the forecast of year 2000 transit trips is based upon the forecast year 2000 population, household, and employment levels, and implementation of the adopted regional transit system plan under each alternative. The adopted regional transit system plan proposes both a significant expansion of the area served by public transit and a substantial increase in transit service levels for southeastern Milwaukee County. The areas served by public transit service under the existing transit system and the areas to which transit service would be expanded under the adopted transit plan are shown on Maps 6 and 7. As can be seen from Map 6, the area served by regular local bus service under the adopted plan would be expanded by about one-third from the area served by the existing transit system, resulting primarily from the extension of local transit service to Oak Creek. The frequency of transit service on regular local bus routes would also be increased under the plan by about 20 percent during peak periods, and by 35 percent during the midday and evening off-periods.

The plan would also expand the area served by freeway flyer and arterial express bus routes in southeastern Milwaukee County by about 50 percent, as shown on Map 7. Such service currently serving the area consists of peak period freeway flyer service operating from two park-ride lots located along IH 94--one at W. College Avenue and one at W. Holt Avenue. Under the plan, the frequency of peak period freeway flyer service to or from these two park-ride lots would be increased by 75 percent. In addition, new freeway flyer and/or arterial express bus service would be added to serve park-ride lots at General Mitchell Field and along IH 94 at W. Ryan Road and W. Layton Avenue, and on E. Layton Avenue and W. Rawson Avenue.

The freeway flyer routes proposed under the plan would continue to operate in essentially the same manner as existing freeway flyer services, which provide nonstop service from park-ride lots to downtown Milwaukee. It is assumed that an areawide freeway ramp-metering and traffic management system will be implemented which will improve freeway flyer service speeds by metering automobile traffic entering the freeway so that stop-and-go freeway traffic is eliminated, and by providing exclusive freeway on-ramps for buses so that they do not have to wait to enter the freeway like automobiles. The arterial express bus service proposed under the plan would operate in street lanes reserved exclusively during peak traffic periods for bus use only, and would stop only at major intersections and/or transfer points with other bus routes, with stops generally no closer than one-half mile apart outside downtown Milwaukee. Bus travel speeds on these routes would be about 50 to 75 percent faster than existing local route speeds. Extensive studies of rapid transit system alternatives for the Milwaukee area--including light rail, heavy rail, commuter

Map 4

EXISTING 1980 AND FORECAST YEAR 2000
PERSON-TRIPS GENERATED ON AN AVERAGE
WEEKDAY IN SOUTHEASTERN MILWAUKEE COUNTY



LEGEND

10,000 - 1980 Person Trips
12,500 - 2000 Person Trips

Total Trips

492,000 - 1980 Person Trips
590,300 - 2000 Person Trips



1" = 8000'

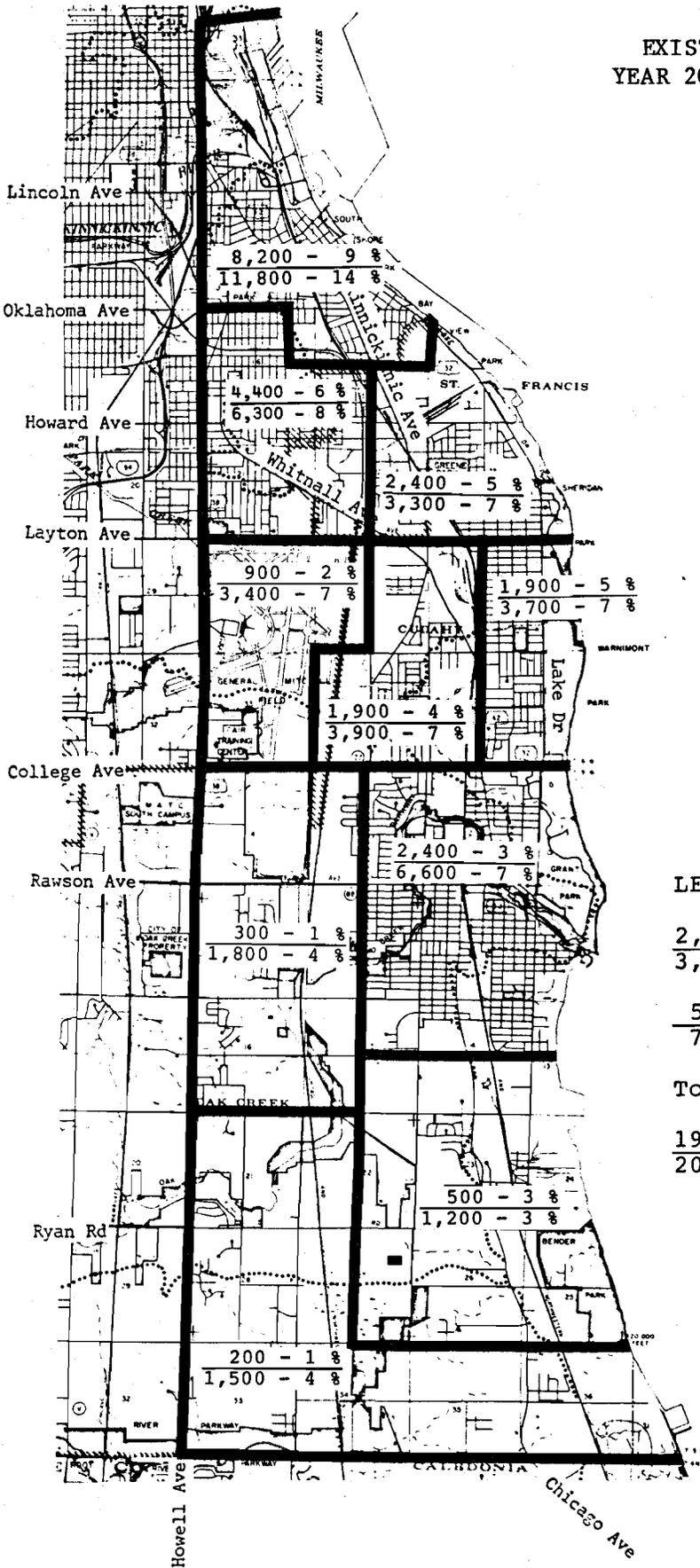
Source: SEWRPC

^a Proposed development at former lakefront power plant site in St. Francis would result in an additional 15,000 person-trips generated in year 2000.

^b This forecast of trips is based upon a continuation of existing trends of little growth and declining household size. There is the potential for substantial growth, however, in this area with its proximity to downtown and the lakefront.

Map 5

EXISTING 1980 AND FORECAST
YEAR 2000 PUBLIC TRANSIT TRIPS



LEGEND

2,400 1980 Transit Trips
3,000 2000 Transit Trips

5% Percent of 1980 Total Trips
7% Percent of 2000 Total Trips

Total Transit Trips

1980 - 23,100
2000 - 41,800

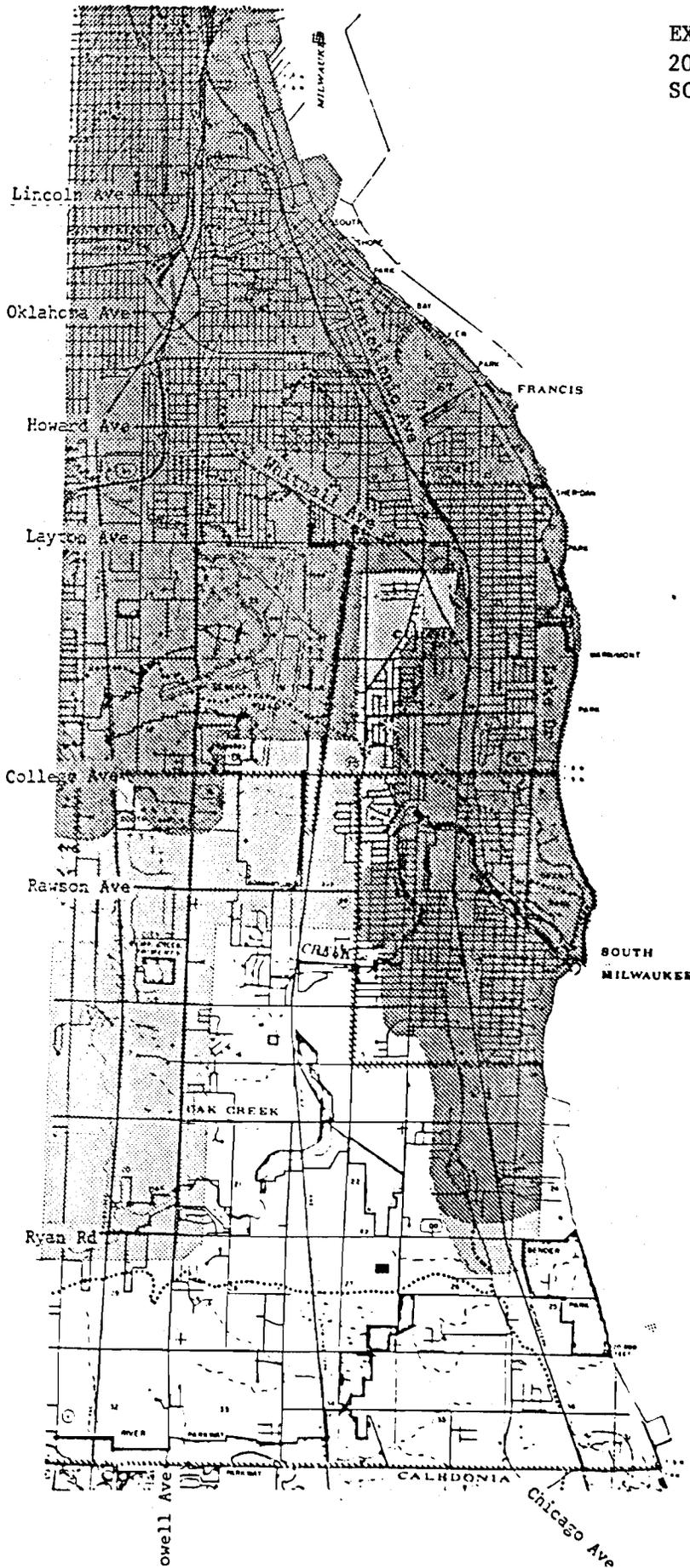


1" = 8000'

Source: SEWRPC

Map 6

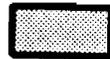
EXISTING AND PROPOSED YEAR
2000 TRANSIT SERVICE AREA IN
SOUTHEASTERN MILWAUKEE COUNTY



LEGEND



Existing Quarter-Mile
Walk Access Service Area



Proposed Quarter-Mile
Walk Access Service Area

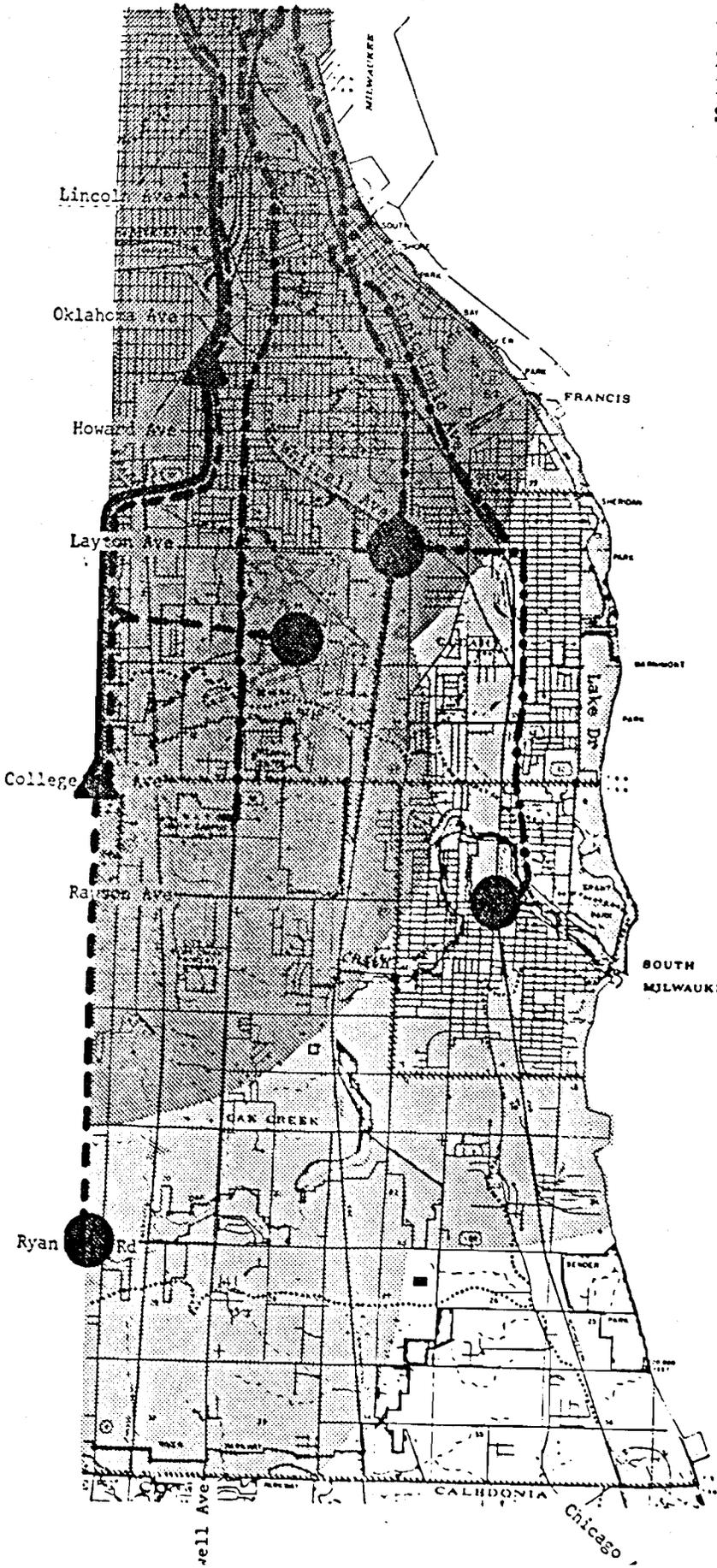


1 inch = 8000 feet

Source: SEWRPC

Map 7

EXISTING AND PROPOSED YEAR 2000
FREEWAY FLYER AND ARTERIAL
EXPRESS BUS SERVICES IN
SOUTHEASTERN MILWAUKEE COUNTY



LEGEND

-  Existing Freeway Flyer Bus Route
-  Proposed Freeway Flyer Bus Route
-  Proposed Arterial Express Bus Route
-  Existing Park-Ride Lot
-  Proposed Park-Ride Lot/Transit Station
-  Existing Park-Ride Lot Auto Access Service Area
-  Proposed Park-Ride Lot Auto Access Service Area



1 inch = 8000 feet

Source: SEWRPC

rail, buses on exclusive guideways, electric trolley buses, and other transit technologies such as monorail and personal rapid transit--indicate that, in southeastern Milwaukee County and the remainder of the Milwaukee area, major express bus service improvements proposed in the adopted plan can be expected to provide similar speeds, and result in similar levels of ridership, to those generated by these more capital-intensive transit alternatives. These findings are documented in SEWRPC Planning Report No. 33, A Primary Transit System Plan for the Milwaukee Area, and supported by SEWRPC Technical Report No. 23, Transit-Related Socioeconomic, Land Use, and Transportation Conditions and Trends in the Milwaukee Area; SEWRPC Technical Report No. 24, State-of-the-Art of Primary Transit System Technology; SEWRPC Technical Report No. 25, Alternative Futures for Southeastern Wisconsin; and SEWRPC Technical Report No. 26, Milwaukee Area Alternative Primary Transit System Plan Preparation, Test, and Evaluation. In addition, a more detailed study of alternative light rail and express bus improvements in the Milwaukee northwest corridor is reaching the same conclusion.

The significant expansion of the transit service area and increases in service levels recommended by the adopted transit system plan are expected to result in a substantial increase in transit ridership over current ridership levels within southeastern Milwaukee County. As can be seen from Map 5, average weekday transit ridership for this entire area is forecast to increase by about 18,700 trips, or about 80 percent--that is, nearly double--from the 1980 level of about 23,100 trips to about 41,800 trips by the year 2000. However, the forecast increases in transit ridership, though substantial, cannot be expected to make more than a minimal contribution toward resolving existing and forecast highway traffic congestion. This is because the proportion of total person trips which are made by public transit today is very small. The 23,100 transit trips made within the area on an average weekday in 1980 represented less than 5 percent of the 492,000 total person trips, with the remaining 468,900 person trips, or 95 percent, made by automobile. Even with the significant 80 percent increase in transit ridership forecast for the year 2000, the proportion of total person trips made using public transit may be expected to increase to only about 7 percent, and the proportion of trips made using the automobile is accordingly expected to decrease from 95 percent to about 93 percent. However, because total person trips within the area are forecast to increase by the year 2000 to about 590,300 trips, or by about 20 percent, the absolute number of automobile person trips will increase to about 548,500 trips by the year 2000, or by about 17 percent. Consequently, a significant increase in automobile travel will still be expected by the year 2000, despite forecasts of transit ridership levels which represent almost a doubling of existing ridership levels within the area.

It should be noted, however, that, without the forecast increases in transit ridership and the proportion of trips made using transit, the increase in forecast automobile trips within the area by the year 2000 would be even greater. If, for example, no change had been forecast in the proportion of total person trips made using transit between 1980 and the year 2000, automobile person trips would be expected to increase to about 567,200 trips, or by about 20 percent. The forecast increases in transit ridership should, therefore, be viewed as slowing the growth of automobile travel within southeastern Milwaukee County.

It should also be noted that the forecasts of transit ridership assumed under the plan could be considered optimistic in light of recent trends in transit ridership and the implementation of new service and service improvements in Milwaukee County. Between 1980 and 1985 annual transit ridership on the Milwaukee County Transit System has declined from about 58 million revenue passenger trips in 1980 to about 48 million revenue passenger trips in 1985--a total decrease of about 16 percent, and an average annual decrease of about 3 percent per year. Much of the decline in ridership may be attributed to transit fare increases which have been implemented to generate additional passenger revenues needed to offset increases in transit operating costs and decreases in the amount of transit system operating expenses being funded through federal transit assistance programs. Such fare increases have been viewed as more acceptable than cutting back transit services to reduce system operating expenses, or increasing the property tax levy to generate the additional funds needed to offset declining federal transit assistance. With the current position of the federal administration calling for additional spending cutbacks in most domestic programs, including those providing transit capital and operating assistance, it may be that these recent trends could continue into the future, at least in the short term.

In conclusion, the above discussion of the adopted transit system plan and its impact on future transit and automobile travel in southeastern Milwaukee County can be summarized as follows:

- o The adopted transit system plan recommends a substantial improvement in the existing transit services provided within southeastern Milwaukee County. These improvements include additional routes, an expanded service area, and increased frequencies of service for all transit services within the area, including freeway flyer service, arterial express bus service, and local bus service. These improvements also include the provision of higher-speed services with arterial express buses, more freeway flyer service, and a freeway traffic management system.
- o The transit service improvements proposed under the adopted plan will result in a significant increase in the number of transit trips and the proportion of total person trips using transit within southeastern Milwaukee County. Within this area, transit ridership is forecast to increase from about 23,100 transit person trips in 1980 to about 41,800 transit person trips in the year 2000, an increase of about 80 percent. The proportion of total person trips made using public transit is forecast to increase from under 5 percent in 1980 to about 7 percent in the year 2000.
- o Other alternative transit services and technologies have been extensively investigated by the Commission staff and would not be expected to result in substantially greater transit ridership, or further help resolve highway congestion problems.
- o Despite the significant increases forecast for transit ridership, an increase in automobile travel in southeastern Milwaukee County will still be expected by the year 2000. This is due to the very small proportion of total trips now carried by public transit--under 5 percent--and the modest increase over current levels of total travel forecast for the year 2000--about 20 percent.

- o The substantial increases in transit service and transit ridership forecast for the year 2000 under the adopted plan represent a departure from current trends within Milwaukee County which have seen very little improvement in transit service, and a decline in transit ridership of about 3 percent per year since 1980. In light of these recent trends, the forecast ridership increase expected under the adopted transit system plan which has been assumed to occur under each Hoan Bridge connection alternative may be considered to be optimistic for the future.

A characteristic of existing travel in the study area which the Hoan Bridge Task Force particularly requested be examined was the "commutershed" of the Hoan Bridge, that is, the origins and destinations of the trips which use the Hoan Bridge. Maps 8 and 9 summarize the distribution of the one end of the weekday trips in 1980 and 2000, respectively, over the Hoan Bridge in the study area, that is, the origin of northbound trips over the bridge and the destination of southbound trips over the bridge. Map 10 displays this information for the year 1980 in the form of desire lines, and Map 11 provides additional detail with respect to the trips in the Bay View area which use the Hoan Bridge on an average weekday in 1980. Of the estimated 18,000 total vehicle trips made in 1980 on an average weekday traveling over the bridge, about two-thirds, or about 11,800 of these trips, had either an origin or destination in the Bay View area. An additional 14 percent, or about 2,400 trips, had either origin or destination in the St. Francis area. Map 12 shows the distribution of the other end of the weekday trips in 1980 over the Hoan Bridge, that is, the origin of southbound trips over the bridge and the destination of northbound trips over the bridge.

Maps 13 and 14 summarize the distribution of the one end of the weekday trips over S. Superior Street in 1980 and 2000, respectively--that is, the origin of northbound trips on S. Superior Street and the destination of southbound trips. The estimated proportion of traffic on S. Superior Street from and to south of E. Oklahoma Avenue was about 50 percent in 1980 and 60 percent in the year 2000. It is important to note that such proportions are estimates for an average weekday and that, during the peak traffic hours of the weekday, the proportion of such traffic on S. Superior Street from south of E. Oklahoma Avenue may be expected to be higher. Traffic during the peak traffic hours principally consists of work trips, and work trips are the longest of all average weekday trips--being on the average about 50 percent longer than other trips. Based on license plate matching surveys conducted by the Commission staff on May 22, 1986, during the morning peak traffic period on S. Superior Street south of E. Russell Avenue, over 70 percent of all northbound traffic had trip origins south of E. Oklahoma Avenue.

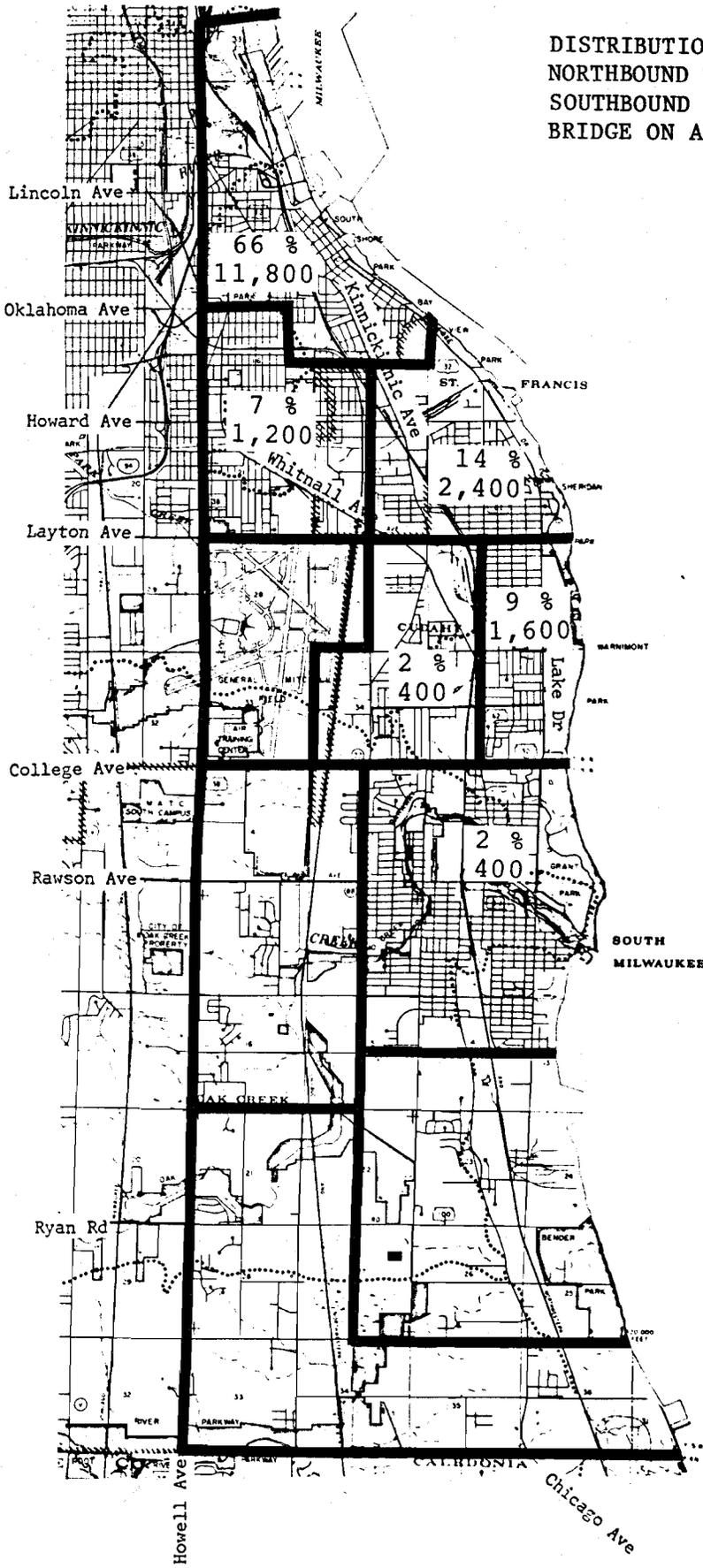
Arterial Street System

The existing arterial street system within the study area is shown on Map 15. Arterials are those streets whose principal function is to move traffic within and through an area. Also shown on Map 15 are the curb-to-curb widths of each arterial street segment.

Map 16 provides an indication of the traffic-carrying capacity of each arterial street in the study area. Identified on this map are the number of traffic lanes provided on each arterial street segment, and whether or not a median is provided on the street to divide traffic by direction. Also identi-

Map 8

DISTRIBUTION OF ORIGIN OF NORTHBOUND TRIPS, AND DESTINATION OF SOUTHBOUND TRIPS OVER THE HOAN BRIDGE ON AN AVERAGE WEEKDAY: 1980



LEGEND

50 % Percent of Trips
 1,200 Number of Trips

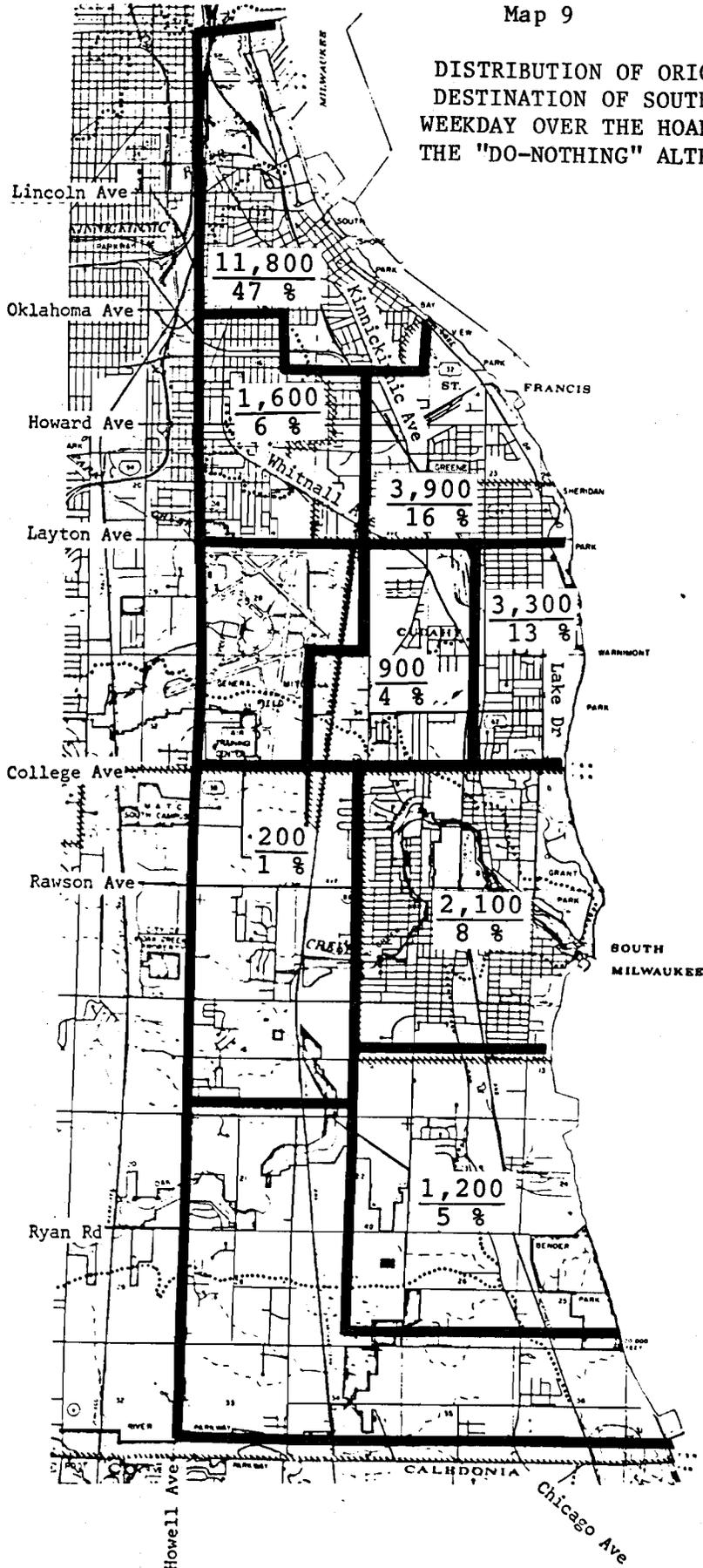


1" = 8000'

Source: SEWRPC

Map 9

DISTRIBUTION OF ORIGIN OF NORTHBOUND TRIPS AND DESTINATION OF SOUTHBOUND TRIPS ON AN AVERAGE WEEKDAY OVER THE HOAN BRIDGE UNDER ALTERNATIVE 1-- THE "DO-NOTHING" ALTERNATIVE: YEAR 2000



LEGEND

Number of Trips	$\frac{1,500}{15 \%}$
Percent of Total	

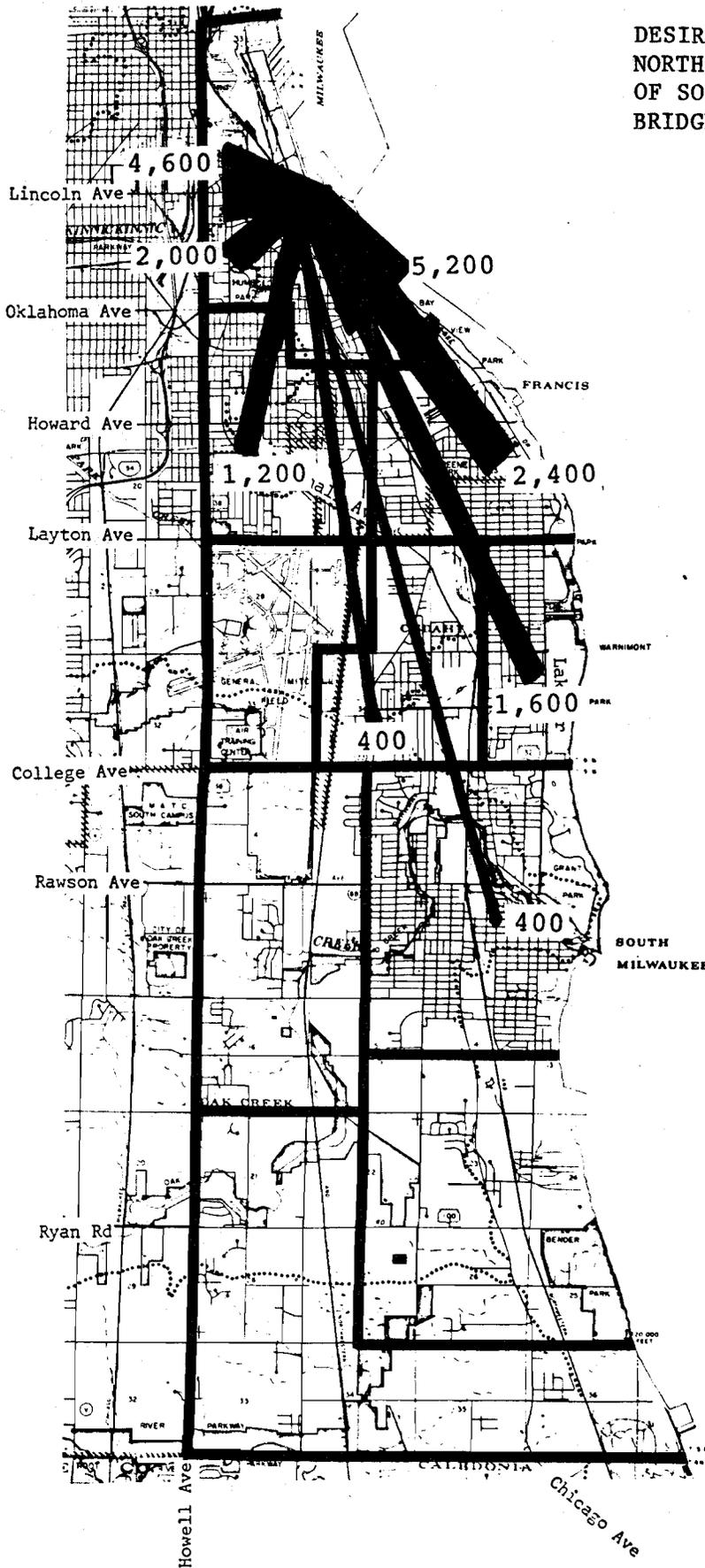


1" = 8000'

Source: SEWRPC

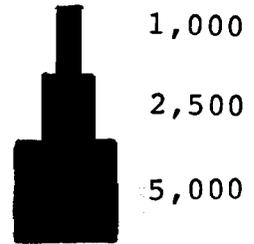
Map 10

DESIRE LINE OF ORIGIN ON NORTHBOUND TRIPS, AND DESTINATION OF SOUTHBOUND TRIPS OVER THE HOAN BRIDGE ON AN AVERAGE WEEKDAY: 1980



LEGEND

Person Trip Volume Scale

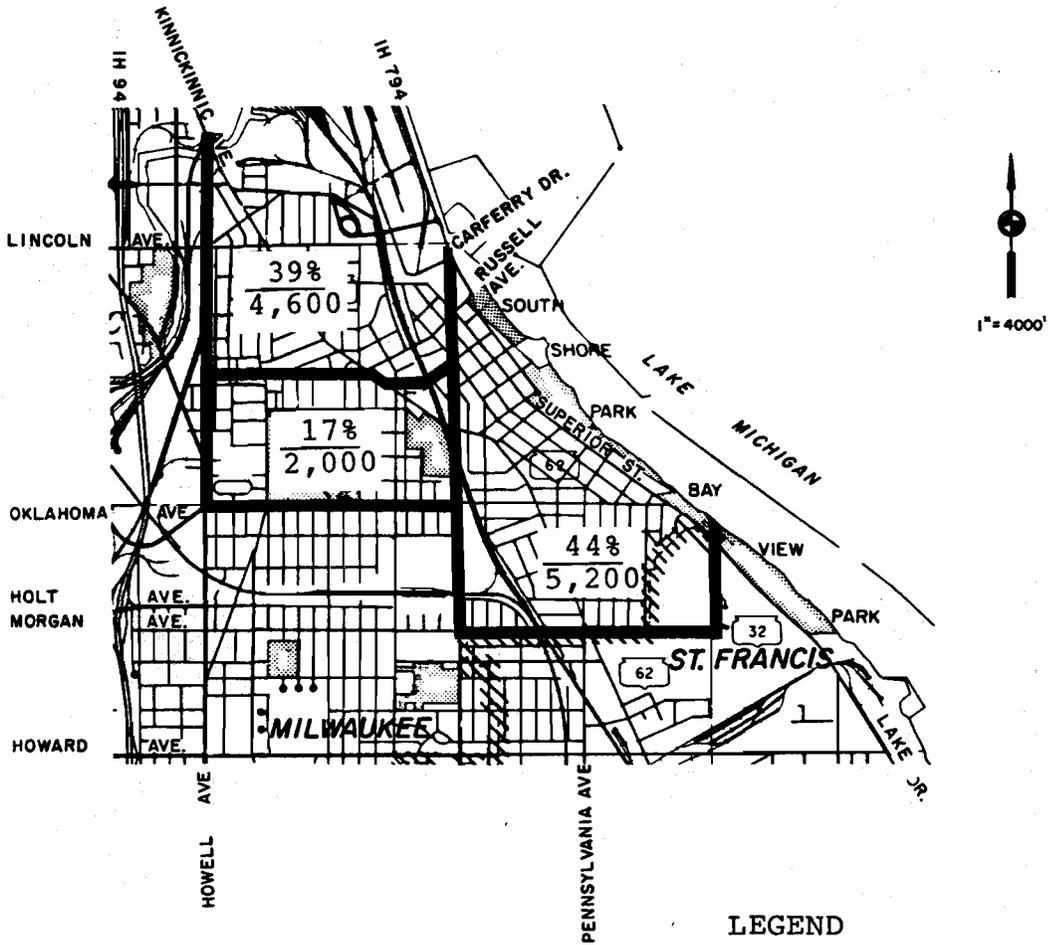


1" = 8000'

Source: SEWRPC

Map 11

DISTRIBUTION IN THE BAY VIEW AREA OF ORIGIN OF NORTHBOUND TRIPS, AND DESTINATION OF SOUTHBOUND TRIPS OVER THE HOAN BRIDGE ON AN AVERAGE WEEKDAY: 1980



LEGEND

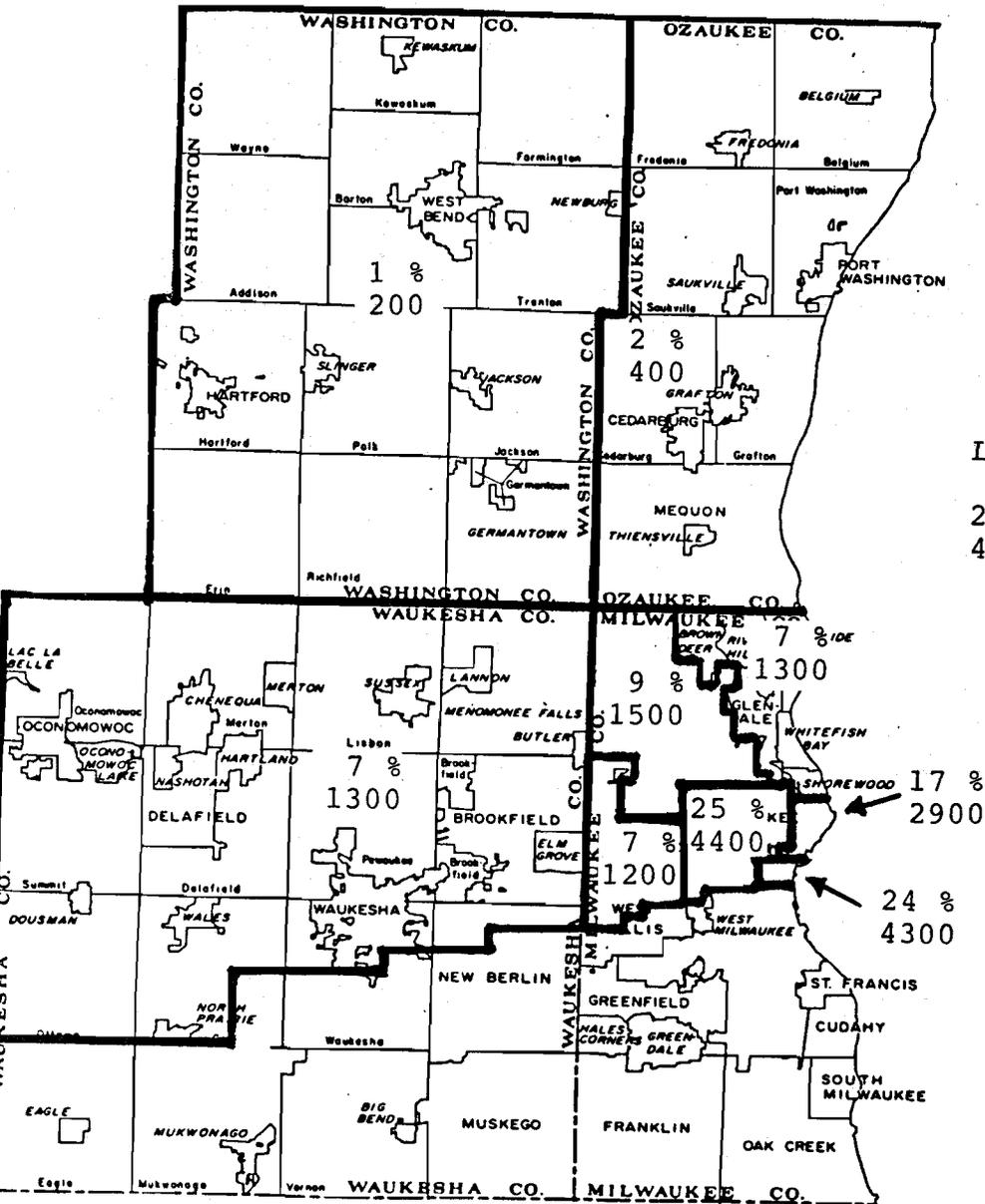
50%	<u>Percent of Trips</u>
1,200	<u>Number of Trips</u>

Total in 1980 of 11,800 trips over Hoan Bridge with one end of trip in Bay View area

Source: SEWRPC

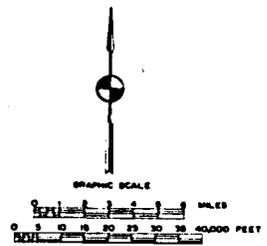
Map 12

DISTRIBUTION OF DESTINATION OF NORTHBOUND TRIPS,
AND ORIGIN OF SOUTHBOUND TRIPS OVER
THE HOAN BRIDGE ON AN AVERAGE WEEKDAY: 1980



LEGEND

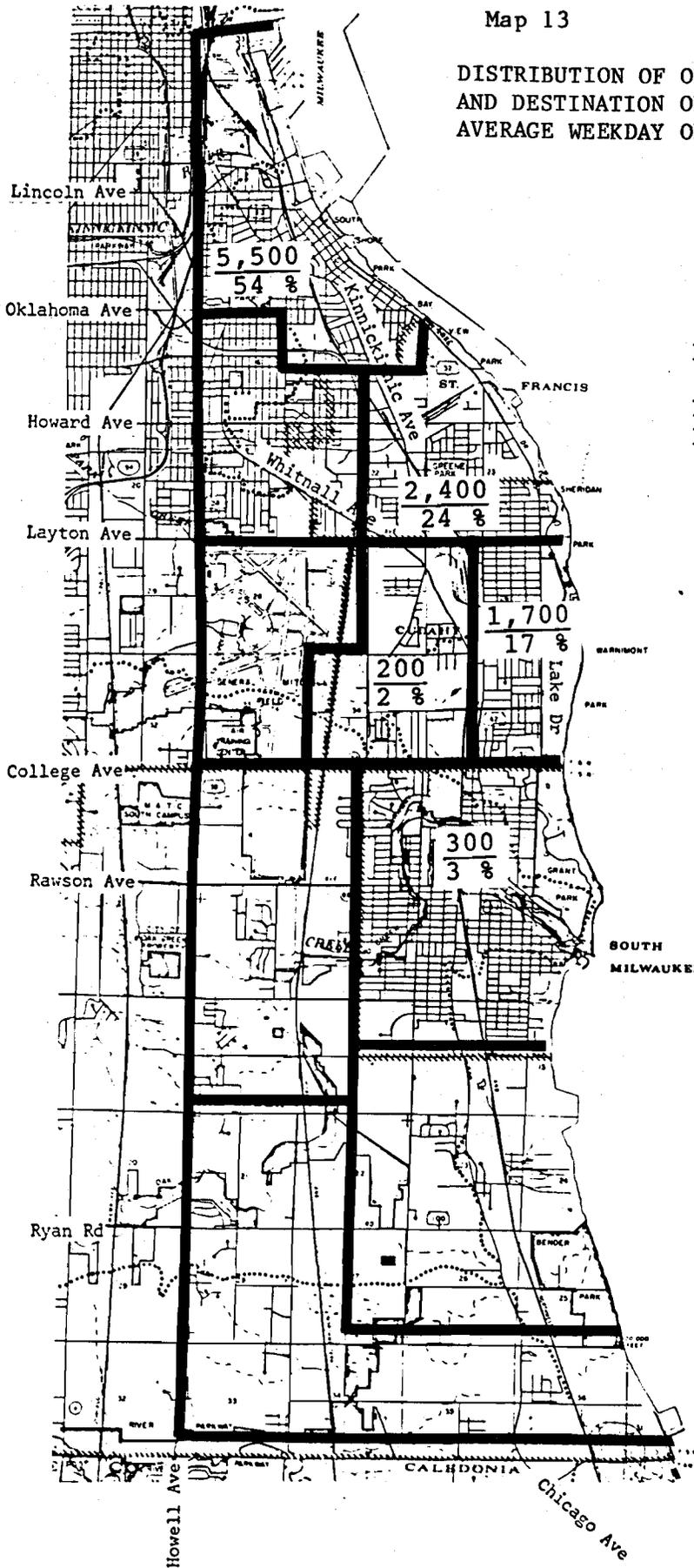
24 % Percent of Trips
4,300 Number of Trips



Source: SEWRPC

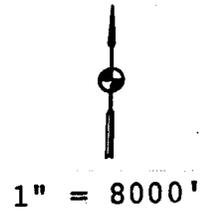
Map 13

DISTRIBUTION OF ORIGIN OF NORTHBOUND TRIPS
AND DESTINATION OF SOUTHBOUND TRIPS ON AN
AVERAGE WEEKDAY ON S. SUPERIOR STREET: 1980



LEGEND

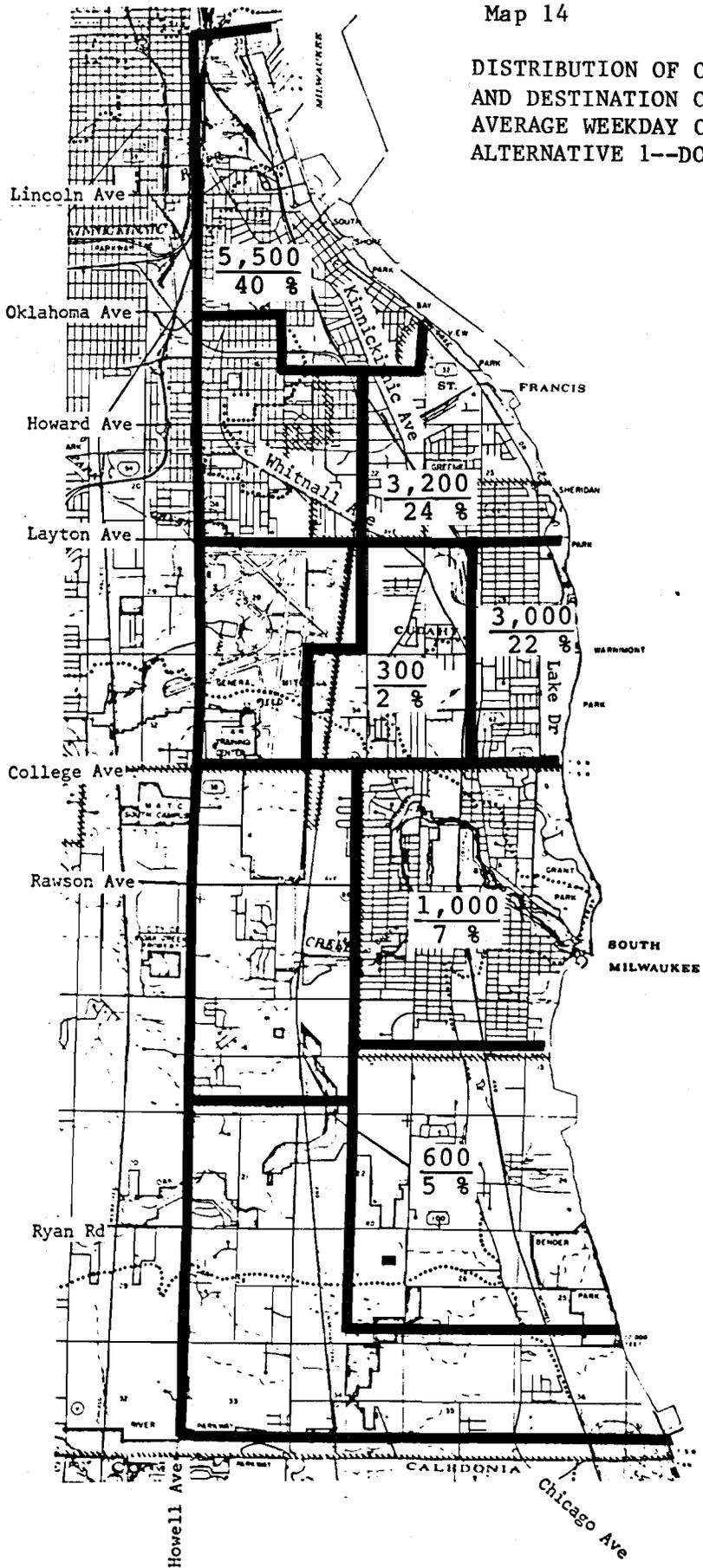
Number of Trips $\frac{1,700}{17 \%}$
Percent of Total



Source: SEWRPC

Map 14

DISTRIBUTION OF ORIGIN OF NORTHBOUND TRIPS AND DESTINATION OF SOUTHBOUND TRIPS ON AN AVERAGE WEEKDAY ON S. SUPERIOR STREET UNDER ALTERNATIVE 1--DO-NOTHING" ALTERNATIVE: 2000



LEGEND

Number of Trips $\frac{3,000}{22 \%}$
 Percent of Total

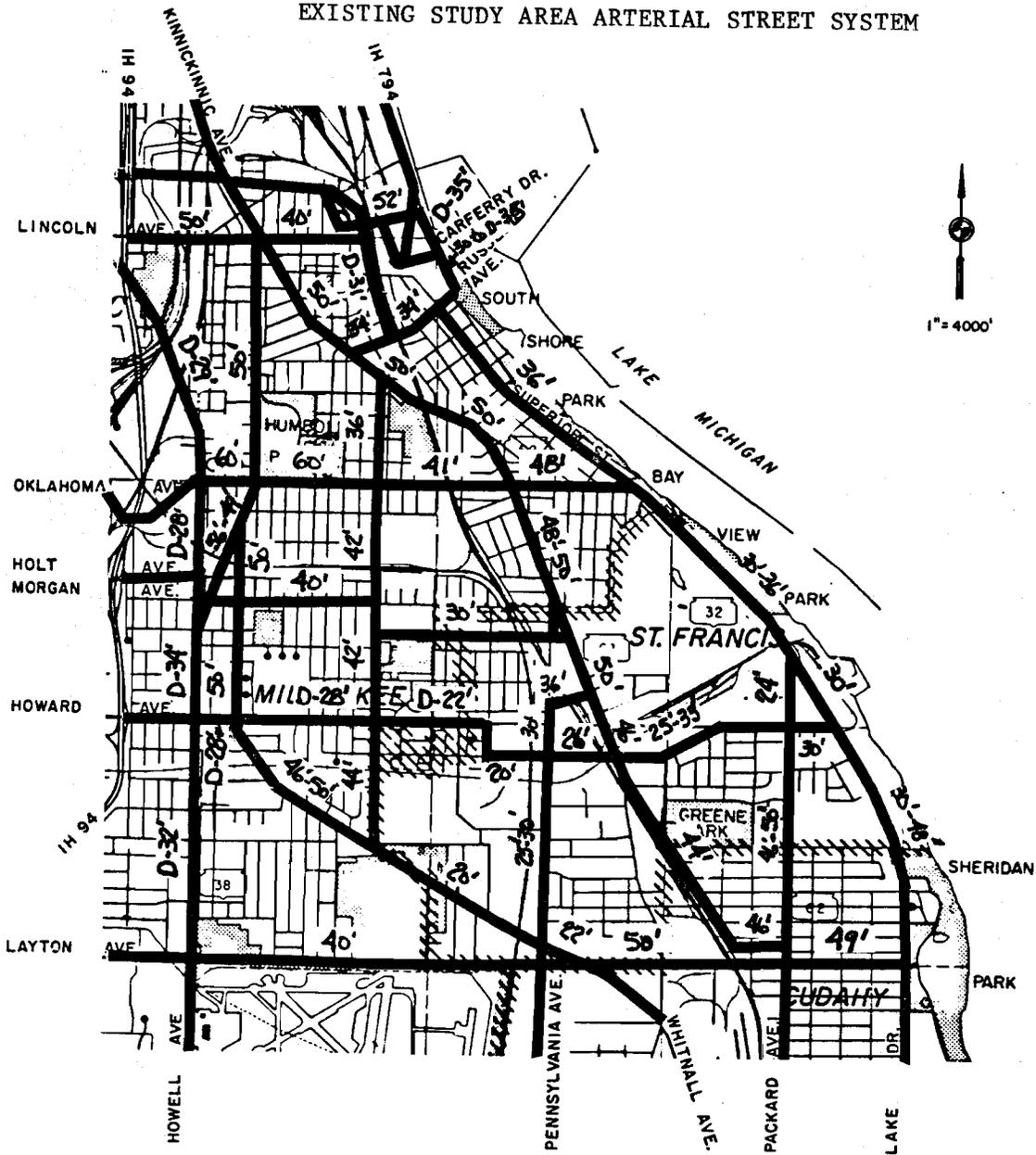


1" = 8000'

Source: SEWRPC

Map 15

EXISTING STUDY AREA ARTERIAL STREET SYSTEM



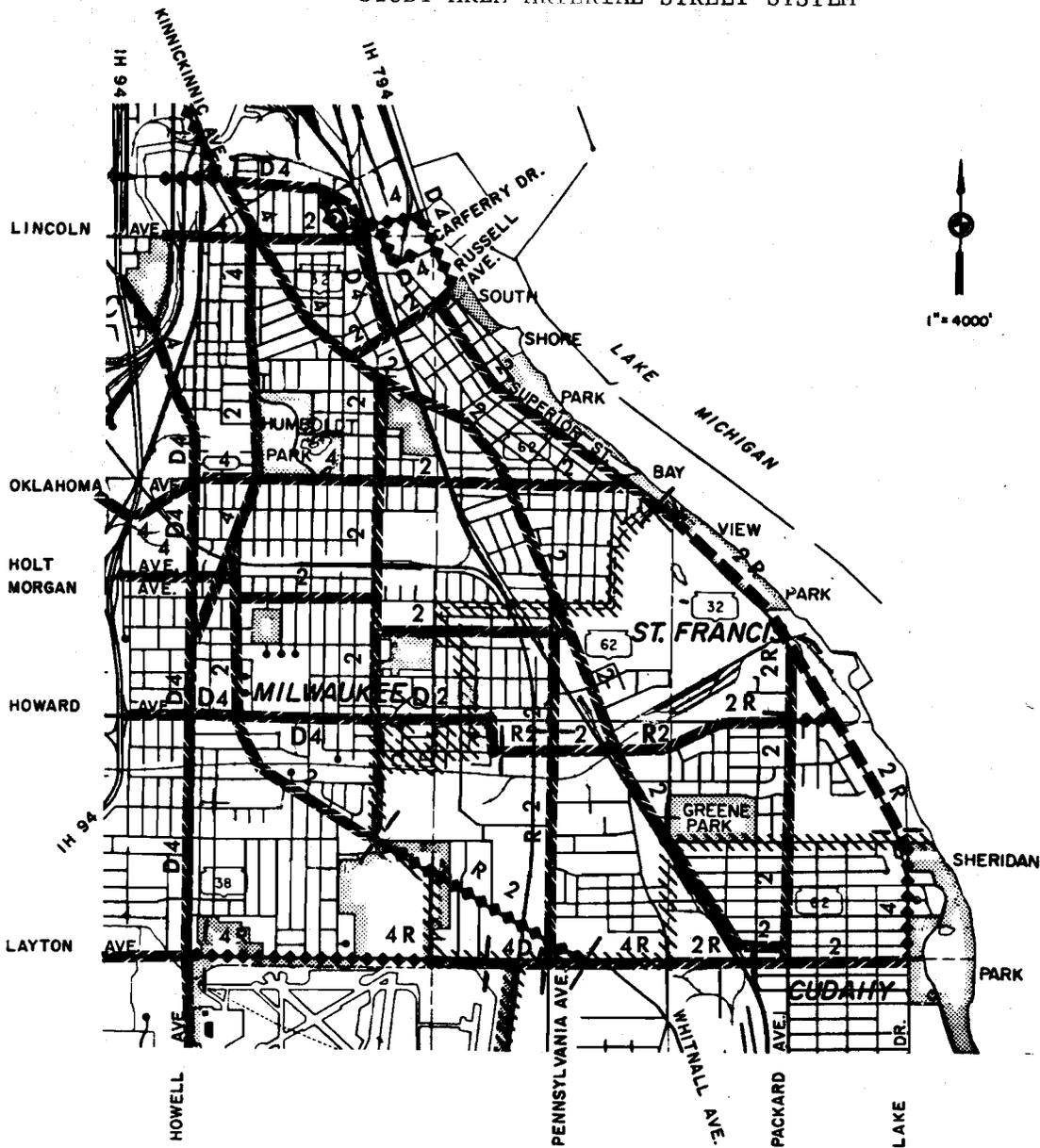
LEGEND

-  Arterial Street or Highway
- 40 Pavement Width
- D Divided Arterial Street or Highway

Source: SEWRPC

Map 16

TRAFFIC LANES PROVIDED ON EXISTING
STUDY AREA ARTERIAL STREET SYSTEM



LEGEND

- 4 Number of Traffic Lanes
- D Divided Arterial Street or Highway
- R Rural Cross Section
- ▨ Parking Permitted Both Sides of Street
- ▬ Parking Permitted One Side of Street
- ◆◆◆◆ No Parking Permitted

Source: SEWRPC

fied is whether or not parking is prohibited during the peak traffic period or all day to provide additional traffic lanes.

The number of traffic lanes provided on an arterial street segment in large part establishes its traffic-carrying capacity. A two-traffic-lane arterial generally has a design capacity of 13,000 vehicles per average weekday; a four-lane undivided arterial has a design capacity of 17,000 vehicles per average weekday; a four-lane divided arterial has a design capacity of 25,000 vehicles per average weekday; and a six-lane divided arterial has a design capacity of 35,000 vehicles per average weekday.

Generally, arterials carrying weekday traffic volumes equaling their design capacities will have average vehicle delays at signalized intersections during peak traffic periods of about 20 to 30 seconds, and delay to some vehicles may approach 60 to 90 seconds. The average travel speeds on arterials at design capacity will range from 15 to 20 miles per hour (mph). Arterials carrying weekday traffic volumes exceeding their design capacity will have average vehicle delays at signalized intersections of at least 35 seconds during peak traffic periods, and delay to some vehicles may approach 120 seconds. Vehicles may nearly always have to wait through more than one traffic signal red phase to clear the intersection. The average travel speed along those arterials with intersections operating over design capacity will be approximately 15 mph or less. Arterials operating under their design capacity will have little vehicle back-up at signalized intersections, and no vehicles will have to wait through more than one red traffic signal phase. The average delay to each vehicle at signalized intersections will be 5 to 15 seconds and the average travel speeds will be 25 to 30 miles per hour. The reduced speeds and intersection delays on arterials carrying weekday traffic volumes equaling or exceeding their design capacity will generally only occur during the morning and evening peak traffic hours, or possibly the three-hour morning and evening peak traffic periods. During midday, evening, and early morning hours of weekdays, and all day on holidays and weekends, there would generally be little, if any, traffic congestion and delay.

Map 17 identifies the existing traffic control at each intersection of arterial streets within the study area, and of those intersections of arterials with non-arterials where the arterial street traffic is controlled by a traffic signal or stop sign.

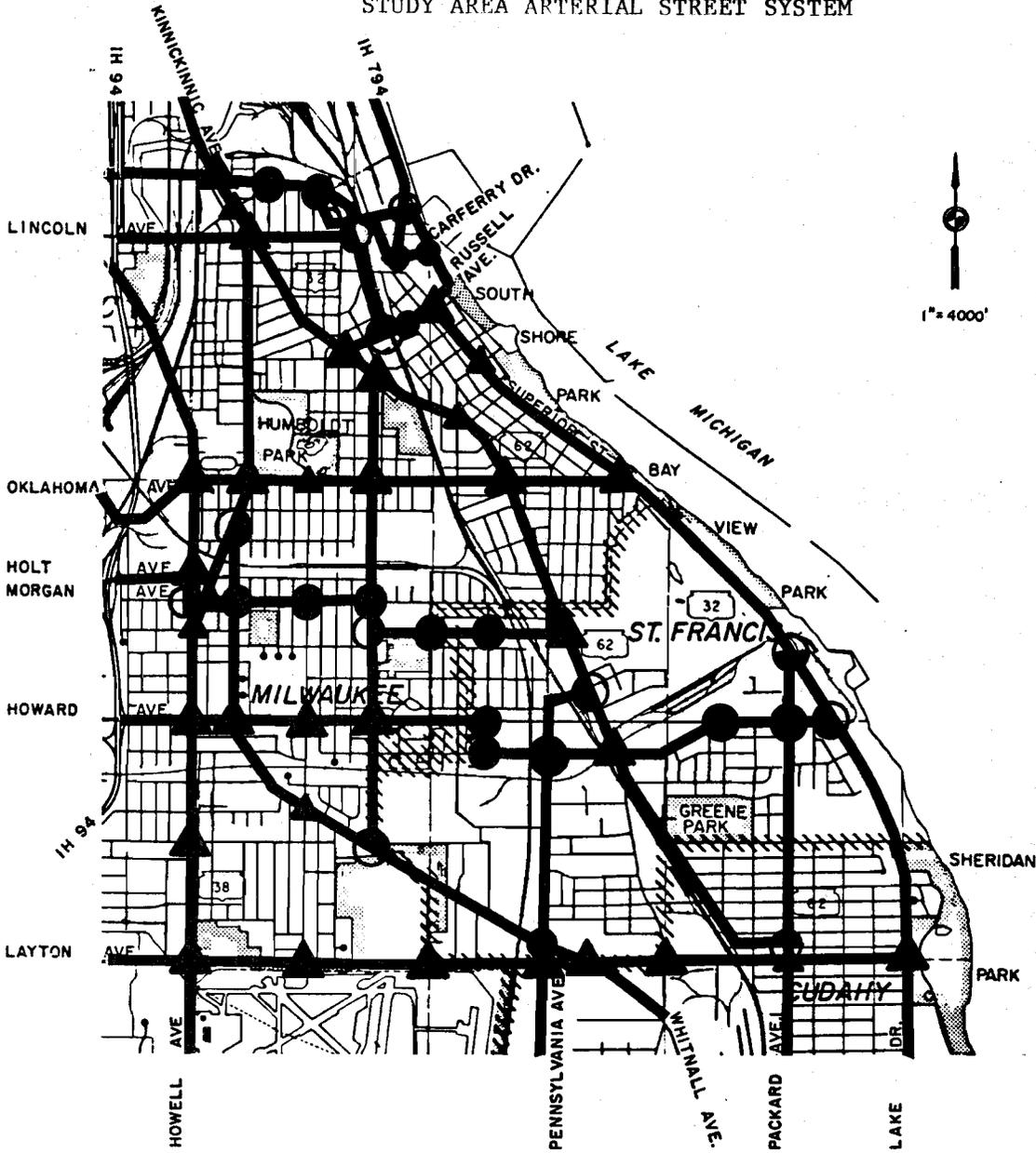
The most currently available existing average weekday traffic volumes on each arterial street are shown on Map 18. Forecast year 2000 average weekday traffic volumes on the existing street system, based upon the forecast trip ends and population, households, and employment levels discussed earlier are presented on Map 19. The forecast of year 2000 average weekday traffic envisions increases in traffic volumes on arterial streets in the study area, and particularly north-south arterials, as the ability of the North-South Freeway (IH 94) to accommodate additional traffic will be greatly reduced in the future as it is approaching capacity today. The anticipated growth of the Milwaukee downtown area also contributes to the forecast increase in traffic on surface streets.

Public Transit System

The existing public transit system in the study area is shown on Map 20. Particularly heavily used routes within the study area are Route 15, which

Map 17

EXISTING TRAFFIC CONTROL ON
STUDY AREA ARTERIAL STREET SYSTEM



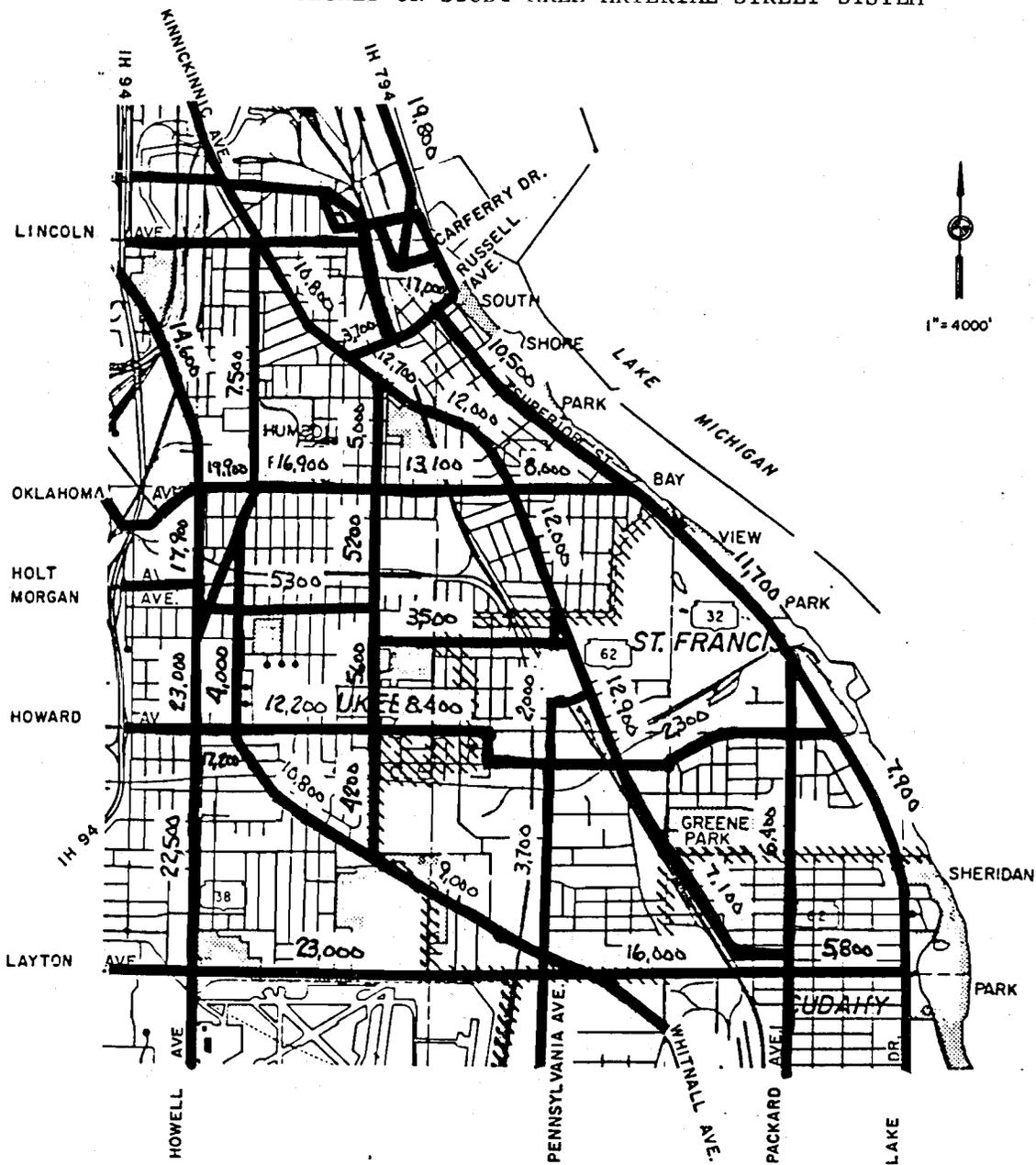
LEGEND

-  Arterial Street or Highway
-  Traffic Signal
-  Full Stop Sign Control
-  Partial Stop Sign Control

Source: SEWRPC

Map 18

EXISTING AVERAGE WEEKDAY TRAFFIC VOLUMES ON STUDY AREA ARTERIAL STREET SYSTEM^a



LEGEND

————— Arterial Street or Highway

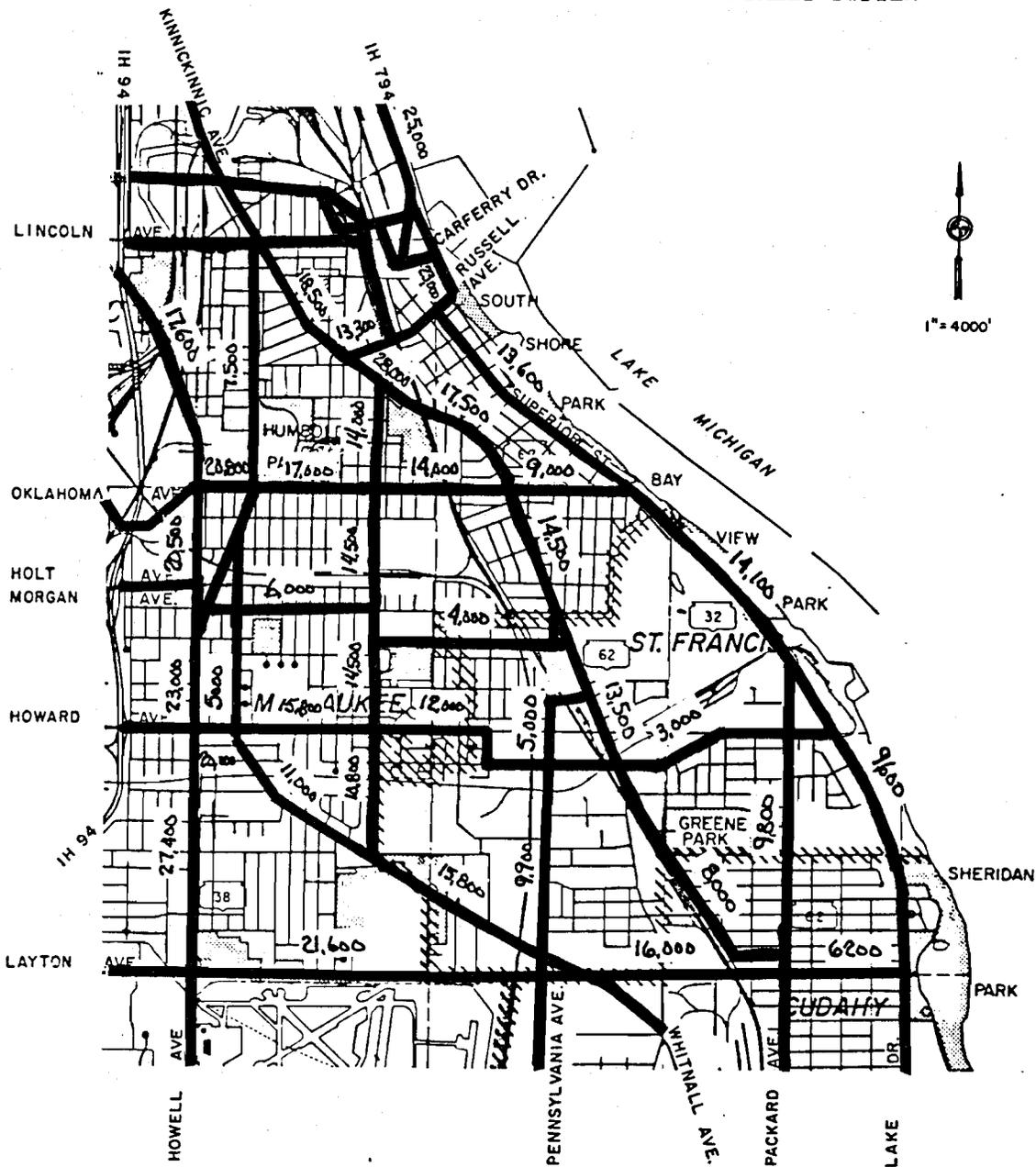
23,000 Average Weekday Traffic Volume

^aThe available average weekday traffic volumes on the study area arterial street system are from the years 1981 through 1985.

Source: SEWRPC.

Map 19

FORECAST YEAR 2000 AVERAGE WEEKDAY TRAFFIC VOLUMES ON STUDY AREA ARTERIAL STREET SYSTEM^a



LEGEND

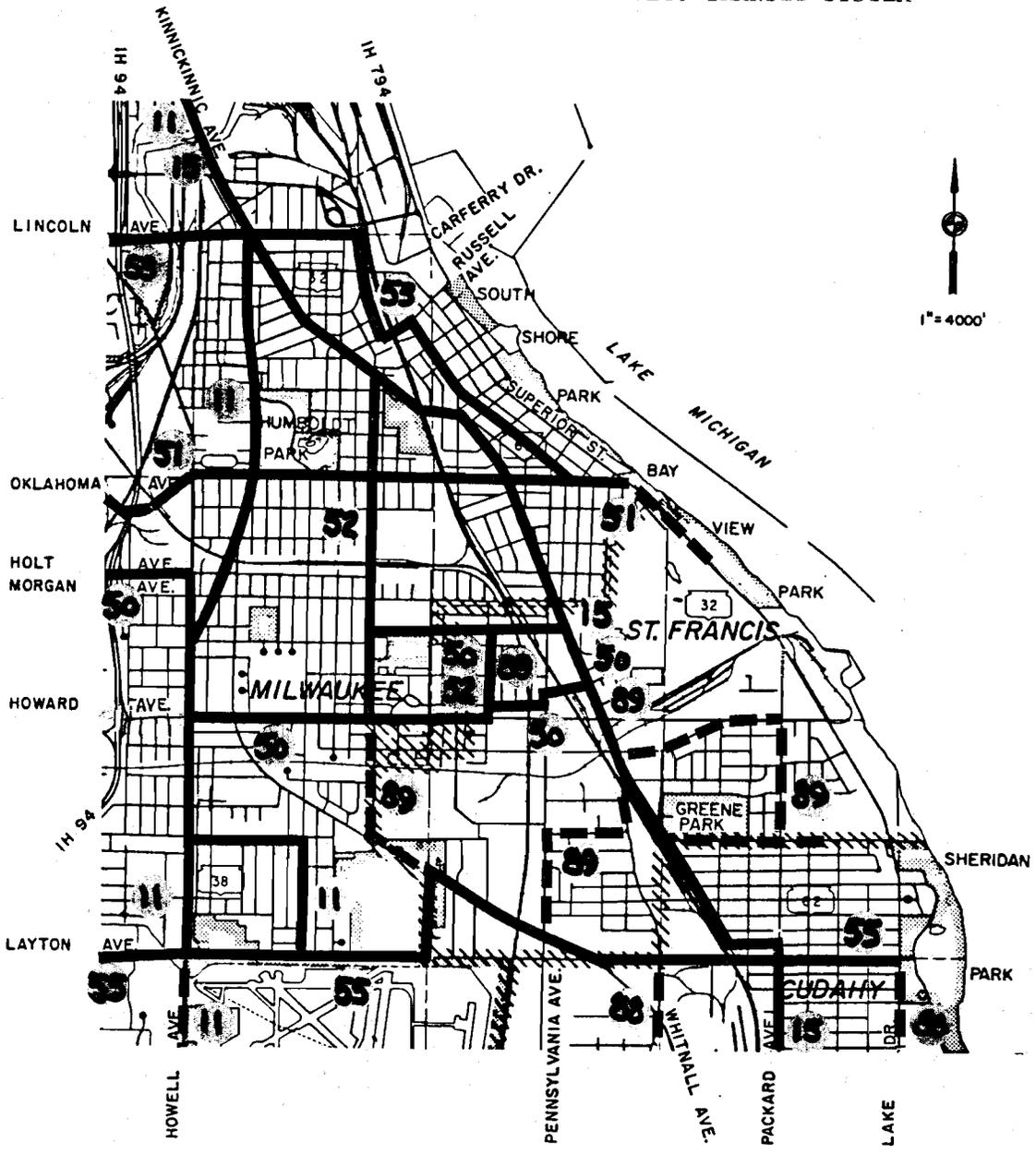
- Arterial Street or Highway
- 21,000** Average Weekday Traffic Volume

^a The forecast traffic volumes do not include the potential traffic from the proposed development at the lakefront power plant site in St. Francis.

Source: SEWRPC.

Map 20

EXISTING STUDY AREA PUBLIC TRANSIT SYSTEM



LEGEND

-  Street Traversed by Normal Transit Route
-  Street Traversed by School Day Only Transit Route
- 55** Route Number

Source: SEWRPC

extends to Cudahy, South Milwaukee, and Oak Creek to the south, and the Milwaukee central business district, the University of Wisconsin-Milwaukee/East Side area, and Whitefish Bay to the north; and Route 11, which extends to downtown Milwaukee to the north, and to N. 60th Street and W. Vliet Street to the west in Wauwatosa.

Existing travel times by public transit to downtown Milwaukee from St. Francis, Cudahy, and South Milwaukee are about 28, 36, and 45 minutes, respectively along Route 15. The average speed of this public transit service is about 11.5 miles per hour, and the average peak traffic hour headway between buses is about six minutes.

EXISTING AND FORECAST TRANSPORTATION PROBLEMS IN THE STUDY AREA

At the first meeting of the Hoan Bridge Task Force, a lengthy discussion took place of the existing transportation and related problems in the study area. Three basic problems were identified: inadequate accessibility, excessive traffic on streets, and uncertainty with respect to what may or may not be eventually implemented to resolve the traffic problems.

Inadequate Accessibility

The indirection in the arterial street system and the extent of traffic congestion on that street system provide two measures of inadequate accessibility. Existing problems of indirection in the study area include the connections from S. Superior Street, S. Kinnickinnic Avenue, and S. Clement Avenue to the Hoan Bridge; and the lack of continuity on E. Howard Avenue in the City of St. Francis.

A second measure of inadequate accessibility is the existence of traffic congestion, which can be identified by noting those the roadway segments which carry average weekday traffic volumes which exceed their design capacity. Map 21 identifies the study area roadway segments which currently carry average weekday traffic volumes which exceed their design capacity. Also identified on this map are those roadway segments which currently carry traffic volumes which are approaching their design capacity, that is, within about 15 percent of design capacity.

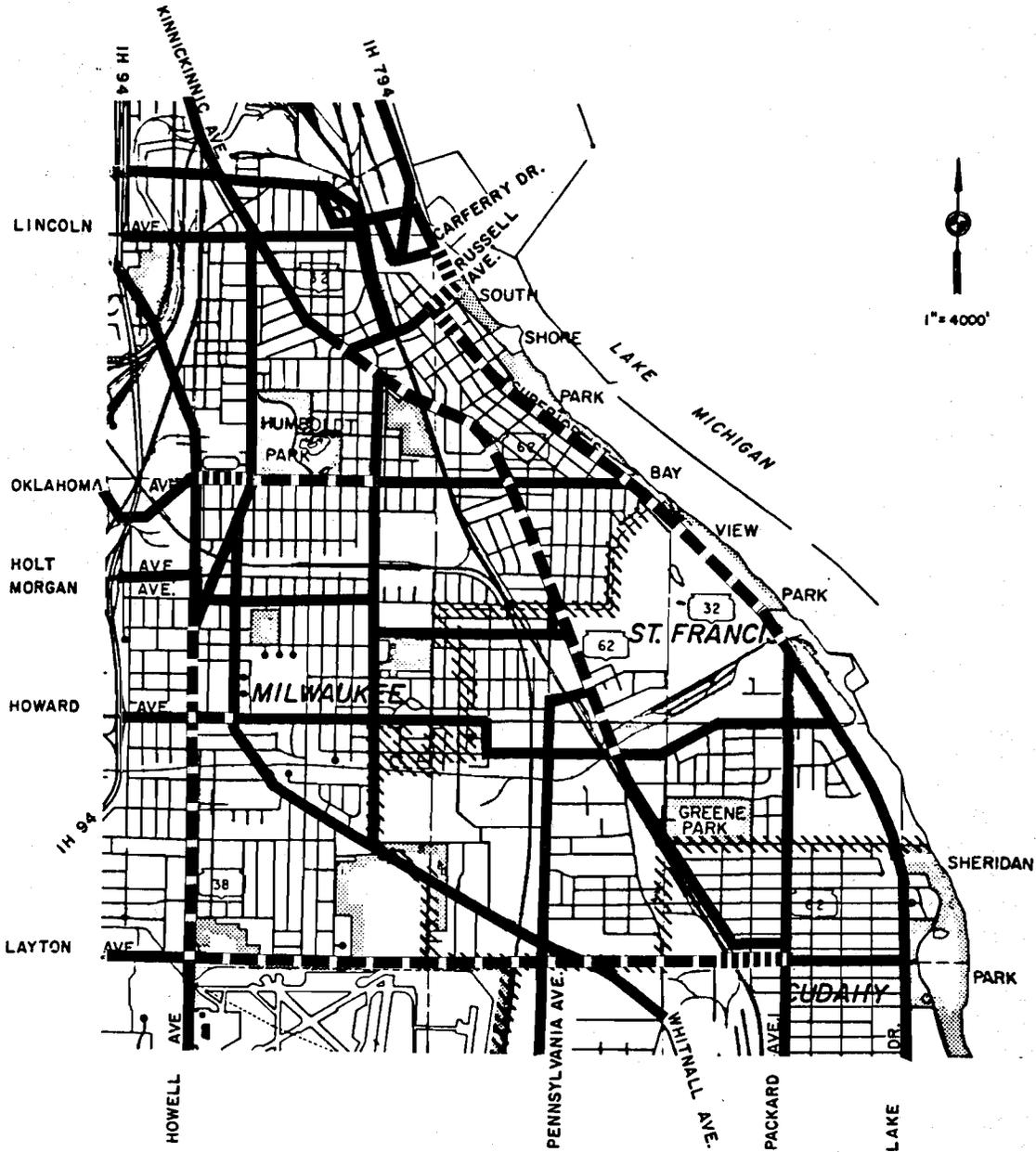
Map 22 identifies those arterial roadway segments which, based upon forecast year 2000 traffic volumes, would be expected to carry average weekday traffic volumes which would exceed their design capacity.

Excessive Traffic on Streets

Another problem cited at the first Task Force meeting was the nuisances and potential safety problems resulting from the substantial traffic volumes on arterial streets in the study area which are relatively narrow and have abutting residential land use, such as S. Superior Street. Perceptions of reduced safety of abutting residential properties were cited, for example, with respect to children at play. Another safety problem cited was the difficulty in crossing streets with excessive traffic volumes, both by pedestrians and by vehicles. Also, the noise and odors associated with excessive automobile and, particularly, truck traffic were mentioned.

Map 21

EXISTING TRAFFIC CONGESTION ON
STUDY AREA ARTERIAL STREET SYSTEM



LEGEND

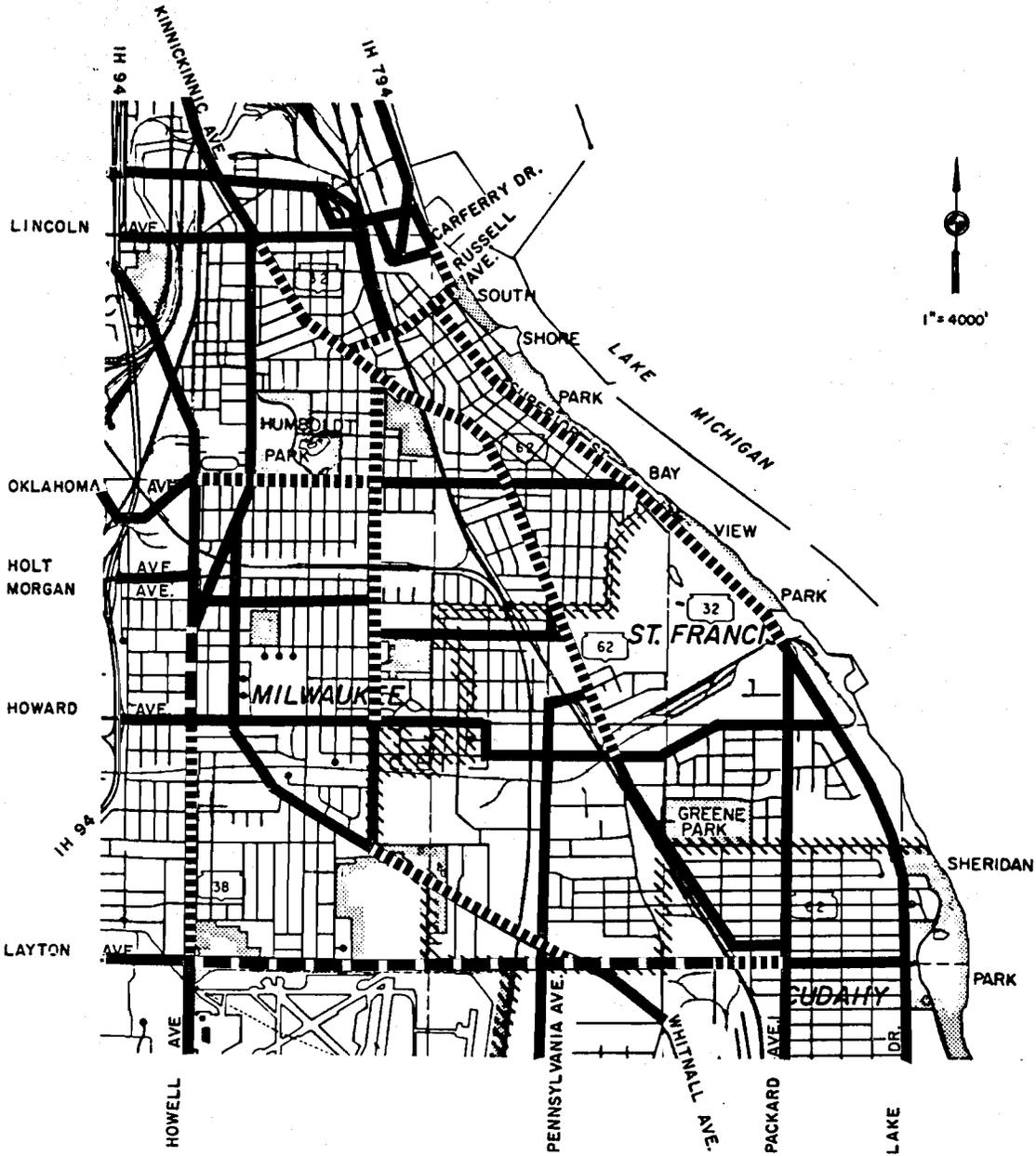
▬▬▬▬▬▬▬ Traffic Volumes
Exceed Design Capacity

▬▬▬▬▬▬▬ Traffic Volumes
Approaching Design Capacity

Source: SEWRPC

Map 22

FORECAST TRAFFIC CONGESTION ON
STUDY AREA ARTERIAL STREET SYSTEM: 2000



LEGEND

- Traffic Volumes Exceed Design Capacity
- Traffic Volumes Approaching Design Capacity

Source: SEWRPC

Traffic volumes on an arterial street become a problem when those volumes approach the design capacity of the street. At such traffic volume levels, pedestrians and vehicles from minor streets may find it difficult and hazardous to cross the arterial street. If minor street traffic and pedestrian volumes are sufficiently high, the installation of traffic signals at the intersection with the arterial street may be considered. Such installation, however, can further compound the traffic congestion and delay on the arterial street, and add to other nuisances such as noise, odors, air pollutant emissions, and perceptions of reduced safety of abutting property.

Those arterial streets which may be experiencing the problem of excessive traffic generally have the following characteristics: 1) average weekday traffic volumes approaching or exceeding design capacity; 2) abutting residential land uses at a modest setback; and 3) a relatively narrow pavement width of 48 feet or less. Based upon the forecast increase in traffic volume within the study area, not only would S. Superior Street experience this problem by the year 2000, but also S. Clement Avenue and E. Russell Avenue would be expected to experience this problem.

Uncertainty of Potential Roadway Improvements

Another problem cited at the first Task Force meeting was the uncertainty of whether roadway improvements would be implemented in the area, and how these might impact on the stability of the community. It was noted that this uncertainty had a negative impact on the study area. For example, the potential of the construction of a causeway resulted in fears of negative impacts on homes facing onto the lakefront and on the lakefront itself. The potential of a roadway along the Chicago & North Western railway right-of-way resulted in fears of negative impacts on properties abutting the railway and concerns about dividing the neighborhoods involved. The potential for no improvement to be made resulted in a fear of continued excessive traffic and negative impacts on streets such as S. Superior Street. The potential of direct connections from the Hoan Bridge to streets such as S. Superior Street or S. Delaware Street also resulted in fears of even more traffic on such streets.

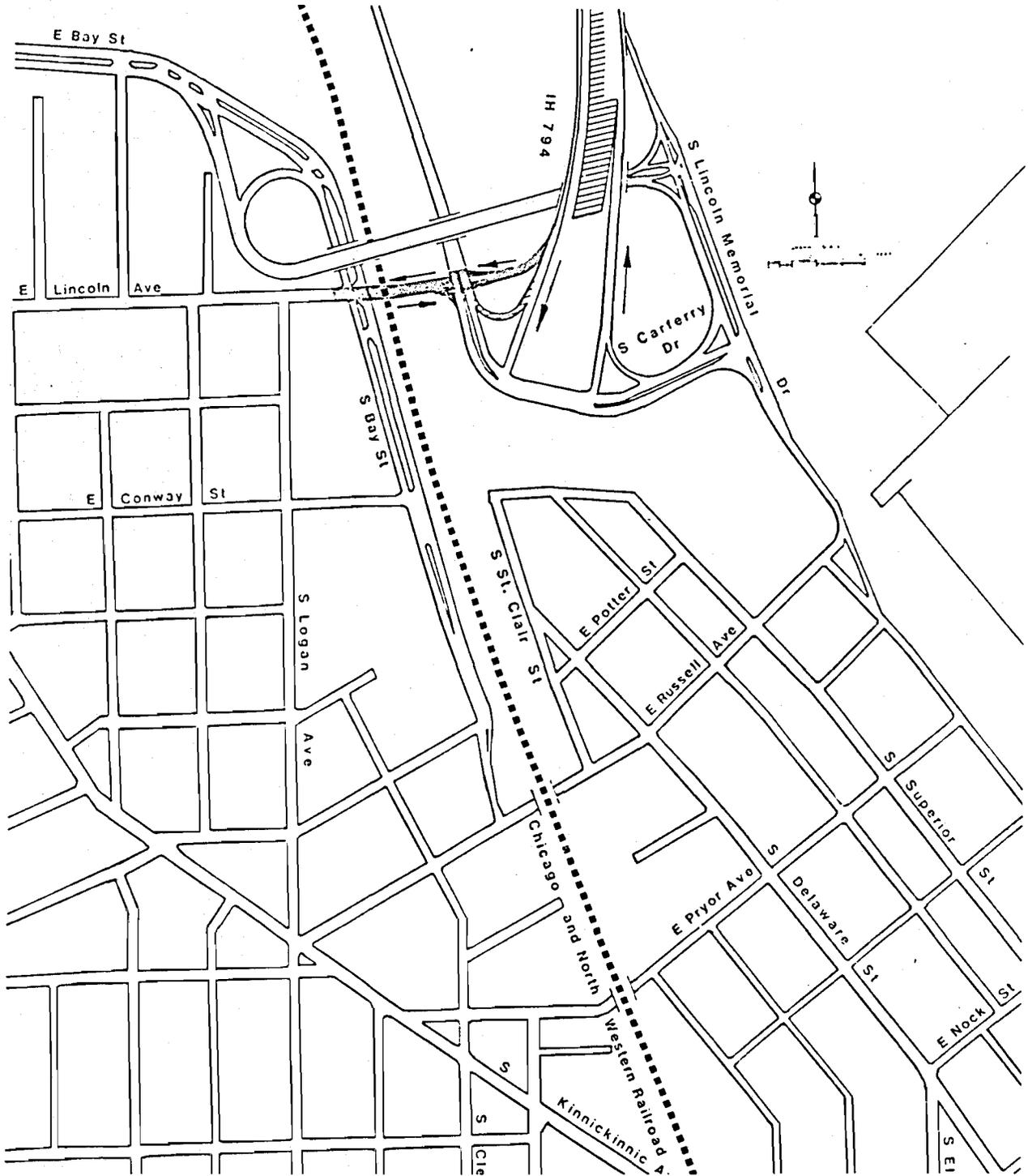
ALTERNATIVES FOR ADDRESSING TRANSPORTATION PROBLEMS

The potential alternatives for addressing the identified transportation problems were defined by the Task Force and are evaluated in this section of the report. The potential alternatives include the following:

1. A "status quo alternative, which would maintain the existing street system in the study area and not provide any major street widenings or new street extensions. Actions which could increase the capacity of the street system without major improvements, such as parking prohibitions, particularly during peak traffic hours and periods, will be identified and considered. All alternatives will be compared to this "status quo" alternative.
2. Connection of the Hoan Bridge to E. Lincoln Avenue at Bay Street as proposed by the State Legislature in 1985. The Wisconsin Legislature took action in 1985 to require the connection of the Hoan Bridge to E. Lincoln Avenue at Bay Street. However, the Governor vetoed this connection. The proposed connection is shown on Map 23. This alternative would reconstruct the southbound exit ramp from the Lake Freeway

Map 23

ALTERNATIVE 2: CONNECTION OF THE
HOAN BRIDGE TO E. LINCOLN AVENUE AT BAY STREET



LEGEND



New Freeway Ramps and Surface Streets



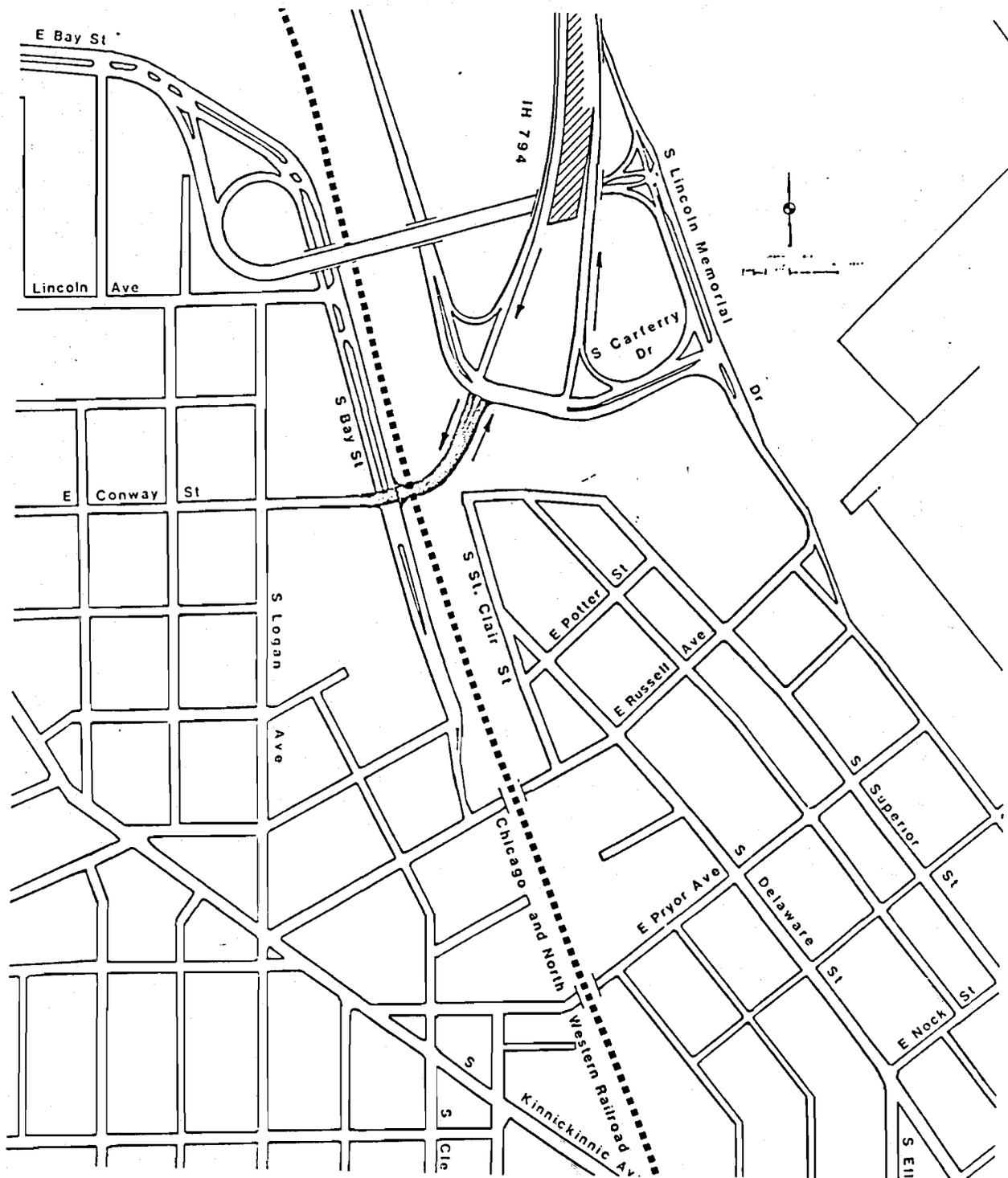
Existing Structure or Pavement to be Removed

(IH 794) to connect directly with E. Lincoln Avenue at Bay Street. An at-grade intersection of the southbound exit ramp with Carferry Drive would also be provided, and an at-grade crossing of the Chicago & North Western railway would be entailed as part of this alternative.

3. Connection of the Hoan Bridge to E. Conway Street at Bay Street. This alternative was proposed by Task Force members and citizens at the first meeting of the Hoan Bridge South Task Force. This alternative, as shown on Map 24, would extend the existing southbound off-ramp of the Lake Freeway (IH 794) to E. Conway Street at Bay Street. An at-grade crossing of the Chicago & North Western railway would be entailed by this alternative.
4. Improvement of the existing Hoan Bridge connection to S. Superior Street. This alternative was also proposed at the first meeting of the Hoan Bridge South Task Force. As shown on Map 25, this alternative would eliminate indirection for travel between the Hoan Bridge and S. Superior Street along E. Russell Avenue, S. Lincoln Memorial Drive, and S. Car Ferry Drive. The alternative would entail reconstruction of the terminus of the Hoan Bridge and provide for a new at-grade intersection at S. Carferry Drive, and a new direct connection to S. Superior Street at E. Conway Street.
5. Improvement of the existing Hoan Bridge connection by connecting to both S. Superior Street and S. Delaware Street, and operation of these streets as a one-way pair. This alternative was proposed by citizens at the Hoan Bridge South Task Force and is shown on Map 26. This alternative would extend the northbound on-ramp to the Hoan Bridge to S. Superior Street at E. Conway Street, and convert S. Superior Street from E. Conway Street to E. Oklahoma Avenue to a one-way street; and extend the southbound off-ramp from the Hoan Bridge to St. Clair Street and convert St. Clair Street from S. Conway Street to S. Delaware Avenue, and S. Delaware Avenue from St. Clair Street to E. Oklahoma Avenue to a one-way southbound street.
6. Construction of a new two-lane arterial connection as proposed by the Lake Arterial Alternative Committee, a Bay View citizen-based organization, from the Hoan Bridge to and along the Chicago & North Western railway right-of-way to S. Kinnickinnic Avenue. This alternative is shown on Map 27. The proposed cross-section of the proposed two-lane connection is shown on Figure 1. The cross-sections of typical urban arterials in the Milwaukee area are shown in Appendix A. The connection would end in an at-grade intersection at E. Kinnickinnic Avenue and would cross S. Carferry Drive on a structure. As shown on Map 27, this alternative would also provide a connection of the existing southbound off-ramp from the Hoan Bridge to E. Lincoln Avenue at Bay Street, as under Alternative 2, and would provide direct access from S. Superior Street to northbound traffic over the Hoan Bridge. The alternative would also entail peak period parking restrictions on E. Kinnickinnic Avenue between the new arterial connection and E. Oklahoma Avenue.

Map 24

ALTERNATIVE 3: CONNECTION OF THE
HOAN BRIDGE TO E. CONWAY STREET AT BAY STREET

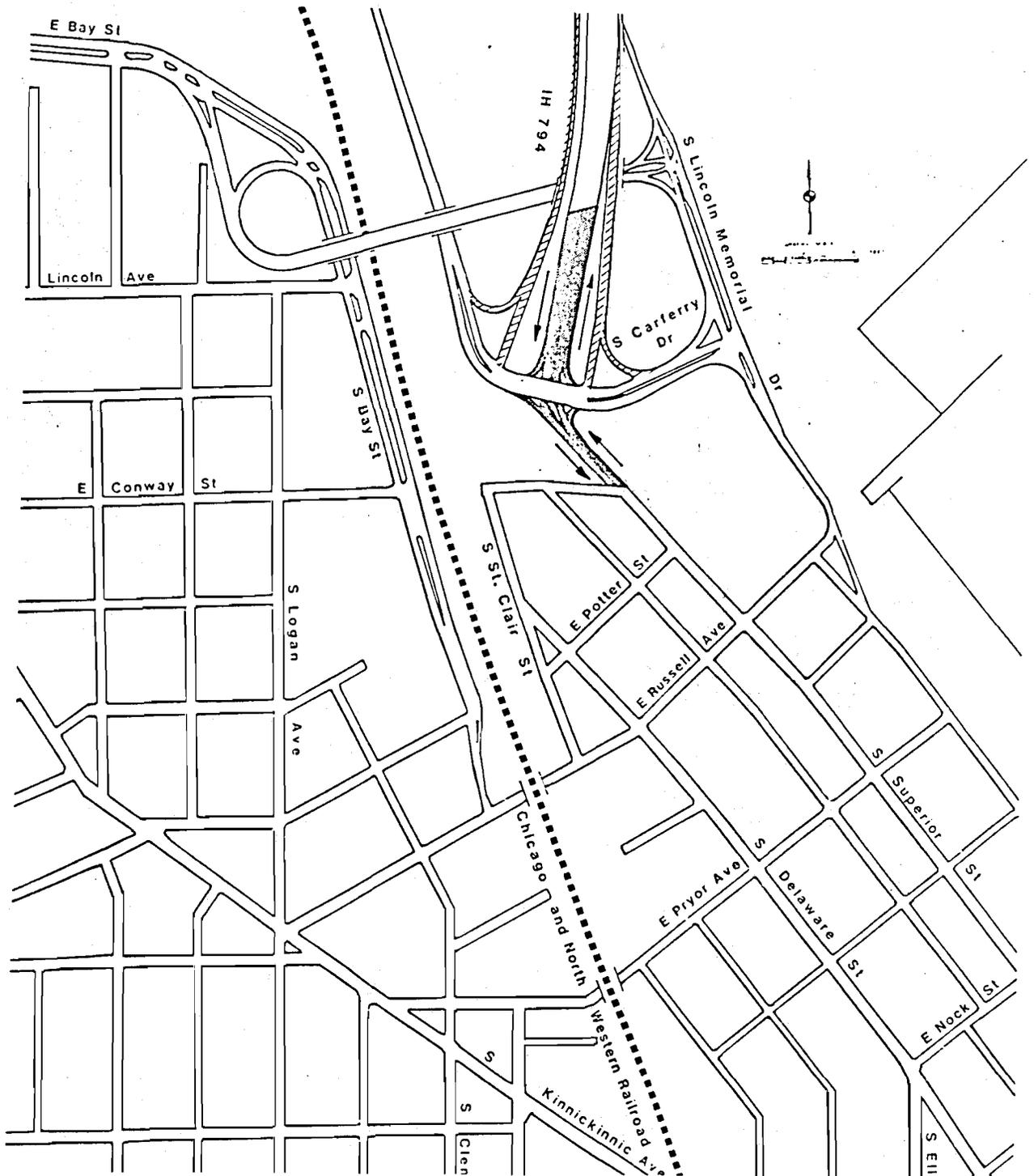


LEGEND

-  New Freeway Ramps and Surface Streets
-  Existing Structure or Pavement to be Removed

Map 25

ALTERNATIVE 4: PROVISION OF DIRECT CONNECTION OF HOAN BRIDGE TO S. SUPERIOR STREET

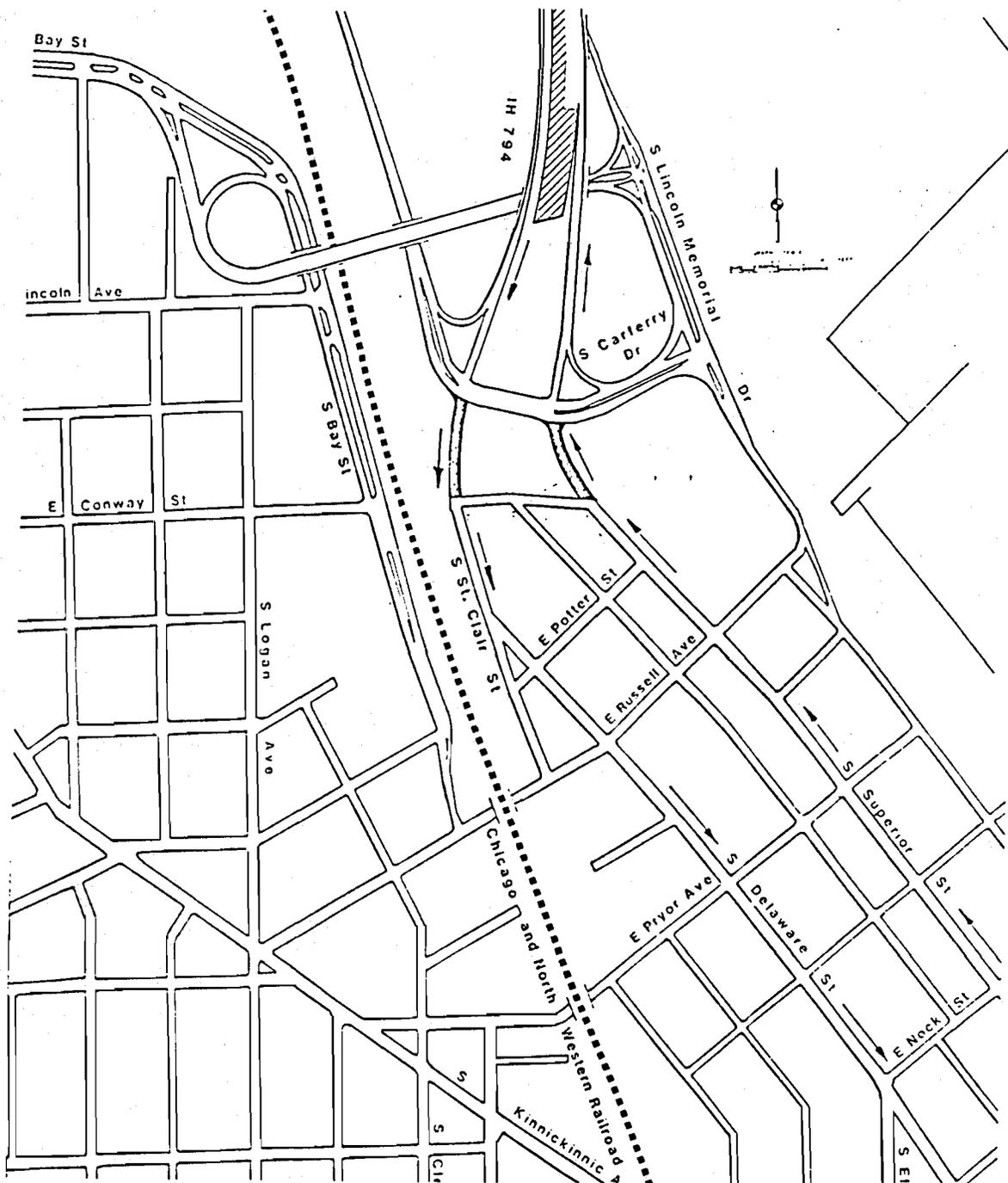


LEGEND

-  New Freeway Ramps and Surface Streets
-  Existing Structure or Pavement to be Removed

Map 26

ALTERNATIVE 5: CONNECTION OF HOAN BRIDGE
TO S. SUPERIOR STREET AND S. DELAWARE AVENUE,
AND OPERATION OF THESE STREETS AS A ONE-WAY PAIR



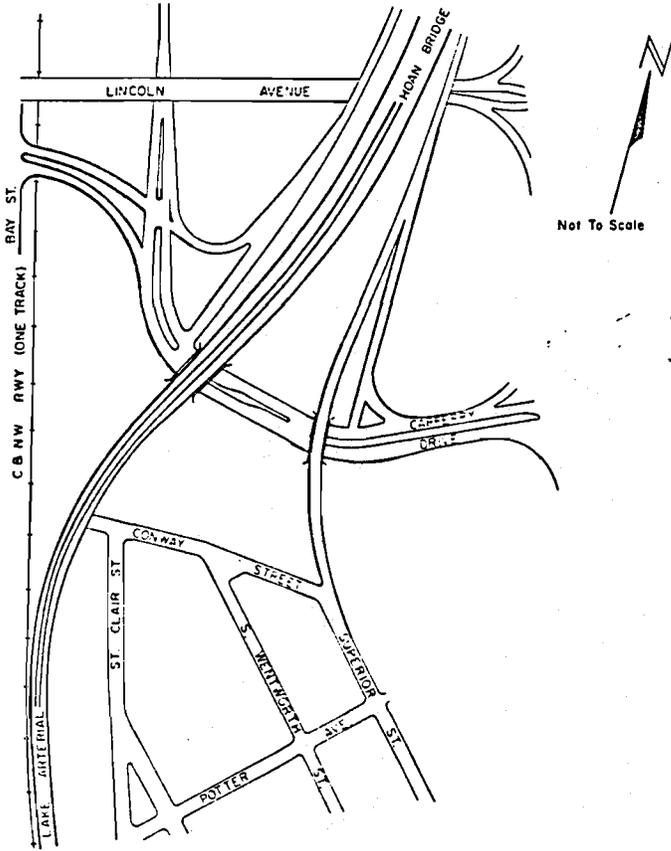
LEGEND

-  New Freeway Ramps and Surface Streets
-  Existing Structure or Pavement to be Removed

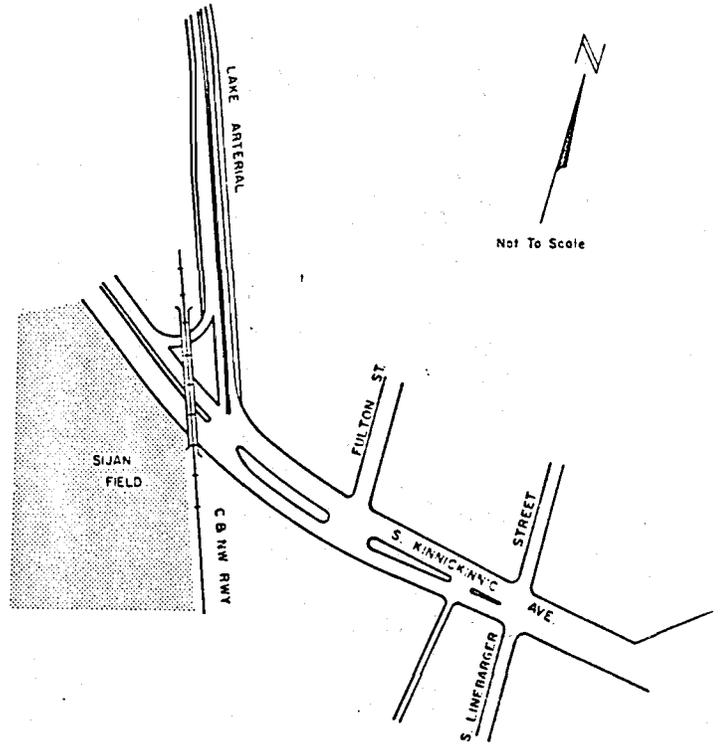
Source: SEWRPC.

Map 27

ALTERNATIVE 6: CONSTRUCTION OF CONNECTION TO S. KINNICKINNIC AVENUE



HOAN BRIDGE TO POTTER AVENUE

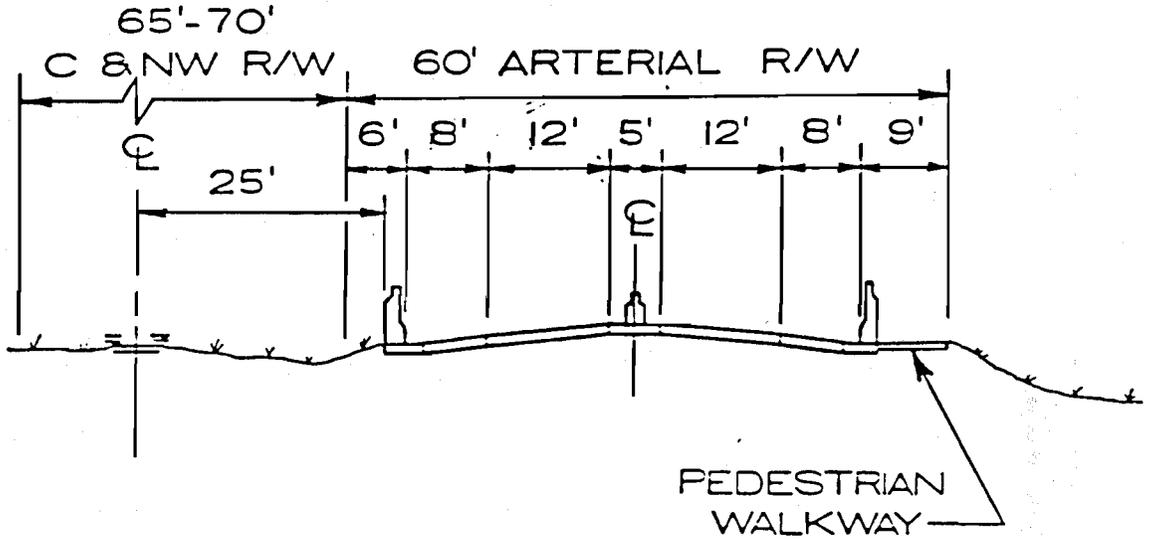


PLAN OF KINNICKINNIC AVE. INTERSECTION

Source: SEWRPC.

Figure 1

CROSS-SECTION OF ALTERNATIVE 6: CONSTRUCTION
OF CONNECTION TO S. KINNICKINNIC AVENUE



CROSS SECTION NORTH OF KINNICKINNIC AVE.

Source: SEWRPC.

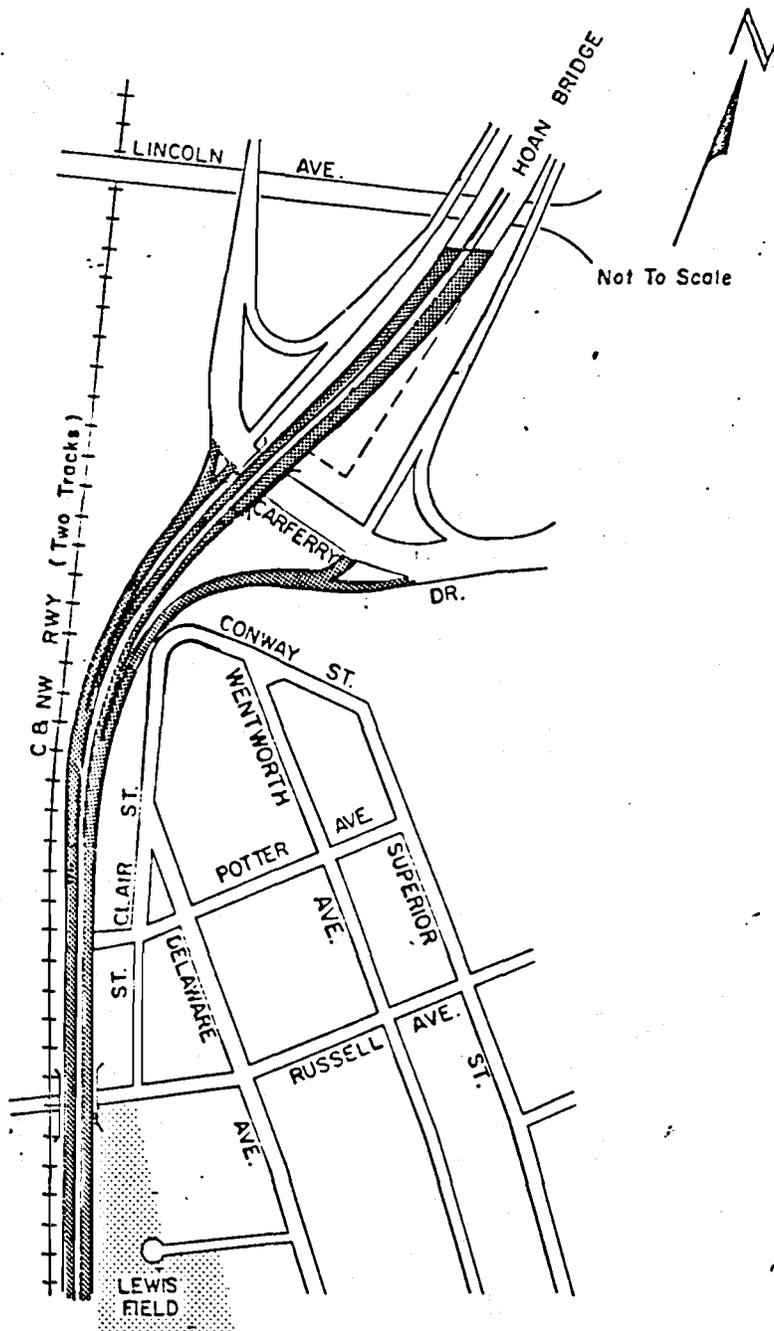
7. The construction of a new surface arterial facility from the Hoan Bridge to and along the Chicago & North Western railway right-of-way to E. Layton Avenue and S. Pennsylvania Avenue, as proposed under the Wisconsin Department of Transportation preliminary engineering study. This alternative would provide four traffic lanes with two distress lanes and would be divided by a median. The alignment of the alternative is shown on Map 28 and its proposed cross-section is shown on Figure 2. The alternative would be carried on a structure over S. Carferry Drive and would be adjacent to the Chicago & North Western railway, and lie partially within the right-of-way which would require removal of two of the existing four railway tracks north of E. Oklahoma Avenue. The new roadway would be on a structure or fill, like the railway, crossing over E. Russell Avenue, E. Pryor Avenue, E. Kinnickinnic Avenue, and E. Oklahoma Avenue, and then be in a tunnel under the Chicago & North Western railway tracks at approximately E. Morgan Avenue. The new roadway would then continue adjacent to the Chicago & North Western railway tracks in a cut under E. St. Francis Avenue, E. Tripoli Avenue, a new E. Howard Avenue bridge, Bolivar Avenue, E. Whitnall Avenue, and E. Layton Avenue. Alternative intersections with the new roadway and E. Oklahoma Avenue, E. Howard Avenue, and E. Layton Avenue are shown on Maps 29, 30, and 31, respectively.

Table 5 presents a description of the width of the railway right-of-way.

8. The construction of a surface arterial from the Hoan Bridge to and along the Chicago & North Western railway to E. Layton Avenue and S. Pennsylvania Avenue, but only providing for two traffic lanes. The proposed two-lane cross-section of this alternative is shown on Figure 3 and the alignment is shown on Map 28, as it is the same for the four-lane arterial cross-section. Alternative 8 is a new two-lane arterial which would provide one lane operating in each direction. Another option would be to operate during the peak hours both lanes in the peak direction; that is, both lanes in the northbound direction during the morning peak traffic period and both lanes in the southbound direction during the evening peak traffic period. Such reversible traffic lane operation will have potential benefits only if at least two-thirds of all traffic during the peak traffic period operates in the peak direction. Existing peak period directional traffic counts in the study area indicate that the potential peak hour traffic would have a directional split of less than this. Reversible lane operation would preclude access to jobs in the Bay View, St. Francis, Cudahy, and South Milwaukee areas. It would also entail additional operation costs and the potential to result in additional traffic accidents and increase the severity of such accidents.
9. Construction of an arterial highway along a causeway in Lake Michigan extending from the Hoan Bridge to E. Layton Avenue. This alternative, as shown on Map 32, would provide a new four-lane arterial extending from E. Carferry Drive to E. Layton Avenue on fill within Lake Michigan, which would also provide necessary repairs and extension of the existing breakwater, which extends from E. Carferry Drive to approximately E. Howard Avenue. The new arterial causeway would be located

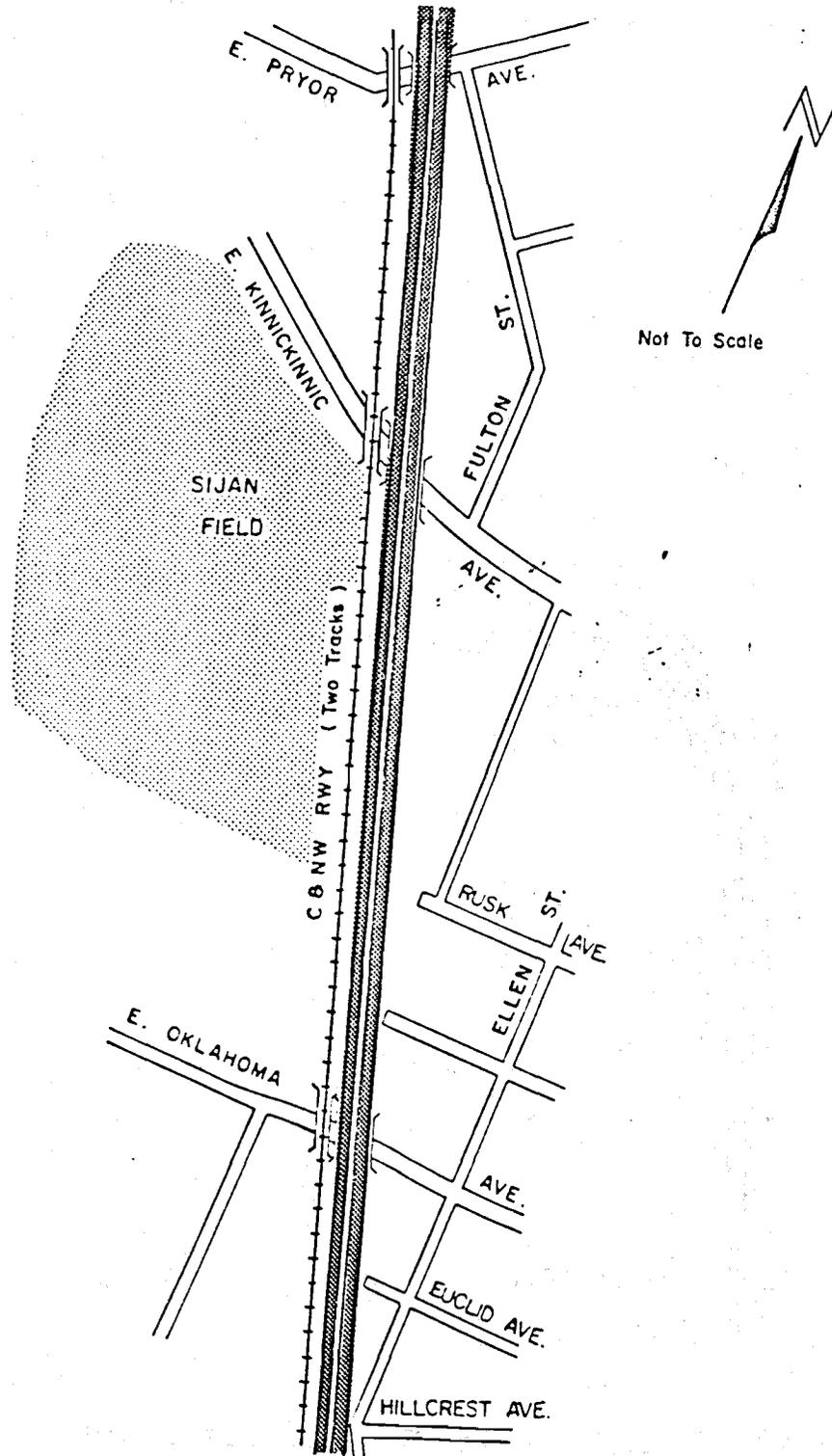
Map 28

ALTERNATIVE 7: NEW SURFACE ARTERIAL CONNECTION
BETWEEN HOAN BRIDGE AND S. LAYTON AVENUE ALONG
THE CHICAGO & NORTH WESTERN RAILWAY RIGHT-OF-WAY



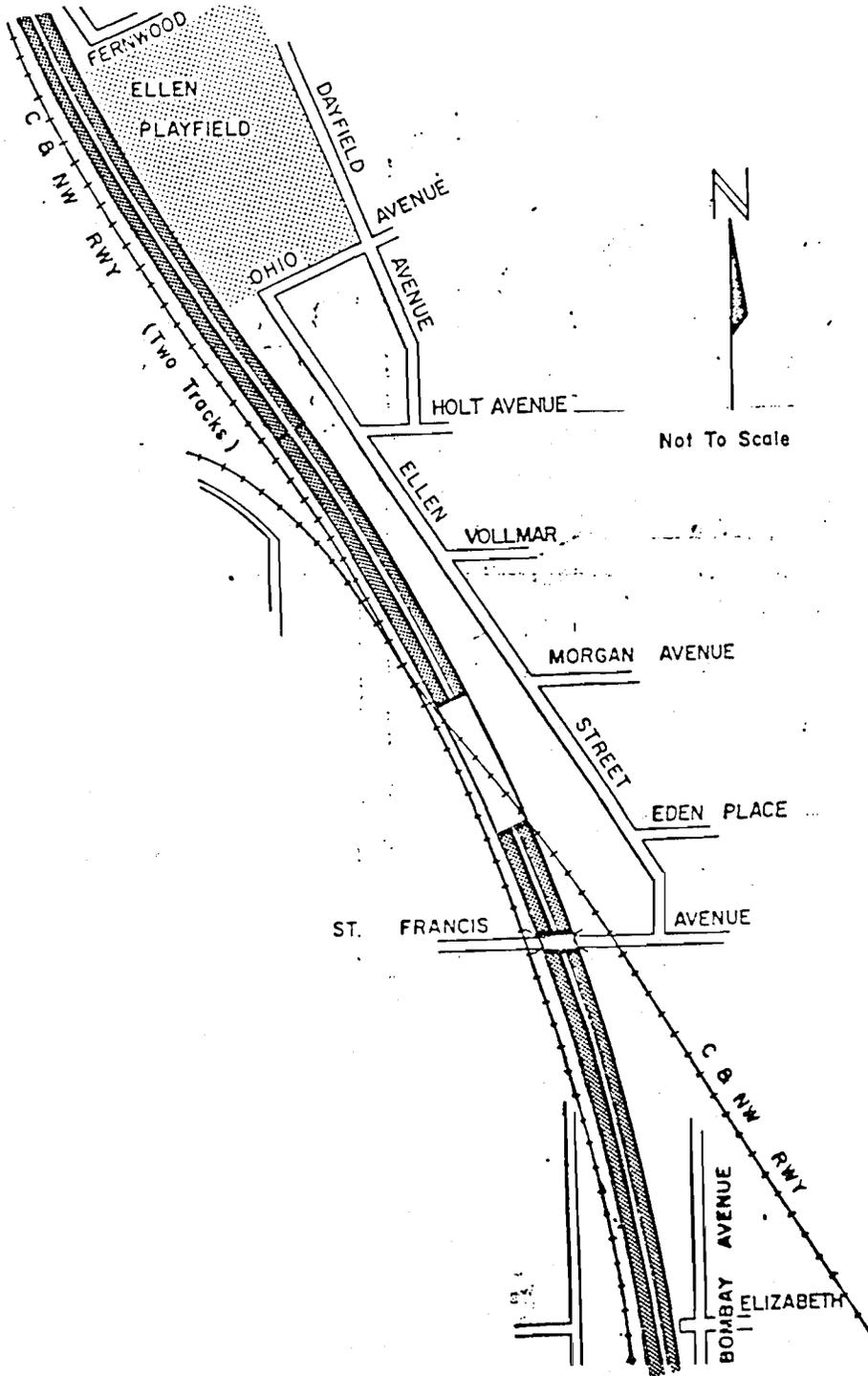
HOAN BRIDGE TO SOUTH OF E. RUSSELL AVE.

Map 28 (continued)



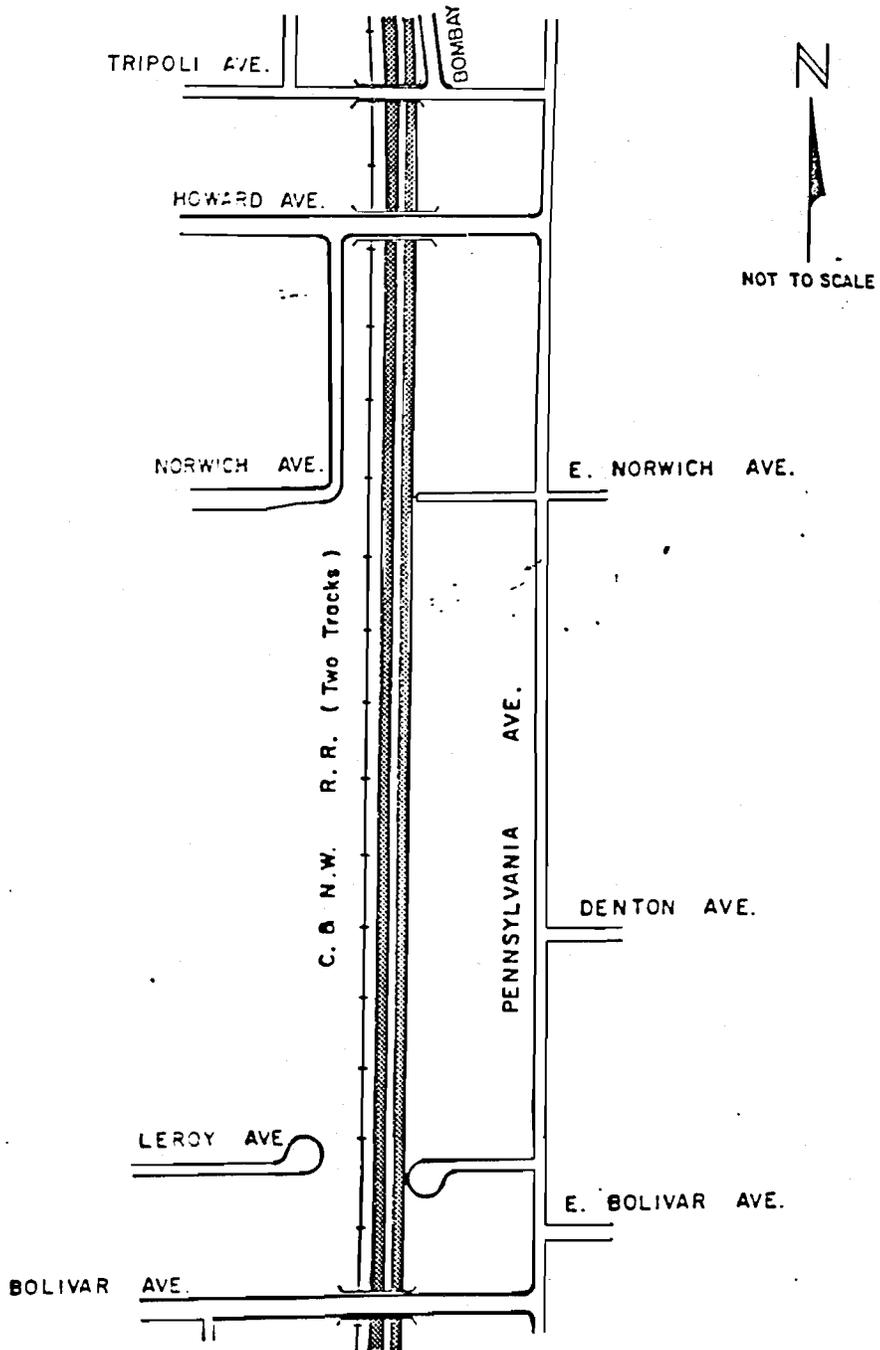
E. PRYOR AVE. TO SOUTH OF E. OKLAHOMA AVE.

Map 28 (continued)



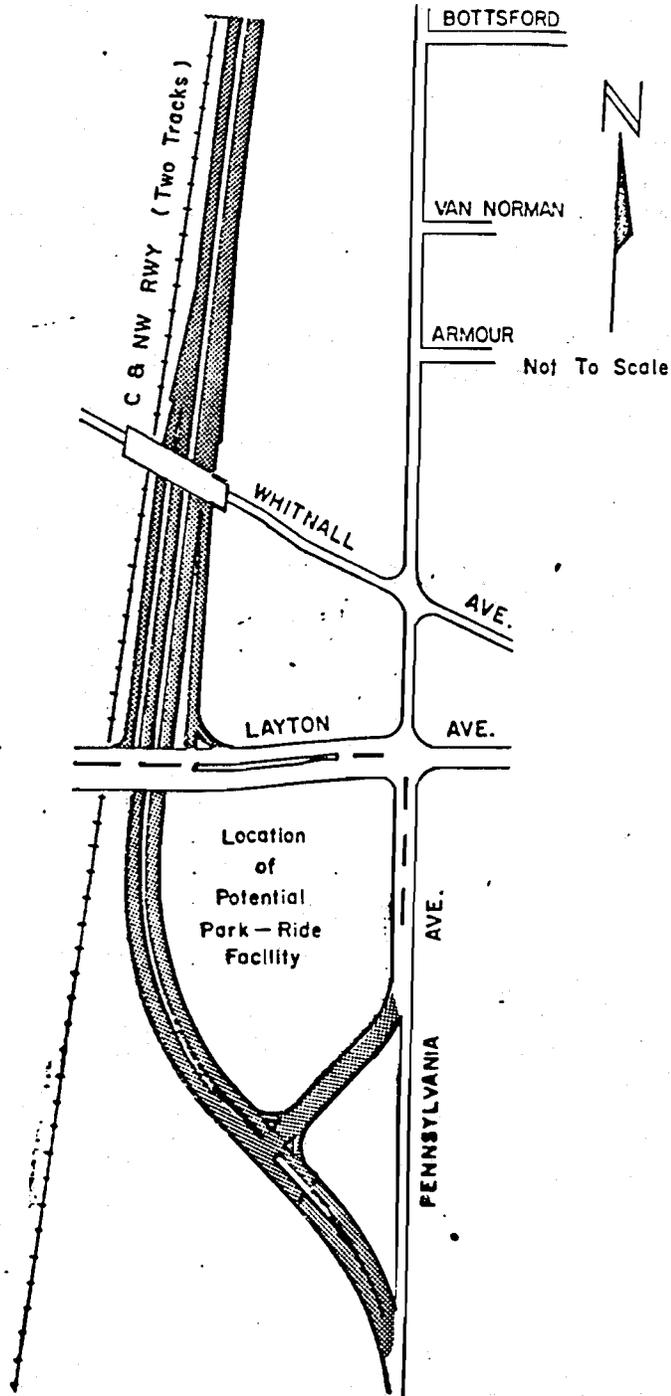
E. FERNWOOD STREET TO E. ELIZABETH STREET

Map 28 (continued)



TRIPOLI AVE. TO SOUTH OF BOLIVAR AVE.

Map 28 (continued)

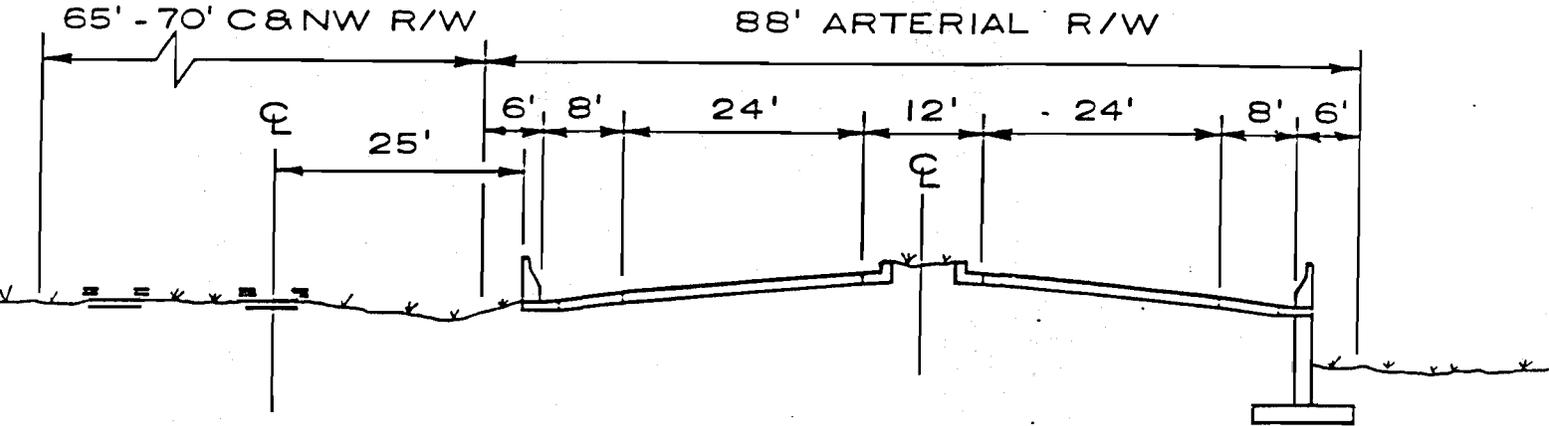


E. BOTTSFORD AVE. TO PENNSYLVANIA AVE.
(SOUTH OF E. LAYTON AVE.)

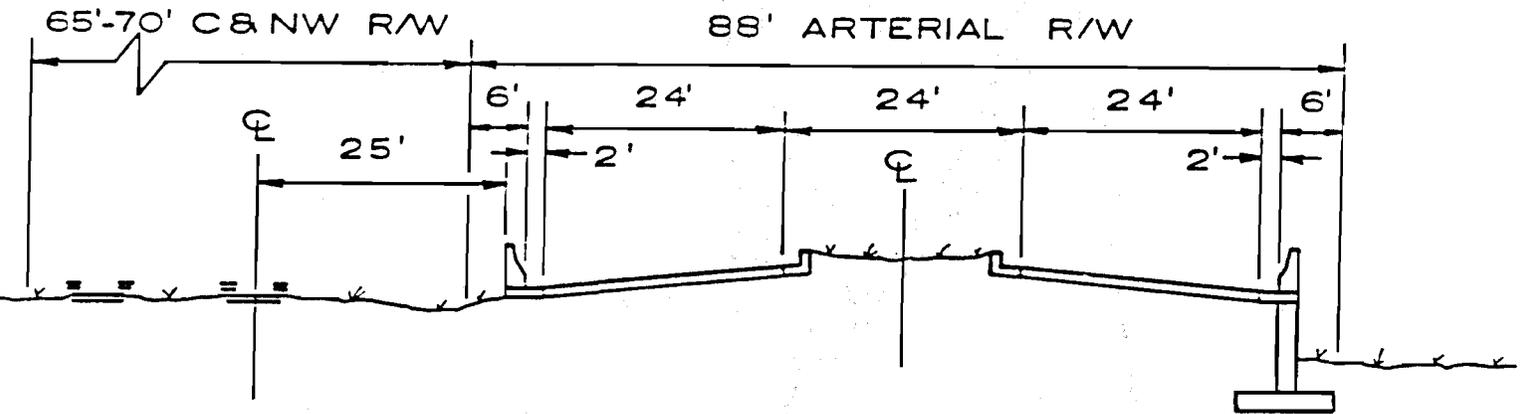
Source: SEWRPC.

Figure 2

ALTERNATIVE CROSS-SECTION OF ALTERNATIVE 7: NEW SURFACE
ARTERIAL BETWEEN HOAN BRIDGE AND S. LAYTON AVENUE ALONG
THE CHICAGO & NORTH WESTERN RAILWAY RIGHT-OF-WAY



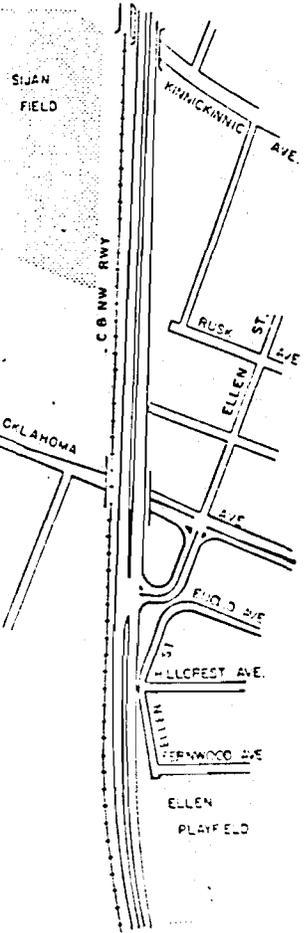
12 FOOT MEDIAN - 8 FOOT SHOULDERS



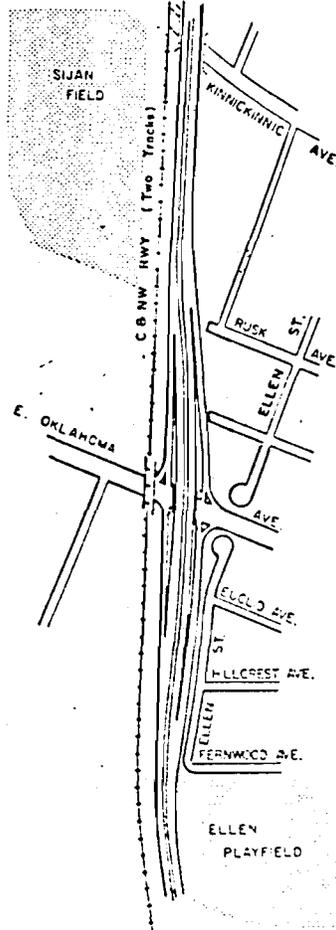
24 FOOT MEDIAN - NO SHOULDERS

Map 29

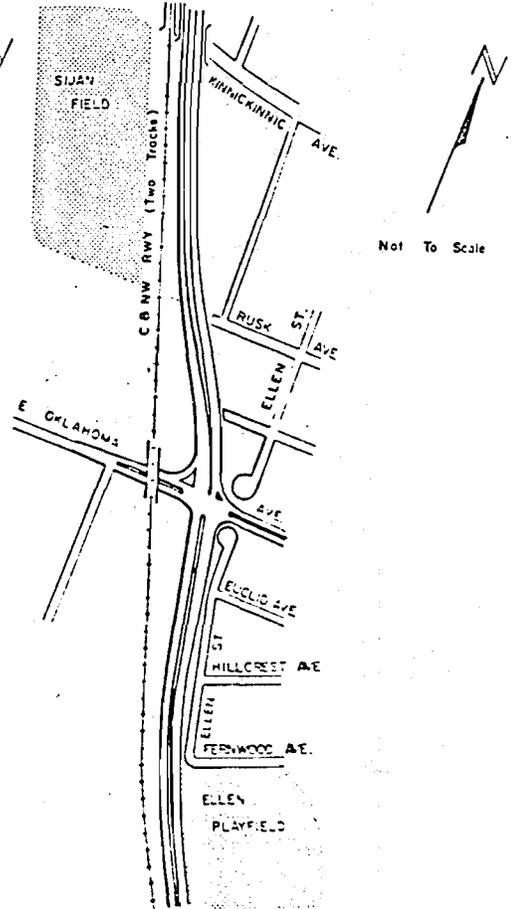
INTERSECTION OPTIONS AT
E. OKLAHOMA AVENUE UNDER ALTERNATIVE 7



OFFSET "T" INTERSECTION



DIAMOND INTERCHANGE

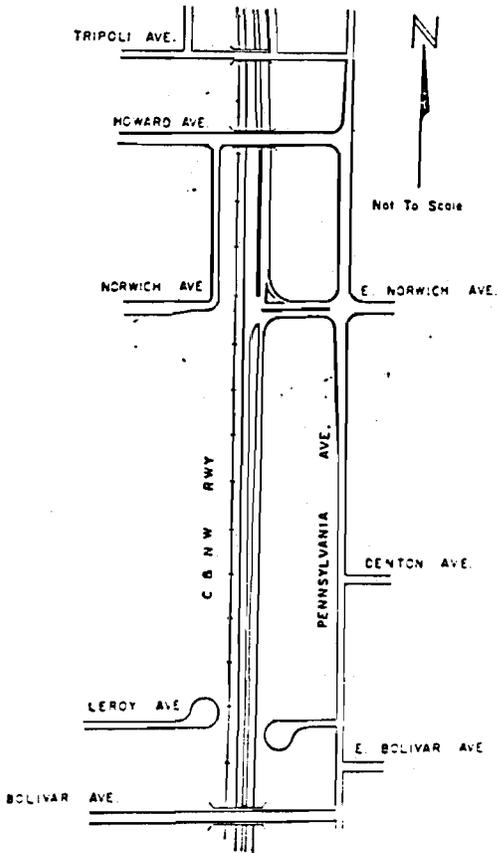


AT-GRADE INTERSECTION

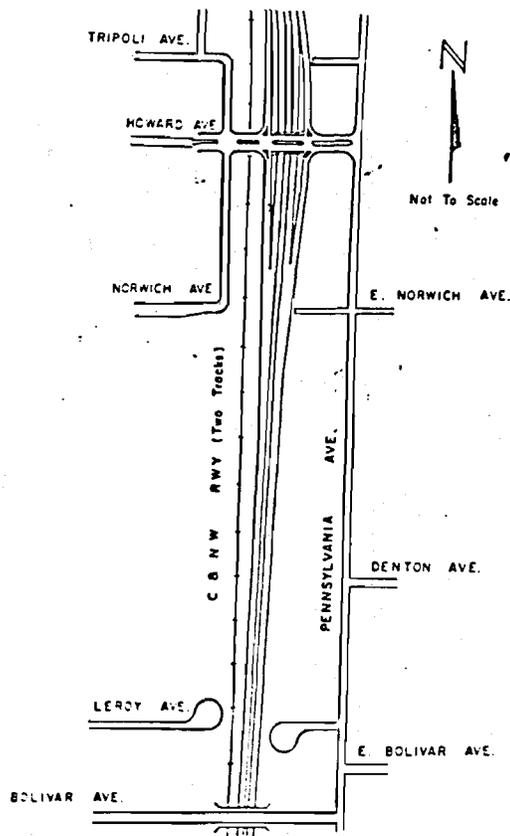
Source: SEWRPC.

Map 30

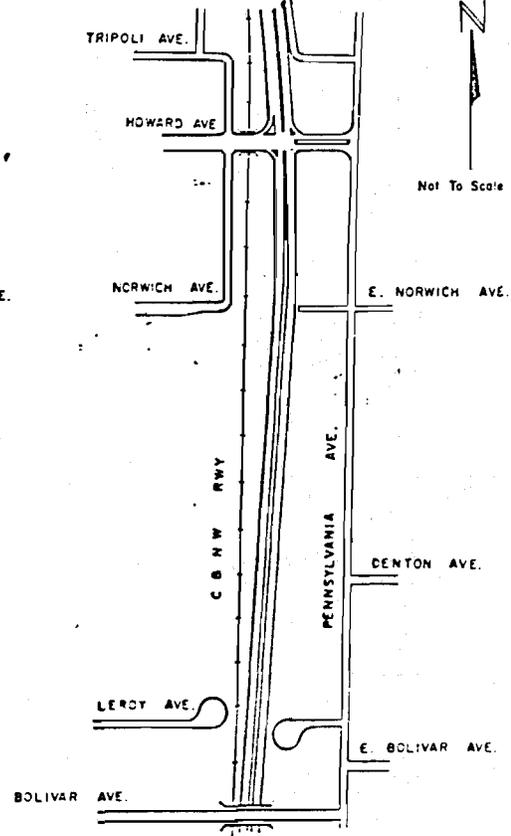
INTERSECTION OPTION AT
E. HOWARD AVENUE UNDER ALTERNATIVE 7



OFFSET "T" INTERSECTION



DIAMOND INTERCHANGE

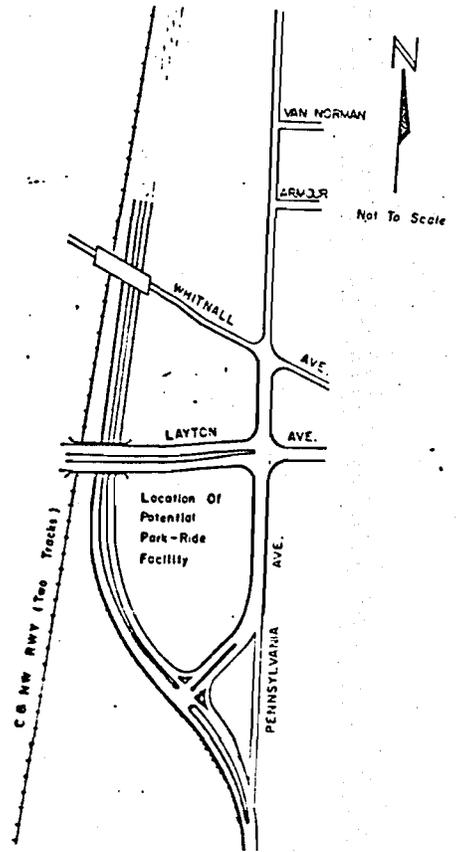
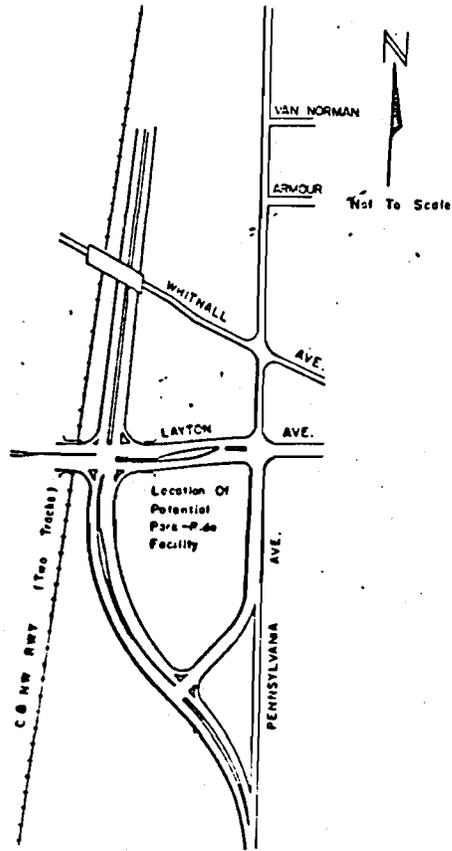
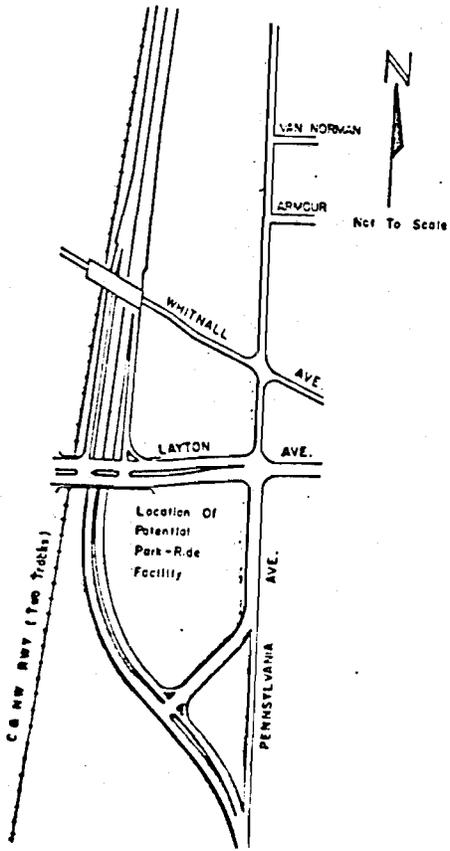


AT-GRADE INTERSECTION

Source: SEWRPC.

Map 31

INTERSECTION OPTIONS AT
E. LAYTON AVENUE UNDER ALTERNATIVE 7



HALF DIAMOND INTERCHANGE

AT-GRADE INTERSECTION

OFFSET "T" INTERSECTION

Source: SEWRPC.

Table 5

DESCRIPTION OF CHICAGO & NORTH WESTERN RAILWAY
RIGHT-OF-WAY FROM E. BAY STREET TO E. LAYTON AVENUE

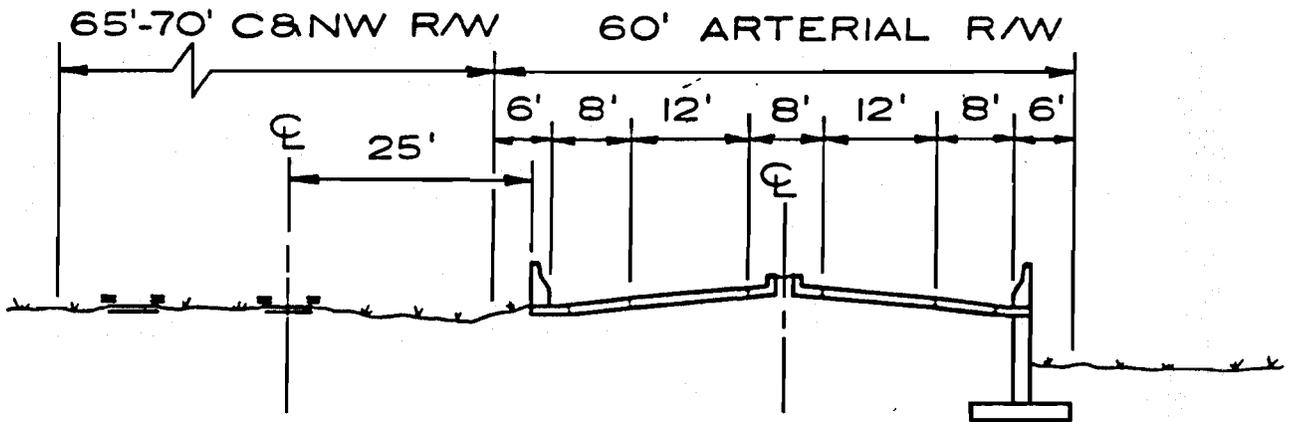
Right-of-Way (ROW) Segment	Range of ROW Width (feet)	Typical ROW Width (feet)	Distance From Main Track to East Edge of ROW (feet)	Number of Tracks in ROW	Location of ROW
E. Bay Street to E. Conway Street ^a	110	110	75	3	Surface
E. Conway Street to E. Russell Avenue.....	100	100	65	4	Surface
E. Russell Avenue to E. Oklahoma Avenue.....	110-200	130	95 Russell to to Pryor; 80-85 Pryor to Oklahoma	4	On fill
E. Oklahoma Avenue to E. Fernwood Avenue....	115-120	115	50-65; 65 typical	4-2	On fill
E. Fernwood Avenue to E. Holt Avenue.....	150-650	None	70-85; 85 typical	1	Surface
E. Holt Avenue to E. St. Francis Avenue...	150-280	150	70-200; 95 typical	1-2	Surface
E. St. Francis Avenue to E. Tripoli Avenue....	100-270	None	40-100; 60- 90 typical	1-2	Surface to cut
E. Tripoli Avenue to E. LeRoy Avenue.....	150-330	150	53-120; 68 typical	2	Moderate cut
E. LeRoy Avenue to E. Layton Avenue.....	180-388	200	40-150; 68 typical	2	Shallow to moderate cut

^a Most easterly of two main tracks. Distance measured from center line of track.

Source: SEWRPC.

Figure 3

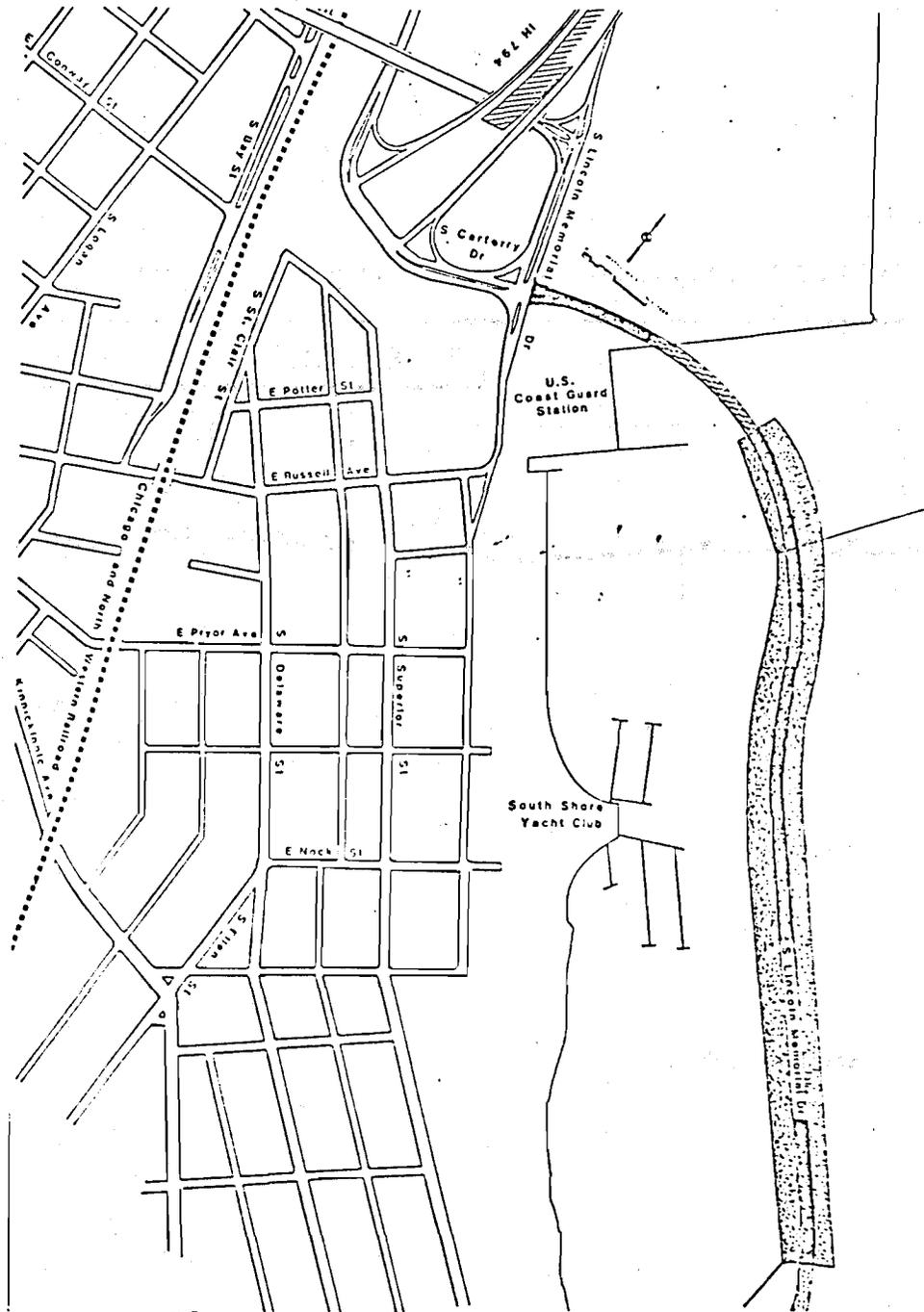
CROSS-SECTION OF ALTERNATIVE 8: NEW TWO-LANE
ROADWAY FROM THE HOAN BRIDGE TO E. LAYTON AVENUE
ALONG THE CHICAGO & NORTH WESTERN RAILWAY RIGHT-OF-WAY



Source: SEWRPC.

Map 32

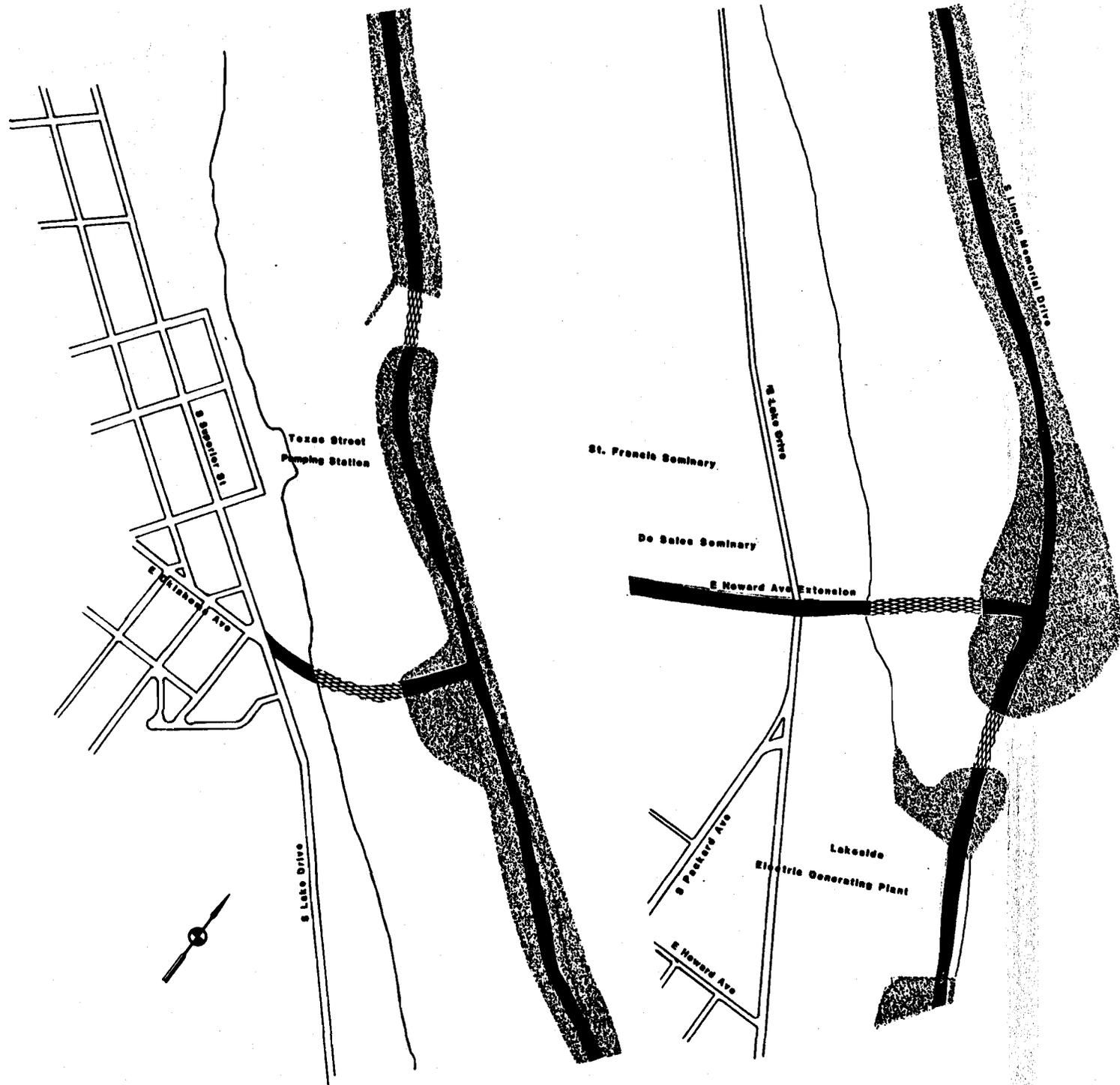
ALTERNATIVE 9: CONSTRUCTION OF CAUSEWAY FROM THE HOAN BRIDGE AT S. CARFERRY DRIVE TO E. LAYTON AVENUE



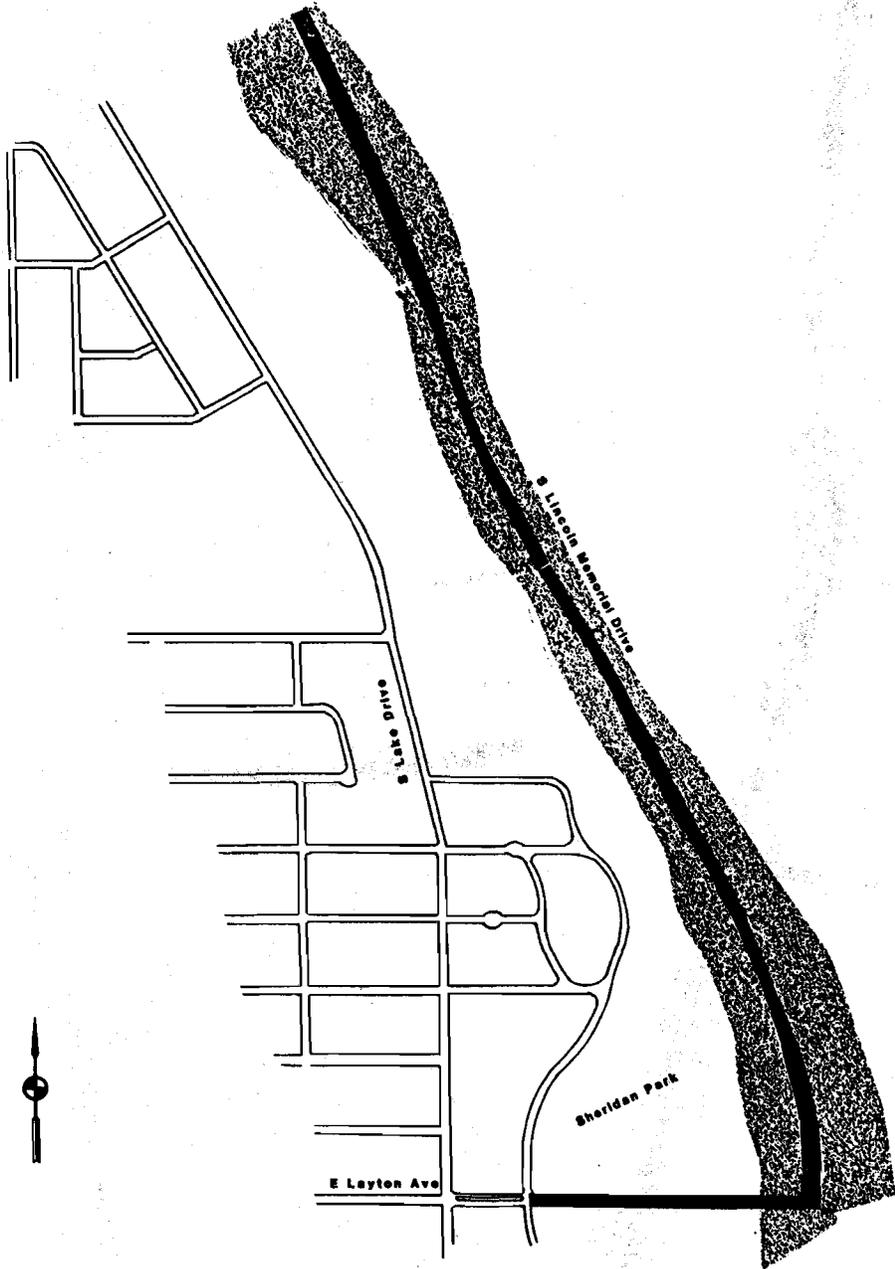
LEGEND

-  New Freeway Ramps and Surface Streets
-  New Structure
-  New Causeway
-  Existing Structure or Pavement to be Removed

Map 32 (continued)



Map 32 (continued)



Source: SEWRPC.

approximately 1,000 feet from the existing shoreline and would have connections to E. Oklahoma Avenue, E. Howard Avenue, and E. Layton Avenue. Potentially, the causeway could extend beyond E. Layton Avenue. Other alignment options of this alternative have been proposed, including an alignment along an extended shoreline similar to N. Lincoln Memorial Drive.

It was proposed by the Task Force Chairman that another alternative be considered: the construction of a surface arterial extension from the Hoan Bridge to and along the Chicago & North Western railway right-of-way to E. Layton Avenue and S. Pennsylvania Avenue. This alternative would provide for four traffic lanes and a median, but would not provide distress lanes and would have more restrictive design standards than the similar alternative evaluated under the preliminary engineering study, including an at-grade intersection rather than an interchange at S. Carferry Drive. The at-grade intersection at Carferry Drive would help reduce operating speeds on the facility, avoid property takings along the northern portion of the project, and minimize property takings along the entire project route. The alignment of this alternative is shown on Map 33 and its cross-section is shown on Figure 4.

EVALUATION OF HOAN BRIDGE CONNECTION ALTERNATIVES

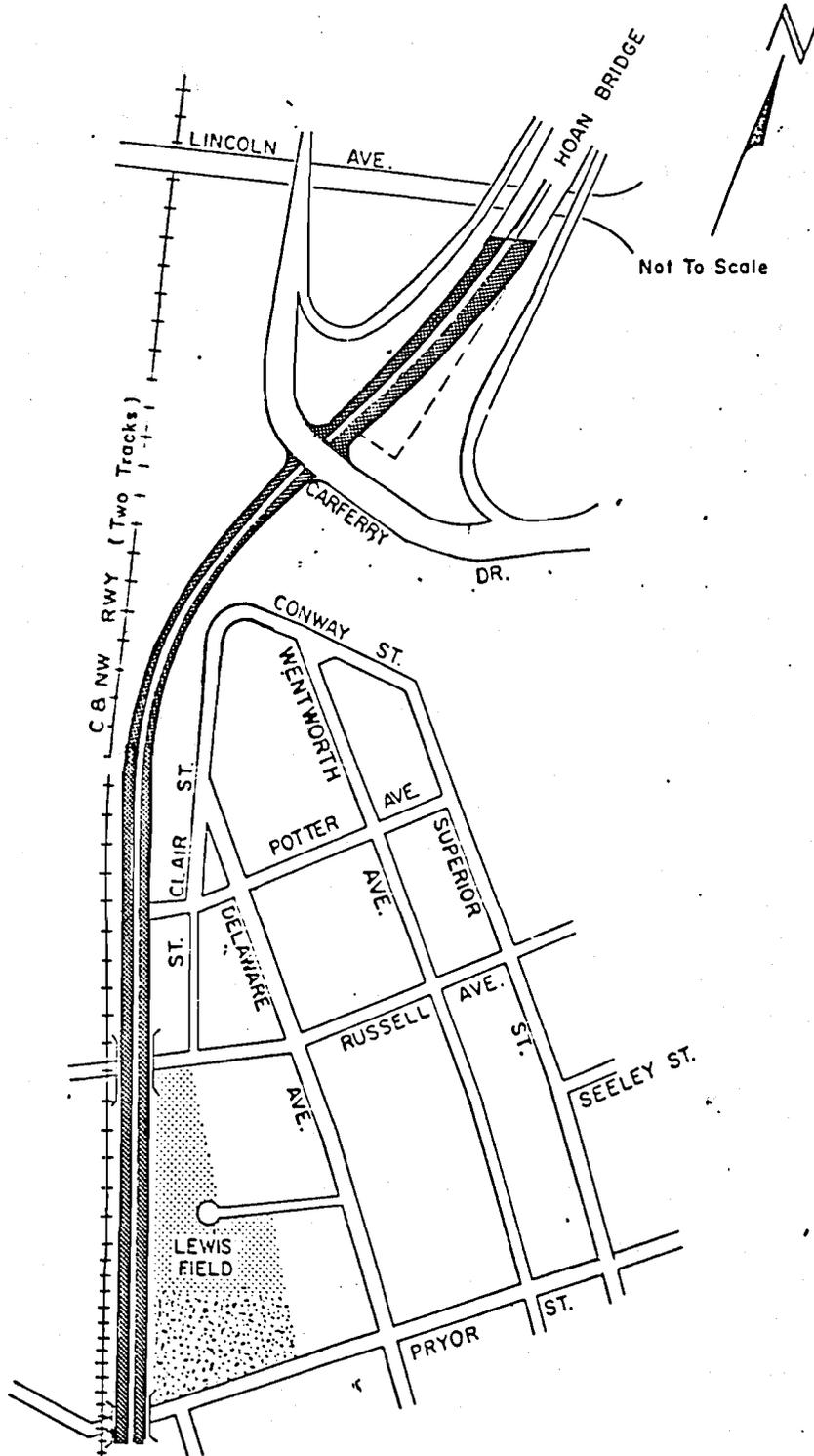
An evaluation of the 10 Hoan Bridge connection alternatives, including a "do-nothing" alternative, is presented in Table 6. The alternatives are evaluated with respect to their traffic impacts; vehicle energy consumption; air pollutant emissions; construction costs; and disruption, the latter being measured in terms of the required taking of property, including all structures, historic properties, and parks.

The evaluation indicates that the four alternatives with minimal construction costs and no property taking--Alternatives 2, 3, 4, and 5 make minor improvements with connections to the Hoan Bridge by connecting the bridge to surface streets such as E. Lincoln Avenue, E. Conway Street, S. Superior Street, and S. Delaware Avenue--would have minimal beneficial traffic impacts. Under each of these alternatives, traffic and traffic congestion on study area arterial streets may be expected to substantially increase virtually to the same extent as under the do-nothing alternative, there being little diversion of through traffic from local streets. Alternative 4, which would directly connect the Hoan Bridge to S. Superior Street, would provide for an even larger increase in traffic on S. Superior Street than under the do-nothing alternative; and Alternative 5, which would connect the Hoan Bridge to S. Superior Street and S. Delaware Avenue and operate these streets as a one-way pair to E. Oklahoma Avenue, would result in very substantial increases in traffic on S. Delaware Avenue and would change the function of this street from a local street to an arterial street. These alternatives also would provide very minimal reductions in motor fuel consumption and air pollutant emissions compared to the do-nothing alternative, which would simply maintain the existing street system in the study area.

Alternative No. 6, which was suggested by the Lake Arterial Alternative Committee--a Bay View citizen-based organization--and which proposed to connect the Hoan Bridge by a two-lane arterial to S. Kinnickinnic Avenue, with new connections to E. Lincoln Avenue and to northbound S. Superior Street, may also be expected to have little beneficial traffic impact. The substantial

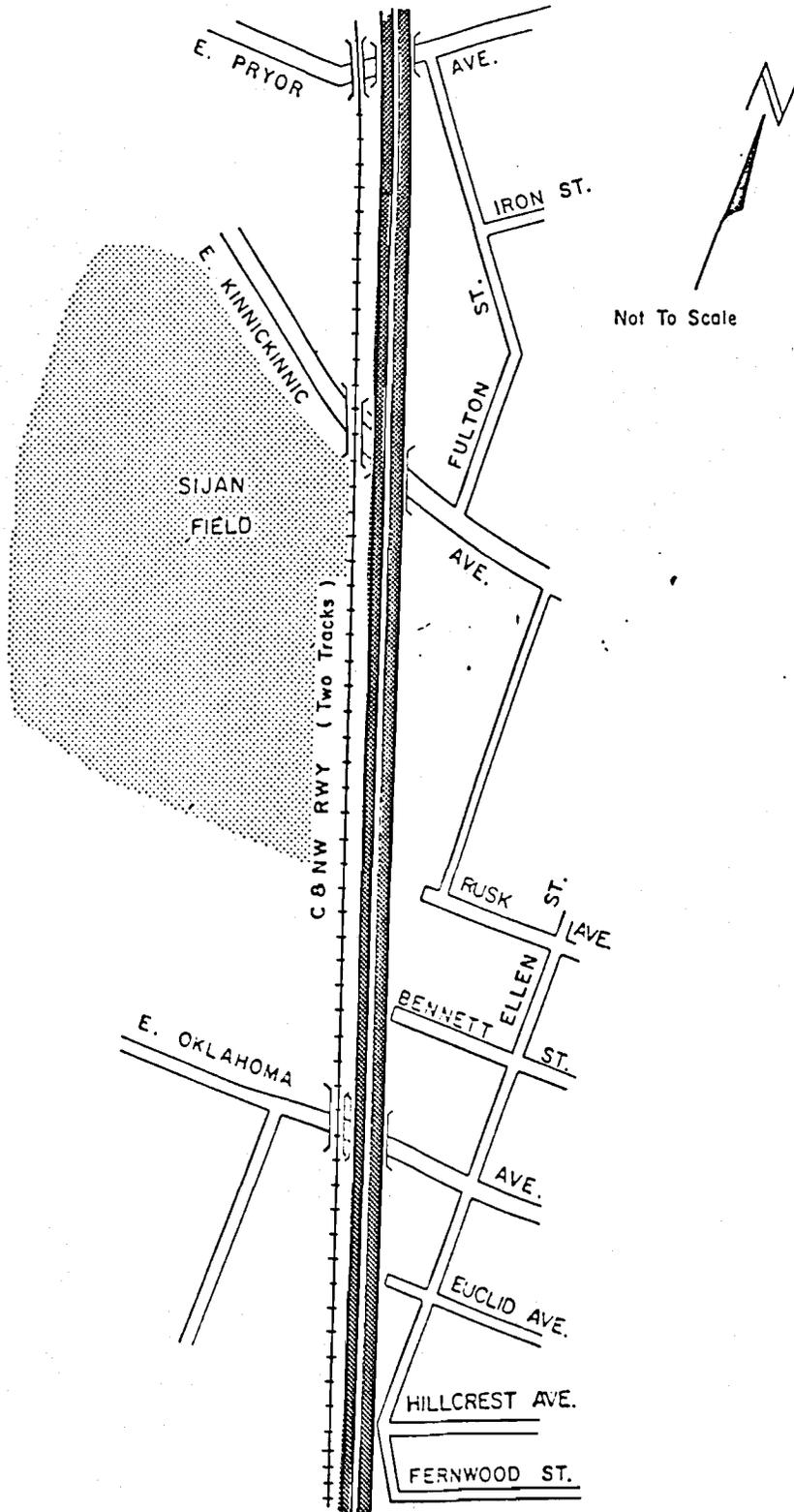
Map 33

ALTERNATIVE 10: MINIMAL NEW FOUR-LANE ROADWAY
CONNECTION BETWEEN HOAN BRIDGE AND E. LAYTON
AVENUE ALONG THE CHICAGO & NORTH WESTERN RAILWAY



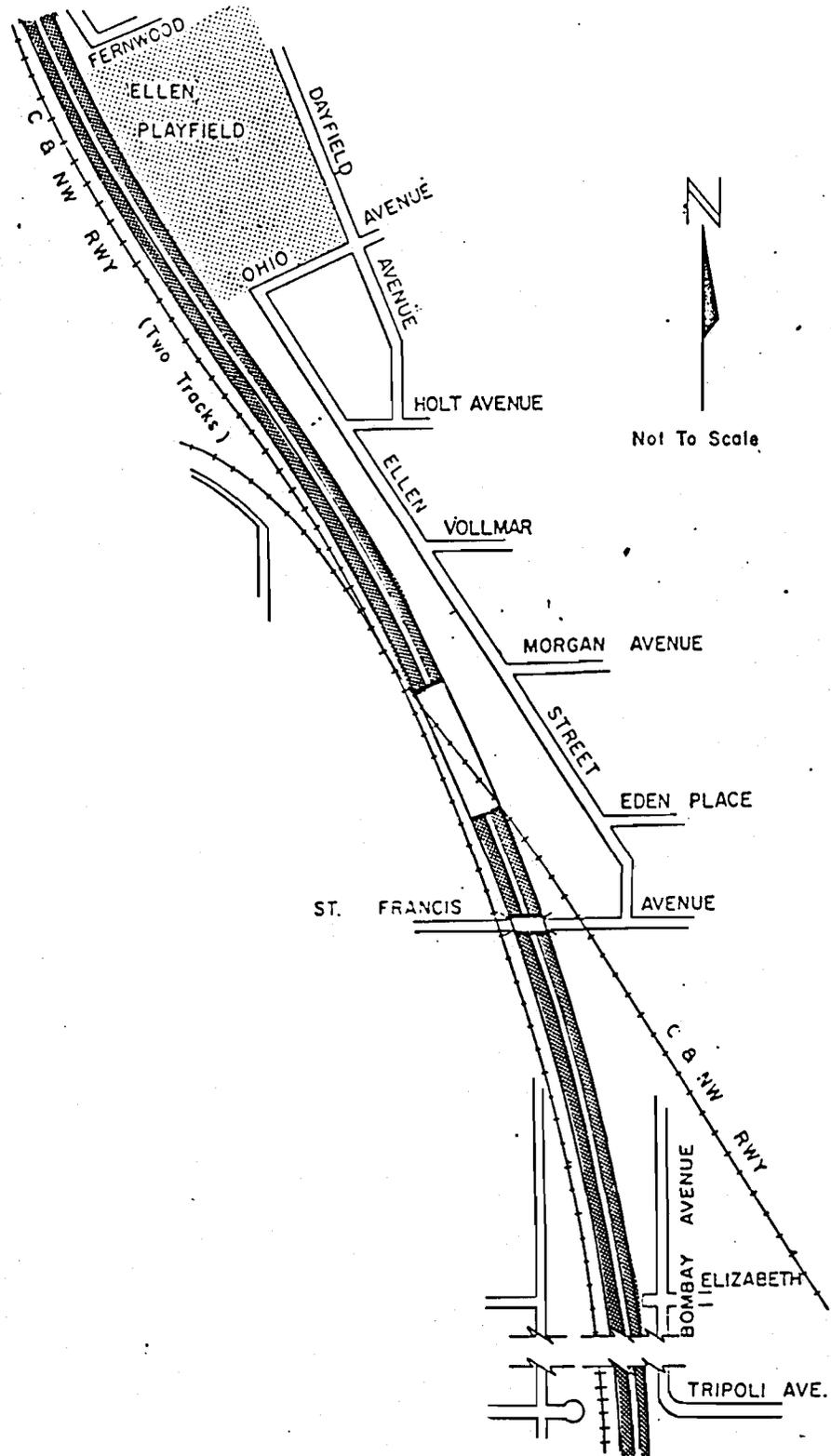
HOAN BRIDGE TO SOUTH OF E. PRYOR ST.

Map 33 (continued)



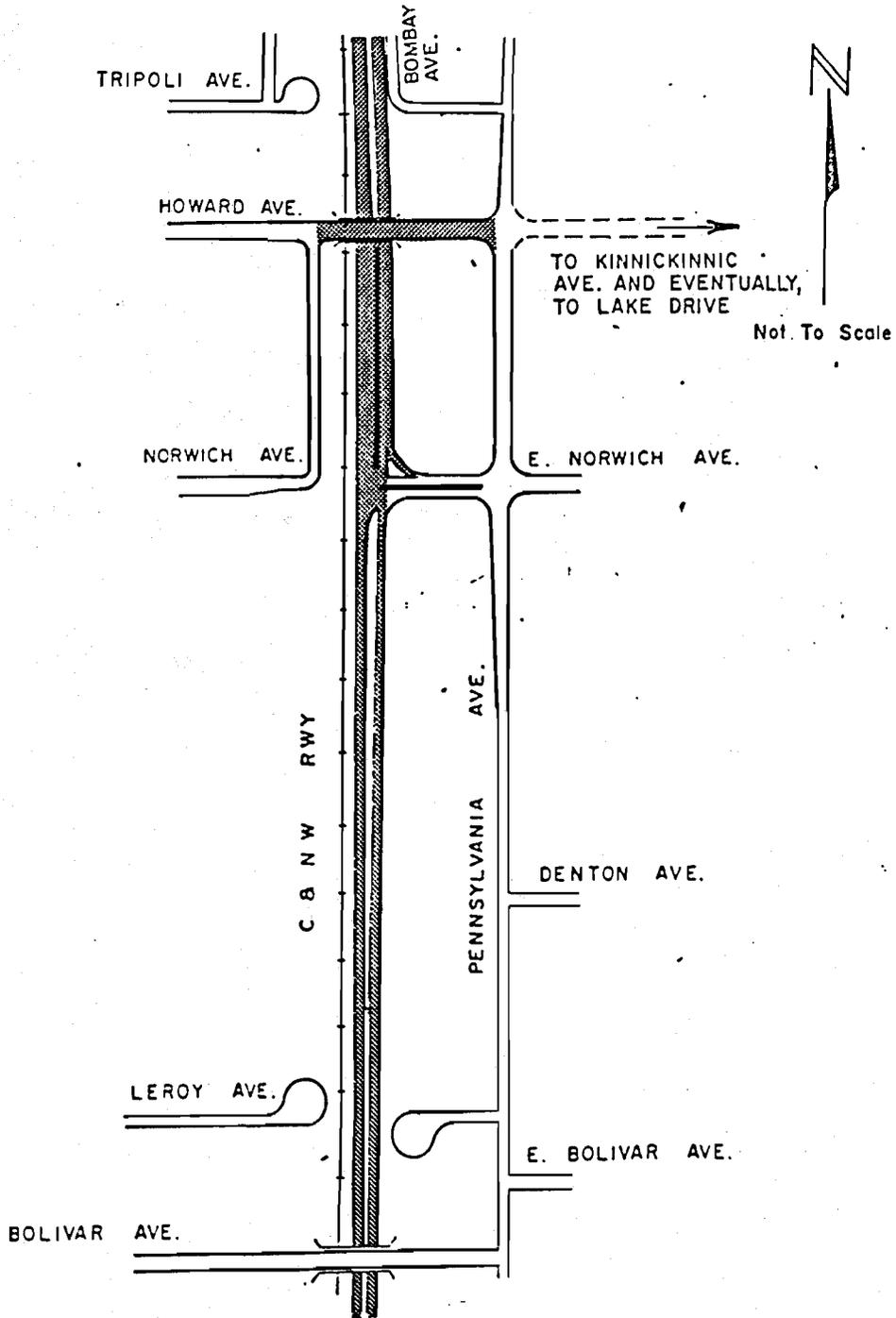
E. PRYOR AVE. TO SOUTH OF E. OKLAHOMA AVE.

Map 33 (continued)



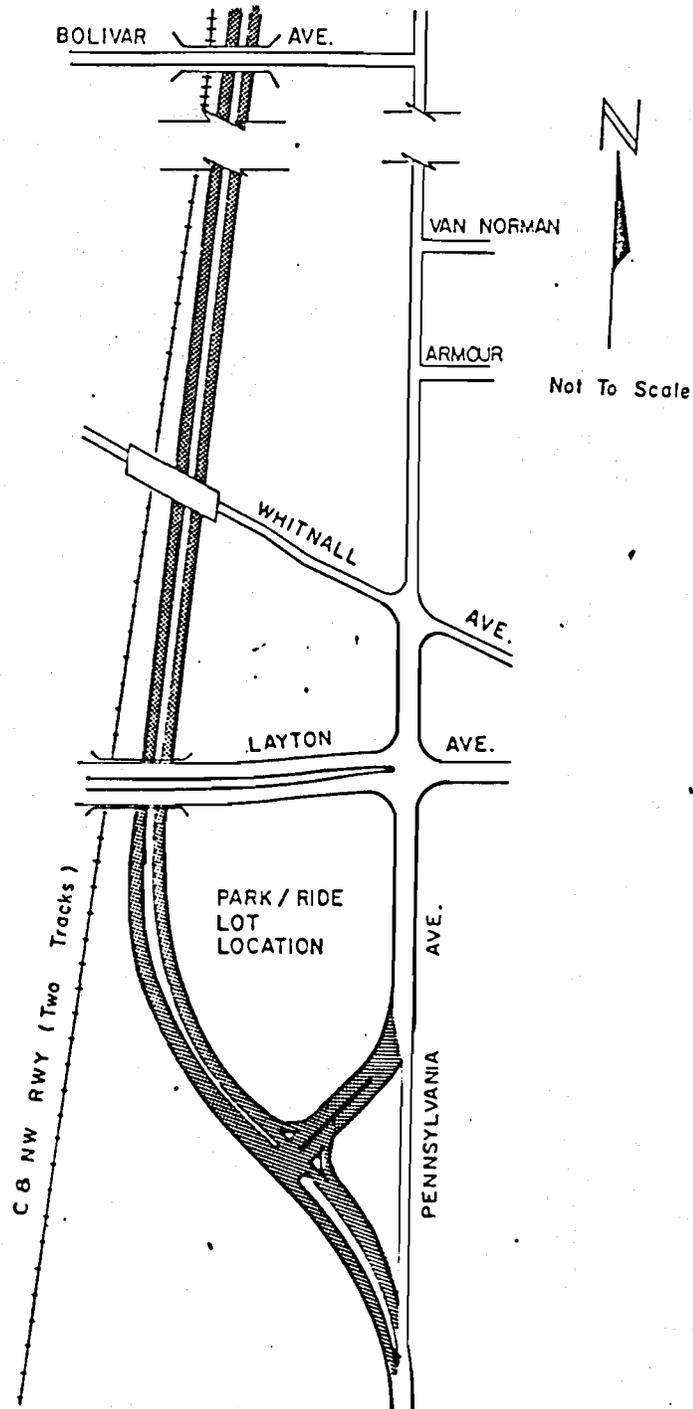
E. FERNWOOD STREET TO TRIPOLI AVENUE

Map 33 (continued)



PLAN OF HOWARD AVE.
OFFSET "T" INTERSECTION

Map 33 (continued)

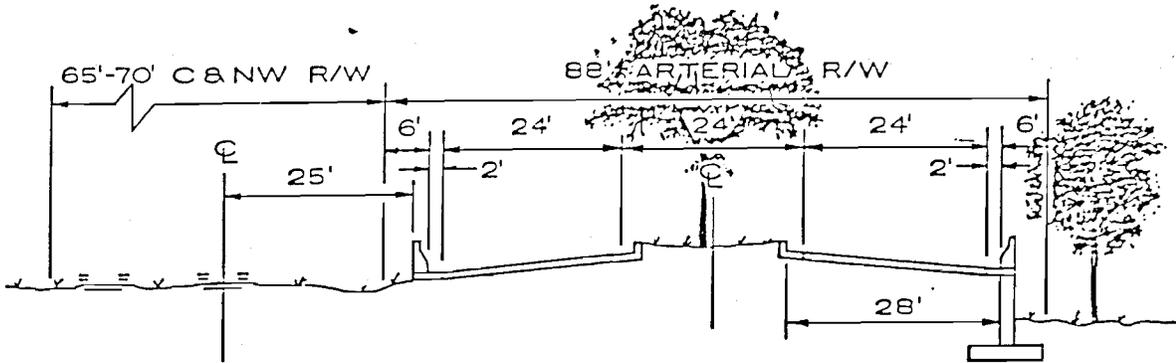


PLAN OF LAYTON AVENUE
OFFSET "T" INTERSECTION

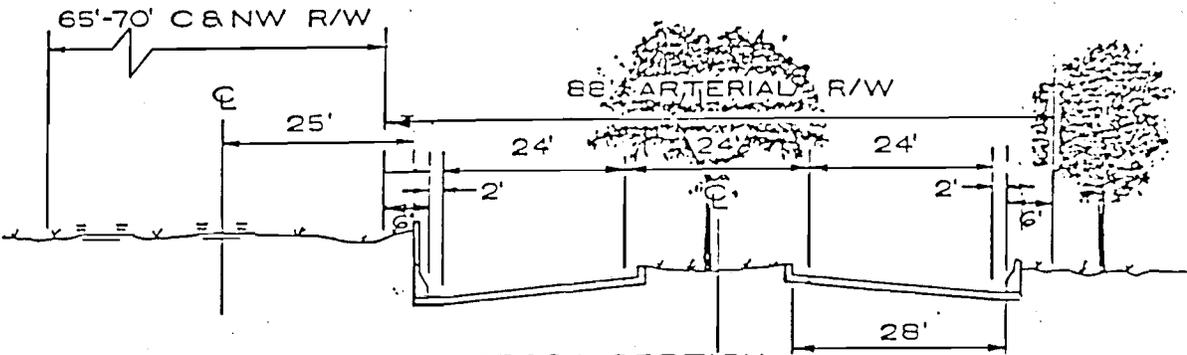
Source: SEWRPC.

Figure 4

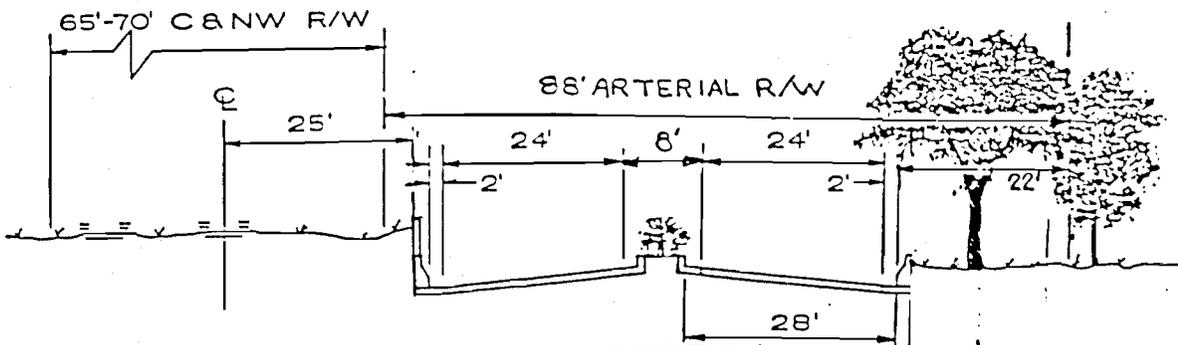
CROSS-SECTION OF ALTERNATIVE 10: MINIMAL NEW
FOUR-LANE ROADWAY BETWEEN HOAN BRIDGE AND E. LAYTON AVENUE



CROSS SECTION.
24 FOOT MEDIAN-NO SHOULDERS



CROSS SECTION.
24 FOOT MEDIAN-NO SHOULDERS



CROSS SECTION.
8 FOOT MEDIAN-NO SHOULDERS

Table 6
EVALUATION OF HOAN BRIDGE CONNECTION ALTERNATIVES

Evaluation Measures	Alternative 1: "Do-Nothing" Alternative		Alternative 2: Connection of Southbound Hoan Bridge Off-Ramp to E. Lincoln Avenue at Bay Street		Alternative 3: Extension of Southbound Hoan Bridge Off-Ramp to E. Conway Street at Bay Street ⁸		Alternative 4: Improvement of Hoan Bridge Connection To S. Superior Street		Alternative 5: Connection of Hoan Bridge to S. Superior Street and S. Delaware Avenue and Operation of Streets as One-Way Pair		Alternative 6: New Two-Lane Arterial From Hoan Bridge To and Along C&NW Right-of-Way to E. Kinnickinnic Avenue (Also New Connections to E. Lincoln Avenue at Bay Street and Northbound S. Superior Street to Hoan Bridge) ⁹		Alternative 7: New Four-Lane Arterial From Hoan Bridge To and Along C&NW Right-of-Way to E. Layton Avenue With Interchange at S. Car ferry Drive, and Intersections at E. Oklahoma Avenue, E. Howard Avenue, and E. Layton Avenue ^{10,11}		Alternative 8: New Two-Lane Arterial From Hoan Bridge To and Along C&NW Right-of-Way to E. Layton Avenue With Interchange at S. Car ferry Drive, and Intersections at E. Oklahoma Avenue, E. Howard Avenue, and E. Layton Avenue ^{12,13}		Alternative 9: New Four-Lane Arterial on Causeway From S. Car ferry Drive to E. Layton Avenue With Connections at E. Oklahoma Avenue and E. Howard Avenue ^{14,15}		Alternative 10: New Minimal Four-Lane Arterial From Hoan Bridge To and Along C&NW Right-of-Way to E. Layton Avenue With Intersections at S. Car ferry Drive, E. Howard Avenue, and E. Layton Avenue		Alternative 11: Connection of Hoan Bridge to E. Lincoln Avenue Extension	
	Substantial increase.	Substantial increase.	Substantial increase.	Substantial increase, particularly S. Superior St.	Substantial increase, particularly S. St. Clair St. and S. Delaware Ave.	Substantial increase.	Substantial reduction.	Slight increase.	Slight increase.	Reduction.	Substantial increase.											
Average Weekday Traffic Volume	Forecast Year 2000	Forecast Year 2000	Forecast Year 2000	Forecast Year 2000	Forecast Year 2000	Forecast Year 2000	Forecast Year 2000	Forecast Year 2000	Forecast Year 2000	Forecast Year 2000	Forecast Year 2000	Forecast Year 2000	Forecast Year 2000	Forecast Year 2000	Forecast Year 2000	Forecast Year 2000	Forecast Year 2000	Forecast Year 2000	Forecast Year 2000	Forecast Year 2000		
<p>Traffic Impacts^m</p> <p>o Traffic and traffic congestion on arterial streets.</p> <p>Existing, 1981-1985¹</p> <p>Streets</p> <p>Superior Street..... 10,500</p> <p>Kinnickinnic Avenue.. 10,800 to 12,000</p> <p>Clement Avenue..... 4,200 to 5,600</p> <p>Russell Avenue..... 3,700 to 17,000</p> <p>Howard Avenue..... 12,200 to 17,200</p> <p>Holt Avenue..... 13,400</p> <p>Hoan Bridge..... 19,800</p> <p>o Indirection of route of travel, particularly at Hoan Bridge stub end.</p> <p>o Through traffic on local streets particularly near Hoan Bridge stub end.</p> <p>o Other traffic impacts</p> <p>o Posted Speed Limit on New Arterial.....</p> <p>o Public Transit Travel Times to Downtown (p.m. peak-in minutes) Oklahoma Avenue.....</p> <p>Layton Avenue.....</p>	<p>Substantial increase.</p> <p>Forecast Year 2000 13,600</p> <p>14,500 to 18,500</p> <p>14,500</p> <p>13,300 to 23,000</p> <p>15,000 to 20,000</p> <p>18,300 25,000</p> <p>Continued indirection.</p> <p>Expected to increase.</p> <p>—</p> <p>Not applicable.</p> <p>26 35</p> <p>— — —</p> <p>None</p>	<p>Substantial increase.</p> <p>Forecast Year 2000 13,600</p> <p>14,500 to 18,500</p> <p>14,500</p> <p>10,800 to 20,500</p> <p>15,800 to 20,000</p> <p>18,300 25,000</p> <p>Continued indirection of nearly all travel.</p> <p>Expected to increase.</p> <p>Principal effect of this alternative is to provide additional access to Hoan Bridge. Area served would generally be south of W. Lincoln Ave. and west of S. Logan Ave. New access would carry estimated 2,500 awdt which would otherwise use E. Russell Ave.</p> <p>Not applicable.</p> <p>26 35</p> <p>\$600,000 0 \$600,000</p> <p>None</p>	<p>Substantial increase.</p> <p>Forecast Year 2000 13,600</p> <p>14,500 to 18,500</p> <p>14,500</p> <p>9,300 to 19,000</p> <p>15,800 to 20,000</p> <p>18,300 25,000</p> <p>Continued indirection of nearly all travel.</p> <p>Expected to increase.</p> <p>Principal effect of this alternative is to provide additional access to Hoan Bridge. Area served would generally be south of E. Lincoln Ave. and west of S. Kinnickinnic Ave. New access would carry estimated 4,000 awdt which would otherwise use E. Russell Ave.</p> <p>Not applicable.</p> <p>26 35</p> <p>\$600,000 0 \$600,000</p> <p>None</p>	<p>Substantial increase, particularly S. Superior St.</p> <p>Forecast Year 2000 16,400</p> <p>14,500 to 18,500</p> <p>14,500</p> <p>13,300</p> <p>15,300 to 19,500</p> <p>18,000 27,800</p> <p>Elimination of substantial travel indirection.</p> <p>Expected to increase.</p> <p>Principal effect of this alternative is to eliminate most travel indirection at Hoan Bridge stub end and increase capacity of connection by eliminating turns to and from S. Superior St.</p> <p>Not applicable.</p> <p>26 35</p> <p>\$400,000 0 \$400,000</p> <p>None</p>	<p>Substantial increase, particularly S. St. Clair St. and S. Delaware Ave.</p> <p>Forecast Year 2000 10,000 (S. Superior St.) 10,000 (S. Delaware Ave.)</p> <p>16,300 to 18,100</p> <p>14,500</p> <p>13,300</p> <p>13,000 to 18,000</p> <p>18,000 31,000</p> <p>Elimination of substantial travel indirection.</p> <p>Expected to increase, particularly on S. Delaware Ave., which would be a route for through traffic (existing 2,400 awdt).</p> <p>Principal effect of this alternative is to double the capacity of the surface street connection to the Hoan Bridge through the one-way pair of streets. However, traffic on local streets will increase as traffic circulates to reach one-way streets. Also, properties on one-way streets will experience some decline in accessibility.</p> <p>Not applicable.</p> <p>26 35</p> <p>\$400,000 0 \$400,000</p> <p>None</p>	<p>Substantial increase.</p> <p>Forecast Year 2000 15,000</p> <p>16,300 to 18,100</p> <p>13,400</p> <p>4,000 to 9,000</p> <p>12,200 to 14,700</p> <p>15,400 38,000</p> <p>Elimination of substantial travel indirection.</p> <p>Expected to be reduced somewhat.</p> <p>Principal effect of this alternative is to reduce potential future traffic on S. Kinnickinnic Ave. north of the C&NW railway structure and on E. Russell Ave. Also, additional access is provided to the Hoan Bridge via S. Lincoln Ave. Direct access is provided to northbound S. Superior St., but indirection remains for southbound S. Superior St.</p> <p>30 to 35 mph.</p> <p>14 23</p> <p>\$8,000,000 1,500,000 \$9,500,000</p> <p>None (assuming C&NW can be limited to one track)</p>	<p>Substantial reduction.</p> <p>Forecast Year 2000 5,000</p> <p>8,100 to 13,800</p> <p>5,800 to 8,400</p> <p>4,000</p> <p>12,500 to 13,700</p> <p>15,200 49,000</p> <p>Elimination of nearly all travel indirection.</p> <p>Expected to be substantially reduced.</p> <p>Principal effect of this alternative is to carry substantial traffic on the new arterial—22,000 to 47,000 awdt—which would otherwise be on arterial and local streets.</p> <p>30 to 35 mph.</p> <p>10 16</p> <p>\$35,300,000 5,500,000 \$40,800,000</p> <p>51 (16 county owned) May be reduced if C&NW is limited to one track rather than two.</p>	<p>Slight increase.</p> <p>Forecast Year 2000 11,000</p> <p>12,400 to 17,000</p> <p>7,600 to 11,900</p> <p>10,000 to 20,000</p> <p>12,500 to 13,700</p> <p>15,400 38,000</p> <p>Elimination of only some travel indirection, as two-lane arterial cannot accommodate all traffic and substantial traffic will continue to use existing indirect routes.</p> <p>Expected to continue.</p> <p>Principal effect of this alternative is to carry a limited amount of traffic on the new arterial—14,000 to 19,000 awdt—which would otherwise be on arterials or local streets. Most of this traffic will have origin or destination south of E. Layton Ave. Limited amount of traffic between Hoan Bridge and E. Layton Ave. will use the new arterial.</p> <p>30 to 35 mph.</p> <p>10 16</p> <p>\$30,100,000 3,800,000 \$33,900,000</p> <p>25 (9 county owned) May be reduced if C&NW is limited to one track rather than two.</p>	<p>Slight increase.</p> <p>Forecast Year 2000 6,100</p> <p>13,500 to 18,500</p> <p>14,500</p> <p>12,300 to 16,500</p> <p>15,800 to 20,000</p> <p>18,300 27,000</p> <p>Elimination of some travel indirection. New causeway itself will have indirect traffic will continue to use existing indirect routes.</p> <p>Expected to continue.</p> <p>Principal effect of this alternative is to carry a limited amount of traffic on the new arterial—7,000 to 8,500 awdt—which would otherwise be on local streets. Most of this traffic will have origin or destination south of E. Layton Ave. Limited amount of traffic between Hoan Bridge and E. Layton Ave. will use the new arterial.</p> <p>30 to 35 mph.</p> <p>— 36</p> <p>\$190,000,000 0 \$190,000,000</p> <p>None</p>	<p>Reduction.</p> <p>Forecast Year 2000 7,500</p> <p>9,400 to 15,000</p> <p>5,800 to 10,000</p> <p>7,000 to 12,000</p> <p>12,500 to 13,700</p> <p>15,200 40,000</p> <p>Elimination of nearly all travel indirection. Exception is traffic north of E. Oklahoma Ave., which would use existing indirect routes.</p> <p>Expected to be reduced.</p> <p>Principal effect of this alternative is to carry traffic on the new arterial—17,000 to 31,500 awdt—which would otherwise be on local streets. Most of this traffic would have origin or destination south of E. Oklahoma Ave. Limited amount of traffic between Hoan Bridge and E. Oklahoma Ave. will use new arterial. If intersection were provided at E. Oklahoma Ave. with new arterial, substantial traffic north of E. Oklahoma Ave. would use the new arterial.</p> <p>30 to 35 mph.</p> <p>10 16</p> <p>\$36,300,000 4,300,000 \$40,600,000</p> <p>20 (4 county owned) May be reduced if C&NW is limited to one track rather than two.</p>	<p>Substantial increase.</p> <p>Forecast Year 2000 13,600</p> <p>14,500 to 18,500</p> <p>14,500</p> <p>10,800 to 20,500</p> <p>15,800 to 20,000</p> <p>18,300 25,000</p> <p>Continued indirection of nearly all travel.</p> <p>Expected to increase.</p> <p>Principal effect of this alternative is to provide additional access to Hoan Bridge. Area served would generally be south of W. Lincoln Ave. and west of S. Logan Ave. New access would carry estimated 2,500 awdt which would otherwise use E. Russell Ave.</p> <p>Not applicable.</p> <p>26 35</p> <p>— — —</p> <p>None</p>											
Capital Costs ^a																						
Construction Right-of-Way Total																						
Disruption (Property taking) ^b																						
o Number of structures ^d																						

Table 6 (continued)

Evaluation Measures	Alternative 1: "Do-Nothing" Alternative	Alternative 2: Connection of Southbound Hoan Bridge Off-Ramp to E. Lincoln Avenue at Bay Street	Alternative 3: Extension of Southbound Hoan Bridge Off-Ramp to E. Conway Street at Bay Street	Alternative 4: Improvement of Hoan Bridge Connection To S. Superior Street	Alternative 5: Connection of Hoan Bridge to S. Superior Street and S. Delaware Avenue and Operation of Streets as One-Way Pair	Alternative 6: New Two-Lane Arterial From Hoan Bridge To and Along C&NW Right-of-Way to E. Kinnickinnic Avenue (Also New Connections to E. Lincoln Avenue at Bay Street and Northbound S. Superior Street to Hoan Bridge) ^d	Alternative 7: New Four-Lane Arterial From Hoan Bridge To and Along C&NW Right- of-Way to E. Layton Avenue With Interchange at at S. Carferry Drive, and Intersections at E. Oklahoma Avenue, E. Howard Avenue, ^e and E. Layton Avenue ^f	Alternative 8: New Two-Lane Arterial From Hoan Bridge To and Along C&NW Right-of- Way to E. Layton Avenue With Interchange at at S. Carferry Drive and Intersections at E. Oklahoma Avenue, E. Howard Avenue, ^g and E. Layton Avenue ^h	Alternative 9: New Four-Lane Arterial on Causeway From S. Carferry Drive to E. Layton Avenue With Connections at E. Oklahoma Avenue ⁱ and E. Howard Avenue ^j	Alternative 10: New Minimal Four-Lane Arterial From Hoan Bridge To and Along C&NW Right-of-Way to E. Layton Avenue With Intersections at S. Carferry Drive, E. Howard Avenue, and E. Layton Avenue ^k	Alternative 11: Connection of Hoan Bridge to E. Lincoln Avenue Extension
Disruption (Property taking) (continued) ^c Historic Structures ^c	None	None	None	None	None	None	Two structures included in above total.	None	None	None	None.
o Park Impacts.											
Lewis Playfield (along C&NW ROW north of Pryor Ave.-- 400' x 350' and 100' x 350' area).....	None	None	None	None	None	None	10' to 38' strip along C&NW right-of-way.	None	None	None	None.
Sijan Field (along C&NW ROW south of Kinnickinnic Ave.-- 400' x 1000' area).....	None	None	None	None	None	13' to 20' strip along S. Kinnickinnic Ave.	None	None	None	None	None.
Ellen Playfield (along C&NW ROW south of Fernwood Ave.--250' x 750' area).....	None	None	None	None	None	None	5' to 32' strip along C&NW right-of-way.	None	None	None	None.
St. Francis Totlot (along C&NW ROW south of Elizabeth St.--70' x 120' area).....	None	None	None	None	None	None	Entire totlot must be acquired (but can be replaced immediately south)	Entire totlot must be acquired (but can be replaced immediately south)	None	Entire totlot must be acquired (but can be replaced immediately south)	None.
Bay View Park.....	None	None	None	None	None	None	None	None	48' roadway on 80' right-of-way through full width of park at E. Oklahoma Ave.	None	None.
Sheridan Park.....	None	None	None	None	None	None	None	None	48' roadway on 80' right-of-way through full width of park at E. Layton Ave.	None	None.
Energy Consumption Energy Consumption Reduced Compared to "Do-Nothing" Alternative in Year 2000 (gallons of motor fuel due to vehicle consumption).....	--	8,000 gallons/year	19,000 gallons/year	67,000 gallons/year	100,000 gallons/year	96,000 gallons/year	394,000 gallons/year	153,000 gallons/year	79,000 gallons/year	283,000 gallons/year	8,000 gallons/year
Air Pollution Air Pollutant Emissions Reduced Compared to "Do- Nothing" Alternative in Year 2000 ^f :											
o Carbon Monoxide.....	--	10,000 pounds/year	25,000 pounds/year	87,000 pounds/year	151,000 pounds/year	139,000 pounds/year	796,000 pounds/year	251,000 pounds/year	188,000 pounds/year	578,000 pounds/year	10,000 pounds/year
o Hydrocarbons.....	--	800 pounds/year	1,900 pounds/year	6,400 pounds/year	11,900 pounds/year	10,700 pounds/year	60,700 pounds/year	19,300 pounds/year	14,500 pounds/year	44,100 pounds/year	800 pounds/year

^a All alternatives would entail an estimated additional \$1 million cost of constructing a new E. Howard Avenue bridge over the Chicago & North Western railway.

^b All alternatives would entail taking seven single-family residences with new E. Howard Avenue bridge over the Chicago & North Western railway.

^c Historic structures are considered as those in the Bay View Historic District as listed in the National Register of Historic Places. The two historic structures required under Alternative 7 are Puddlers Hall, 2461-2463 S. St. Clair Street, and Palmer House, 2423-2427 S. St. Clair Street.

^d The estimated property taking by type of structure is as follows: Alternative 7--46 residential structures and 5 commercial structures; Alternative 8--22 residential structures and 3 commercial structures; and Alternative 10--18 residential structures and 2 commercial structures. Alternatives 7 and 10 would also require acquisition of two storage buildings; and Alternative 8 would also require acquisition of 1 storage building.

^e The impacts presented for Alternatives 7 and 8 assume that off-set "T" intersections would be used at E. Oklahoma, E. Howard, and E. Layton Avenues. The use of diamond interchanges or at-grade intersections would increase construction costs and disruption.

^f In year 2000, the "Do-Nothing" alternative would entail 5,100,000 gallons of vehicle motor fuel consumption; 6,600,000 pounds of carbon monoxide emissions; and 480,000 pounds of hydrocarbon emissions.

^g Another option of Alternative 3 would be to construct a new segment of roadway connecting E. Conway Street west of S. Bay Street to the existing terminus of S. Clement Avenue at E. Otjen Street. The new segment of additional roadway would have an estimated construction cost of \$300,000 and would require the taking of the northwest corner of Beulah Erinton Playfield, and converting an alley east of S. Logan Avenue between E. Conway Street and E. Otjen Street and a strip of the adjacent playfield to an arterial roadway. This alternative would be expected to have the same traffic and energy and air pollution impacts as Alternative 3. Under Alternative 3, traffic from the Hoan Bridge utilizing the new E. Conway Street extension would be routed on a slightly indirect path to S. Clement Avenue over S. Bay Street and E. Russell Avenue.

^h An option suggested for this alternative was to carry the arterial from the Hoan Bridge to E. Cora Avenue entirely in a tunnel, and continue to E. Layton Avenue with a surface roadway. The suggested alternative also proposed a new roadway which would continue in a tunnel along an extended E. Howard Avenue within a Wisconsin Electric Power Company right-of-way to S. Nicholson Avenue and then be on the surface to S. Lake Drive. Such an alternative, if provided with four lanes, would have the same traffic impacts and attendant energy and air pollution impacts as Alternative 7. However, its construction cost would be considerably higher. The cost of the proposed tunnel and surface roadway construction is estimated to be about \$215 million. Moreover, the potential property taking for this tunnel could be substantial if access is to be provided between S. Carferry Drive and E. Layton Avenue, as transitional roadways could need to be provided outside existing street rights-of-way from the at-grade surface streets to the tunnel.

ⁱ Alternatives 7, 8, 9, and 10 could all be modified to include a direct roadway connection from the Hoan Bridge via S. Carferry Drive to E. Lincoln Avenue, as proposed under Alternative 2. This roadway connection would be expected to divert under each of these alternatives about 2,500 vehicles per day from E. Russell Avenue. The cost of adding this connection to these alternatives would be approximately \$400,000.

^j Alternative 8 is a new two-lane arterial which would provide one lane operating in each direction. Two other options exist under this alternative. One would be to operate during the peak hours both lanes in the peak direction; that is, both lanes in the northbound direction during the morning peak traffic period and both lanes in the southbound during the evening peak traffic period. Such reversible traffic lane operation will have potential benefits only if at least two-thirds of all traffic during the peak traffic period operates in the peak direction. Existing peak period directional traffic counts in the study area indicate that the potential peak hour traffic would have a directional split of less than this. Reversible lane operation would preclude access to jobs in the Bay View, St. Francis, Cudahy, and South Milwaukee areas. It would also entail additional operation costs and the potential to result in additional traffic accidents and increase the severity of such accidents. Another option would be to operate three traffic lanes with only the center lane being reversible. Two lanes would operate northbound for about one-half the day including the morning rush hour and two lanes would operate southbound for the other half of the day including the evening rush hour. This option would require distress lanes in each direction of travel in addition to the three traffic lanes as, at some time of the day, only one lane for traffic would be provided in one direction. The total width of traffic lanes and distress lanes under this option would be 52 feet, or more than the total width necessary--48 feet--to provide for four traffic lanes if no median were to be provided. Thus, a three-lane roadway with reversible center lane could entail more construction costs and disruption than a minimal four-lane alternative providing four traffic lanes with no median. It would also be expected to have potentially additional operation costs and the potential to result in additional traffic accidents and increased severity of those accidents.

^k Another option of Alternative 11, which provides direct connections to E. Russell Avenue and E. Lincoln Avenue, would be to bring the Hoan Bridge to an at-grade intersection at S. Carferry Drive and provide a new direct connection from E. Lincoln Avenue to S. Carferry Drive and a new direct connection to S. Superior Street and E. Russell Avenue from S. Carferry Drive. This option of Alternative 11 would essentially also be a combination of Alternatives 2 and 4. The option would have a total construction cost of about \$700,000, and would have similar impacts to those of Alternatives 2 and 4, that is, no disruption or property taking, limited energy and air pollution reduction, and limited beneficial traffic impacts.

^l Prior to the opening of the Hoan Bridge, average weekday traffic volumes on these arterials were as follows: Superior Street, 3,900 avdt; Kinnickinnic Avenue, 11,100 to 15,900 avdt; Clement Avenue, 2,600 to 5,300 avdt; Russell Avenue, 6,100 avdt; Howard Avenue, 10,200 to 17,700 avdt; and Holt Avenue, 13,000 avdt.

The forecast traffic impacts do not include the proposed development at the lakefront power plant in the City of St. Francis. The proposed development could be expected to generate an estimated 15,000 trips on an average weekday, of which 60 percent would be expected to be oriented north and northwest, and 40 percent south and southwest. Under the alternatives which would make no Hoan Bridge connection improvement or a minor improvement, an estimated additional 3,000 vehicles on an average weekday would use S. Superior Street and the Hoan Bridge; and an estimated additional 6,000 vehicles on an average weekday would use S. Lake Drive south of E. Oklahoma Avenue. Under an alternative which would provide a major improvement--such as Alternatives 7 and 10-- little additional traffic would be expected on S. Superior Street, with all traffic--3,000 vehicles per average weekday--from the proposed development traveling to and from the Hoan Bridge using the new arterial along the railway right-of-way. An estimated additional 3,000 vehicles per average weekday would use S. Lake Drive south of E. Oklahoma Avenue.

An option suggested for this alternative was to extend the existing on- and off-ramps at the south end of the Hoan Bridge, rather than construct a new grade-separated interchange with S. Car ferry Drive, and to provide at-grade intersections of the new arterial with E. Russell Avenue and E. Pryor Avenue. The estimated cost of this subalternative is about \$7,500,000.

Source: SEWRPC.

6/18/86

increase in traffic and traffic congestion on streets in the study area which may be expected under the do-nothing alternative may also be expected under this alternative. In fact, traffic on S. Superior Street may be expected to increase to 15,000 vehicles per average weekday, or about 10 percent more than under the do-nothing alternative. This may be expected because a direct connection would be provided from northbound S. Superior Street to the Hoan Bridge under this alternative. This alternative would, however, provide for the elimination of substantial travel indirection in the study area, and may be expected to provide a small reduction in the amount of through traffic on local streets near the current Hoan Bridge stub end. Compared to the four alternatives previously described which provide for minor improvements in the connection to the Hoan Bridge, Alternative 6 has a construction cost of about \$9.5 million, substantially more than the \$400,000 to \$600,000 construction cost of the previously described alternatives. Yet, Alternative 6 has nearly the same impacts on traffic as those alternatives.

Alternative 9, which would provide a new four-lane arterial on a causeway from S. Carferry Drive to E. Layton Avenue may be expected to have more beneficial traffic impacts than the previously described alternatives, including a substantial reduction in traffic on S. Superior Street compared to existing levels from an existing 10,500 vehicles per average weekday to 6,100 vehicles per average weekday in the year 2000. The estimated construction cost of the causeway would be substantial, approximating \$190 million. This causeway would, however, have a major benefit which the other alternatives would not have, namely, the protection of the Lake Michigan shoreline along the length of the arterial from erosion.

Alternative 8, which would provide a new two-lane arterial from the Hoan Bridge to and along the Chicago & North Western railway right-of-way with an interchange at S. Carferry Drive and intersections at E. Oklahoma Avenue, E. Howard Avenue, and E. Layton Avenue, may be expected to have significant beneficial traffic impacts. Under this alternative, only a very slight increase in traffic volume on S. Superior Street may be expected, and the increases in traffic on S. Kinnickinnic Avenue, S. Clement Avenue, and E. Russell Avenue would be up to 20 percent less than expected under the do-nothing alternative. The alternative would, however, have a substantial construction cost of about \$34 million, and would require the taking of 26 structures, nine of which are currently owned by Milwaukee County.

It has also been proposed that Alternative 8 could be designed to operate with both lanes carrying traffic in one direction during peak traffic periods, that is, carrying northbound traffic only on both lanes from about 6:00 a.m. to 9:00 a.m., and southbound traffic only from 3:00 p.m. to 6:00 p.m. Such "reversible" traffic lane operation will have potential benefits only if at least two-thirds of all traffic during the peak traffic period operated in the peak direction. Existing peak period directional traffic counts in the study area indicate that potential peak hour traffic on the two-lane arterial would have a directional split of substantially less than this. Existing peak hour traffic counts on S. Kinnickinnic Avenue, S. Howell Avenue, S. Clement Avenue, and S. Pennsylvania Avenue indicate that, on these facilities, just over 50 percent of the peak period traffic now travels in the peak direction. An exception is S. Superior Street, where peak hour traffic counts indicate that

about 75 percent of the peak hour traffic travels in the peak direction. Existing peak hour traffic counts on east-west arterials within the study area such as E. Oklahoma Avenue and E. Layton Avenue indicate that also just over 50 percent of the existing peak hour traffic travels in the peak direction. It should also be noted that the reversible lane operation would have several disadvantages, as it would preclude peak period traffic in the nonpeak direction from using the facility, forcing such traffic to use the local streets. Thus, ready access would not be provided by the new facility to jobs in the Bay View, St. Francis, Cudahy, and South Milwaukee areas. Also, the reversible lane operation would entail additional operation costs, as it would be necessary to place and then remove cones and barriers twice each weekday to convert the arterial from a two-way to one-way operation. In addition, such facilities have the potential to result in additional traffic accidents and increase the severity of such accidents. Lastly, it should be noted that the advantages of such reversible lane operation would be somewhat limited in that, even if the peak period-peak direction traffic could be expected to represent two-thirds of total peak period traffic, the additional traffic which could potentially be carried on the two-lane facility would be an additional about 4,000 vehicles per average weekday during the peak traffic periods, or an increase from the 14,000 to 19,000 vehicles per average weekday under conventional operation of the facility, to 18,000 to 23,000 vehicles per average weekday under the reversible lane operation. The traffic removed, however, would be exclusively in the peak direction and during peak traffic periods.

Alternative 7, the "high standard" four-lane arterial improvement considered by the Wisconsin Department of Transportation, has many of the same characteristics of Alternative 8 including alignment, S. Carferry Drive interchange, and interchanges at three arterial streets of Alternative 8. Alternative 7 would provide for four traffic lanes, a median, and two distress lanes. The new "high standard" four-lane arterial may be expected to carry a substantial amount of traffic--22,000 to 47,000 vehicles per average weekday--which would result in a substantial reduction in the existing traffic on local streets in the study area. The average weekday traffic volume on S. Superior Street may be expected to be reduced from an existing 10,500 vehicles per average weekday to 5,000 vehicles per average weekday in the year 2000, returning the function of this street from an arterial street to a local street. In addition, the traffic volume on portions of S. Kinnickinnic Avenue may be expected to be reduced over existing volumes; and the traffic volumes on E. Russell Avenue may be expected to experience a substantial decline. Traffic volumes may be expected to increase only modestly on S. Clement Avenue. However, the construction of this alternative would require the taking of 51 properties, of which 16 are currently owned by Milwaukee County. The cost of this alternative would approximate \$41 million.

Alternative 10, a minimal four-lane arterial with somewhat restrictive design standards, represents a compromise between Alternative 7--the "high standard" four-lane arterial considered by the Wisconsin Department of Transportation--and Alternative 8--the two-lane arterial. The four-lane arterial differs significantly from both these alternatives in that it would have an intersection rather than an interchange at S. Carferry Drive. This intersection would provide clear notice to motorists that the Lake Freeway (IH 794) terminates at S. Carferry Drive and a surface arterial then begins. In addition, the use of an

intersection would eliminate the need for property takings at the northern end of the study area along S. St. Clair Street. The minimal four-lane arterial would not provide an intersection at E. Oklahoma Avenue. Such an intersection, whether provided under the two-lane or "high standard" four-lane arterial, would require the taking of from nine to 18 residences, of which seven to 12 are currently owned by the County. Alternative 10 would apply flexible design standards which would permit the median and right-of-way to be narrowed along segments of the route, so that property taking would be minimized to the maximum extent possible. Under such an alternative, it is estimated that the taking of property could be limited to 20 structures, of which four are owned by Milwaukee County. This total could be reduced even further if the Chicago & North Western railway would be willing to maintain only single track through the study area rather than double track. The property taking for Alternative 10 would be substantially fewer than the 51 structures required under Alternative 7, the "high standard" arterial, or the 25 structures required under Alternative 8, the two-lane arterial. The estimated construction cost of Alternative 10 is approximately \$40 million. The advantage of Alternative 10 is that, while it would have less property taking than the two-lane arterial alternative, its beneficial traffic impacts would approach those of the "high standard" four-lane arterial, Alternative 7.

Under Alternative 10, the minimal four-lane arterial, traffic on S. Superior Street in the year 2000 would be expected to be about 7,500 vehicles per average weekday, substantially fewer than the existing average weekday traffic volume of 10,500 vehicles per average weekday. In addition, traffic volumes on segments of S. Kinnickinnic Avenue may be expected to experience a small decrease. Traffic on S. Clement Avenue may be expected to exhibit a only a modest increase, and traffic on E. Russell Avenue may be expected to decrease.

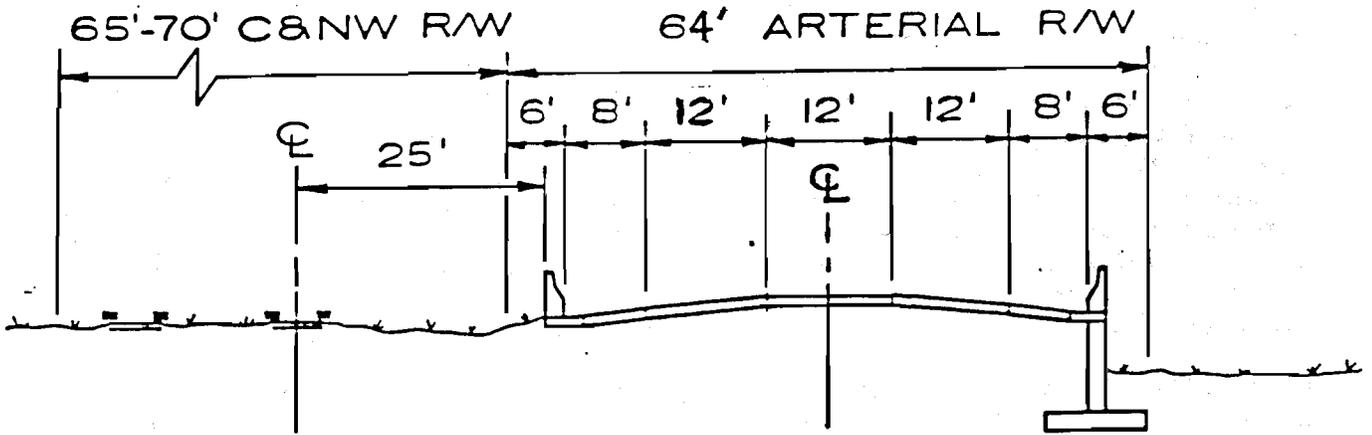
Task Force Proposal of Additional Alternatives

Upon receipt of this evaluation information on the 10 Hoan Bridge connection alternatives, members of the Task Force and citizens present at the Task Force meeting requested that additional alternatives be considered. One of these alternatives was a third subalternative to Alternative 8, which would provide a new two-lane arterial from the Hoan Bridge to and along the Chicago & North Western right-of-way to E. Layton Avenue. The two subalternatives previously identified and evaluated were: 1) to operate one lane in each direction at all times; and 2) to operate both lanes in the peak traffic direction during the peak traffic periods, that is, both lanes northbound during the morning rush hour and both lanes southbound during the evening rush hour. The new subalternative would, instead, provide three traffic lanes, with only the center lane being reversible so that two lanes would operate northbound for about one-half the day including the morning rush hour, and two lanes would operate southbound for the other half of the day including the evening rush hour. The principal disadvantage of this alternative is that it would require distress lanes in each direction of travel in addition to the three traffic lanes as, at some time of the day, only one lane for traffic would be provided in one direction.

The total width of traffic lanes and distress lanes under this option would be 52 feet, as shown in Figure 5, which would be more than the total width necessary to provide four traffic lanes--two in each direction--which would require 48 feet if no median were to be provided. Thus, the three-lane with a reversible center lane subalternative of Alternative 8 may be expected to entail

Figure 5

CROSS-SECTION OF THREE-LANE OPTION
WITH REVERSIBLE CENTER LANE OF ALTERNATIVE 8



Source: SEWRPC.

higher construction costs and more disruption than a four-lane alternative, such as Alternative 10, which provides four traffic lanes with no median. The subalternative may be expected to carry 10 to 15 percent less traffic and, consequently, have 10 to 15 percent less beneficial traffic impact than a four-lane alternative. It may also be expected to have higher operating costs and it may be expected to have a higher traffic accident rate and more severe accidents than the four-lane alternative.

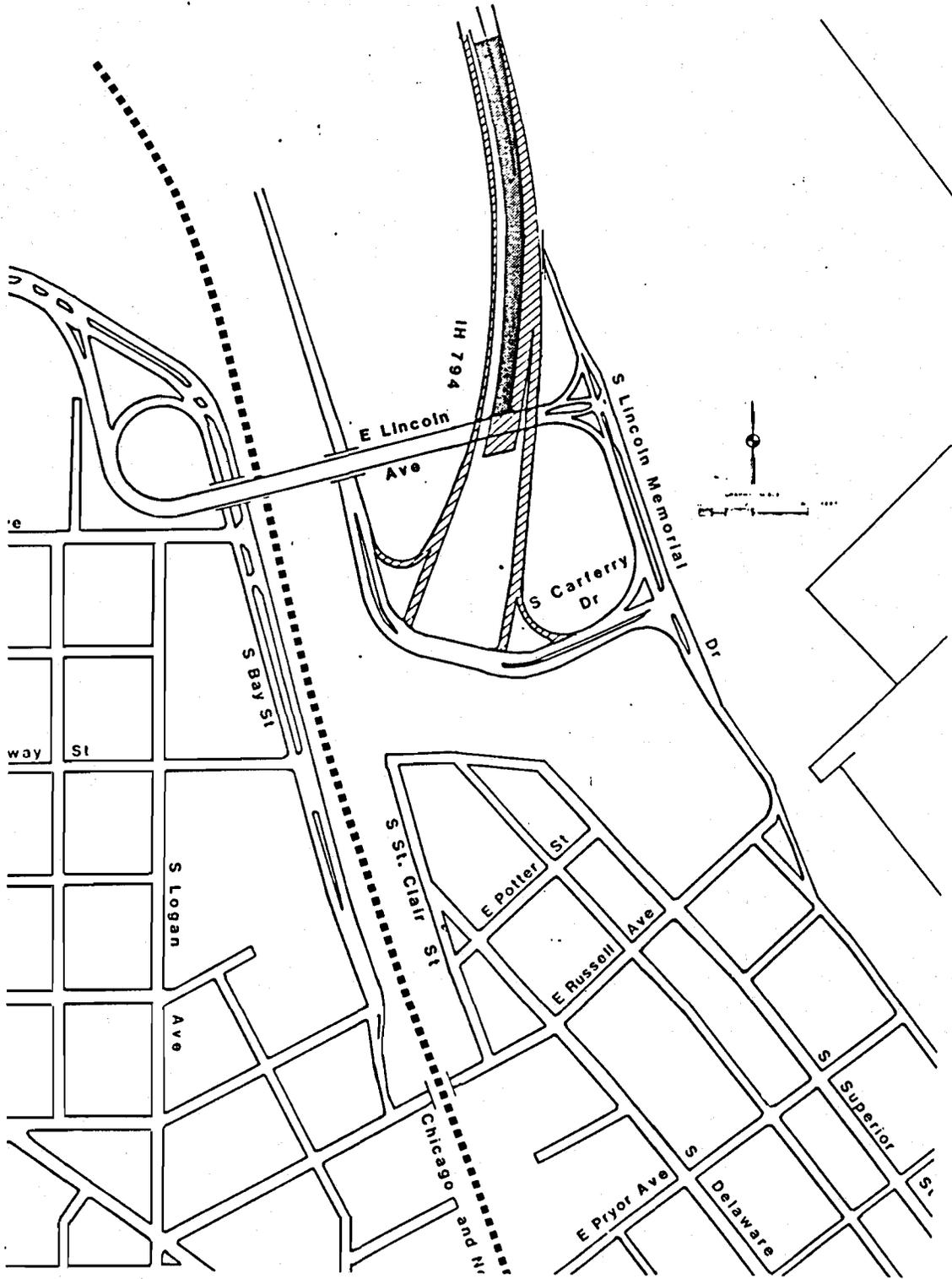
A new alternative was suggested, Alternative 11, which, as shown on Map 34, would connect the harbor bridge directly to the existing E. Lincoln Avenue extension over S. Bay Street. The alternative would provide a direct connection to the northwestern portion of Bay View, similar to Alternative 2, which would extend the Hoan Bridge via S. Carferry Drive to E. Lincoln Avenue. The alternative, like Alternative 2, would also provide a connection from the Hoan Bridge not only to E. Lincoln Avenue, but also to E. Russell Avenue via S. Bay Street. This alternative may be expected to have only a modest traffic impact, diverting about 2,500 vehicle trips per day from S. Lincoln Memorial Drive and S. Superior Street, the same as Alternative 2. The construction costs of Alternative 11, however, would be substantially higher in that it would require removal and reconstruction of a substantial segment of the existing Hoan Bridge to meet the E. Lincoln Avenue structure. The estimated construction cost of this alternative is approximately \$3 million. The alternative would require no property taking, and would have similar energy consumption and air pollution impacts as Alternative 2.

A modification of Alternative 11 which would provide direct connections to E. Russell Avenue and E. Lincoln Avenue is shown on Map 35. This alternative would bring the Hoan Bridge to an at-grade intersection at S. Carferry Drive, and provide a direct connection from E. Lincoln Avenue to S. Carferry Drive, and a direct connection to S. Superior Street and E. Russell Avenue from S. Carferry Drive. This alternative would essentially be a combination of Alternatives 2 and 4. The alternative would have a cost of about \$700,000. It would require no property taking, and it would have the combined energy and air pollution savings of those two alternatives, a reduction over existing levels of from 1 to 2 percent. The alternative would entail very modest traffic impacts, similar to those under Alternatives 2 and 4, and represent little change from the do-nothing alternative. About 2,500 vehicles on an average weekday would be redirected from using S. Carferry Drive, S. Lincoln Memorial Drive, and E. Russell Avenue to the new E. Lincoln Avenue connection. Also, traffic on S. Superior Street, as a result of the direct connection to the Hoan Bridge, could be expected to increase from 13,600 vehicles per average weekday under the do-nothing alternative to 16,400 vehicles per average weekday under this alternative.

Another alternative suggested was a modification of Alternative 10, the minimal new four-lane roadway connection between the Hoan Bridge and E. Layton Avenue along the Chicago & North Western railway. This modification would add a direct connection from S. Carferry Drive and the Hoan Bridge to E. Lincoln Avenue, as shown on Map 36. The connection to E. Lincoln Avenue is as envisioned under Alternative 2, and would add an estimated \$600,000 to the construction cost of Alternative 10. The traffic impact of adding this connection to Alternative 10 would be to remove about 2,500 vehicles per day from the traffic under Alternative 10 which would be expected to use S. Lincoln

Map 34

ALTERNATIVE 11: CONNECTION OF THE
HOAN BRIDGE TO THE E. LINCOLN AVENUE EXTENSION

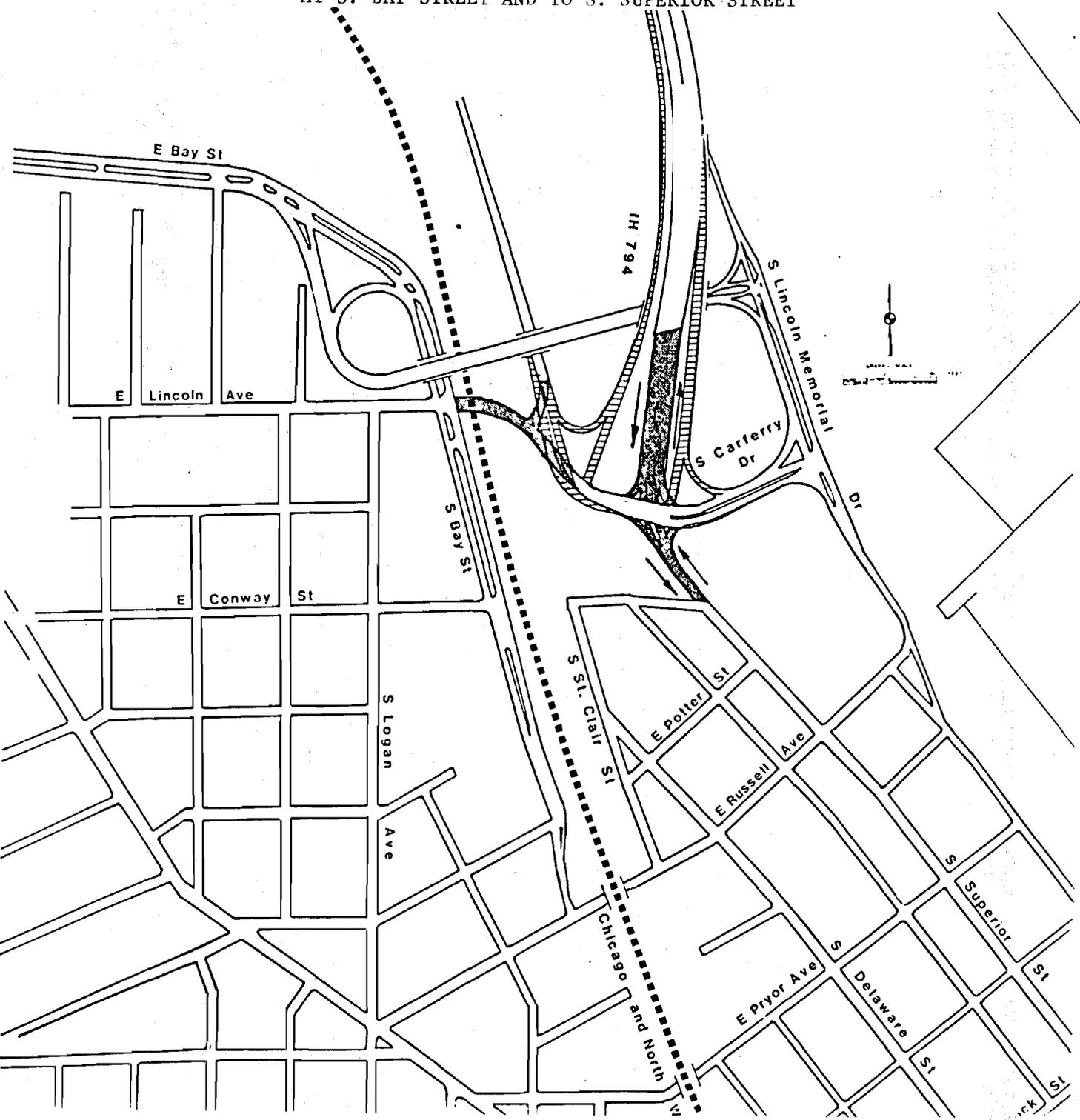


LEGEND

-  New Freeway Ramps and Surface Streets
-  Existing Structure or Pavement to be Removed

Map 35

SUB-OPTION OF ALTERNATIVE 11: CONNECTION
OF THE HOAN BRIDGE TO E. LINCOLN AVENUE
AT S. BAY STREET AND TO S. SUPERIOR STREET



LEGEND



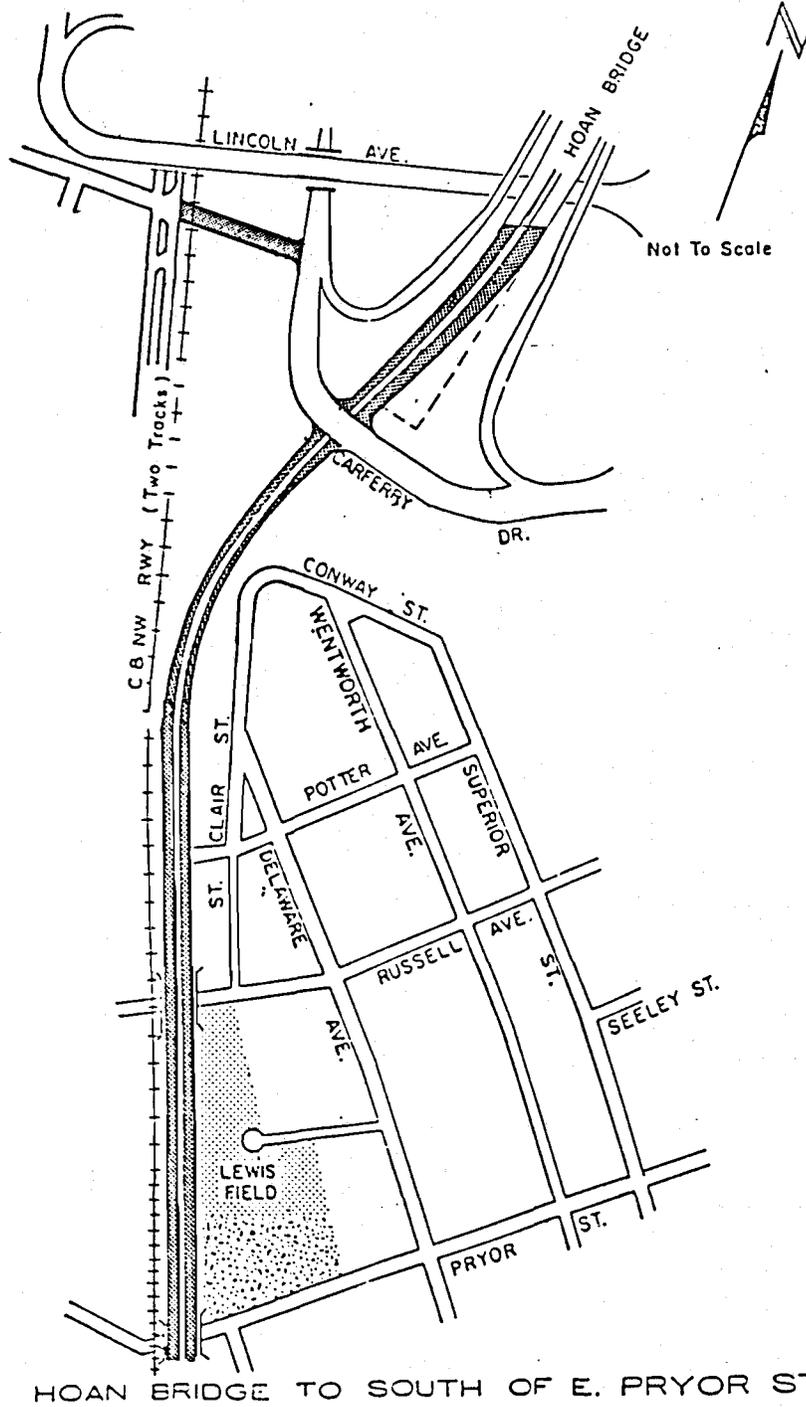
New Freeway Ramps and Surface Streets



Existing Structure or Pavement to be Removed

Map 36

SUB-OPTION OF ALTERNATIVE 10: ADDITION OF CONNECTION TO E. LINCOLN AVENUE TO MINIMAL FOUR-LANE ROADWAY ALONG CHICAGO & NORTH WESTERN RAILWAY RIGHT-OF-WAY FROM HOAN BRIDGE TO E. LAYTON AVENUE



LEGEND



New Freeway Ramps and Surface Streets



Existing Structure or Pavement to be Removed

Memorial Drive and E. Russell Avenue. This traffic would, instead, use E. Lincoln Avenue to travel to and from the northern and western portions of Bay View. It may be noted that this connection to E. Lincoln Avenue could as well be added to Alternative 7, the high standard four-lane arterial along the railway right-of-way; Alternative 8, the two-lane arterial along the railway right-of-way; and Alternative 9, the causeway alternative, and may be expected to have similar effects on the costs and traffic impacts of those alternatives.

Another alternative suggested was to connect the Hoan Bridge to S. Clement Avenue. An option for providing a direct connection to S. Clement Avenue is shown on Map 37. This new alternative would connect the Hoan Bridge from an at-grade intersection with S. Carferry Drive to E. Conway Street, as under Alternative 3, and would add a direct connection to S. Clement Avenue with a new street segment from E. Conway Street west of S. Bay Street to the existing terminus of S. Clement Avenue. This alternative is, in effect, a modification of Alternative 3, except traffic would be routed in an indirect path over S. Bay Street and E. Russell Avenue to the S. Clement Avenue terminus under Alternative 3. The direct connection envisioned under this new option would require taking of the northwest corner of Beulah Brinton Playfield and converting an alley east of S. Logan Avenue between E. Conway Street and E. Otjen Street and a strip of the adjacent playfield to an arterial roadway. The estimated construction cost of this alternative is \$900,000 and it may be expected to have the same traffic impacts as Alternative 3. Alternative 3 is expected to divert about 4,000 vehicles per average weekday from E. Russell Avenue to the new connection to E. Conway Street, and otherwise have very similar traffic impacts as the do-nothing alternative.

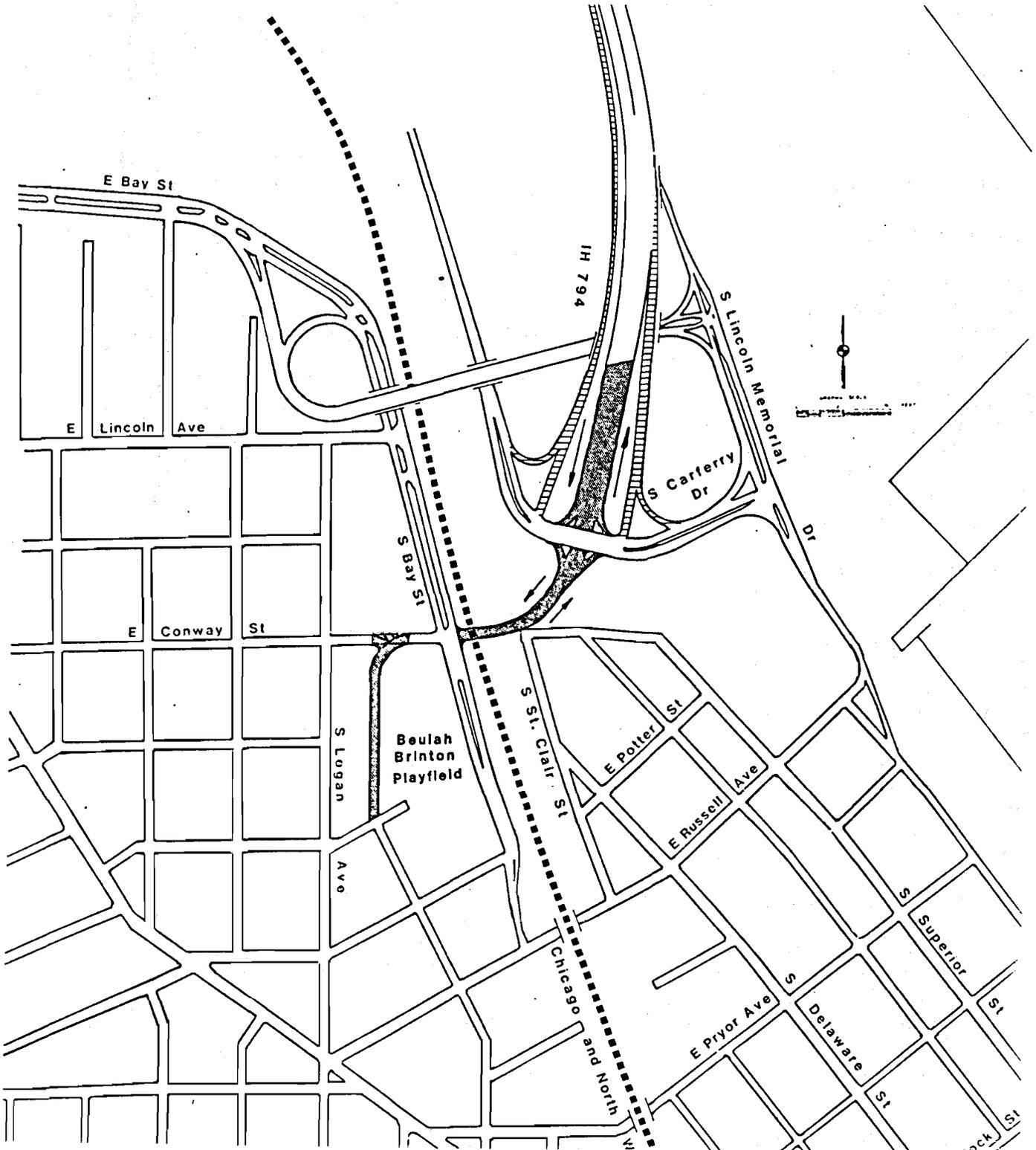
Another alternative suggested was to carry the arterial in a tunnel along the railway right-of-way, that is, following the alignment of Alternatives 7, 8, and 10 from the Hoan Bridge to E. Layton Avenue. The tunnel would be located within the railway right-of-way, being below the railway and/or adjacent right-of-way. The principal disadvantage in carrying the new arterial in a tunnel from the Hoan Bridge to E. Layton Avenue is the high construction and maintenance costs entailed. The estimated construction cost of the tunnel is approximately \$250 million. Another disadvantage of this alternative is that the provision of access along the route of the arterial will require transitional roadways from surface arterials at-grade to the new arterial in the tunnel and such transitional roadways could have the potential to require the substantial taking of property. Traffic impacts under this tunnel option would be the same as under the four-lane arterials of Alternatives 7 and 10.

TASK FORCE ACTION ON ALTERNATIVES

On June 23, 1986, the Hoan Bridge South Task Force acted to eliminate from further consideration by the Task Force all but two of the 11 alternatives. One of the alternatives retained for further consideration was Alternative 11, which would reconstruct the southern end of the Hoan Bridge to provide a new at-grade intersection with the southern terminus of the Hoan Bridge and the E. Lincoln Avenue extension from E. and S. Bay Street. This alternative is shown on Map 38. This alternative would provide very little improvement over conditions under the do-nothing alternative, as S. Superior Street would remain the principal route for Hoan Bridge traffic.

Map 37

AN OPTION FOR PROVIDING OF
DIRECT CONNECTION TO S. CLEMENT AVENUE



LEGEND



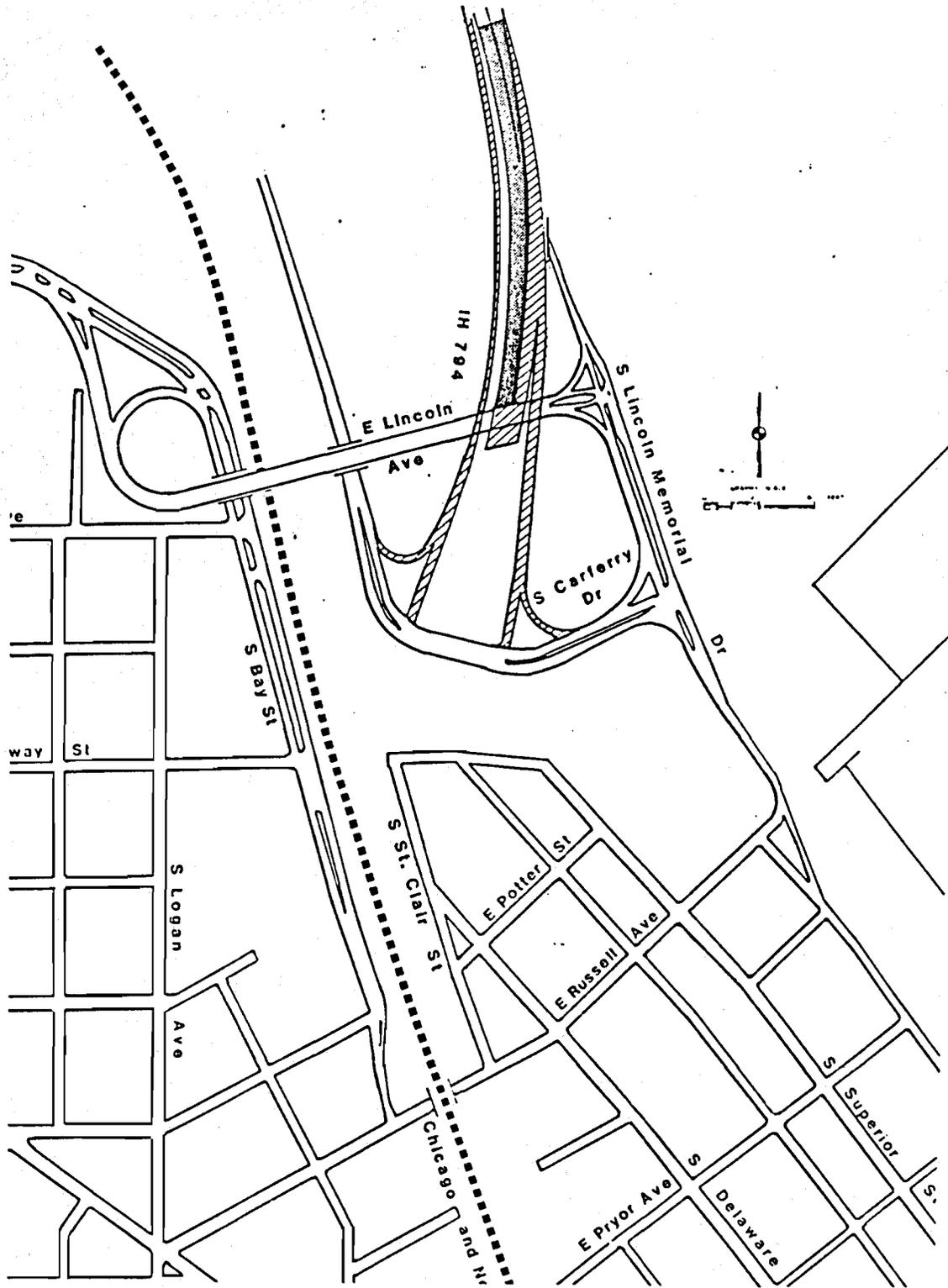
New Freeway Ramps and Surface Streets



Existing Structure or Pavement to be Removed

Map 38

ALTERNATIVE 11: CONNECTION OF HOAN
BRIDGE TO E. LINCOLN AVENUE EXTENSION



LEGEND



New Freeway Ramps and Surface Streets



Existing Structure or Pavement to be Removed

The other of the 11 alternatives which the Task Force determined to retain for further consideration was Alternative 10, which would provide a minimal four-lane arterial from the southern end of the Hoan Bridge to and along the Chicago & North Western Transportation Company railway right-of-way to E. Layton Avenue. The Task Force requested that a connection to the E. Lincoln Avenue extension, as provided under Alternative 11, also be considered as a part of Alternative 10. Alternative 10, with the E. Lincoln Avenue extension included, is shown on Map 39. The Task Force also requested that the roadway cross-section for Alternative 10 be modified somewhat, so as to be sufficiently wide to accommodate four traffic lanes, but otherwise be restricted to limit the extension of the roadway outside the railway right-of-way. The roadway cross-section of Alternative 10 is shown on Figure 6.

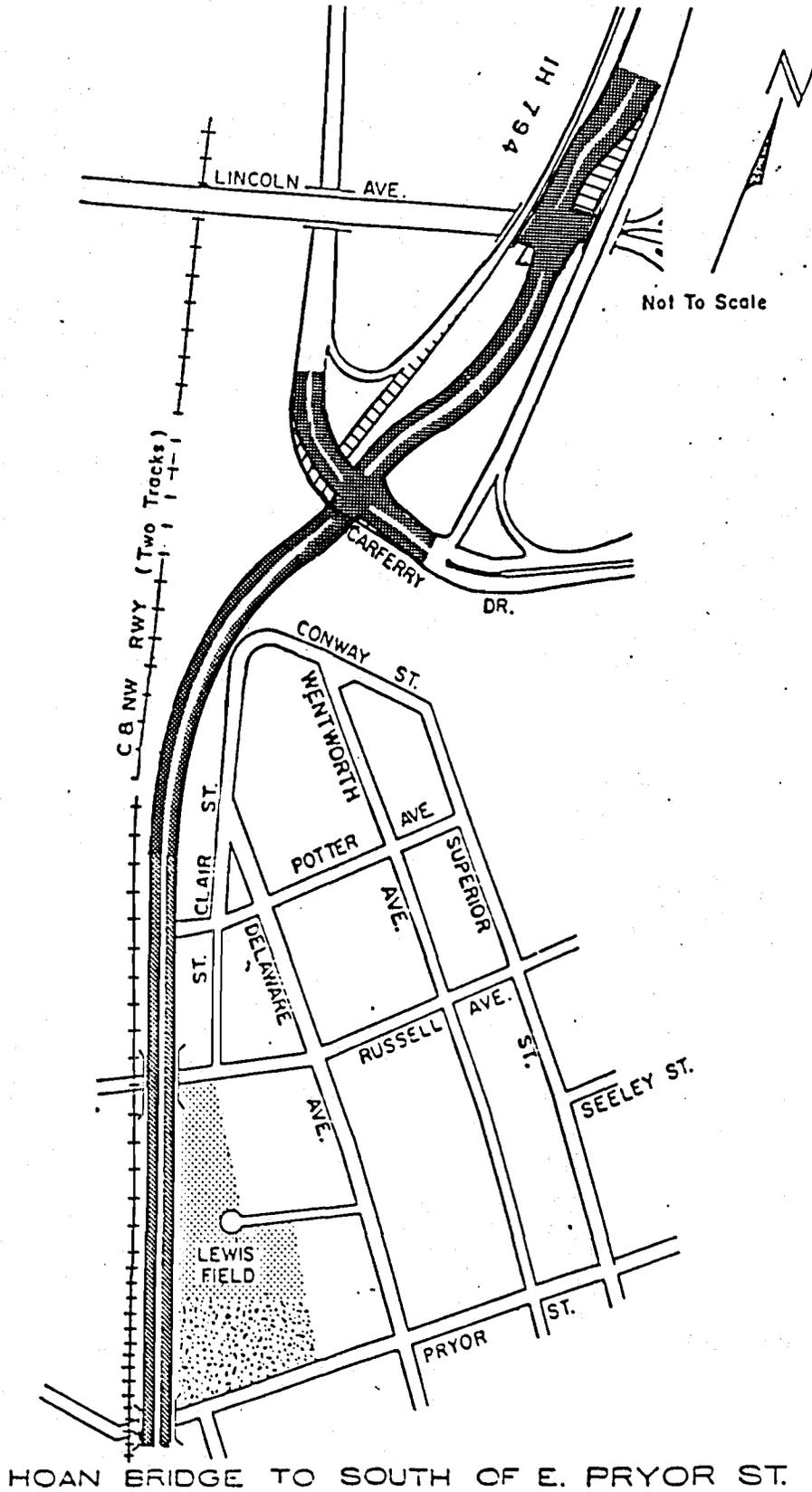
Also on June 23, 1986, the Task Force acted to include a new alternative in its final consideration of improvements at the southern end of the Hoan Bridge. The new alternative included a number of elements of alternatives which were previously considered by the Task Force. The new alternative, as shown on Map 40, would provide a new at-grade intersection with the Hoan Bridge and the E. Lincoln Avenue extension and, in addition, a new connection with E. Lincoln Avenue. The alternative also would include a new two-lane arterial from the Hoan Bridge to and along the Chicago & North Western Transportation Company right-of-way to S. Kinnickinnic Avenue. The cross-section of this arterial is shown on Figure 7. The alternative also would include a one-way northbound ramp from S. Superior Street to northbound IH 794, and a one-way southbound ramp from southbound IH 794 to S. Delaware Avenue. Evening peak traffic period left-turn prohibitions would be implemented on S. Delaware Avenue in an attempt to keep southbound evening peak period traffic on S. Delaware Avenue, and thereby, remove such traffic from S. Superior Street. The only exceptions to the evening peak traffic period left turn prohibitions would be at E. Russell Avenue and E. Nock Street. To eliminate the potential for the movement of heavy southbound evening peak period traffic from S. Delaware Avenue to E. Russell and E. Nock Avenues and then to S. Superior Street, evening peak traffic period right turn prohibitions would be proposed for E. Russell Avenue and E. Nock Street at S. Superior Street.

It should be noted that each of these three alternatives remaining for consideration by the Task Force also incorporates substantial improvement in mass transit services, including not only increased frequency of service on the local bus system, but the addition of freeway flyer and express bus service, and park-ride lots, specifically at E. Layton Avenue and E. Howard Avenue. The freeway flyer and express bus service would greatly improve transit service in the area by increasing bus speeds by 50 to 75 percent, thereby reducing bus passenger travel time. All the alternatives would be expected to greatly increase the number of trips made by public transit in the Hoan Bridge South study area. The projected increase of 80 percent in transit travel would represent a substantial reversal of historic trends, as shown in Figure 8. However, because the existing proportion of trips made by public transit is only about 5 percent in the study area, this increase in transit use cannot be expected to provide substantial relief of traffic congestion in the area.

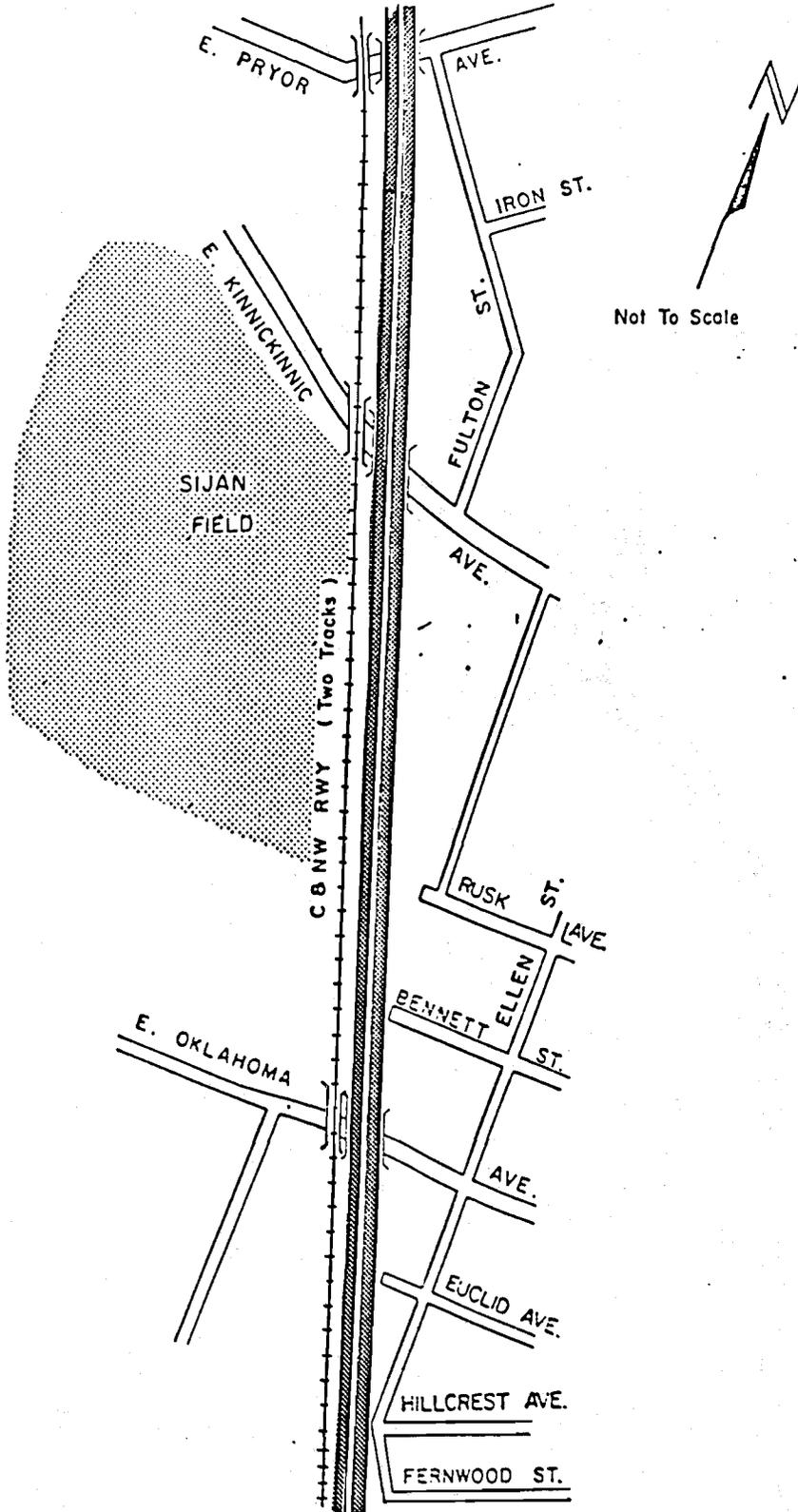
Each of these alternatives also assumes that an aggressive carpool promotional program is maintained in the Milwaukee area for marketing of carpooling and provision of carpool matching services. This program would be complemented by the continued provision of fringe carpool parking lots and other actions to

Map 39

ALTERNATIVE 10: MINIMAL FOUR-LANE
ARTERIAL ALONG CHICAGO & NORTH
WESTERN RAILWAY RIGHT-OF-WAY WITH
CONNECTION TO E. LINCOLN AVENUE EXTENSION

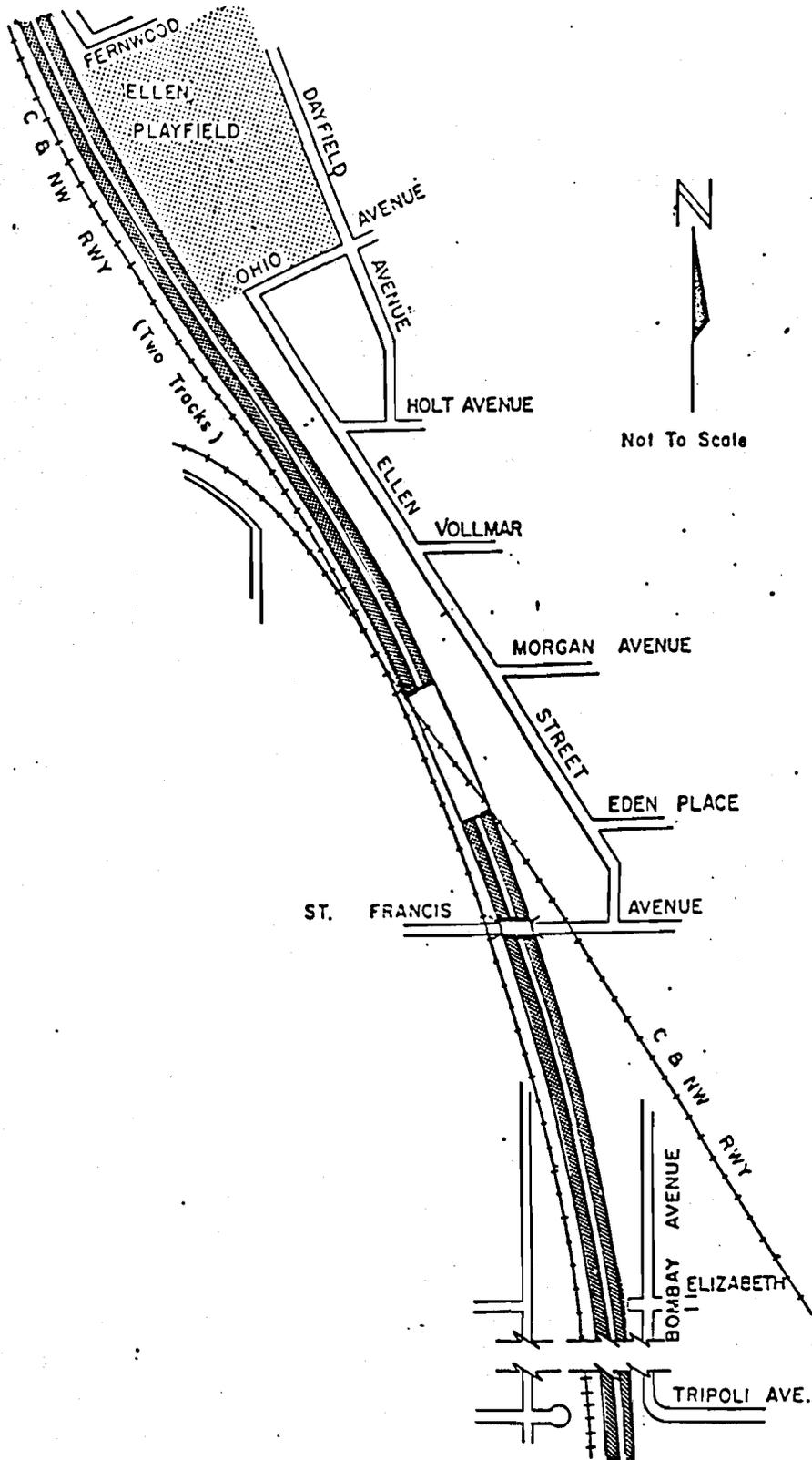


Map 39 (continued)



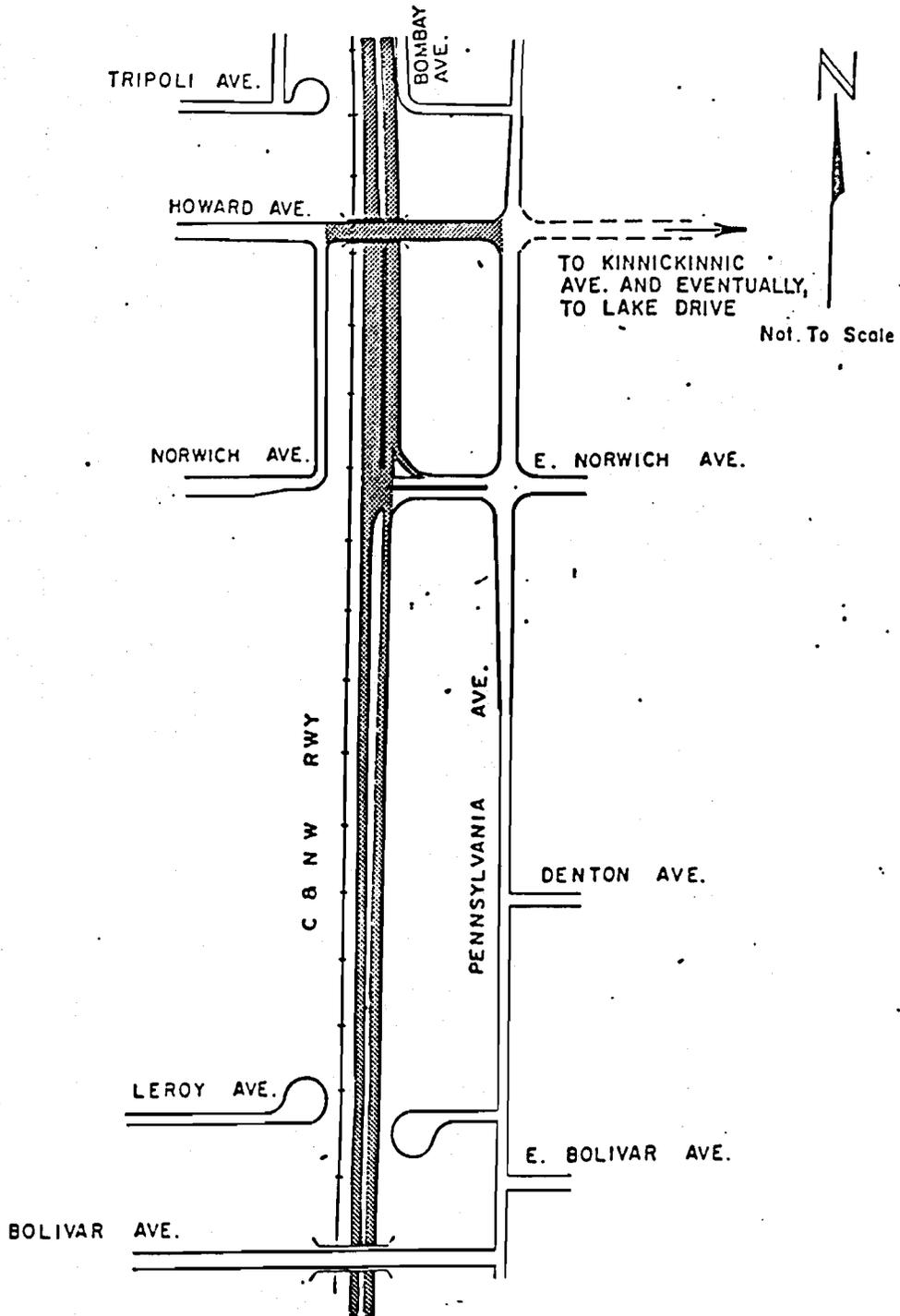
E. PRYOR AVE. TO SOUTH OF E. OKLAHOMA AVE.

Map 39 (continued)



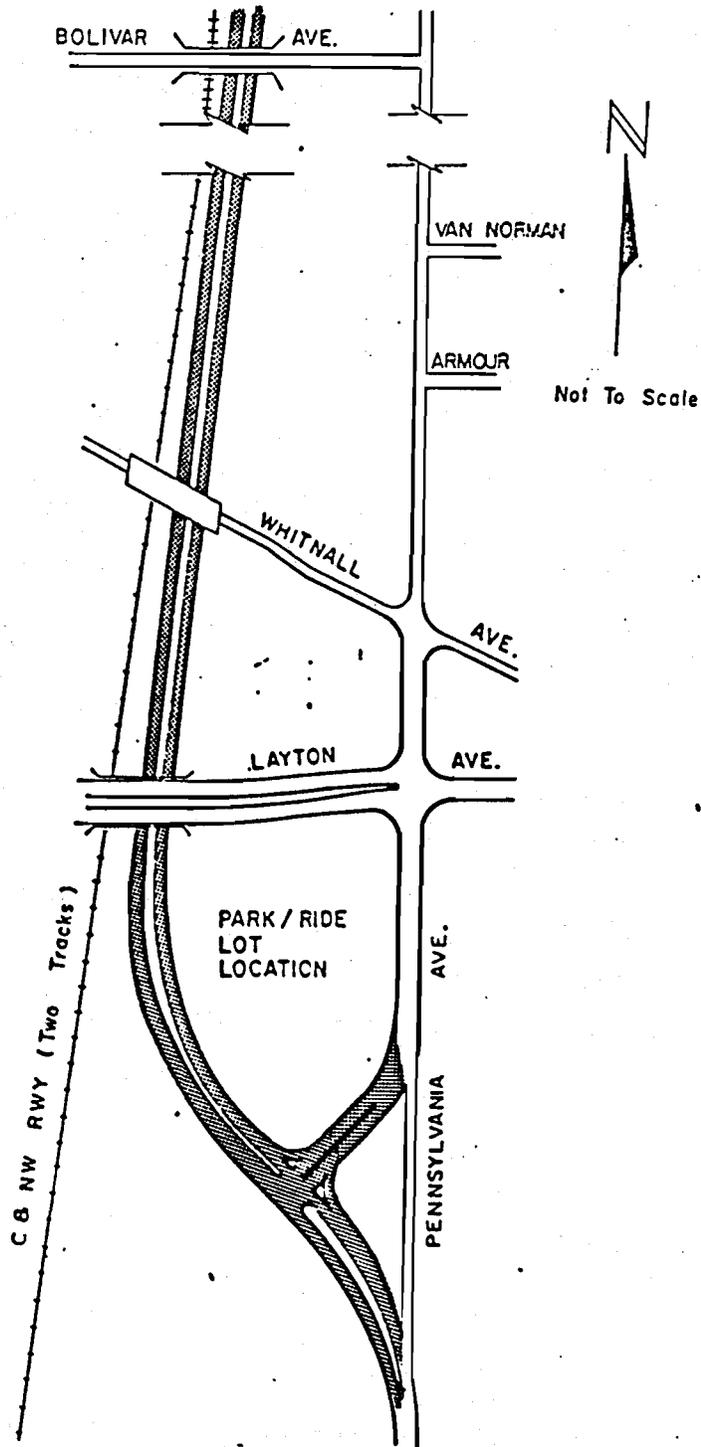
E. FERNWOOD STREET TO TRIPOLI AVENUE

Map 39 (continued)



PLAN OF HOWARD AVE.
OFFSET "T" INTERSECTION

Map 39 (continued)

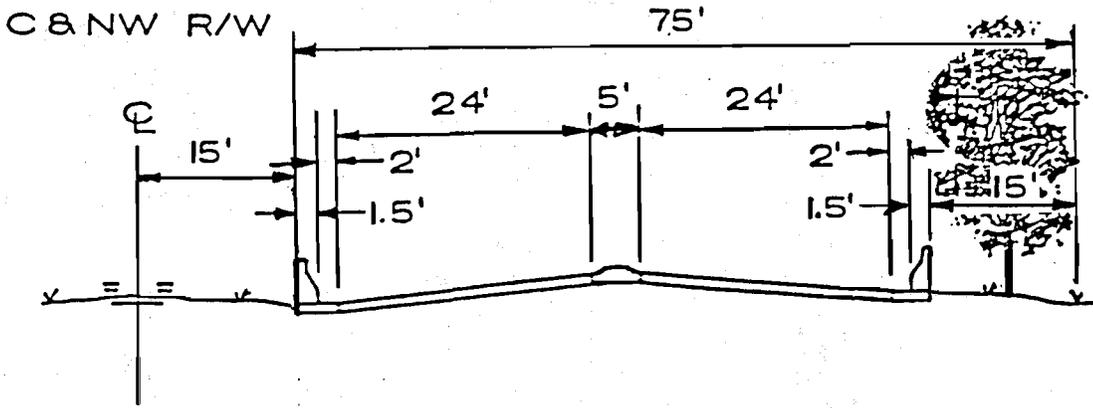


PLAN OF LAYTON AVENUE
OFFSET "T" INTERSECTION

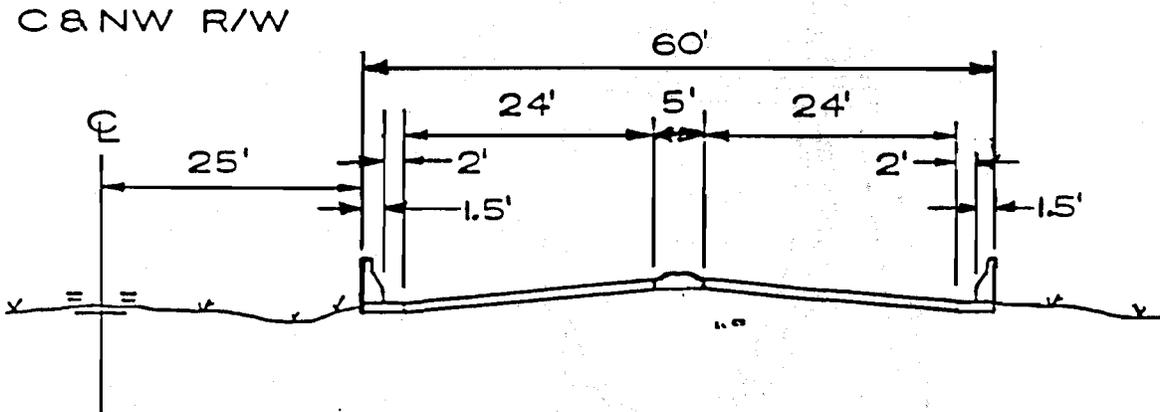
Figure 6

FINAL ROADWAY CROSS-SECTION OF ALTERNATIVE 10^a

Between Hoan Bridge and E. Oklahoma Avenue



Between E. Oklahoma Avenue and E. Layton Avenue

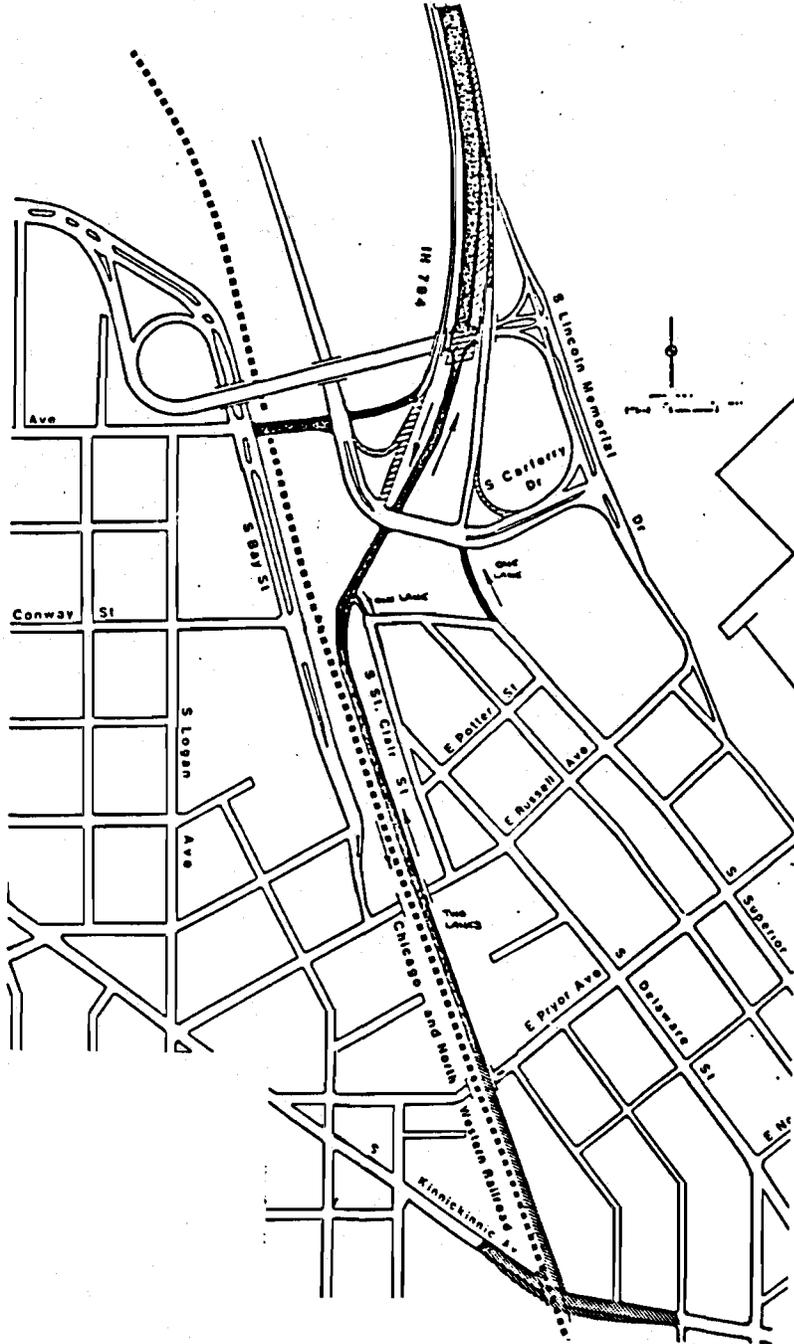


^aBased upon guidance provided in July 1986 by the Assistant Division Manager-Engineering, Eastern Division, of the Chicago & North Western Transportation Company, the final cross-section assumes one railway track would need to remain and that the roadway could be located 15 feet from the center line of the track north of St. Francis Junction, and 25 feet from the center line of the track south of St. Francis Junction.

Source: SEWRPC.

Map 40

ALTERNATIVE 12: CONNECTION OF HOAN BRIDGE TO E. LINCOLN AVENUE, E. LINCOLN AVENUE EXTENSION, NORTHBOUND S. SUPERIOR STREET, AND SOUTHBOUND S. DELAWARE AVENUE, AND CONSTRUCTION OF TWO-LANE ARTERIAL CONNECTION TO S. KINNICKINNIC AVENUE ALONG THE CHICAGO & NORTH WESTERN RAILWAY



Evening peak traffic period left turns prohibited on S. St. Clair Street at E. Conway Street, and along S. Delaware Avenue except at E. Russell Avenue, E. Nock Street, and E. Oklahoma Avenue. Evening peak traffic period right turns prohibited on E. Russell Avenue and E. Nock Street at S. Superior Street.

LEGEND



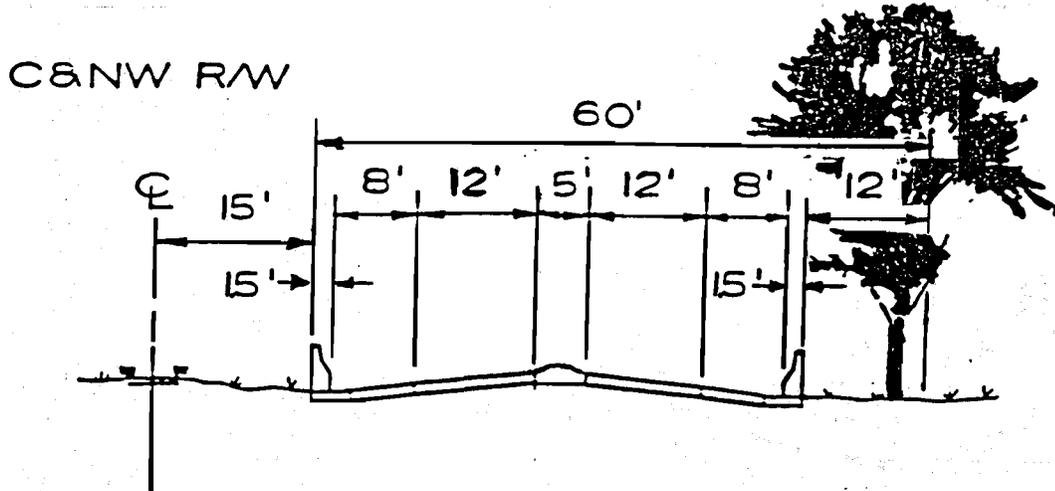
New Freeway Ramps and Surface Streets



Existing Structure or Pavement to be Removed

Figure 7

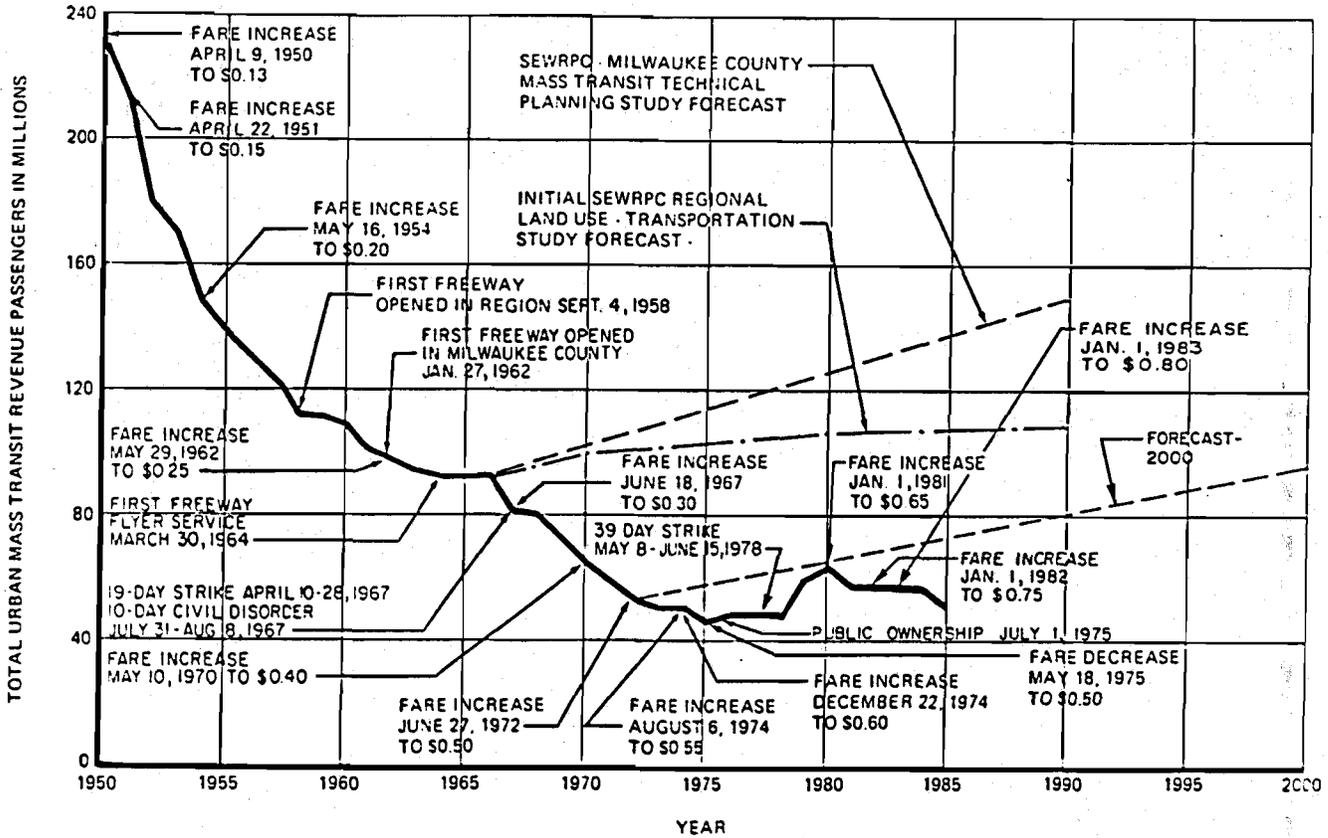
ROADWAY CROSS-SECTION
OF
TWO-LANE ARTERIAL CONNECTION TO
S. KINNICKINNIC AVENUE OF ALTERNATIVE 12



Source: SEWRPC.

Figure 8

MILWAUKEE AREA PUBLIC
TRANSIT RIDERSHIP: 1950-1985



NOTE: FARE INCREASES AND DECREASES SHOWN IN THIS FIGURE REFER ONLY TO THE MILWAUKEE COUNTY TRANSIT SYSTEM AND TO THE SINGLE-RIDE ADULT CASH FARE FOR LOCAL SERVICE.

encourage carpooling, including exclusive bypasses at metered freeway on-ramps. It should be noted that any increases in carpooling in the Milwaukee area will require a reversal of recent trends, as the use of carpool parking lots has declined by about 10 percent over the past five years and automobile occupancy has declined similarly by about 10 percent over the past five years.

Each of these alternatives also includes other street improvements in the area such as the extension of E. Howard Avenue over the Chicago & North Western Transportation Company's railway New Line Subdivision, and the further extension and improvement of E. Howard Avenue to S. Lake Drive.

Evaluation of the Three Remaining Alternatives

A detailed evaluation of the three remaining Hoan Bridge South alternatives is presented in Table 7. The alternatives are evaluated with respect to their traffic impacts; energy consumption; air pollutant emissions; construction costs; and disruption, the latter being measured in terms of the required taking of property--including structures, historic property, and parks.

As shown in Table 7, Alternative 11, which would connect the Hoan Bridge to the E. Lincoln Avenue extension would have by far the lowest capital cost of the three remaining alternatives, \$3 million. In addition, its construction would entail little disruption. However, this alternative would also clearly do very little toward resolving the existing and potential future traffic and community development problems in the study area. That is, it would not be expected to remove any current or potential future traffic from S. Superior Street. The problem on S. Superior Street of traffic congestion and excessive traffic on a local residential street may be expected to increase under this alternative. The traffic impact of this alternative would be to divert to E. Lincoln Avenue and E. Bay Street a portion of traffic which would otherwise use E. Russell Avenue to access the northwestern part of Bay View. Thus, while this alternative would have only a relatively small additional capital cost and little disruption attendant to its implementation, it would also provide very little improvement over simply doing nothing.

Like Alternative 11, Alternative 12 entails no private property taking or disruption attendant to its construction. Alternative 12 would be expected to have some beneficial traffic impacts. The capital cost of Alternative 12--about \$10.3 million--is substantially greater than that of Alternative 11. Under Alternative 12, substantial traffic would be re-routed from S. Superior Street. The forecast year 2000 traffic on S. Superior Street under Alternative 12 is 8,900 vehicles per average weekday, which is somewhat less than the existing 10,500 vehicles per average weekday on S. Superior Street and substantially less than the forecast increase to 13,600 vehicles per average weekday under Alternative 11. A negative traffic impact of Alternative 12 is that this re-routed traffic from S. Superior Street is principally diverted to S. Delaware Avenue. The forecast year 2000 traffic on S. Delaware Avenue under Alternative 12 is 8,800 vehicles per average weekday, which is substantially greater than the existing 2,400 vehicles per average weekday on S. Delaware Avenue, which is not expected to change from existing levels under Alternatives 10 or 11. The diversion of traffic from S. Superior Street to S. Delaware Avenue occurs because Alternative 12 proposes a direct connection from the southbound Hoan Bridge to S. St. Clair Street and S. Delaware Avenue. Under Alternative 12, S. Superior Street will remain the northbound connection to the Hoan Bridge, and S. St. Clair Street and S. Delaware Avenue will become

Table 7

EVALUATION OF THREE REMAINING HOAN BRIDGE CONNECTION ALTERNATIVES

Evaluation Measures		Alternative 10: New Minimal Four-Lane Arterial From Hoan Bridge to and Along C&NW Right-of-Way to E. Layton Avenue With Intersections at the E. Lincoln Avenue Extension, S. Carferry Drive, E. Howard Avenue, and E. Layton Avenue ^f	Alternative 11: Connection of Hoan Bridge to E. Lincoln Avenue Extension	Alternative 12: New Two-Lane Arterial From Hoan Bridge To and Along C&NW Right-of-Way to E. Kinnickinnic Avenue (Also New Connections to E. Lincoln Avenue, E. Lincoln Avenue Extension, Northbound S. Superior Street, and S. Delaware Avenue)																																							
Traffic Impacts ^a	o Traffic and traffic congestion on arterial streets.	Reduction.	Substantial increase.	Increase.																																							
	<table border="1"> <thead> <tr> <th rowspan="2">Streets</th> <th colspan="2">Average Weekday Traffic Volume</th> </tr> <tr> <th>1981-1985</th> <th>Forecast Year 2000</th> </tr> </thead> <tbody> <tr> <td>Superior Street.....</td> <td>10,500</td> <td>7,500</td> <td>13,600</td> <td>8,900 (S. Superior Street) 8,800 (S. Delaware Avenue) 15,300 to 17,800</td> </tr> <tr> <td>Kinnickinnic Avenue.....</td> <td>10,800 to 12,000</td> <td>9,400 to 15,000</td> <td>14,500 to 18,500</td> <td>13,400</td> </tr> <tr> <td>Clement Avenue.....</td> <td>4,200 to 5,600</td> <td>5,800 to 10,000</td> <td>14,500</td> <td>5,000</td> </tr> <tr> <td>Russell Avenue.....</td> <td>3,700 to 17,000</td> <td>4,500 to 10,000</td> <td>10,800 to 20,500</td> <td>12,200 to 14,700</td> </tr> <tr> <td>Howard Avenue.....</td> <td>12,200 to 17,200</td> <td>12,500 to 13,700</td> <td>15,800 to 20,000</td> <td></td> </tr> <tr> <td>Holt Avenue.....</td> <td>13,400</td> <td>15,200</td> <td>18,300</td> <td>15,400</td> </tr> <tr> <td>Hoan Bridge.....</td> <td>19,800</td> <td>40,000</td> <td>25,000</td> <td>38,000</td> </tr> </tbody> </table>	Streets	Average Weekday Traffic Volume		1981-1985	Forecast Year 2000	Superior Street.....	10,500	7,500	13,600	8,900 (S. Superior Street) 8,800 (S. Delaware Avenue) 15,300 to 17,800	Kinnickinnic Avenue.....	10,800 to 12,000	9,400 to 15,000	14,500 to 18,500	13,400	Clement Avenue.....	4,200 to 5,600	5,800 to 10,000	14,500	5,000	Russell Avenue.....	3,700 to 17,000	4,500 to 10,000	10,800 to 20,500	12,200 to 14,700	Howard Avenue.....	12,200 to 17,200	12,500 to 13,700	15,800 to 20,000		Holt Avenue.....	13,400	15,200	18,300	15,400	Hoan Bridge.....	19,800	40,000	25,000	38,000	Expected to be reduced.	Expected to increase.
Streets	Average Weekday Traffic Volume																																										
	1981-1985	Forecast Year 2000																																									
Superior Street.....	10,500	7,500	13,600	8,900 (S. Superior Street) 8,800 (S. Delaware Avenue) 15,300 to 17,800																																							
Kinnickinnic Avenue.....	10,800 to 12,000	9,400 to 15,000	14,500 to 18,500	13,400																																							
Clement Avenue.....	4,200 to 5,600	5,800 to 10,000	14,500	5,000																																							
Russell Avenue.....	3,700 to 17,000	4,500 to 10,000	10,800 to 20,500	12,200 to 14,700																																							
Howard Avenue.....	12,200 to 17,200	12,500 to 13,700	15,800 to 20,000																																								
Holt Avenue.....	13,400	15,200	18,300	15,400																																							
Hoan Bridge.....	19,800	40,000	25,000	38,000																																							
	o Indirection of route of travel particularly at Hoan Bridge stub end.	Elimination of nearly all travel indirection. Exception is traffic north of E. Oklahoma Avenue, which would use existing indirect routes.	Continued indirection of nearly all travel.	Elimination of travel indirection at Hoan Bridge stub end. S. Delaware Avenue left-turn restrictions will result in some indirection for travel east of S. Delaware Avenue during evening peak periods.																																							

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Evaluation Measures		Alternative 10: New Minimal Four-Lane Arterial From Hoan Bridge to and Along C&NW Right-of-Way to E. Layton Avenue With Intersections at the E. Lincoln Avenue Extension, S. Carferry Drive, E. Howard Avenue, and E. Layton Avenue ^f	Alternative 11: Connection of Hoan Bridge to E. Lincoln Avenue Extension	Alternative 12: New Two-Lane Arterial From Hoan Bridge To and Along C&NW Right-of-Way to E. Kinnickinnic Avenue (Also New Connections to E. Lincoln Avenue, E. Lincoln Avenue Extension, Northbound S. Superior Street, and S. Delaware Avenue)
Traffic Impacts ^a (continued)	o Other traffic impacts.....	Principal effect of this alternative is to carry traffic on the new arterial-- 17,000 to 31,500 awdt-- which would otherwise be on local streets. Most of this traffic would have origin or destination south of E. Oklahoma Avenue. Limited amount of traffic between Hoan Bridge and E. Oklahoma Avenue will use new arterial. If intersection were provided at E. Oklahoma Avenue with new arterial, substantial traffic north of E. Oklahoma Avenue would use the new arterial.	Principal effect of this alternative is to provide additional access to Hoan Bridge. Area served would generally be south of W. Lincoln Avenue and west of S. Logan Avenue. New access would carry estimated 2,500 awdt, which would otherwise use E. Russell Avenue.	Principal effect of this alternative is to reduce potential future traffic on E. Russell Avenue and S. Superior Street. Also, additional access is provided to the Hoan Bridge via E. Lincoln Avenue and E. Lincoln Avenue extension. Direct access is provided to northbound S. Superior Street and southbound S. Delaware Avenue.
	o Posted speed limit on new arterial.....	30 to 35 mph.	Not applicable.	30 to 35 mph.
	o Public transit travel times to downtown (peak period-in minutes)			
	Oklahoma Avenue.....	10	17	12
	Layton Avenue.....	16	28	20
Capital Costs ^b				
	Construction.....	\$36,800,000	\$3,000,000	\$ 8,800,000
	Right-of-Way.....	4,900,000	0	1,500,000
	Total	\$41,700,000	\$3,000,000	\$10,300,000

-continued-

Table 7 (continued)

Evaluation Measures		Alternative 10: New Minimal Four-Lane Arterial From Hoan Bridge to and Along C&NW Right-of-Way to E. Layton Avenue With Intersections at the E. Lincoln Avenue Extension, S. Carferry Drive, E. Howard Avenue, and E. Layton Avenue	Alternative 11: Connection of Hoan Bridge to E. Lincoln Avenue Extension	Alternative 12: New Two-Lane Arterial From Hoan Bridge To and Along C&NW Right-of-Way to E. Kinnickinnic Avenue (Also New Connections to E. Lincoln Avenue, E. Lincoln Avenue Extension, Northbound S. Superior Street, and S. Delaware Avenue)
Disruption ^c (property taking)	<ul style="list-style-type: none"> o Number of structures^d..... o Land strip taking^e..... 	<ul style="list-style-type: none"> 6 (4 residences; 1 business (auto repair); 1 storage building) o 10 feet of land for 500 feet from 8 residential properties in 3300 and 3400 blocks of S. Ellen Street; o 36 feet of land for 100 feet to connect S. Bombay Avenue to E. Cora Avenue; o 10 feet to 30 feet of land for 120 feet from four residential properties in the 3700 block of S. Bombay Avenue; and one 30 feet by 120 feet vacant lot in same block; o 15 feet of land for 250 feet from one residential property in the 2200 block of E. Tripoli Avenue. 	<p style="text-align: center;">None</p> <p style="text-align: center;">None</p>	<p style="text-align: center;">None</p> <p style="text-align: center;">None</p>

-continued-

Table 7 (continued)

Evaluation Measures		Alternative 10: New Minimal Four-Lane Arterial From Hoan Bridge to and Along C&NW Right-of-Way to E. Layton Avenue With Intersections at the E. Lincoln Avenue Extension, S. Carferry Drive, E. Howard Avenue, and E. Layton Avenue	Alternative 11: Connection of Hoan Bridge to E. Lincoln Avenue Extension	Alternative 12: New Two-Lane Arterial From Hoan Bridge To and Along C&NW Right-of-Way to E. Kinnickinnic Avenue (Also New Connections to E. Lincoln Avenue, E. Lincoln Avenue Extension, Northbound S. Superior Street, and S. Delaware Avenue)
Disruption (continued)	<ul style="list-style-type: none"> o Impacts of traffic on abutting residential properties o <u>Negative Impacts</u> Number of residential properties with buildings within 100 feet of roadway edge of roadway with significant increase in traffic. 	<p><u>New Arterial between Hoan Bridge and E. Layton Avenue:</u> 51 properties.</p> <hr/> <p>Total: 51</p>	<p><u>S. Superior Street between E. Russell Avenue and City of Milwaukee corporate limits;</u> 217 properties.</p> <hr/> <p>Total: 217</p>	<p><u>S. St. Clair Street and S. Delaware Avenue between E. Conway Street and E. Oklahoma Avenue:</u> 220 properties.</p> <p><u>E. Oklahoma Avenue between S. Delaware Avenue and S. Superior Street:</u> 25 properties.</p> <p><u>S. Superior Street between E. Oklahoma Avenue and City of Milwaukee corporate limits:</u> 14 properties.</p> <p><u>New Arterial between Hoan Bridge and S. Kinnickinnic Avenue:</u> 7 properties.</p> <p><u>S. Superior Street between E. Russell Avenue and E. Conway Street:</u> 12 properties.</p> <hr/> <p>Total: 278</p>

-continued-

Evaluation Measures		Alternative 10: New Minimal Four-Lane Arterial From Hoan Bridge to and Along C&NW Right-of-Way to E. Layton Avenue With Intersections at the E. Lincoln Avenue Extension, S. Carferry Drive, E. Howard Avenue, and E. Layton Avenue ^f	Alternative 11: Connection of Hoan Bridge to E. Lincoln Avenue Extension	Alternative 12: New Two-Lane Arterial From Hoan Bridge To and Along C&NW Right-of-Way to E. Kinnickinnic Avenue (Also New Connections to E. Lincoln Avenue, E. Lincoln Avenue Extension, Northbound S. Superior Street, and S. Delaware Avenue)
Disruption (continued)	<ul style="list-style-type: none"> o Positive Impacts Number of residential properties with building within 100 feet of roadway edge of roadway with significant decrease in traffic. o Historic structures^g..... o Park impacts <ul style="list-style-type: none"> Lewis Playfield (along C&NW ROW north of Pryor Avenue--400' x 350' and 100' x 350' area)..... Sijan Field (along C&NW ROW south of Kinnickinnic Avenue--400' x 1000' area)... Ellen Playfield (along C&NW ROW south of Fernwood Avenue--250' x 750' area).... St. Francis Totlot (along C&NW ROW south of Elizabeth Street--70' x 120' area)..... 	<p><u>S. Superior Street between E. Russell Avenue and City of Milwaukee City limits:</u> 217 properties.</p> <p><u>E. Russell Avenue between S. Superior Street and S. Kinnickinnic Avenue:</u> 39 properties.</p> <p><u>S. Clement Avenue between E. Russell Avenue and S. Whitnall Avenue:</u> 250 properties.</p> <hr/> <p>Total: 506</p> <p>None</p> <p>None.</p> <p>None.</p> <p>None.</p> <p>5' strip along western boundary (which can be replaced immediately south and/or north).</p>	<p>--</p> <hr/> <p>Total: 0</p> <p>None</p> <p>None.</p> <p>None.</p> <p>None.</p> <p>None.</p>	<p><u>S. Superior Street between E. Russell Avenue and E. Oklahoma Avenue:</u> 203 properties.</p> <p><u>E. Russell Avenue between S. Superior Street and S. Kinnickinnic Avenue:</u> 39 properties.</p> <hr/> <p>Total: 242</p> <p>None</p> <p>None.</p> <p>13' to 20' strip along S. Kinnickinnic Avenue.</p> <p>None.</p> <p>None.</p>

-continued-

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Evaluation Measures	Alternative 10: New Minimal Four-Lane Arterial From Hoan Bridge to and Along C&NW Right-of-Way to E. Layton Avenue With Intersections at the E. Lincoln Avenue Extension, S. Carferry Drive, E. Howard ^f Avenue, and E. Layton Avenue	Alternative 11: Connection of Hoan Bridge to E. Lincoln Avenue Extension	Alternative 12: New Two-Lane Arterial From Hoan Bridge To and Along C&NW Right-of-Way to E. Kinnickinnic Avenue (Also New Connections to E. Lincoln Avenue, E. Lincoln Avenue Extension, Northbound S. Superior Street, and S. Delaware Avenue)
Energy Consumption Energy Consumption Reduced Compared to "Do-Nothing" Alternative in Year 2000 (gallons of motor fuel due to vehicle consumption).....	283,000 gallons/year.	8,000 gallons/year.	96,000 gallons/year.
Air Pollutant Emissions Reduced Compared to "Do-Nothing" Alternative in Year 2000: ^h o Carbon Monoxide..... o Hydrocarbons.....	578,000 pounds/year. 44,100 pounds/year.	10,000 pounds/year. 800 pounds/year.	139,000 pounds/year. 10,700 pounds/year.

^aThe forecast traffic impacts do not include the proposed development at the lakefront power plant in the City of St. Francis. The proposed development could be expected to generate an estimated 15,000 trips on an average weekday, of which 60 percent would be expected to be oriented north and northwest; and 40 percent south and southwest. Under Alternatives 11 and 12, which would make a minor Hoan Bridge connection improvement, an estimated additional 3,000 vehicles on an average weekday would use S. Superior Street and the Hoan Bridge; and an estimated additional 7,500 vehicles on an average weekday would use S. Lake Drive south of E. Oklahoma Avenue. Under Alternative 10, which would provide a major improvement, little additional traffic would be expected on S. Superior Street, with all traffic--3,000 vehicles per average weekday--from the proposed development traveling to and from the Hoan Bridge using the new arterial along the railway right-of-way. An estimated 4,500 vehicles per average weekday would use S. Lake Drive and E. Oklahoma Avenue.

^bAll alternatives would entail an estimated additional \$1 million cost of constructing a new E. Howard Avenue bridge over the Chicago & North Western railway.

^cAll alternatives would entail taking seven residences, with new E. Howard Avenue bridge over the Chicago & North Western railway.

^dThe estimated property taking by Alternative 10 includes two residences in the 3400 block of S. Ellen Street; one commercial property in the 3600 block of S. Artic Avenue; one storage building in the 2200 block of E. Cora Avenue; and two residences in the 3700 block of S. Bombay Avenue. It should be noted that the proposed roadway would eliminate access to, or require the taking of, seven garages attendant to seven homes in the 3700 block of S. Bombay Avenue. However, it would be possible to maintain five of the seven homes, and replace their garages on land made available through the taking of only two of the seven homes and one vacant lot.

^eDoes not include land strip taking from municipal, county, or utility lands.

^fPrior to the opening of the Hoan Bridge, average weekday traffic volumes on these arterials were as follows: Superior Street, 3,900 awdt; Kinnickinnic Avenue, 11,100 to 15,900 awdt; Clement Avenue, 2,600 to 5,300 awdt; Russell Avenue, 6,100 awdt; Howard Avenue, 10,200 to 17,700 awdt; and Hole Avenue, 13,000 awdt.

^gHistoric structures are considered as those in the Bay View Historic District, as listed in the National Register of Historic Places. Two historic structures required under other alternatives are Puddlers Hall, 2461-2463 S. St. Clair Street, and Palmer House, 2423-2427 S. St. Clair Street.

^hIn the year 2000, the "Do-Nothing" alternative would entail 5,100,000 gallons of vehicle motor fuel consumption; 6,600,000 pounds of carbon monoxide emissions; and 480,000 pounds of hydrocarbon emissions.

the southbound connection to the Hoan Bridge--the latter function which is presently performed by southbound S. Superior Street. The two-lane arterial connection from the Hoan Bridge to S. Kinnickinnic Avenue will carry some of the traffic which would otherwise be on S. Superior Street or S. Delaware Avenue. However, the termination of the arterial at S. Kinnickinnic Avenue greatly limits the potential traffic from S. Superior Street and S. Delaware Avenue which this arterial connection can be expected to carry.

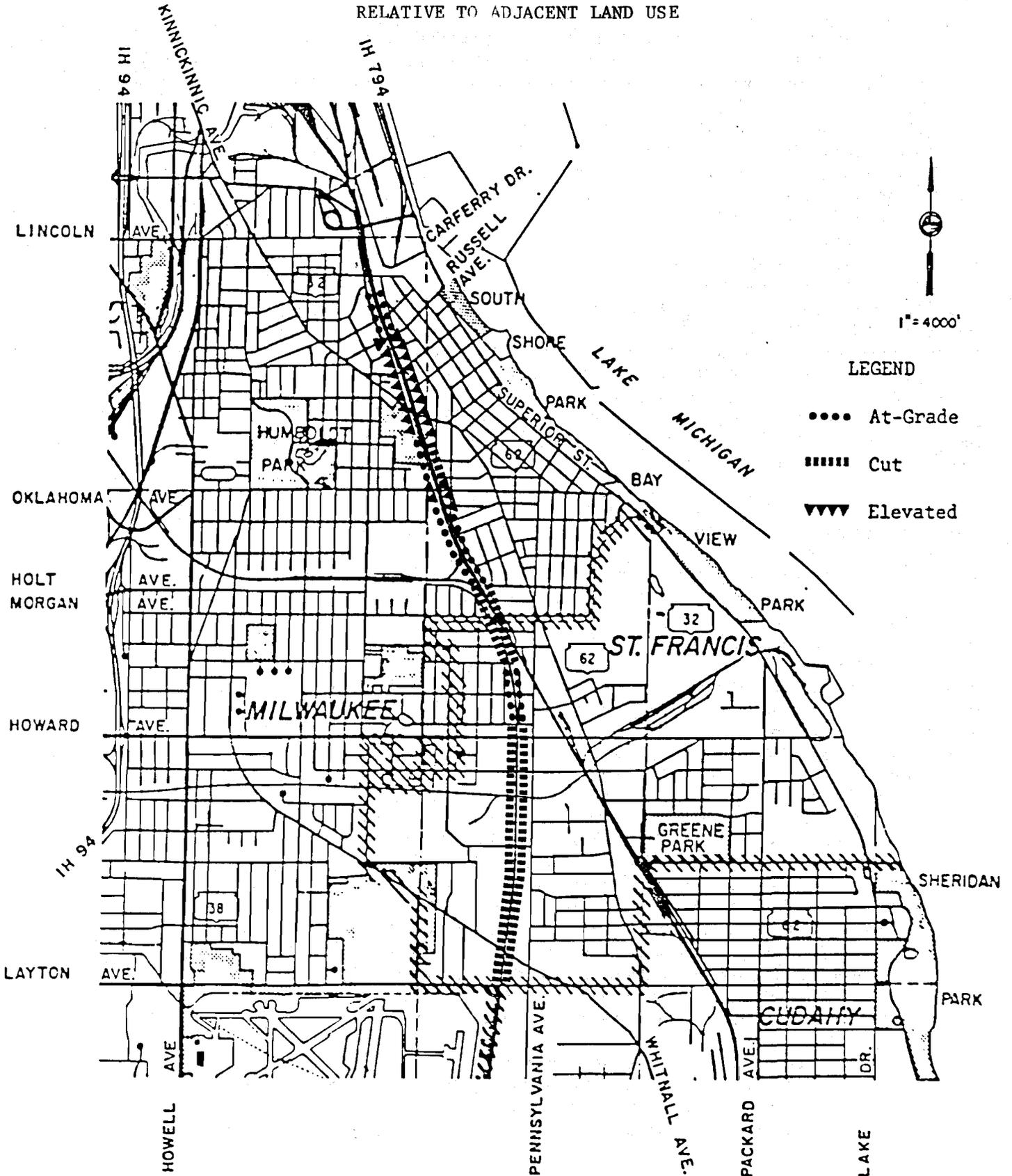
Alternative 10, which would provide a minimal four-lane arterial along the Chicago & North Western railway right-of-way connecting the Hoan Bridge southern stub end to E. Layton Avenue, has a higher capital cost than the other two remaining alternatives--\$41.7 million. In addition, its construction will entail some disruption, requiring the taking of four residences, one business, and one storage building. In addition, strip land-taking will be required from the rear or side of 17 residential properties. Alternative 10, however, is the only remaining alternative which would resolve existing and future traffic problems. Year 2000 average weekday traffic on S. Superior Street would be expected to be about 7,500 vehicles per average weekday, which would be substantially less than the existing 10,500 vehicles per average weekday on S. Superior Street and the forecast 13,600 vehicles per average weekday under Alternative 11. In addition, under Alternative 10, traffic on S. Delaware Avenue would not be expected to increase over existing levels, and traffic on other arterial and local streets in the area would generally be expected to decline from today's levels or only slightly increase to the year 2000.

A concern which was raised about Alternative 10 was its visual impact. The specific concern was with respect to those sections of the arterial which would be elevated to the same grade of the existing railway trackage in the area, and could require the construction of retaining walls to the east of the roadway. The view of the retaining walls to residents and visitors of Bay View was suggested as potentially being a very negative impact of this alternative. Map 41 identifies for Alternative 10 the sections of the alternative which would be elevated or depressed. As shown on Map 41, the majority of the roadway--over 50 percent--would be depressed--that is, located in a cut--and would not be in a direct line of sight. Approximately equal portions of the remaining 1.5 miles of the roadway would be in at-grade, transitional, or elevated sections. Thus, only about 0.6 mile, or about 20 percent of the roadway, would be in an elevated section. The elevated sections would extend between E. Russell Avenue to a point about 400 feet south of S. Kinnickinnic Avenue, and between S. Oklahoma Avenue and E. Euclid Avenue. The retaining wall necessary between E. Russell Avenue and S. Kinnickinnic Avenue would have a maximum height of about 20 feet, or about the height of the existing railway trackage above the adjacent properties along which the roadway would be located. An area 30 feet wide would be available along this stretch between the retaining wall and adjacent private properties for the planting of trees and other landscaping. The other section of roadway which would be elevated would be between E. Oklahoma Avenue and E. Euclid Avenue. The retaining wall necessary would also have a maximum height of about 20 feet, again, about the height of the existing railway trackage above the adjacent properties.

It should be noted that the need for retaining walls is not limited to Alternative 10. Alternative 12, which proposes a two-lane arterial along the railway right-of-way would also entail the same elevated sections of roadway, as shown on Map 42, and retaining walls.

Map 41

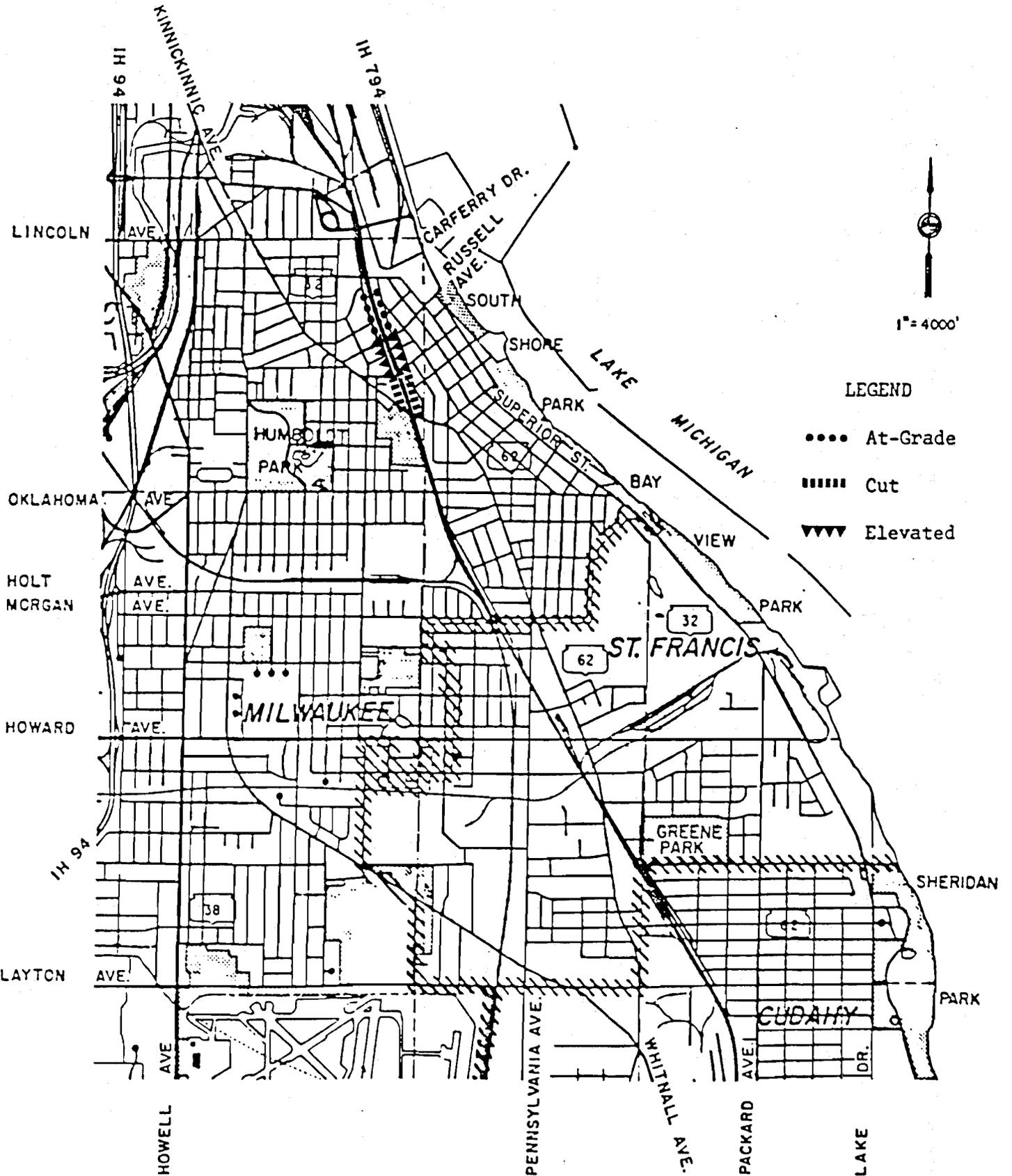
ELEVATION OF ALTERNATIVE 10
RELATIVE TO ADJACENT LAND USE



Source: SEWRPC

Map 42

ELEVATION OF ALTERNATIVE 12
RELATIVE TO ADJACENT LAND USE



Another concern which was raised about Alternative 10 was the excessive traffic that it would carry and its attendant impacts on adjacent land uses and, as well, a perception that Alternative 10 would principally attract traffic from the North-South Freeway (IH 94). The arterial under Alternative 10 would be expected to carry between E. Layton Avenue and E. Russell Avenue about 17,000 to 31,000 vehicles per average weekday, or about the same level of traffic as carried today on the following arterial streets in the City of Milwaukee: W. Oklahoma Avenue, S. Howell Avenue, and W. Layton Avenue. The traffic anticipated in the year 2000 on the new arterial would generally be attracted from the following other arterials: S. Superior Street (6,000 vehicles per average weekday); E. Russell Avenue (8,000 vehicles per average weekday); S. Kinnickinnic Avenue (3,000 vehicles per average weekday); S. Howell Avenue (2,000 vehicles per average weekday); and S. Chase Avenue (2,000 vehicles per average weekday). In addition, it is expected that some residents throughout the study area will choose to make trips on the new arterial rather than on routes using study area east-west surface arterials and the North-South Freeway (IH 94). It is estimated that most of these trips would be for the purpose of traveling to and from work, and would total about 6,000 trips on an average weekday in the year 2000.

The three alternatives provide distinct choices for the Hoan Bridge South study area. Alternative 11, which would connect the Hoan Bridge to the E. Lincoln Avenue extension, is an alternative of little construction cost and no property takings. It would not, however, resolve existing and potential future traffic problems in the study area. Selection of this alternative would mean that the community would have to continue to live with the congested surface arterial streets--such as S. Superior Street, S. Kinnickinnic Avenue, and E. Russell Avenue--tolerating the excessive traffic on local residential streets--such as S. Superior Street--and potential increases of such traffic on other streets in the Bay View area immediately south of the Hoan Bridge.

Alternative 12 provides an option to the community with relatively modest cost and no property takings. The alternative would provide some abatement of the traffic problem. All evening peak period traffic would be removed from S. Superior Street and the total average weekday traffic volumes on S. Superior Street would decline from existing levels. Morning peak period traffic would, however, remain on S. Superior Street. Also, the decline in total traffic on S. Superior Street would be at the expense of greatly increased traffic on S. Delaware Avenue, another local residential street. Traffic on S. Delaware Avenue may be expected to increase from the existing 2,400 vehicles per average weekday to over 8,800 vehicles per average weekday by the year 2000, as evening peak period traffic would be carried on S. Delaware Avenue. Similarly, the proposed two-lane extension of the Hoan Bridge to S. Kinnickinnic Avenue would provide some resolution of the problems currently experienced on E. Russell Avenue. However, the traffic problems created by terminating this two-lane arterial extension at S. Kinnickinnic Avenue may be expected to be substantial. Moreover, Alternative 12 would also increase traffic and provide a congestion problem on E. Oklahoma Avenue between S. Delaware Avenue and S. Superior Street, and would do very little to resolve traffic problems on S. Lake Drive south of E. Oklahoma Avenue, as the northbound and southbound traffic split between S. Superior Street and S. Delaware Avenue would be combined again on S. Lake Drive.

Alternative 10 provides an option which would clearly resolve existing and potential future traffic problems. It would eliminate traffic congestion and remove excess traffic from S. Superior Street without diverting such traffic to other local streets in the area. This traffic would be carried by a new minimal, four-lane arterial facility from the existing terminus of the Hoan Bridge along the Chicago & North Western railway right-of-way to E. Layton Avenue. Excessive traffic would also be removed from other local residential streets in the area and permit the return of a pedestrian-oriented environment in the Bay View area immediately south of the Hoan Bridge and east of the railway right-of-way. This alternative does have a substantial capital cost--\$41.7 million--and would require the taking of six properties. The location of the arterial along the railway right-of-way would also have an impact on properties which currently abut the railway right-of-way. Seventeen properties would lose to the roadway a strip of land varying in width from 10 to 30 feet. Fifty-one residential properties would be located within 100 feet of the new roadway edge. However, it should be noted that this impact is relatively small when compared to the 500 residential properties on streets such as S. Superior Street, E. Russell Avenue, and S. Clement Avenue, which will experience significant decreases in existing and future year 2000 traffic upon construction of the new arterial proposed under Alternative 10. Also, under Alternative 10, other streets such as S. Kinnickinnic Avenue are not expected to experience substantial increases in traffic expected under the other Hoan Bridge connection alternatives.

Under Alternative 11, no street will be expected to have a significant decrease in traffic, and some streets will continue to experience current traffic problems and have significant increases in traffic and traffic problems such as S. Superior Street, negatively affecting 217 residential properties. Under Alternative 12, a total of 242 homes on some segments of S. Superior Street and on E. Russell Avenue will be expected to have decreases in traffic; however, this will be offset by 278 residential properties on S. Delaware Avenue, E. Oklahoma Avenue, other segments of S. Superior Street, and the new arterial connection to S. Kinnickinnic Avenue, which will experience significant increases in traffic.

Task Force Action on the Three Remaining Alternatives

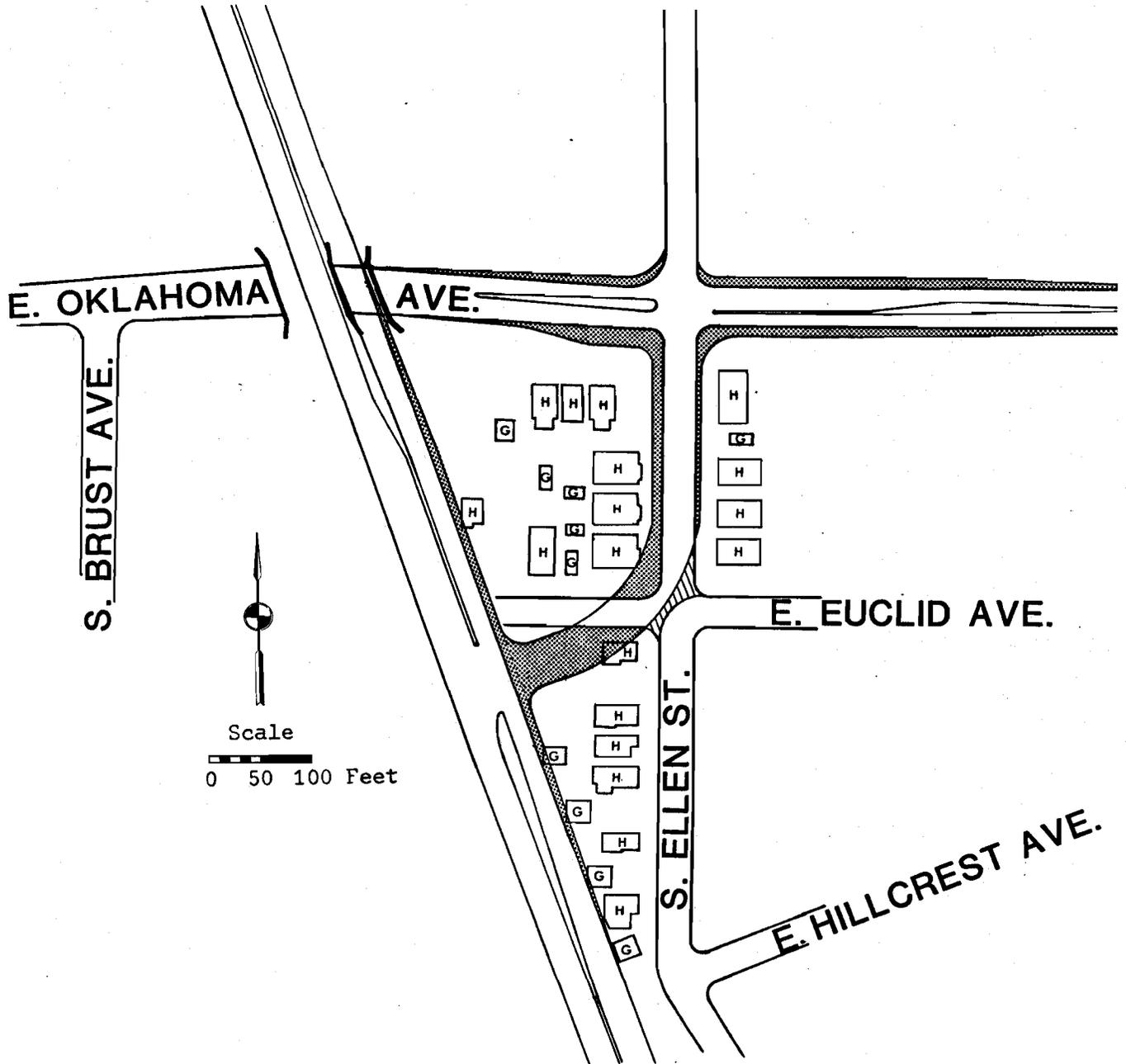
On November 10, 1986, the Hoan Bridge South Task Force, at the request of three of its members, acted to consider modifications to one of the three remaining alternatives--Alternative 10--which would provide a minimal four-lane arterial roadway along the Chicago & North Western Transportation Company railway right-of-way from the Hoan Bridge to S. Pennsylvania Avenue at E. Layton Avenue, with intersections at the E. Lincoln Avenue extension, S. Car ferry Drive, E. Howard Avenue, and E. Layton Avenue.

The modifications to be considered were:

- o The addition of an intersection with the roadway at E. Oklahoma Avenue. The intersection would be provided, as shown on Map 43, as a "T" intersection at E. Oklahoma Avenue utilizing segments of S. Ellen Street and E. Euclid Avenue. An estimated 7,000 vehicles per average weekday would utilize the intersection. Some of this traffic--about 2,000 vehicles on an average weekday--would otherwise use the E. Howard Avenue intersection, but the remainder would be removed from local streets in the study area. About 1,500 vehicles per average weekday using the E. Oklahoma Avenue

Map 43

PROPOSED E. OKLAHOMA AVENUE INTERSECTION WITH ALTERNATIVE
10: MINIMAL FOUR-LANE ROADWAY ALONG RAILWAY RIGHT-OF-WAY



LEGEND

-  Roadway Widening/
New Roadway
-  Existing Pavement
To Be Removed
-  House
-  Garage

intersection would otherwise use S. Superior Street, reducing the traffic on S. Superior Street under Alternative 10 from 7,500 vehicles per average weekday in the year 2000 to 6,000 vehicles per average weekday, if the additional intersection were provided. The traffic volumes on the segments of S. Ellen Street and E. Euclid Avenue which would be part of the intersection would substantially increase from under 1,000 vehicles per average weekday to about 7,000 vehicles per average weekday. In addition, traffic on E. Oklahoma Avenue may be expected to increase from the forecast 13,000 vehicles per average weekday under Alternative 10 to 15,000 to 17,000 vehicles per average weekday under Alternative 10 with an intersection at E. Oklahoma Avenue. This compares to an existing 12,000 vehicles per average weekday on this segment of E. Oklahoma Avenue and an expected 14,000 vehicles per average weekday under a do-nothing alternative.

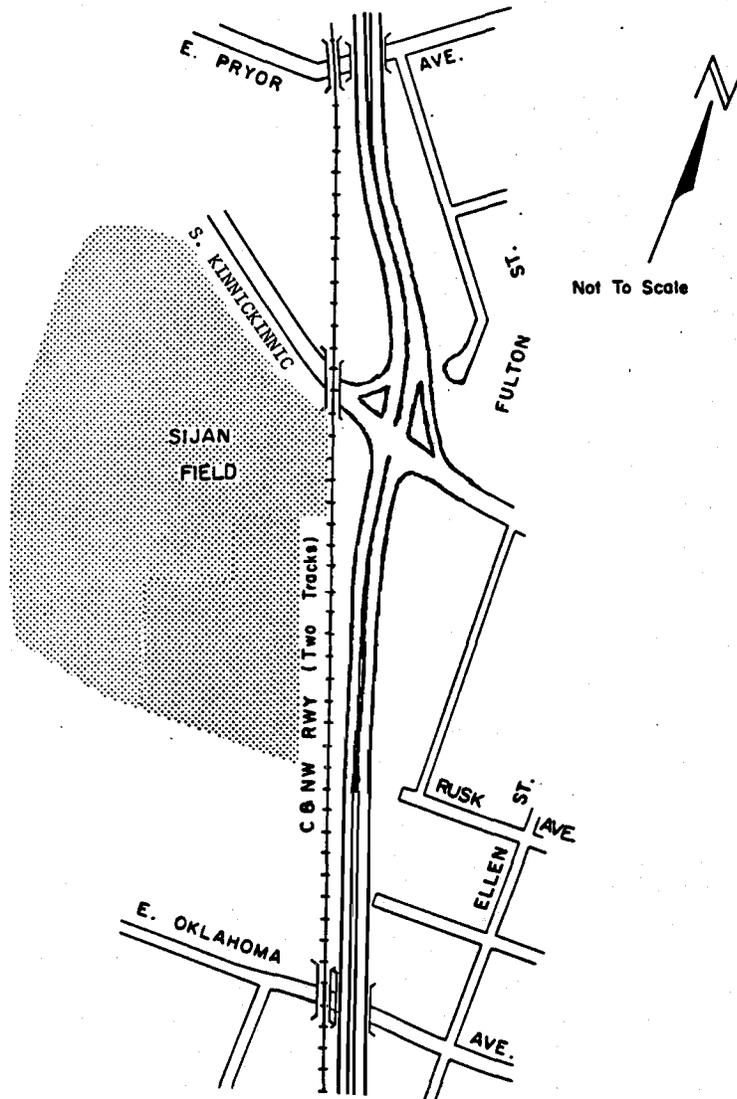
- o The proposed intersection at E. Oklahoma Avenue would result in some disruption of existing adjacent land uses. As shown in Map 44, four homes would be required to be taken for the construction of the intersection, all of which are county owned. Five homes would lose a 10-foot-wide strip of property--three of which are county owned--and three would require replacement of the attendant garages--one of which is county owned. In addition, the affected segment of S. Ellen Street would be widened from approximately 30 feet to 44 feet of pavement, reducing the typical distance of five homes along these street segments to the pavement edge from about 20 feet to about 15 feet, as shown on Map 44. Two of the homes affected are county owned. In addition, E. Oklahoma Avenue would be required to be widened to provide for an eastbound right-turn lane and a westbound left-turn lane at the intersection with S. Ellen Street, as shown in Map 44. The widenings of S. Ellen Street and E. Oklahoma Avenue could be accomplished within the existing right-of-way of the roadway segments involved.

The capital cost of the proposed at-grade intersection at E. Oklahoma Avenue is estimated as \$385,000, including about \$370,000 for construction and \$15,000 for right-of-way acquisition.

- o Also investigated was an intersection at S. Kinnickinnic Avenue in addition to the intersection at E. Oklahoma Avenue. It was determined that such an intersection would, in effect, be redundant, as it would serve principally to accommodate traffic which would otherwise use the E. Oklahoma Avenue intersection. Together, the two intersections could be expected to carry about 8,000 vehicles per average weekday in the year 2000, each serving about 4,000 vehicles per average weekday if both were constructed. Thus, only about 1,000 additional vehicles per average weekday would be served by including a S. Kinnickinnic Avenue intersection in addition to the E. Oklahoma Avenue intersection, resulting in a small additional reduction of traffic on local streets in the Bay View area, including a reduction of about 300 vehicles per average weekday on S. Superior Street.
- o Also investigated was the provision of a S. Kinnickinnic Avenue intersection in the absence of an E. Oklahoma Avenue intersection. A S. Kinnickinnic Avenue intersection may be expected to serve about the same average weekday traffic volumes as the E. Oklahoma Avenue intersection, and result in about the same decrease in traffic volumes on local streets in the Bay

Map 44

PROPOSED S. KINNICKINNIC AVENUE INTERSECTION WITH
ALTERNATIVE 10: MINIMAL FOUR-LANE ROADWAY ALONG RIGHT-OF-WAY



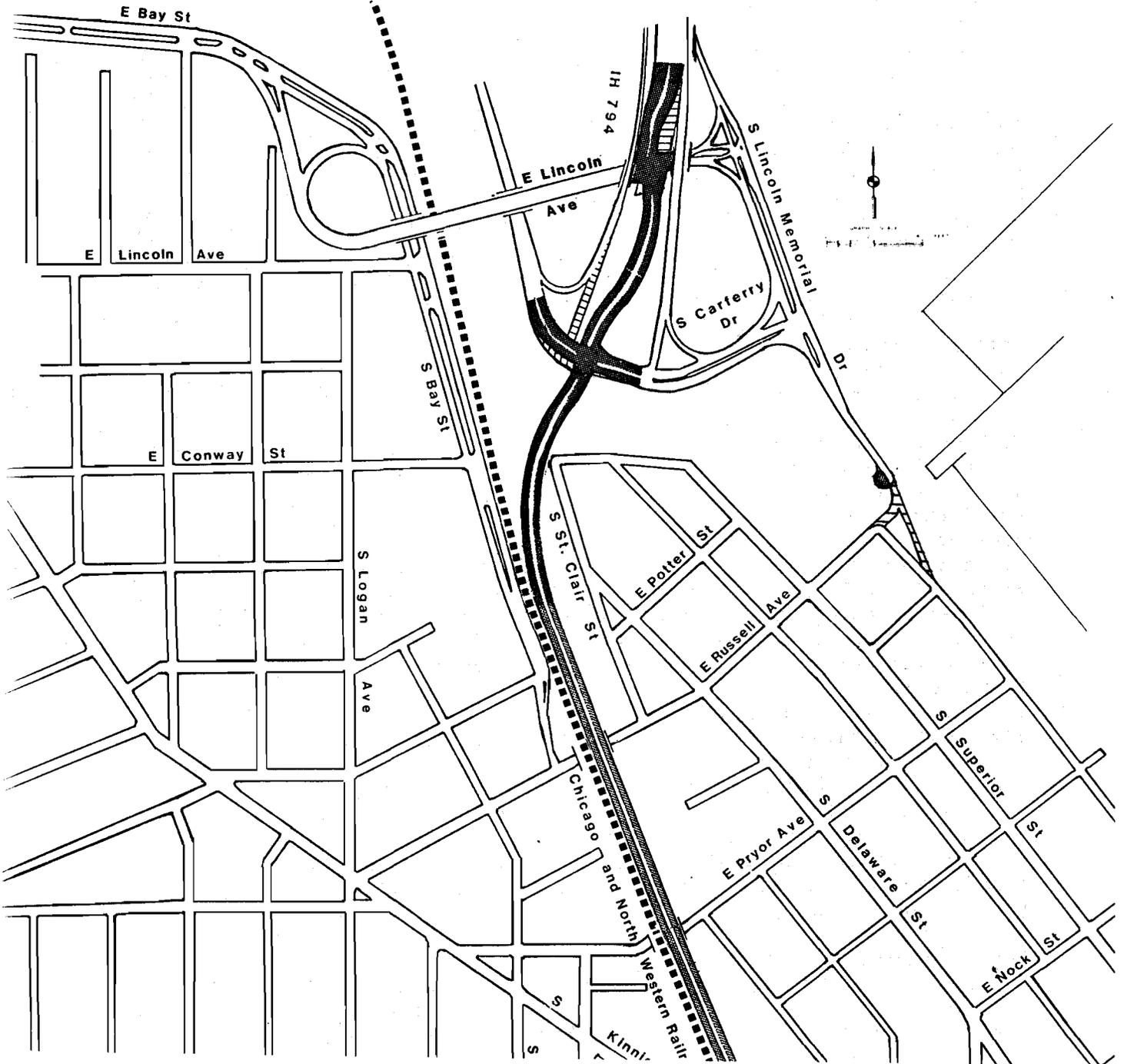
View area, including S. Superior Street. However, as shown on Map 44, a S. Kinnickinnic Avenue intersection would require the provision of a fully at-grade intersection as the opportunity does not exist for the provision of a simple "T" intersection as can be provided at E. Oklahoma Avenue. The need for this more complex type of intersection at S. Kinnickinnic Avenue results in an estimated capital cost of the intersection of about \$4 million, or about \$3.6 million more than the E. Oklahoma Avenue intersection. In addition, because an intersection at S. Kinnickinnic Avenue would be completely at-grade, the visual impacts of the intersection at S. Kinnickinnic Avenue will be much more severe than the simple "T" intersection at E. Oklahoma Avenue. Also, the additional right-of-way required for the S. Kinnickinnic Avenue intersection would be greater, and would result in the taking of the American Legion St. Francis-Bay View Post building, the residential and retail building on S. Kinnickinnic Avenue east of the Chicago & North Western Transportation Company railway, and four homes on S. Fulton Street. In addition, it would be necessary to take a 25-foot-wide strip of right-of-way from Sijan Field west of the railway right-of-way and replace the Chicago & North Western Transportation Company railway bridge over S. Kinnickinnic Avenue.

- o The elimination of the present connection from Bay View to the Hoan Bridge via E. Russell Avenue and S. Lincoln Memorial Drive was also suggested. This proposed action would seek to restore traffic in the Bay View area to "pre-Hoan Bridge" conditions, and make the Bay View area a more isolated and pedestrian-oriented neighborhood. It would be accomplished, as shown in Map 45, by ending S. Lincoln Memorial Drive in a cul-de-sac north of E. Russell Avenue and connecting E. Russell Avenue directly into S. Shore Drive. The principal benefit of such an action would be to reduce traffic on S. Superior Street to an estimated 3,000 vehicles per average weekday, or slightly less than the 4,000 vehicles per average weekday on S. Superior Street prior to the opening of the Hoan Bridge in 1977. This compares to an estimated 10,400 vehicles per average weekday on S. Superior Street in 1985, and an estimated 13,600 vehicles per average weekday on S. Superior Street in the year 2000 under a do-nothing alternative; 7,500 vehicles per average weekday under Alternative 10; and 6,000 vehicles per average weekday under Alternative 10 if an intersection would be added at E. Oklahoma Avenue. The traffic removed from S. Superior Street under this modification would be distributed to the proposed new arterial facility under Alternative 10 to S. Bay Street and to other local streets in the Bay view area, including S. Delaware Avenue and S. Wentworth Avenue. The year 2000 average weekday traffic on S. Bay Street would be expected to be about 7,000 vehicles per average weekday, and on E. Russell Avenue at S. Bay Street to be about 4,000 vehicles per average weekday. The proposed improvement would permit the conversion of the segment of S. Lincoln Memorial Drive between E. Russell Avenue and E. Ontario Street to park and open space purposes.

The disadvantages of this modification include its estimated cost of \$50,000. In addition, while removing some remaining through and neighborhood traffic from S. Superior Street, the proposed action would also make access to the Hoan Bridge and harbor area more difficult for Bay View residents. Access to the bridge and harbor area would principally be provided by the proposed new intersection of the E. Lincoln Avenue extension with the Hoan Bridge, and traffic would have to travel between that inter-

Map 45

PROPOSED ELIMINATION OF THE S. LINCOLN MEMORIAL DRIVE CONNECTION BETWEEN BAY VIEW AND THE HOAN BRIDGE



LEGEND



New Surface Streets



Existing Structure or Pavement to be Removed

section and the Bay View area via the E. Lincoln Avenue extension, S. Bay Street, and E. Russell Avenue. This more indirect route would result in about one-half mile of additional travel for the eastern portion of trips between Bay View and the bridge and harbor area.

- o Also suggested was that the direct connection of E. Howard Avenue between S. Lake Drive and the North-South Freeway (IH 94) be completed as proposed under all of the alternatives considered in the study. Such an extended E. Howard Avenue would provide convenient access to the proposed arterial roadway under Alternative 10 from the proposed development at the former lakefront power plant site. The completion of this roadway improvement would serve to reduce traffic volumes on local streets in the Bay View area, particularly S. Superior Street.

The current status of the proposed E. Howard Avenue extension is that the segment from its current terminus west of the Chicago & North Western Transportation Company railway to S. Pennsylvania Avenue is undergoing preliminary engineering, which is scheduled for completion in 1987; with construction programmed for 1988. The segment from S. Pennsylvania Avenue to S. Kinnickinnic Avenue is also undergoing preliminary engineering, which is scheduled for completion in 1988. The implementation of the remaining segment of E. Howard Avenue--which would extend from S. Kinnickinnic Avenue to S. Lake Drive or to the existing eastern segment of E. Howard Avenue, which terminates at S. Lipton Avenue--has not been advanced to the preliminary engineering stage at this time.

It may be difficult for the segment of E. Howard Avenue from S. Pennsylvania Avenue to S. Lake Drive to be completed in a timely manner because the City of St. Francis has limited local and federal aid funds to pursue such improvements. The timely completion of this project can probably only be assured if it is to be included as part of Alternative 10 and implemented by the Wisconsin Department of Transportation with its state and/or federal aids. Such implementation by the State is not unreasonable, as this segment of E. Howard Avenue would serve to promote the use of, and thereby enhance the benefits of, the proposed roadway within and along the Chicago & North Western Transportation Company railway right-of-way proposed under Alternative 10.

It should be noted that the existing street system in the City of St. Francis would provide a direct route from the east to the proposed Alternative 10 along segments of E. Howard Avenue, E. Thompson Avenue, and E. Norwich Street. The proposed intersection of Alternative 10 with E. Howard Avenue would be accomplished with a "T" intersection, and the actual intersection would be provided at E. Norwich Street. As noted earlier, a similar direct route from the west via an extended E. Howard Avenue to S. Pennsylvania Avenue would be expected to be completed in 1988. It would also be important for the State of Wisconsin Department of Transportation and the City of St. Francis to require the development at the former lakefront power plant to have its principal entrances and exits oriented to E. Howard Avenue to promote use of the proposed arterial along the Chicago & North Western Transportation Company right-of-way.

- o Another suggested modification was the installation of extensive landscaping as part of Alternative 10, including extensive planting of trees and

shrubs and special treatment in the design and construction of all structures and facilities, including installation of stone facing on structures and retaining walls. The intent of the landscaping would be to provide a roadway which would be typical of a parkway. Extensive landscaping with trees and shrubs would be used to screen the facility from view at all locations. The use of stone facing would be intended to provide a more pleasing and natural appearance of all prominent facilities, such as bridges over existing roadways which could not be screened by landscaping. It is estimated that the cost of such landscaping would be about \$7 million.

On December 17, 1986, the Hoan Bridge South Task Force acted to reject Alternatives 11 and 12, which would provide minimal improvements in the connections from the southern terminus of the Hoan Bridge to the existing street system in the Bay View area, and acted to recommend a four-lane arterial connection from the southern end of the Hoan Bridge to and along the Chicago & North Western railway right-of-way to a connection with S. Pennsylvania Avenue at E. Layton Avenue. The new facility, as proposed by the Task Force, would be developed with special attention to the aesthetic treatment of the facility, with extensive plantings of trees and shrubs and with the use of stone facing on structures and retaining walls. To promote the use of the new facility, and thereby divert through traffic from streets in the Bay View area, the new arterial would be provided with a connection to E. Howard Avenue, this facility being extended from S. Pennsylvania Avenue to S. Lake Drive.

The Task Force further acted to request the Wisconsin Department of Transportation to complete the environmental impact statement initiated by that Department relating to potential connections to the southern end of the Daniel Hoan Memorial Bridge and, in such completion, to consider three variations of the recommended four-lane minimal arterial facility. The first of these variations would provide the six basic connections at E. Layton and S. Pennsylvania Avenues; E. Howard Avenue; S. Carferry Drive and E. Lincoln Avenue extended; as well as to the Bridge itself. The second of these variations would include these six connections and an additional connection to E. Oklahoma Avenue. The third variation would include all these seven connections, but would provide for the closure of the connection between S. Lincoln Memorial Drive and E. Russell Avenue.

SUMMARY AND CONCLUSIONS

On March 3, 1986, the Southeastern Wisconsin Regional Planning Commission created a 28-member Task Force to seek a citizen-based consensus as to how to best resolve the growing costly and disruptive traffic problems at the south end of the Daniel Webster Hoan Memorial Bridge, while preserving community values in the Bay View area and encouraging the sound development and redevelopment of the St. Francis, Cudahy, and South Milwaukee areas. The Task Force was created at the request of Commissioner Harout O. Sanasarian, Milwaukee County Board Supervisor, in response to a request from concerned citizen leaders and elected officials. The Task Force membership was drawn to provide representation of the full spectrum of viewpoints on this issue, including citizen, business, and labor leaders and concerned state, county, and local elected and appointed officials. All state senators, state representatives, and county supervisors from the concerned and affected area were invited to serve on the Task Force.

This report presents information which was requested by the Task Force to help define the existing and probable future traffic and related community development problems at the south end of the Daniel Webster Hoan Memorial Bridge; to identify and evaluate alternative means of abating those problems; and to provide a basis for identifying the best of those alternative means and recommending its adoption and implementation. The information is presented for a study area bounded on the north by the stub end of the Hoan Bridge at approximately E. Lincoln Avenue; on the east by Lake Michigan; on the south by E. Layton Avenue; and on the west by S. Howell Avenue and S. First Street.

The report presents pertinent information on both existing and probable future conditions within the study area, including information on resident population, household, and employment levels, and on land use patterns. Information describing the arterial street system of the study area is also presented, including data on the capacity of the existing arterial streets, and on historic, current, and probable future traffic volumes. The existing and planned public transit system within the study area is also described together with its potential impacts on traffic volumes in the area. Existing and anticipated future traffic congestion in the study area are also presented. The wide range of alternatives considered to resolve the identified traffic problems are also described in the report, along with their comparative evaluation with respect to traffic impacts, capital cost, and disruption.

In the study area, and in areas of the County lying to the south of the study area which may be expected to contribute to traffic in the study area--essentially all of southeastern Milwaukee County--there were in 1980 about 39,700 jobs, about 35,400 households, and a resident population of about 96,200 persons. Forecasts to the plan design year 2000, based upon consideration of alternative futures, indicate that this area may be expected to have about 35,600 jobs, a decline of 4,100 jobs, or about 10 percent over the 20-year planning period; about 44,200 households, an increase of 8,800 households, or about 25 percent; and a resident population of 122,600 persons, an increase of 26,400 persons, or about 27 percent. Based on these forecast employment, household, and resident population levels, it is forecast that the number of person trips made on an average weekday with origins or destinations or both in the study area and in that part of southeastern Milwaukee County which may be expected to contribute to traffic in the study area may be expected to increase from the existing 1980 level of about 492,000 trips to about 590,000 trips, an increase of about 98,000 trips, or approximately 20 percent, over the 20-year planning period. Proposed development of the former lakefront power plant site in St. Francis may be expected to result in a further increase of about 15,000 person trips per average weekday.

Approximately 23,000 trips, or about 5 percent of the 492,000 person trips made on an average weekday in 1980, were made by public transit. If long-standing Regional Planning Commission-recommended improvements in public transit service are implemented, this percentage of person trips made by public transit on an average weekday may be expected to increase to about 42,000 trips, or about 7 percent of all person trips. The recommended improvements to transit service include additional routes; an increased service area; increased frequency of service; new, higher-speed, services including freeway flyer and arterial express bus service on reserved street lanes; and a stable fare. It is important to note that the forecast increase of 80 percent in

transit use, given these improvements, would have a minimal impact on automobile travel in southeastern Milwaukee County. This is because transit use, even under the most optimistic forecasts, may be expected to continue to comprise a very small proportion of the total person trips made in the area. Moreover, it should be noted that the forecast increase in transit travel would represent a substantial reversal of recent trends in transit service improvements, fares, and ridership in the Milwaukee area. The latter has declined by about 3 percent per year since 1980.

Traffic volumes on selected streets in the area are forecast to increase to the year 2000 by from 10 to 30 percent, with traffic on S. Superior Street forecast to increase from 10,500 to 13,600 vehicles per average weekday; on E. Oklahoma Avenue, from 8,000 to 13,100 to 9,000 to 14,000 vehicles per average weekday; and on S. Kinnickinnic Avenue, from 12,000 to 14,500 to 17,000 vehicles per average weekday. These forecast traffic volumes are based upon Commission traffic simulation model studies which reflect the forecast employment, household, and population levels and the assumption of no major highway improvements in the study area. These traffic volumes do not include the potential effects of the development of the former lakefront power plant site in St. Francis.

Existing traffic congestion problems in the study area were found to be particularly severe at the existing terminus of the Hoan Bridge; along S. Lincoln Memorial Drive and E. Russell Avenue; along S. Superior Street and S. Lake Drive; and along segments of S. Kinnickinnic, E. Layton, and E. Oklahoma Avenues. The existing traffic congestion problems at the stub end of the Hoan Bridge along S. Lincoln Memorial Drive and E. Russell Avenue, along S. Superior Street and S. Lake Drive, and along S. Kinnickinnic Avenue were forecast to substantially increase by the year 2000. In addition, additional street segments were expected to experience congestion, including additional segments of S. Kinnickinnic Avenue and segments of S. Clement Avenue and S. Whitnall Avenue. A particularly severe problem of excessive traffic and traffic congestion on S. Superior Street was noted. South Superior Street in 1986 had a total pavement width of 36 feet and carried two traffic lanes. Prior to the opening of the Hoan Bridge, it carried a traffic volume of approximately 4,000 vehicles per average weekday and functioned essentially as a local land access street. In 1986, the street functioned as an arterial and carried 10,500 vehicles per average weekday. By the year 2000, if no transportation improvements are made within the study area, S. Superior Street may be expected to carry an average weekday traffic volume of approximately 13,600 vehicles and experience severe traffic congestion with attendant noise, air pollution, and safety problems.

Another serious problem noted was the uncertainty of street improvements in the area, and the undesirable impacts of this uncertainty on the stability of the neighborhood. Proposals to construct an arterial causeway connection to the Hoan Bridge has resulted in fears of negative impacts on homes facing the lakefront and on recreational facilities in the area. The potential for a continued stalemate and no improvements whatsoever have resulted in fears of continued excessive traffic on streets such as S. Superior Street, with the attendant destruction of residential values. The potential for construction of a roadway along the Chicago & North Western railway right-of-way has resulted in fears of unknown impacts on properties abutting the railway.

The Task Force considered a wide range of alternatives for addressing the identified transportation and related community development problems. The traffic impacts, disruption and property taking, energy consumption, air pollution, and capital costs of each alternative were identified and compared. The alternatives considered included a do-nothing alternative; alternatives which would make more direct connections from the Hoan Bridge to the existing street system of the study area, including connections to E. Lincoln Avenue extended, E. Conway Street, and S. Superior Street. The connection of the Hoan Bridge to S. Superior Street and S. Delaware Avenue, and the operation of these streets as a one-way pair, was also considered. Another alternative considered provided for connections to E. Lincoln Avenue extended; to S. Superior Street and S. Delaware Avenue; and the construction of a two-lane arterial from the south end of the Hoan Bridge to and along the Chicago & North Western railway right-of-way to S. Kinnickinnic Avenue. Under this alternative, both S. Superior Street and S. Delaware Avenue would remain two-way streets, but, with the proposed direct connections to the Hoan Bridge and proposed turn restrictions included in this alternative, most southbound traffic from the Hoan Bridge would be carried on S. Delaware Avenue, and most northbound traffic to the Bridge would be carried on S. Superior Street. These alternatives would have capital costs ranging from under \$1 million to about \$10 million. None of these these alternatives was found to remove substantial volumes of through traffic from the local streets in the Bay View area.

Another alternative considered was a four-lane arterial on causeway, extending from the southern terminus of the Hoan Bridge to E. Layton Avenue. This alternative was dismissed due to its substantial capital costs and perceived severe adverse impacts on the lakefront.

A number of alternatives were considered which would provide a new arterial from the southern terminus of the Hoan Bridge to and along the Chicago & North Western railway right-of-way to a connection with S. Pennsylvania Avenue at E. Layton Avenue. The alternatives considered included a high-standard four-lane arterial with median and shoulders; a two-lane arterial with two traffic lanes and shoulders; and a minimal four-lane arterial with four traffic lanes and no shoulders or median. A number of options were considered under each of these alternatives. The two-lane arterial included consideration of operating both lanes in the peak direction during the peak morning and afternoon traffic periods, and a modification which would include a third traffic lane operated only in the peak traffic flow period in the peak direction. Evaluation of these alternatives indicated that, while the high-standard four-lane arterial would resolve the traffic problems, it would result in substantial property takings. Also, the two-lane arterial and its options would have only a modest impact on the traffic problems and, yet, would have a capital cost similar to that of a four-lane arterial. In addition, the two-lane arterial would have right-of-way requirements and attendant property takings similar to those of a minimal four-lane arterial facility.

On December 17, 1986, the Hoan Bridge South Task Force acted to recommend construction of a four-lane arterial connection from the southern end of the Hoan Bridge to and along the Chicago & North Western railway right-of-way to a connection with S. Pennsylvania Avenue at E. Layton Avenue. The new facility as proposed by the Task Force would be developed with special attention to the

aesthetic treatment of this facility, including extensive plantings of trees and shrubs, and the use of stone facings on structures and retaining walls.

The minimal four-lane highway recommended may be expected to resolve existing and potential future traffic and related community development problems in the Bay View area. It would eliminate traffic congestion and remove excess traffic from S. Superior Street without diverting such traffic to other local streets in the area. Excessive traffic would also be removed from other local residential streets and arterial streets in the area and permit the re-creation of a pedestrian-oriented environment in the Bay View area immediately south of the Hoan Bridge and east of the railway right-of-way. The proposed facility would have a capital cost of approximately \$49 million, including recommended landscaping, and would require the taking of only six properties--four residences and two businesses. Seventeen properties would lose to the proposed facility a strip of land varying in width from 10 to 30 feet; and 51 properties would be located within 100 feet of the roadway edge. However, the number of properties so affected is relatively small as compared to the 500 residential properties located along streets such as S. Superior Street, E. Russell Avenue, and S. Clement Avenue which would experience significant decreases in existing and future traffic upon construction of the new proposed arterial facility. The facility as proposed would have a minimal cross-section providing for four traffic lanes--approximately 48 feet from curb to curb--with a five-foot mountable center median. The roadway would be located almost entirely within railway right-of-way. This would be possible, as a need for only one railway track in the right-of-way has been identified by the Chicago & North Western Transportation Company; and the company has indicated that the roadway could be located within 15 to 25 feet from the centerline of the remaining track.

Also, on December 17, 1986, the Task Force acted further to request that the the Wisconsin Department of Transportation complete the environmental impact statement initiated by that Department relating to potential connections to the southern end of the Daniel Hoan Memorial Bridge and, in such completion, to consider three variations of the recommended four-lane minimal arterial facility. The first of these variations would provide the six basic connections at E. Layton and S. Pennsylvania Avenues; E. Howard Avenue; S. Carferry Drive and E. Lincoln Avenue extended; as well as to the Bridge itself. The second of these variations would include these six connections and an additional connection to E. Oklahoma Avenue. The third variation would include all these seven connections, but would provide for the closure of the connection between S. Lincoln Memorial Drive and E. Russell Avenue. Each of these variations recommended that E. Howard Avenue be extended by the Wisconsin Department of Transportation from S. Pennsylvania Avenue to S. Lake Drive to provide an adequate connection to the proposed facility at E. Howard Avenue.

Prior to the creation of the Task Force and the completion of its work, sharp differences existed in the Bay View community as to the nature and severity of traffic and related community development problems in the area and, particularly, with respect to the best solution to such problems. Also, when the Task Force was created, such differences in the perception of the problem and opinions as to the best solution were present within the Task Force. However, as the work of the Task Force progressed, involving careful review and discussion of the information contained in this report at each Task Force meeting and, in effect, the conduct of public hearings as well at each meeting to

further open and broaden public participation in the planning process, a clear consensus as to the existence and severity of the traffic problems and on the best solution to those problems emerged both within the Task Force and within the Bay View community. The degree of consensus achieved is reflected in the nearly unanimous final votes of the Task force on the recommendations herein made.

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APPENDICES

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Appendix A

TYPICAL CROSS-SECTIONS OF ARTERIAL STREETS



N. Washington Boulevard at about N. 49th Street in the City of Milwaukee--divided four-lane arterial with two 26-foot-wide roadways and 24-foot-wide median.



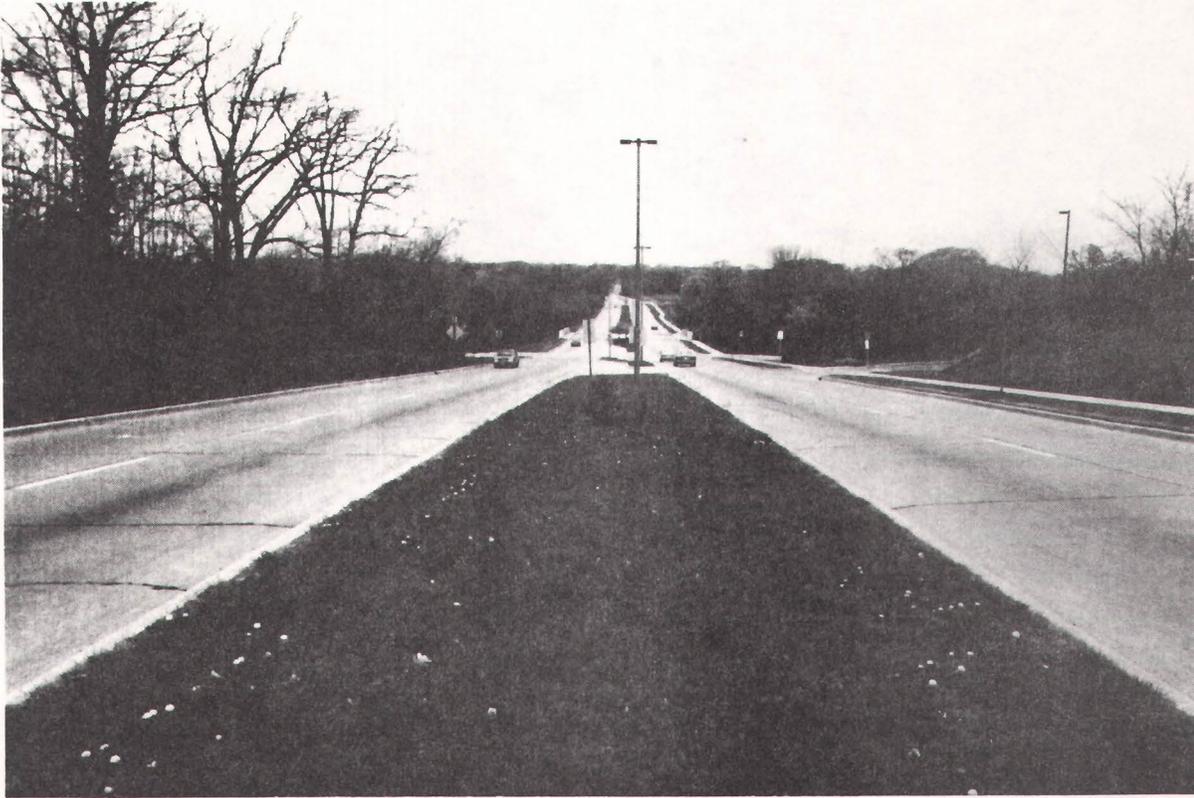
N. Washington Boulevard at about N. 49th Street in the City of Milwaukee--divided four-lane arterial with two 26-foot-wide roadways and 24-foot-wide median from another angle.



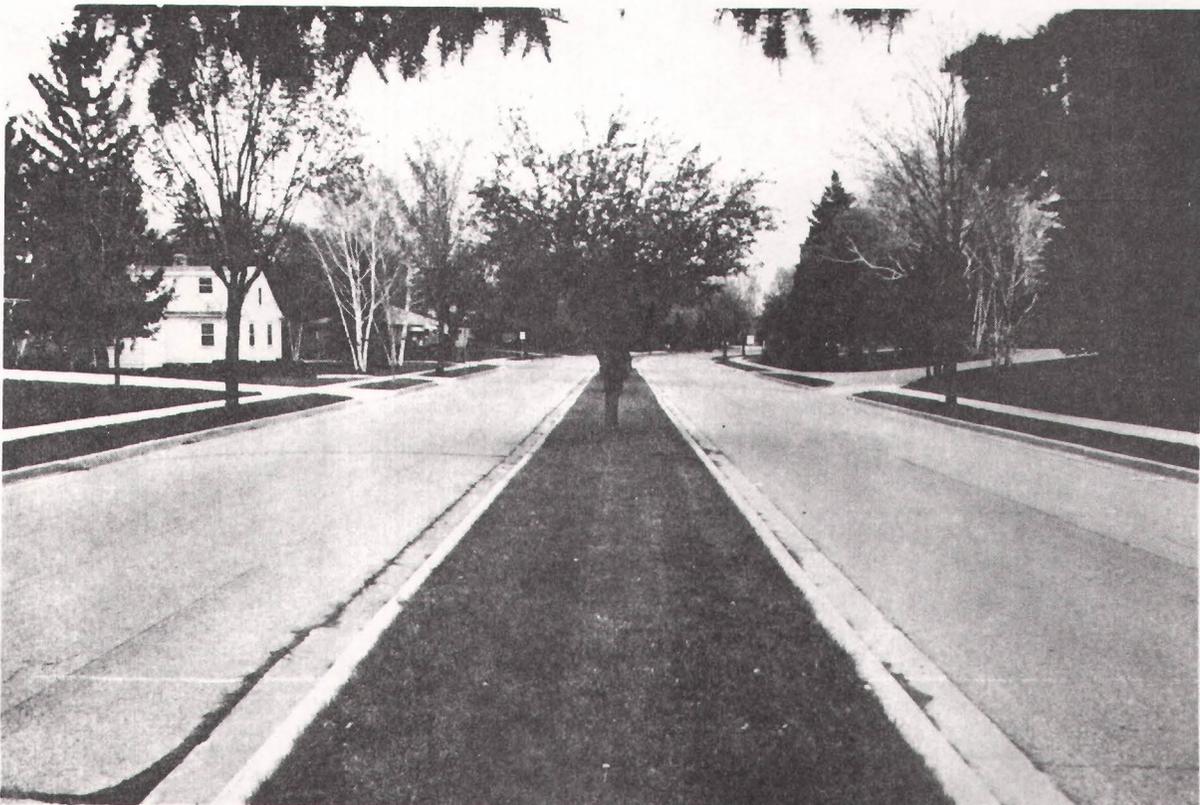
E. Howard Avenue at about S. Clement Street--two 22-foot-wide roadways and a 24-foot-wide median.



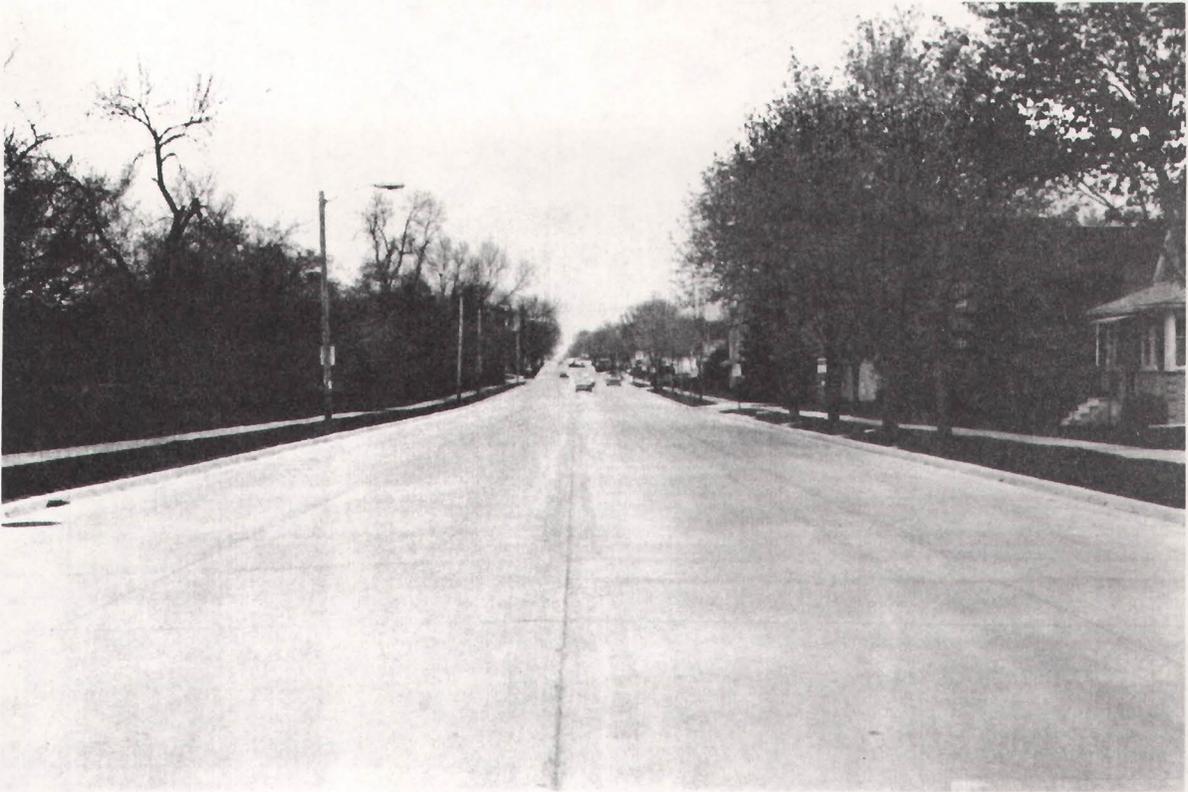
E. Howard Avenue at S. Logan Street west of S. Clement Street--two 28-foot-wide roadways and a 10-foot-wide median.



W. Grange Avenue west of S. 76th Street--two 26-foot-wide roadways with a 15-foot-wide median.



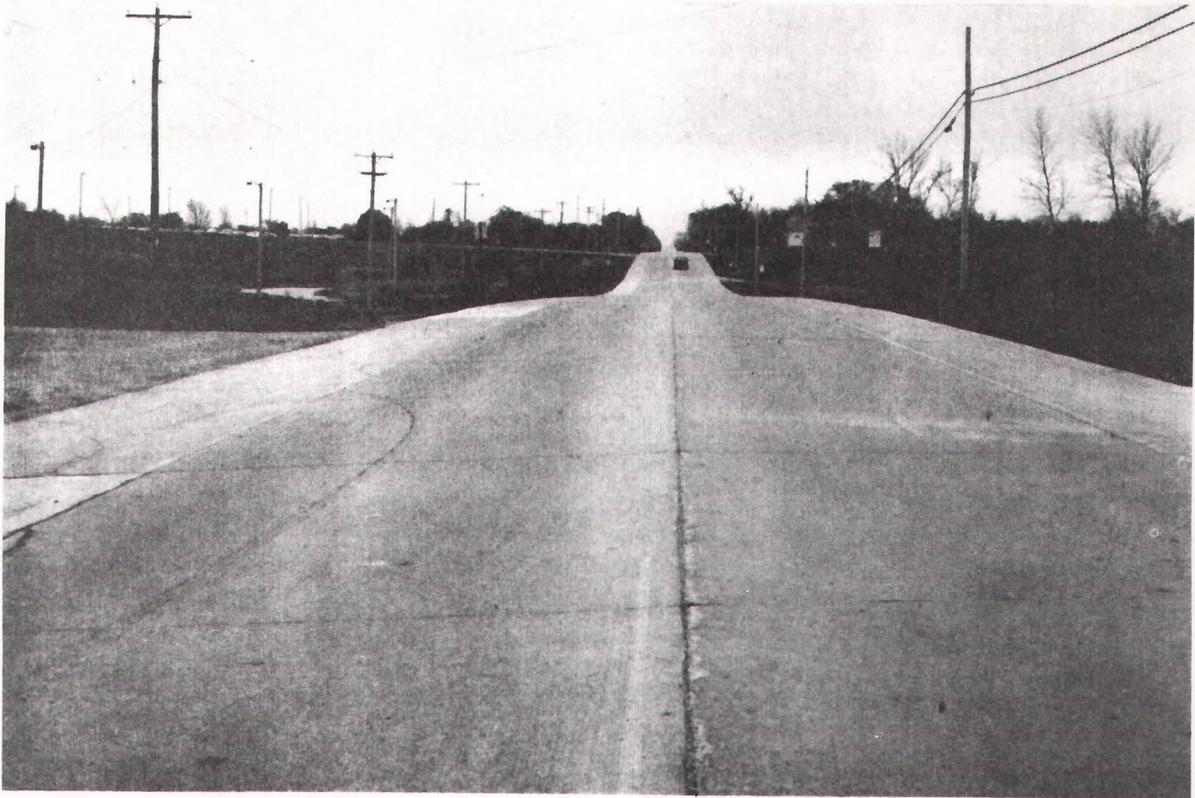
Evergreen Boulevard north of Center Street in Cedarburg--two 26-foot-wide roadways and a four- to six-foot-wide median.



S. Lake Drive at About E. Armour Avenue--one 48-foot-wide roadway without a median.



E. Oklahoma Avenue at S. Pennsylvania Avenue.



S. 51st Street south of W. Drexel Avenue--two 12-foot-wide travel lanes and two 8-foot-wide distress lanes.