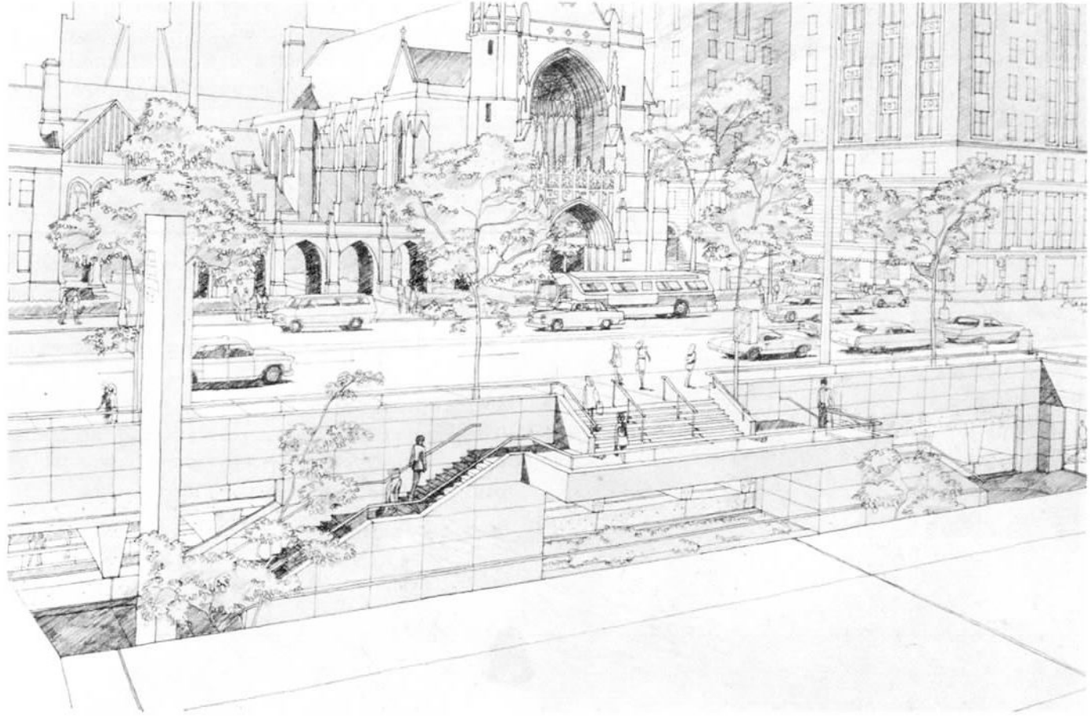
AR 67 - Chicago Station Entrance

AR 66 - Illinois Station Entrance



AR 68 - Delaware Station Entrance

2.8 SOCIAL CONSIDERATIONS

The social service delivery systems identified earlier emphasized the interrelatedness of community development with the patterns of accessibility. In comparing the alternative alignments proposed, the following factors have been selected which will affect mobility options for both the residents of North Michigan and its commuter population. The comparison of the alternatives presented in the attached matrix (Table 2-3) is based upon the following factors:

- Convenience and speed (1)
  When the alternative is chosen and the extension is built into the North Michigan area, the alternative chosen will affect the mobility patterns of both its resident population and the daily commuters into the area.

- Better accessibility to medical facilities (2)
  In 1973, approximately 500,000 patients visited the McGaw Medical Center located near Fairbanks Court and Chicago Avenue. Aditionally, three new medical facilities are being constructed or being planned in the near future which will increase substantially the Medical Center's capacity to serve more patients. Transportation facilities planned for the area are regarded as having a positive social impact, depending on the extent to which they provide transit to the patients, employees, and visitors who utilize the medical facilities available.

- Residents' accessibility to services elsewhere (3)
  Egress from the area is as important as ingress into North Michigan. Approximately 25,000 persons travel outside of the North Michigan area to places of employment elsewhere. The present population does travel to services, such as cultural or recreational activities, in other sectors of the city as shown in The Chicago Area Transportation Study, conducted in 1970, which provides some information on the purpose of trips and modes of transportation that residents utilized (see Table 2-4). Thus, convenience of the proposed alternatives in terms of distance to residential areas is regarded as socially significant.

- Residential community development (4)
  Presently, over 30,000 people reside in the North Michigan area. More than 6,000 new residential units are being constructed or to be built before 1979. Their occupants will probably use the transportation network in the area. The alignment which passes near areas of planned residential growth will aid residents traveling in the area and throughout the city.

- Community cohesion - residential attitudes (5)
  This factor addresses itself to the perceived residential attitudes. Two surveys of the area were conducted to gather the residents' and businessmen's perceptions. One survey addressed itself to the types of changes seen as most necessary. A second survey sought to determine the community's perception of the manner in which the alternative alignments would affect the area.

- Commercial development (6)
  Intense commercial development has been planned for the area. Presently, 55,000 persons use transit daily to enter the area for employment. The manner in which the proposed alternatives serve present and planned commercial developments will influence commuter patterns in the area.

- Institutional development (7)
  Several major educational facilities in the area enroll almost 14,000 students. Recreational services, such as the lakefront parks and the Museum of Contemporary Art, also serve the population of the metropolitan area. Thus, in evaluating the proposed alignments, it is essential to indicate the manner in which travel patterns are enhanced within the area and throughout the metropolitan area.

- Parallelism (8)
  This factor addresses itself to the degree to which the proposed alternatives may duplicate services existent on other other routes.

Table 2-3

PROPOSED ALIGNMENT COMPARISONS FOR NORTH MICHIGAN

Factors to be Considered	North Michigan	Fairbanks Court-Loop Alignment
1. Convenience and Speed	Allows faster access to area from other parts of city by directly connecting with other links in the Loop. Allows north-south intra-community movement.	Similar to North Michigan except longer travel time offset by more stations under area coverage.
2. Better Accessibility to Medical Facilities	Jackson-Howard commuters are brought two blocks closer to medical facilities. Station is two blocks away from closest medical facility.	This alignment proposes to pass through the medical complex placing people in front of some hospitals.
3. Residents' Accessibility to Services Elsewhere	Equal potential access in area north of Chicago Ave., decreases for service potential south of Chicago Avenue.	A slightly greater potential for access to services as far north as Oak Street and within easy walking distance north of Oak and west of Michigan.
4. Residential Community Development	Slightly positive long-range effect as planned high density residential development occurs.	Mobility options increase attractiveness to residents of lower North Michigan, such as the Illinois Center development, as well as to residents north of Chicago Avenue.
5. Community Cohesion -Residential Attitudes	No direct effect felt here. Little resident response since Michigan Avenue is primarily commercial.	Positive and negative resident responses were about equal: Positive - perceive convenience and mobility as increasing area attractiveness. Negative - construction and post-construction changes feared (in order of frequency): Damaged neighborhood atmosphere in DeWitt-Walton area; Impaired access during construction; Suspicion of physical damage; More strangers in area; and Service considered unnecessary.
-Business Attitudes	Majority of businessmen fear detrimental affects on business development, operations, and aesthetics.	Businessmen's response similar to resident responses above; negative and positive responses about equal.
6. Commercial Development	Moderate effect: alignment would be farther removed from areas of planned development.	More advantageous for some future planned commercial development, including Rush Street development plans but does not serve existing development as well.
7. Institutional Development	Both alignments serve lake front institutions, facilities, and activities.	

Table 2-4

NORTH MICHIGAN RESIDENTS' TRIPS
FROM CENTRAL AREA COMMUNITIES
BY PURPOSE AND MODE

MODE	PURPOSE							
	Work	Business Related	Shop	School	Social	Personal	Total	Percent
Auto Driver	2,937	842	163		1,533	1,244	6,719	15.8
Auto Passenger	552	805	171		3,317	171	5,016	11.8
El & Subway	1,836	323		241	154		2,554	6.0
Public Bus	3,255	141	1,009	282	686	1,591	6,964	16.4
Taxi	2,185	2,662			7,078	899	12,824	30.2
School Bus				296			296	0.7
Walk to Work	4,475	289					4,764	11.2
Other	833	2,308			241		3,382	8.0
Total	16,073	7,370	1,343	819	13,009	3,905	42,519	

Source: Chicago Area Transportation Study, "Residents' Trips from Central Area Communities to within Mode and Zone of Destination," 1970; and W. V. Rouse Computations, 1973.

2.9 REAL ESTATE/COMMERCIAL CONSIDERATIONS

2.9.1 Fairbanks Court Alignment

Commercial Office Space. Development of the Illinois Central air rights would be greatly accelerated, along with the Ogden Slip office space development. In addition to already committed plans, this development stimulus would, in our opinion, further increase Central Area office space development by two to three million square feet by 1990.

Land Values. There would be a reinforcement of most major committed development projects and a maximization of future office and residential development. This alternative would therefore optimize land values.

Retail. Growth in retail sales along North Michigan Avenue would be directly related to an increase in residents in this area. This alternative would also provide the impetus, in our opinion, for development of several specialized retail outlets at the Ogden Slip area.

Hotels. A large number of hotels located in the North Michigan Avenue area are centered between E. Delaware and E. Walton. These hotels would be very well served by this alternative and new development greatly enhanced. However, because of the alignment along Fairbanks Court, the remaining hotels along or near North Michigan Avenue would not be serviced (i.e., Sheraton, Croydon, and St. Clair).

Residential. The greatest increase in residential development would be generated by this alternative because of its alignment along the Fairbanks Court area. This area would offer extensive potential for high-rise development when complemented by the Distributor system. The magnitude of this development would range from 300 to 500 units of annual growth, reaching a total growth of 5000 to 7000 by 1990.

2.9.2 North Michigan Avenue

Commercial Office Space. The impact of this alternative would result in the renovation of older buildings between Michigan Avenue and State Street, from Hubbard north to E. Walton. Locations where this type of development would be likely to occur are E. Illinois and Rush, E. Ontario and Michigan, and E. Chicago and Rush. The development of Illinois Center would continue under its normal growth rate. The total incremental increase in office-space development resulting from this impetus, in our opinion, would be 1.0 to 1.2 million square feet.

Land Values. This alternative would provide only a moderate development incentive and would not reinforce the major committed or proposed commercial development projects such as Ogden Slip and I. C. air rights. Land values in these areas would be subject to continued instability. However, along Michigan Avenue, following the alignment of the Distributor system, land values would rise at an increased rate.

Retail. The alignment of the Distributor system along North Michigan Avenue would be the most advantageous to retail trade. It would maximize pedestrian retail accessibility, regional shopping accessibility, and availability to convention patrons.

Hotels. All hotels along or near North Michigan Avenue would be wholly served by the Distributor system, and would have direct access to McCormick Place. This would result in an increase in hotel development beyond that which is committed or presently proposed.

Residential. The implementation of this alternative would increase residential development, beyond normal growth, to 1500 to 2000 units by 1990. However, because of lack of service to the Fairbanks Court area, it would not stimulate development in the same magnitude as that alignment alternative.

2.10 COMPARATIVE ANALYSIS

The comparative analysis has been presented in graphic form in Section 1. The same general information in somewhat greater detail is presented in the following table.

Table 2-5

COMPARATIVE ANALYSIS- MICHIGAN AVENUE/FAIRBANKS COURT

	North Michigan Avenue	Fairbanks Court
Alignment	Speed is restricted just north of Stetson station because of the trackwork required to converge the four tracks to two tracks. A minus 4 percent grade is used to obtain the five feet of required cover at river bottom with a plus 4 percent grade used to gain the maximum elevation at the Illinois Street station. The river crossing also includes a horizontal reverse curve which restricts speeds to 25 mph. This alignment consists of 5300 feet of double-track subway.	Same speed restrictions just north of Stetson station as for the North Michigan alignment. Speed restricted to 35 mph for curve turning north onto Fairbanks Court. Speed is restricted to 15 mph on curves in the Loop at the north end of the alignment. This alignment consists of 3850 feet of double-track subway plus 5800 feet of single-track subway for a total length of 9650 feet.
Construction		
South of river	No provisions made for subway under Stetson Avenue and East Wacker triple-deck roadway structure. Temporary pickup of these column loads required during construction with permanent loads carried on subway structure.	Provision made in substructures of Stetson and Wacker structure to accommodate subway.
River crossing trench	More skew, reverse horizontal curves, and vertical curve. More congested and complicated conditions at each end.	Easier and shorter crossing on tangent line with vertical curve.

	North Michigan Avenue	Fairbanks Court
Double-deck Michigan Avenue from river to Grand	Temporarily support during construction with permanent loads taken by subway structure.	
Vehicular traffic	40,000 vehicles per day, over the one-mile route length will be restricted from eight lanes to four lanes much of the time. Estimated construction period is a minimum of five years. Construction of Columbus Drive, Wacker Drive extension, and Randolph Street extension, in addition to the straightening of Lake Shore Drive will help in accommodating diverted upper level traffic. Congestion and major traffic restriction will occur on Michigan Avenue during decking operations with other restrictions during the entire construction period. The traffic on the lower level of Michigan Avenue will be severely disrupted during construction	Between 5,000 and 12,000 vehicles per day over the two miles of route length will be almost totally restricted because of the narrow right-of-way. Mostly local traffic, not easily divertable to alternate routes.
		Severe restriction to vehicular access to abutting properties.
Underpinning	Some will be required, but benefit will be derived from the wide right-of-way. Underpinning will be required at Water Tower and pumping station.	Extensive underpinning will be required because of narrow right-of-way.

	North Michigan Avenue	Fairbanks Court
Right-of-way	Underground easements are required for R.O.W. between Lake and South Water; between South Water and Stetson; and between Chicago River and Michigan Avenue.	Underground easements are required for R.O.W. between Lake and South Water; between South Water and Wacker; between Chicago River and North Water; between North Water and Illinois; between Illinois and Grand; between Chicago Avenue and Pearson, and for curves at intersections of DeWitt Place and Walton; Walton and Rush, and Fairbanks Court and Chicago Avenue.
Utilities	Major utility work required including sewer relocation at either end of river crossing; modification of water tunnel and shaft at Michigan Avenue bridge; temporary relocation and for support of the water distribution system and access shaft at the Water Tower and Pumping Station.	Some major sewer relocation required including offsetting sewers in order to accommodate new facilities in narrow streets.
Stations	Three major stations with associated weather-protected passageways covering almost all destinations on Michigan Avenue north of the river. Enough space available to permit optimum design of horizontal and vertical passenger circulation facilities. Would easily accommodate added passenger loads brought about by line extensions.	Six stations, four of them serving one-way traffic on narrow and restricted right-of-way. Minimum space available for horizontal and vertical passenger circulation facilities. Loop alignment detracts from line extension to the north.

	North Michigan Avenue	Fairbanks Court
Patronage	Both alignments would handle more or less the same total distributor system ridership. Fairbanks Court would cater to more home-based trips and fewer non-home-based trips than the Michigan alignment. Fairbanks Court would handle more transfer passengers from city bus and rapid transit lines. Both alignments would require east-west bus lines connecting to State Street, Ravenswood and Milwaukee subways, plus serving local population along the corridor	
Social Impact	Would preserve the social cohesiveness of the east of North Michigan Avenue area.	Would conveniently serve the transit needs of the Northwestern Medical Complex.
Urban Design	Direct interface with North Michigan Avenue high density office, commercial, and hotel corridor. Limited service to medical complex. Future northerly extension would not affect station functions or service. Potential joint development of pedestrian improvements along North Michigan Avenue.	Direct interface with medical complex. Limited service to office, hotel, and commercial development in North Michigan area. Future northerly extension would result in four stations with one-way service only. Stimulus to land development east of North Michigan and south of Grand.
Cost	$114,400,000 for 5300 feet of double-track subway, including river crossing and three stations.	$142,600,000 for 3850 feet of double-track subway, including river crossing and two stations, plus 5800 feet of single-track subway and four stations.

	North Michigan Avenue	Fairbanks Court
Compatibility with future plans	Completely compatible with northbound line extension.	Incompatible with northbound line extension. Loop operating mode would require excessive transfer/wait time, or long walking distances.
Travel time	Direct, short, and equal travel time between any two stations on the system.	Broader area coverage provided by the six stations on the route is counterbalanced by longer and unequal travel time between origins and destinations.
Economic Impact	Would stimulate development potential west of Michigan Avenue. Would tend to preserve the predominantly residential character east of Fairbanks Court. Would provide greater interaction between the two commercial centers, the Loop and the near north area.	Would strengthen and expand the trend toward more commercial development in the Fairbanks Court area.

Section 3

PLANS

Plans for the North Michigan Avenue and the Fairbanks Court alignment alternatives are included in the Appendices.

Section 4

OPTIONAL EXTENSION TO NORTH AVENUE

4.1 CONSTRUCTION CONSIDERATIONS

The optional subway extension to North Avenue could turn off Michigan Avenue onto Oak Street, continue along Oak Street to Clark Street, turn onto Clark Street, and proceed north to North Avenue.

Clark and LaSalle Streets intersect a short distance beyond the district border (North Avenue) so either street could be used as a subway route north of Oak Street. LaSalle is a wide street and would permit the most convenient construction operations. However, LaSalle is also a very heavily travelled street and construction there would result in delays to many vehicles.

Clark Street is a narrower street with fewer lanes than LaSalle, but is also well travelled. Construction operations would disrupt traffic more severely than on LaSalle, but fewer total vehicles would be involved. Clark Street has certain advantages over LaSalle. A station on Clark Street would be located beneath the existing State Street subway station on Division and provide a convenient passenger transfer point. Also, Clark Street is closer to the largest number of prospective users of the system, passing through the Sandburg Village complex.

Selection of the Clark Street route to North Avenue for further investigation was based primarily on provision of service to the greatest number of potential users.

Construction of this optional extension would involve tunnelling operations from Michigan Avenue to the end of the station at Elm and Clark Streets; open-cut operations for the station on Clark Street at Division; tunnelling from the end of the station at Division to the end of the station near Burton Place; and open-cut operations for the station on Clark between Burton Place and North Avenue.

The turn from Michigan Avenue onto Oak Street would be beneath a parking lot. The turn from Oak Street onto LaSalle would fall beneath a new nine-story

reinforced concrete nursing center. Extensive underpinning and resupport of foundations would be required. The jog in Oak Street at State Street would require underpinning of an old three-story brick building on the southeast corner. Consideration should be given to purchase and remove this building in lieu of underpinning.

The station on Division at Clark would require considerable underpinning and support to maintain uninterrupted service on the State Street subway while the new subway and stations were being constructed. Underpinning of major structures adjacent to the stations might also be required.

4.2 PLAN AND PROFILE

In the event it was desired to extend the subway system to North Avenue, the alignment would be continued from Michigan Avenue with a left turn under Oak Street. Speed is restricted to 15 mph on this turn, but could be increased to 25 mph by shifting the last station on Michigan Avenue south by approximately 200 feet.

The alignment continues west on Oak Street descending on a minus 4 percent grade to cross under the State Street subway at top of rail elevation of minus 58. The subway then rises slightly and turns under Clark at elevation minus 45. Speed on this curve is 25 mph. The subway crosses under the existing station at Division Street with the new station at Division tying into the existing one. The subway then continues north to North Avenue ending with a top of rail elevation at minus 30.

4.3 URBAN DESIGN CONSIDERATIONS

With regard to urban design and architectural considerations, an optional extension to North Avenue could be accomplished much more easily with the North Michigan alignment than with the Fairbanks Court alignment. This is due to the fact that an extension of the North Michigan Avenue scheme would not change the functional characteristics of the North Michigan Avenue stations, while the extension of the Fairbanks Court alignment to North Avenue would result in four stations with only one-direction service. The architectural and urban design implications of the North Michigan Avenue stations with regard to the optional extension to North Avenue are discussed in further detail in Section 2.7. The extension north on either Clark or Dearborn would also provide the opportunity for a transfer station with the State Street line at Division and a terminus station with future extension possibilities at North Avenue. Stations in these locations have been studied by SCA and are illustrated in the appendices.

Operationally, the extension of the Distributor line to North Avenue would be least compatible with the Fairbanks Court alignment, and more compatible with the Michigan Avenue alignment. For the Fairbanks alignment, in order to accommodate passenger travel needs, a loop service (around the Hancock Center) would have to be added to a through service to line extension destinations. The through service, then, would directly serve only one-half of the loop station, with complicated and time-consuming multiple transfers on the loop service required to reach the other half. Such complications would be eliminated with the Michigan Avenue alignment.

The Distributor line and its northward extension (for either Fairbanks Court or North Michigan Avenue alignment) would provide good transit access to recreational and institutional facilities along the lake front, including Lincoln Park, Grant Park, Chicago's Art Institute, Museum of Natural History, Soldier Field and McCormick Place. An electrical "elephant"-train serving the north end of the Distributor line could provide closer access to various facilities at Lincoln Park.

Section 6

APPENDICES

CONTENTS

Appendix A

DISTRIBUTOR TRAFFIC ESTIMATES

Appendix A

DISTRIBUTOR TRAFFIC ESTIMATES

This appendix contains patronage estimates developed for the total Distributor subway system under various alignment alternatives and transfer policies for the 1990 target year. Since transit ridership depends on the origin-destination characteristics of the area to be served as well as on the location of the transit stations in relation to major traffic generators, it was not possible to develop patronage estimates separately for proposed alignment alternatives west and north of the Chicago River. Therefore, patronage estimates were developed for four different alternative alignments incorporating proposed variations west and north of the river as follows:

1. Des Plaines/Fairbanks Court
2. Des Plaines/Michigan Avenue
3. Clinton/Fairbanks Court
4. Clinton/Michigan Avenue

A.1 TYPES OF PATRONAGE

The Distributor subway would serve two main types of trip. The first of these is the transfer trip originating (or destinating) outside of the service area of the Distributor subway and transferring to the Distributor for delivery close to a final destination (or close to another transfer mode for delivery to final destination). Transfer trips are classified according to the line-haul (primary) mode of transport used in the trip, as follows:

- Commuter Railroad. Commuter rail passengers arriving at (or departing from) one of the three major railroad terminals directly served by the Distributor subway (Union Station, Chicago & Northwestern Station, and Illinois Central Station at Randolph Street, and transferring to (or from) the Distributor.

- Rapid Transit. CTA rapid-transit passengers transferring to or from the Distributor subway at interface stations (at U. of I. stations at Congress, Randolph and Monroe, Dearborn and Monroe, State and Monroe, and Wabash and Monroe).

- Suburban Bus. Commuter bus passengers transferring to or from the Distributor subway at existing and planned suburban bus terminals within the Central area.

- City Bus. CTA bus passengers transferring to or from the Distributor at existing and planned bus terminals (and stops) along the Distributor subway system.

- Private auto. Automobile commuters transferring to or from the Distributor at major parking lots and garages at the periphery of the Central Area (or at certain locations along the Distributor line).

The second type is the internal trip originating and destinating within the service area of the Distributor subway. Two classifications are identified for internal trips:

- Home-based trips. Trips originating (or destinating) at a place of residence while the other end of the trip is within walking distance from its final destination.

- Non-home-based trips. Trips originating and destinating at a non-home location (office, restaurant, department store, museum, etc.) within walking distance of a Distributor subway station.

A.2 DATA BASE

The following data constituted the main sources for estimating patronage on the Distributor subway:

- 1990 estimates for the number of passengers arriving in the Central Area during the average weekday for each of the primary modes of transport and their peaking characteristics. These estimates were developed in connection with the development of the Environmental Impact Analysis (E.I.A.) report for Chicago Central Area Transit Project and are given in Table A-1.

- 1990 estimated trip destinations for the railroad and rapid transit modes by CATS zone within the Central Area as developed by Chicago Area Transportation Study.

Table A-1

PERSON TRIPS ENTERING CENTRAL AREA BY MODE - AVERAGE WEEKDAY TRAFFIC

(in thousand-trips)

Mode	Actual 1972	% of Total	Estimated 1990	% of Total
Commuter - Railroad	124	16.1	180	18.2
Rapid Transit	190	24.8	320	32.3
City Bus	83	10.8	105	10.6
Suburban Bus	19	2.5	25	2.5
Auto	352	45.8	360	36.4
Total	768	100.0	990	100.0

Source: Table B-5, Environmental Impact Analysis Report for the CCATP.

- Existing (1972) breakdown of commuter railroad, rapid transit, and bus destinating trips to the Central Area by station (in case of rapid transit), or by direction (in case of buses) as summarized in Table A-2. For lack of better data, this breakdown was assumed to prevail at the 1990 level.

- Land use characteristics and future development planned for Chicago's Central Area by the year 1990 as discussed in the E.I.A., mainly concerning I.C. air rights, Ogden Slip, Wolf Point, downtown development, and major buildings under construction, already announced, and planned for the Central Area. Such developments were assumed to be realized on the basis of the full implementation of the CCATP by 1985.

A.3 ASSUMPTIONS

Any future estimate is as good and valid as the main assumptions used in its development. The possible realization of such estimate depends, to a large extent, on the timely realization of these main assumptions used in its development.

Patronage estimates for the CCATP, including the Distributor subway, are mainly influenced by the type and magnitude of development planned or expected to take place in the Central Area in response to project implementation. The pace of such development depends to a large extent on the pace of the transit project implementation. Patronage estimates presented in the E.I.A. as well as in this report assume a total project implementation period of ten years, and consequently intensive Central Area development corresponding to that construction period. Predictably, if project construction were to be extended over 15 or 20 years, some of the planned development would likewise be delayed. Therefore, it is safe to assume that estimated patronage estimates will materialize when the basic assumptions materialize, especially those related to land use in the Central Area.

Assumptions regarding fare levels, transfers, and weather are also described in succeeding paragraphs.

A.3.1 Assumptions from the E.I.A.

Several assumptions were used in developing Distributor patronage, all selected to describe optimum operational levels for the system and to produce the most favorable impact on Central Area development. Since the Distributor patronage estimates are derived basically from the 1990 patronage estimates for primary modes of transport to the Central Area (developed in connection with the E.I.A. for the CCATP), assumptions used to develop these latter estimates apply here, and are given below for easy reference:

- The region will continue to grow with the rest of the nation regardless of transit improvement levels in the Central Area.
- The level of development in the Loop area will correspond to the level of public transportation improvements.
- The ratio of Loop and Central Area employment to that of the Chicago Standard Consolidated Area (SCA) will improve slightly with improvement of transit service.
- Residential development will take place within the CTA's present service area.
- CTA stations will undergo gradual modernization and improved accessibility.
- Public transit service to the Loop and Central Area will be improved under RTA.
- Fuel will be available, at relatively high cost, but rationing will not be permanent.
- Auto traffic into the CBD will continue, and no user tax or severe restriction of off-street parking built in conjunction with highrise offices and hotels will occur.
- Transit fares will be stabilized at current levels -- meaning a relative decline compared to competing modes, especially auto.
- Published plans of office and commercial development in the Central Area will be realized.
- Balanced development will occur along all corridors of the CTA.
- No major additions of new rapid transit lines will take place and become fully operational by 1990.
- Retail development and community services will be strengthened in the Loop area and coordinated with developments along the near north side.

Table A-2

1972 BREAKDOWN OF PERSON TRIPS ENTERING
THE CENTRAL AREA AVERAGE WEEKDAY TRAFFIC

Mode/Station/Line/Direction	Person Trips	%
Commuter Railroad		
Union Station	32,000	26
C&NW	43,000	35
I. C.-Randolph	23,000	18
I. C.-Van Buren	14,000	11
LaSalle St.	12,000	10
Total Railroad	124,000	100
Rapid Transit		
Howard	42,000	22
Englewood/Jackson Park	28,000	15
Milwaukee	25,000	13
Congress/Douglas	29,000	15
Dan Ryan	30,000	16
Lake	17,000	9
Ravenswood	13,000	7
Evanston	6,000	3
Total Rapid Transit	190,000	100
Bus (city and suburban)		
North	36,000	35
Northwest	5,000	5
West	11,000	11
Southwest	24,000	23
South	26,000	26
Total Buses	102,000	100

A.3.2 Fare Levels

The fare level on supplementary modes of transport serving relatively short distances of travel (below one or two miles) is probably the single most important factor influencing consistent ridership levels on such modes (See Appendix D). Fare level would also influence, to some degree, the decision of the commuter whether to use public transportation at all or drive his automobile directly to his destination. In this study, existing transfer policy between CTA transit lines is assumed to be applicable to the Distributor subway (i.e., free transfer between any rapid transit line and the Distributor at interface stations) and a 10¢ charge for transfer between city buses and the Distributor.

In the case of commuters using either suburban buses or railroads, two transfer policies were assumed:

- a 10¢ transfer charge similar to that applicable to city buses
- a 35¢ transfer charge in conformance with existing shuttle bus practices

Fare levels for internal trips were assumed to be equivalent to the regular rapid transit fare (currently 45¢) with the same transfer privileges. Auto commuters were assumed to be treated similarly to internal trips.

Although fare policy for internal trips may be inequitable for very short trips (below one mile), system operators may decide to offer a reduced fare for such trips (or for any trip on the Distributor system) during offpeak periods (i.e., from 10 AM to 3 PM weekdays and all Saturdays and Sundays). Such reduced-fare policy would result in increased total patronage on the system, but would not affect peak-hour design capacities.

It should be noted that Distributor fare levels were assumed on the basis of the 1974 dollar and in relative compatibility with existing public transport fares in the region. Assumed Distributor fares should be allowed to go up or down to maintain such compatibility in the future. The unpredictability of the future course of transit fares in the U.S. renders consideration of the influence of changes in such fares on ridership impractical at this time. Naturally, if transit fares were reduced in the future compared to competing modes or in relation to disposable income, patronage levels on primary and supplementary modes of public transport would be increased over indicated estimates.

A.3.3 Intermodal Transfer and Coordination

It was assumed that convenient, direct, and modern transfer facilities between the Distributor subway stations and railroad and bus terminals and rapid transit stations would be provided.

Sheltered passageways, equipped with moving walkways at certain locations, would be provided between each of the major railroad stations and the Distributor station serving them. In the case of one alternative alignment (Clinton/Fairbanks Court), the 1600-foot passageway connecting the C & NW Station to the Clinton Distributor station was removed and the impact on patronage evaluated to provide the decision-maker with a means of evaluating the cost effectiveness of this passageway.

In accordance with announced plans, commuter railroad operations at LaSalle Street Station were assumed to be combined with those at Union Station by the target year of 1990. Also, a suburban bus terminal would be built south of Union Station and conveniently connected to the Distributor station along Monroe or Clinton. Passenger operations at this bus terminal would be more extensive in case of the Clinton alignment than with the Des Plaines one in view of the relative proximity of the Distributor transfer station (at Clinton) in connection with the former alignment.

Shuttle bus lines competitive with the Distributor would be eliminated. Regular bus lines that could conveniently be terminated at a Distributor station would be terminated there and passengers transferred to the Distributor for fast delivery close to their destinations.

The extensive parking facilities at Soldier Field and the planned 20,000 parking stalls associated with the I.C. air rights development (including the Monroe Street garage) would be conveniently connected to the Stetson Distributor station through sheltered passageways.

A.3.4 Weather Conditions

The decision to ride the Distributor subway, particularly for short trips (below one mile) will be greatly influenced by the prevailing weather conditions at the time such decision is to be made. During periods of reasonable weather, many people might decide to walk to their final destination, either for reasons of physical fitness and/or to save the cost of the trip (the latter would be particularly true for transfer passengers who would pay shuttle bus fares. See Appendix D for available experience in this regard).

Since fixed facilities and equipment should be designed to accommodate peak traffic demands, patronage estimates were developed for the case of adverse weather conditions. Appropriate factors could be applied to arrive at patronage during normal weather conditions and also on Saturdays, Sundays, and holidays. Such determination would be required to estimate annual operating costs and revenues of the system.

Other assumptions were also made during the development of the patronage estimates. Such assumptions are included in section A.4.

A.4 METHODOLOGY

The following is a brief summary of the procedure used to determine the 1990 distributor passenger traffic under the various assumptions outlined in paragraph A.3.

1. 1990 commuter railroad and rapid transit destinations by CATS zone (estimated by CATS) were updated to add up to the total estimated commuter railroad and rapid transit trips destinating within the Central Area developed in connection with the E.I.A. This updating took into consideration recent plans specifically concerning land use developments within the Central Area. Total 1990 bus destinations were independently estimated by CATS zone. Public transport destinations (by mode) to areas not covered by CATS zones were estimated independently.

2. It was assumed that the destination zone within the Central Area for any trip maker is independent of his primary mode of travel, the direction from which he is approaching the Central Area or his first point of discharge within the Central Area. Therefore, commuter railroad trips destinated to any specific zone, for example, would be broken down between the three major railroad stations (as the origin point for commuter railroad trips within the Central Area) in the same ratio each railroad station has to the total railroad trips to the Central Area. For example, if zone 49 would receive 315 railroad trips by the year 1990, given that C & NW station handled 35 percent of total commuter railroad traffic destinated to the Central Area in 1972, it was assumed that 110 passengers would originate from C & NW station in 1990 and have destinations in zone 49. Similar assignments were made for all commuter stations, rapid transit lines, and bus transfer points.

3. For each of the CATS zones, the most probable route and mode of supplementary transport was determined for each of the major interface locations on the Distributor subway (e.g. major railroad stations and rapid transit-Distributor interchange stations).

4. For railroad transfer trips, CATS zones were grouped in accordance with their location from each of the three railroad stations:

   - Zones lying within five minutes walking distance from the railroad station (assume 4 ft./sec. average walking speed).
   - Zones lying between 5 and 20 minutes walking time from the station.
   - Zones lying at more than 20 minutes walking time from the station.

All railroad passengers destinated to zones within the first group were assumed to walk.

All railroad passengers destinated to zones within the third group and lying within a reasonable walking distance from a destination Distributor station (or from a rapid transit station on a line interfacing with the Distributor) were assumed to ride the Distributor. Total railroad destinations to such zones were reduced for the 35¢ transfer charge. A great deal of judgment was exercised in such estimates, since CATS trip destinations were based on only a one-percent sample and the geographic boundaries of CATS zones cover up to 12 square blocks.

For zones lying between 5 and 20 minutes walk time, a modal split curve (developed for similar conditions in Minneapolis) was used. For each zone for which the most probable mode was by Distributor, a total travel time (including all walking, waiting, transfer and riding times) vs. walk time ratio was calculated. This ratio for all possible origin-destination zones was applied to the modal split curve in order to find the percent of passengers using transit. In many cases, the difference of the walk time and total time involved in riding transit was so great that the walking choice was not considered. The maximum difference that was considered to offer a practical choice between walk and transit was about three minutes for the 10¢ transfer charge, and eight minutes for the 35¢ transfer charge. A great deal of judgment was applied in using the above criteria, particularly regarding the 35¢ transfer charge, mainly due to uncertainties associated with CATS destination estimates and their update, and the complex psychology on the part of the average commuter in deciding to take a relatively high-fare supplementary transport.

5. The distributor passengers transferring from rapid transit lines was calculated by a simpler method. The 1972 percentage of total passengers entering the Central Area was found for each transit line (Dan Ryan, Congress/Douglas, Lake, Milwaukee, Ravenswood, Evanston, Howard, and Jackson/Englewood service). This percentage was applied to the 1990 total rapid transit destinations to each zone to find rapid transit destinations for each zone from each line. The most probable route and mode of supplementary transport from each rapid transit/Distributor interchange station to each zone was determined by examining all possible alternatives and total time involved with each of them.

   It was assumed that, since transferring between the subways and the Distributor would be free, convenient, and protected from the elements, most of the passengers (in the zones where the Distributor is the most probable choice) would use the Distributor in reaching their final destinations. Again, judgment was exercised in determining the percentage of passengers transferring to the Distributor, particularly for relatively short trips. The percentage using the Distributor to near north zones was lowered for the Howard line passengers since it would be unlikely that passengers would travel downtown, transfer to the Distributor, and travel back north again (crosstown bus lines would probably be used).

6. Bus passengers' transfers to the Distributor were calculated in a quick manner. The peak-period a.m. Central Area destinations for each line were obtained from the CTA operating facts publication. The number of incoming passengers from each direction (north, south, west, northwest, southwest) was totalled. Since these figures were peak-period statistics, they were extended to match the 1972 average daily CTA bus ridership. The percentage of the total bus passengers incoming from each direction was then calculated. Bus passengers from the west, southwest, and south were considered to be the only passengers that would transfer to the Distributor serving the near north area because all other incoming directions would

probably be close to their final destinations or to another connecting transit line by the time the Distributor was reached. For similar reasons, destination zones west of the river were fed by bus passengers approaching the Central Area from the north and south only. Generally, a great deal of judgment was exercised in assigning bus transfer trips to the Distributor subway because of the myriad of factors involved in such determination.

7. Most suburban bus passengers were assumed to be discharged at the proposed terminal station near Union Station, near Stetson Station on the Distributor, and within the Loop area. A similar methodology to that used in connection with commuter railroad passengers was applied to estimated suburban bus transferees to the Distributor subway.

8. Major peripheral parking facilities were assumed to be located near Soldier Field, in connection with I.C. air rights development (near Stetson Station), and west of the Chicago River close to the Clinton (Monroe) Distributor station. Ball-park estimates were made of the potential auto commuter transferees to the Distributor subway.

9. Internal trips both home-based and non-home-based were estimated on the basis of existing and expected residential development in the near north area, degree of interaction and interdependence of land use functions and activities anticipated between the near north and the Loop areas, and attendance counts at McCormick Place.

All above estimates were made for the peak design day (adverse weather conditions). Estimates for suburban bus and commuter railroad transfer passengers were made for a 10¢ and 35¢ transfer charge. Alignment alternatives north and west of the Chicago River were considered for each type of Distributor trip.

Tables A-3 and A-4 give total estimated 1990 one-way peak design day passengers using the Distributor for a 10¢ and 35¢ transfer charge for suburban passengers. A.M. peak hour factors, generally in conformance with those estimated in the E.I.A. (see Table A-2), were used to calculate peak A.M. hour loads on the Distributor system. Such loads are given in Tables A-5 and A-6 for the 10¢ and 35¢ transfer charge.

The above-described methodology allowed the computation of the number of potential Distributor passengers by origin-destination zone for each type of trip. These passengers were assigned to origin-destination stations for the design peak day level as well as for the peak A.M. hour to produce the tables.

A.5 ORIGIN-DESTINATION ASSIGNMENT

A station-to-station origin-destination passenger assignment was carried out for the Clinton/Michigan route at the 1990 peak design day level and the A.M. hour of operation. Results of such assignment are summarized in Table A-7, showing total entering passengers at each of the stations. Table A-8 gives the estimated 1990 passenger accumulation on trains during the peak morning hour in the peak direction. Maximum load point is shown to occur after the train leaves the Clinton/Adams station heading eastward. Similar results are expected for other route alignments investigated in this study.

Table A-3

SUMMARY OF DISTRIBUTOR PATRONAGE ESTIMATES
ONE WAY - PEAK DAY - 10¢ TRANSFER

ALTERNATE ALIGNMENTS

Primary Mode	Clinton/Mich.	Clinton/Fair*	Desp./Mich.	Desp./Fair
	I. TRANSFER TRIPS			
C&NW	15,500	2,400	24,700	24,900
Union	27,300	27,300	25,300	25,300
I. C.	18,000	17,000	19,100	19,300
Total Railroad	60,800	46,700	69,100	69,500
Howard	3,800	3,900	3,800	4,600
Englewood/ Jackson Park	7,000	7,100	7,000	7,600
Milwaukee	6,200	6,400	6,200	6,900
Congress/ Douglas	7,000	7,200	7,000	7,600
Lake	5,400	5,500	5,400	5,500
Dan Ryan	8,800	8,900	8,800	9,000
Ravenswood	4,500	4,600	4,500	4,700
Evanston	2,400	2,400	2,400	2,400
Total Rapid Transit	45,100	46,000	45,100	48,300
Suburban Bus	4,300	4,000	3,000	3,000
City Bus	17,500	18,000	17,500	19,900
Total Bus	20,300	22,000	20,500	22,900
Total Transfers	126,200	114,700	134,700	140,700
	II. INTERNAL TRIPS			
Home-Based	3,500	5,600	3,500	6,000
‡Non-Home-Based	20,600	14,400	20,600	15,400
Total Internal Trips	24,100	20,000	24,100	21,400
Grand Total	150,300	134,700	158,800	162,100

* No sheltered passageway provided between C&NW Station and Distributor station on Clinton St.

‡ Includes auto commuters

Table A-4

SUMMARY OF DISTRIBUTOR PATRONAGE ESTIMATES
ONE WAY - PEAK DAY - 35¢ TRANSFER

ALTERNATE ALIGNMENTS

Primary Mode	Clinton/Mich.	Clinton/Fair*	Desp./Mich.	Desp./Fair.
	I. TRANSFER TRIPS			
C&NW	11,000	—	21,000	21,300
Union	23,000	23,000	21,000	21,400
I. C.	13,500	12,500	14,000	14,000
Total Railroad	47,500	35,500	56,000	56,700
Howard	3,800	3,900	3,800	4,600
Englewood/ Jackson Park	7,000	7,100	7,000	7,600
Milwaukee	6,200	6,400	6,200	6,900
Congress/ Douglas	7,000	7,200	7,000	7,600
Lake	5,400	5,500	5,400	5,500
Dan Ryan	8,800	8,900	8,800	9,000
Ravenswood	4,500	4,600	4,500	4,700
Evanston	2,400	2,400	2,400	2,400
Total Rapid Transit	45,100	46,000	45,100	48,300
Suburban Bus	2,000	1,800	1,000	1,000
City Bus	17,500	18,000	17,500	19,900
Total Bus	19,500	19,800	18,500	20,900
Total Transfers	112,100	101,300	119,600	125,900
	II. INTERNAL TRIPS			
Home-Based	3,500	5,600	3,500	6,000
‡Non-Home-Based	20,600	14,400	20,600	15,400
Total Internal Trips	24,100	20,000	24,100	21,400
Grand Total	136,200	121,300	143,700	147,300

* No sheltered passageway provided between C&NW Station and Distributor station on Clinton St.

‡ Includes auto commuters

Table A-5
SUMMARY OF DISTRIBUTOR PATRONAGE ESTIMATES
ONE WAY - PEAK A.M. HOUR - 10¢ TRANSFERS

ALTERNATE ALIGNMENTS

Primary Mode	Clinton/Mich.	Clinton/Fair.*	Desp./Mich.	Desp./Fair.
	I. TRANSFER TRIPS			
C&NW	8,800	1,400	14,100	14,200
Union	15,600	15,600	14,400	14,400
I. C.	10,300	9,700	10,900	11,000
Total Railroad	34,700	26,700	39,400	39,600
Howard	1,000	1,000	1,000	1,200
Englewood/ Jackson Park	1,800	1,800	1,800	2,000
Milwaukee	1,600	1,700	1,600	1,800
Congress/ Douglas	1,800	1,900	1,800	2,000
Lake	1,400	1,400	1,400	1,400
Dan Ryan	2,300	2,300	2,300	2,300
Ravenswood	1,200	1,200	1,200	1,200
Evanston	600	600	600	600
Total Rapid Transit	11,700	11,900	11,700	12,500
Suburban Bus	2,500	2,300	1,700	1,700
City Bus	4,400	4,500	4,400	5,000
Total Bus	6,900	6,800	6,100	6,700
Total Transfers	53,300	45,400	57,200	58,800
	II. INTERNAL TRIPS			
Home-Based	900	1,400	900	1,500
**Non-Home-Based	2,100	1,400	2,100	1,500
Total Internal Trips	3,000	2,800	3,000	3,000
Grand Total	56,300	48,200	60,200	61,800

* No sheltered passageway provided between C&NW Station and Distributor station on Clinton St.
** Includes auto commuters

Table A-6
SUMMARY OF DISTRIBUTOR PATRONAGE ESTIMATES
ONE WAY - PEAK A.M. HOUR - 35¢ TRANSFER

ALTERNATE ALIGNMENTS

Primary Mode	Clinton/Mich.	Clinton/Fair.*	Desp./Mich.	Desp./Fair.
	I. TRANSFER TRIPS			
C&NW	6,300	—	12,600	12,800
Union	13,800	13,800	12,600	12,800
I. C.	8,100	7,500	8,400	8,400
Total Railroad	28,200	21,300	33,600	34,000
Howard	1,000	1,000	1,000	1,200
Englewood/ Jackson Park	1,800	1,800	1,800	2,000
Milwaukee	1,600	1,700	1,600	1,800
Congress/ Douglas	1,800	1,900	1,800	2,000
Lake	1,400	1,400	1,400	1,400
Dan Ryan	2,300	2,300	2,300	2,300
Ravenswood	1,200	1,200	1,200	1,200
Evanston	600	600	600	600
Total Rapid Transit	11,700	11,900	11,700	12,500
Suburban Bus	1,200	1,100	600	600
City Bus	4,400	4,500	4,400	5,000
Total Bus	5,600	5,600	5,000	5,600
Total Transfers	45,500	38,800	50,300	52,100
	II. INTERNAL TRIPS			
Home-Based	900	1,400	900	1,500
‡Non-Home-Based	2,100	1,400	2,100	1,500
Total Internal Trips	3,000	2,800	3,000	3,000
Grand Total	48,500	41,600	53,300	55,100

* No sheltered passageway provided between C&NW Station and Distributor station on Clinton St.
‡ Includes auto commuters

Table A-7

1990 ESTIMATED TOTAL ENTERING PASSENGERS
BY STATION
Clinton/Michigan Alternative - 10¢ Transfer

Distributor Station	Peak Design Day	Peak A.M. Hour
U. of I./Halsted	12,390	1,430
Clinton/Adams	59,670	25,760
Franklin/Wells	22,320	1,025
LaSalle/Clark	20,420	1,055
State/Dearborn	40,650	6,255
Wabash/Michigan	35,910	5,750
Stetson	46,820	11,125
Grand/Michigan	23,010	435
Huron/Michigan	16,580	520
Delaware/Michigan	20,100	1,000
McCormick Branch	10,700	1,525
System Total	308,570	55,880

Table A-8

1990 ESTIMATED PASSENGER ACCUMULATION
ON DISTRIBUTOR TRAINS
FOR PEAK A.M. HOUR
PEAK DIRECTION (EASTBOUND)

Station	Passengers Entering Train	Passengers Leaving Train	Accumulation On Train
U. of I./Halsted	1,430	-	1,430
Clinton/Adams	25,605	175	26,860
Franklin/Wells	845	1,445	26,260
LaSalle/Clark	845	3,045	24,060
State/Dearborn	4,270	4,290	24,040
Wabash/Michigan	3,250	4,345	22,945
Stetson	1,910	8,915	15,940
Grand/Michigan	30	6,770	9,200
Huron/Michigan	5	4,280	4,925
Delaware/Michigan	-	4,925	-

Appendix B

MICHIGAN AVENUE TRAFFIC HANDLING DURING CONSTRUCTION

Appendix B

MICHIGAN AVENUE TRAFFIC HANDLING DURING CONSTRUCTION

B.1 CONTRACT DIVISIONS

Construction contracts for the Michigan Avenue section of the subway would be divided as follows:

(1) Chicago River crossing to end approximately 50 feet north of the north wharf line. This falls in the lower-level plaza area but not beneath the upper plaza or upper Michigan Avenue.

(2) Illinois Street Station - This starts at the end of the Chicago River crossing section and extends to the retaining wall at the north end of lower Michigan Avenue. It includes the complete station plus all mezzanines for access and all construction in the double-decked section of Michigan Avenue. Contractor access and operating area would require the closure of Illinois Street on the west side of Michigan Avenue on the lower level.

(3) Full mezzanine section from Grand Avenue to the Huron/Superior station at midblock between Erie and Huron Streets. Contractor access would be through the lower level of Michigan Avenue at Grand Avenue.

(4) Huron/Superior station - from midblock between Erie and Huron Streets to midblock between Superior Street and Chicago Avenue. Contractor access would require closure of half of the street at any one of four locations, Superior or Huron Streets, east or west of Michigan Avenue. Both are one-way streets.

(5) Subway through the Water Tower area. This extends from midblock between Superior Street and Chicago Avenue to the Chestnut Street intersection. Cut-and-cover would be required due to the maze of utilities and the relatively short reach of the subway between stations. Contractor access would require closure of half of Pearson Street on the east side of Michigan Avenue.

(6) Delaware Place Station - This extends from the Chestnut Street intersection to the Walton Street intersection. Contractor access would require closure of half of Walton Street on the west side of Michigan Avenue.

(7) Subway from Delaware Place Station down Oak Street to the station on Clark and Division or LaSalle and Division. Tunnel excavation would be used, with contractor access through half of Walton Street in the same area as used for the Delaware Place Station.

B.2 SEQUENCING OF CONSTRUCTION

Construction sequence for the first six of the above contracts (with the effect upon traffic) would be as follows:

B.2.1 Chicago River Crossing

This has minimum effect, because the contract stops short of the double-deck portion of Michigan Avenue. Closure of curb lanes on the east side of the upper deck near the bridge may be required for some operations.

B.2.2 Illinois Street Station

- (A) Cut holes in the upper deck and install soldier piles, east side (1-1/2 months)
  1. Close the curb lane and first traffic lane for one block at a time on the upper deck
  2. Close the bus stop lane on the lower deck in the same area
  3. Permanently patch holes in the upper deck after the soldier piles are installed except for access hatches at intervals, which will have temporary decking
  4. Temporarily cover holes in the lower deck
  5. Open street to traffic

- (B) Repeat steps A-1 through A-4 for soldier piles on the west side (1 month)

- (C) Cut holes in the upper deck and install temporary supports in the center of the street (1 month)
  1. Close the left turn lane and center lane in each direction for one block at a time on the upper deck
  2. Close the center lane in each direction in the same area on the lower deck

3. Permanently patch holes in the upper deck after the supports are installed
4. Temporarily cover holes in the lower deck
5. Open street to traffic

- (D) Relocate utilities which interfere with soldier piles or center supports done prior to steps (A) through (C) or concurrently with them

- (E) From this point on, full traffic can be permitted on the upper deck. Access hatches on the upper deck could be used only at offpeak periods

- (F) Excavate the first lift for the east half and install the east half of transverse support member (2 months)
  1. Remove curbs on the west side of the lower deck
  2. Reroute two-way traffic to the west side of the lower deck
  3. Close the east side of the lower deck
  4. Excavate the first lift, relocating or supporting utilities as material is removed
  5. Install the transverse support members
  6. Install decking on the east side

- (G) Repeat (F) for excavation and supports for the west half (1-1/2 month)

- (H) Transfer support at the upper deck from pile caps to structural framing

- (I) Reopen the lower deck to traffic with minor restriction along the center, due to added framing to carry column loads

- (J) Continue excavation beneath the decking. Close the west side of Illinois Street to provide access beneath decking (4 months)

- (K) Construct the station beneath the decking (20 months)
  1. Keep the west side of Illinois Street closed to general access
  2. Close the bus stop lane as needed for direct access to the lower area
  3. At offpeak hours, use access hatches through the upper and lower decks to bring in long and bulky loads

- (L) Backfill structure and resurface the east half of the street (2 months)
  1. Remove transfer framing from the center columns when the load is taken by the station structure
  2. Reroute two-way traffic to the west side of the lower deck
  3. Remove transverse framing
  4. Place and compact backfill
  5. Resurface the east side and replace curbs

- (M) Backfill structure and resurface the west half of the street (2 months)
  1. Repeat (L) for backfill and resurfacing the west half
  2. Remove the access way and reopen Illinois Street on the west side of Michigan Avenue
  3. Permanently repair access hatches in the upper level of Michigan Avenue.

B.2.3 Open-cut Construction Contracts (3),(4), and (6)

For stations and mezzanine in areas beyond the double-deck reach of Michigan Avenue, construction is similar except for construction access areas.

- (A) Install soldier piles, east side (1 month)
  1. Close the curb lane and first traffic lane for one block at a time
  2. Temporarily cover holes after the piles are installed
  3. Open street to traffic

- (B) Repeat (A) for soldier piles on west side (1 month)

- (C) Install temporary supports in center of street (1 month)
  1. Close the left turn lane and center lane in each direction for one block at a time
  2. Temporarily cover holes after the supports are installed
  3. Open street to traffic

- (D) Relocate utilities which interfere with soldier piles or center supports prior to steps (A) through (C) or concurrent with them

- (E) Excavate the first lift for the east half and install the east half of the transverse support member
  1. Close the left turn lane and all four northbound traffic lanes for one to two blocks at a time
  2. Reroute two-way traffic along the four lanes on the west side of street, with two lanes in each direction
  3. Reroute one lane in each direction to turn off Michigan Avenue and travel a parallel street through the diverted area. A possible alternative would be to temporarily transplant trees and shrubs from the parkway to a nursery, pave the parkway, and by means of bulkheads develop a bus lane and bus stop area on either side of the construction area. This could be accomplished from Ohio Street to Chicago Avenue. It could also be done in the stretch from Hubbard to Ohio by resupporting the sidewalk area and relocating the stairways to lower Michigan Avenue
  4. Excavate the first lift, relocating or supporting utilities as material is removed
  5. Install transverse support members
  6. Install decking on the east side

- (F) Repeat (E) for excavation and supports for west half (1-1/2 months)

- (G) When the decking is completed, open Michigan Avenue to full traffic in both directions
  1. Contractors access in side street plus offices in grass areas alongside the sidewalk must remain through entire contract
  2. Removal of portions of decking and offloading of materials will occur during offpeak traffic

- (H) Continue excavation beneath decking (4 months)

- (I) Construct the station beneath decking (19 months)

- (J) Backfill structure and resurface the east half of the street (1-1/2 months)
  1. Reroute traffic as in steps E-1 through E-3
  2. Place and compact backfill
  3. Resurface the east side of the street

- (K) Backfill structure and resurface the west half of the street (1-1/2 months)
  1. Repeat steps J-1 through J-3 for backfill and resurfacing of the west half
  2. Remove contractors access from the side of street and repair the street

B.2.4 Open-cut Construction for Subway through the Water Tower Area (Contract 5)

Because of the narrow width of the street and the maze of utilities in this area, construction will be somewhat different from adjacent areas.

- (A) Install soldier piles, east side (1 month)
  1. Close two lanes for one block at a time. Due to the changes in street alignment and varying width of excavation, these will not always be the same lanes. Through the Water Tower area, traffic may be restricted at times to two narrow lanes. If the contractor's operations are restricted to offpeak hours, the length of time to complete the work must be extended accordingly
  2. Temporarily cover holes after the piles are installed
  3. Open street to traffic

- (B) Repeat (A) for soldier piles, west side (1 month)

- (C) Install temporary supports in the center of the street (at either end, near station only) (1/2 month) Repeat (A) for these supports

- (D) Relocate or support utilities (4 months) Closing no more than two lanes at a time, excavate alongside the transverse utilities. If the pipe lines are structurally sound and suitable for support, make provisions to support them from soldier piles and transverse framing which will be installed later. If the piping is questionable, replace and provide for support. Use street plates for temporary closure to accommodate traffic

- (E) Excavate the first lift and install transverse supports (where center supports are used, perform this step in east and west half operations)
  1. Close the required number of lanes for one block at a time

2. Reroute traffic according to the lanes that are required to be closed
3. Excavate sufficient material to install transverse framing. Complete framing and tie in supports for utilities. The water system inspection shaft "K" adjacent to the subway structure must be unwatered during excavation, and additional support must be constructed alongside the shaft as excavation proceeds
4. Complete the first lift excavation
5. Install decking immediately behind excavation

- (F) The remaining operations are the same as (G) through (K) of B.2.3

Appendix C

CLINTON STREET TRAFFIC HANDLING - CONSTRUCTION AT JFK EXPRESSWAY

Appendix C

CLINTON STREET TRAFFIC HANDLING - CONSTRUCTION AT JFK EXPRESSWAY

Construction of the Clinton Street subway beneath the JFK Expressway will require manipulating traffic lanes and some short-duration closure of one of the three lanes in each direction.

Cover over the subway varies from no cover, with the structure directly beneath the pavement, to approximately four to five feet of cover. This precludes tunnelling beneath the active expressway, and this section will be constructed by cut-and-cover methods.

Sufficient width is available in both northbound and southbound roadways to develop detour lanes. Construction in this area with its effect upon traffic would be as follows:

- Remove curbs alongside the present lanes and develop the full-width roadway without curbs and with adequate drainage for all-weather traffic in both directions between Harrison Street and Van Buren Street. Construct a concrete traffic guard barrier along the center bent supporting the Eisenhower Expressway.

- Restripe the JFK Expressway to swing three lanes of traffic in each direction as close to the center median as possible when over the subway area. The detour would be located between Harrison and Van Buren.

- Close the outer half of each expressway, and install soldier piles and bracing for the outer sections of subway tubes.

- Close the outside lane of the detour and, on an expedited schedule, install soldier piles and bracing and deck over this lane. Reopen the outside lane to traffic.

- Excavate for the subway and install lagging. Construct the subway tubes, including that portion of the tubes beneath the decking under one lane of the expressway.

- Place and compact backfill around the subway tubes and reconstruct the roadway over subway. Leave decking in place over one lane.

- Restripe the JFK Expressway to swing three lanes of traffic in each direction as close to the outer bents supporting the Eisenhower Expressway as possible when over the subway area. Traffic will cross over the decked area.

- Close the inner half of each expressway and install soldier piles and bracing for the center section of tubes.

- Excavate for the subway and install lagging. Construct the subway tubes to connect the previously constructed portions.

- Place and compact backfill around the subway. Reconstruct the roadway over the subway.

- Close the inside lane of the detour temporarily and, on an expedited basis, remove the decking and repave the area over the subway.

- Reroute traffic to normal lanes. Rebuild curbs, shoulder areas, and drainage as required.

Construction of subway beneath ramps on grade will be done by constructing to the edge of the ramp, then constructing a detour over the constructed subway. Ingress and egress for all construction operations must be along the JFK Expressway.

Construction for the Des Plaines alignment would require a similar procedure, with added consideration for freeway access ramps.

Appendix D

INFLUENCE OF FARE LEVEL AND WEATHER CONDITIONS ON SHUTTLE BUS TRAFFIC

Appendix D

INFLUENCE OF FARE LEVEL AND WEATHER CONDITIONS ON SHUTTLE BUS TRAFFIC

Data collected by the Chicago Transit Authority for shuttle bus operations at the Union and C&NW railroad stations were analyzed to determine the sensitivity of shuttle bus traffic to fare levels and weather conditions. CTA data were collected for two to four days every year between 1966 and 1972 representing variations in weather conditions. Over that period, the shuttle bus fare was raised from 15¢ to 20¢ (November 5, 1967), from 20¢ to 30¢ (December 19, 1968), and from 30¢ to the current level of 35¢ (July 8, 1970).

Three readings of the total traffic carried by shuttle buses at each of the two railroad stations (during the survey day) were averaged for each fare level. Table D-1 and Figure D-1 summarize pertinent information derived. It is quite clear from this table that inspite of practically constant volume of total railroad traffic to the Central Area, shuttle bus traffic dropped at each fare increase. The largest drop took place when shuttle bus fare was raised by 50% (from 20¢ to 30¢), while a 5¢ increase resulted in moderate declines.

The indicated decline in shuttle bus traffic becomes more pronounced if we consider that during the period between 1967 and 1972 the consumer price index increased by 125 percent.

The impact of variation in weather conditions was not as evident due to the fact that few readings were taken, at the same shuttle bus fare, for significantly different weather. Table D-2 gives selected readings at C&NW station, and shows significant increase in shuttle bus traffic on rainy days. No readings were taken during very cold weather or during snowstorms.

It is also clear from Table D-2 that percent traffic increase due to rainy weather conditions was less pronounced when the shuttle bus fare was 35¢ than when it was 15¢.

It should be noted that the above analysis was based on data normally recorded by CTA and not on the basis of scientifically prepared experiment specifically designed to test the sensitivity of shuttle bus traffic to fare level and weather variation.

Table D-1

EFFECT OF SHUTTLE BUS FARE ON TRAFFIC VOLUME

SHUTTLE BUS FARE	15¢	20¢	30¢	35¢
Total Average* Railroad Passengers Entering & leaving the Central Area	220,000	214,000	224,000	217,000
Average daily shuttle bus traffic at Union sta.	10,350	9,600	8,150	7,600
Average daily shuttle bus traffic at C&NW sta.	11,700	11,120	8,370	7,400
Average daily shuttle bus traffic at two stations	22,050	20,720	16,520	15,000
Percent decline in shuttle bus traffic between successive fare increases	----	6.0	20.3	9.2
Percent decline in traffic per each percent increase in fare		1.2	2.0	1.8
Ratio of percent decline in traffic per percent increase in fare		0.18	0.41	0.55

* Derived from Cordon Count Surveys between 1966 and 1972.

Table D-2

EFFECT OF WEATHER ON SHUTTLE BUS TRAFFIC AT C&NW STATION

Day & Date	Weather	Fare	Total shuttle bus traffic	% variation between successive readings
11/7/66	Fair, 71°	15¢	10,403	---------
11/2/67	Rain, 48°	15¢	14,173	+ 36.2
10/29/70	Fair, 57°	35¢	8,504	---------
10/28/70	Rain, 65°	35¢	10,947	+ 28.7

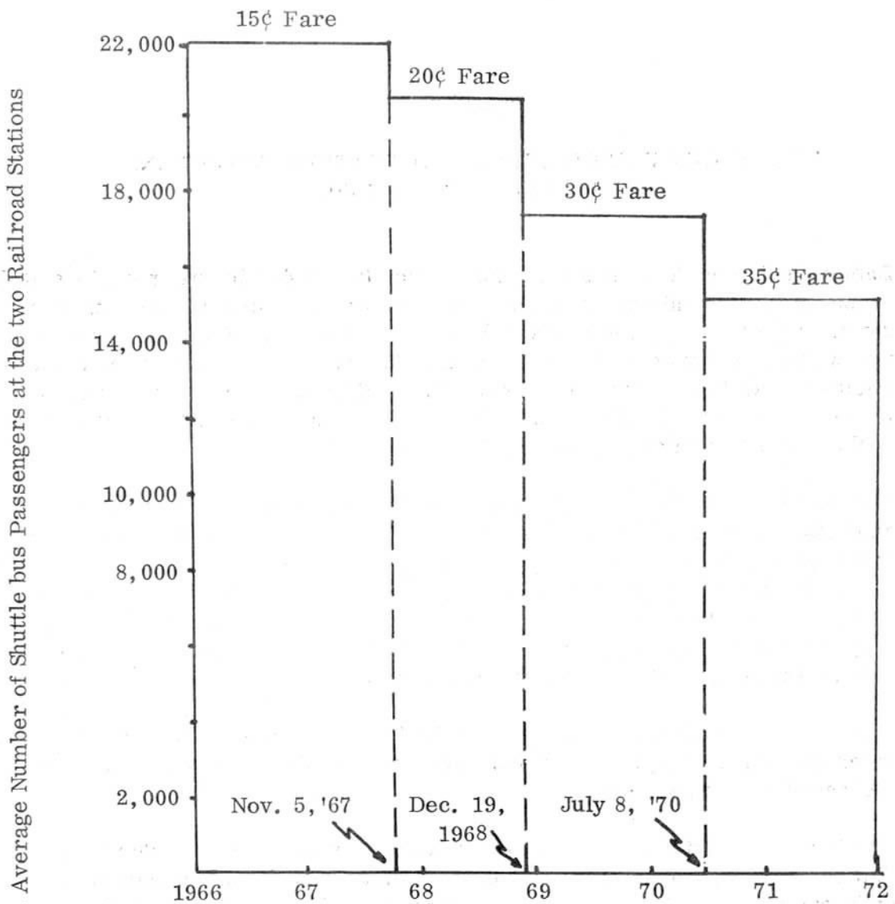


Figure D-1. Decline in Shuttle Bus Traffic

Appendix E

ALTERNATE ROUTES. SOIL CONDITIONS

APPENDIX E

ALTERNATE ROUTES: SOIL CONDITIONS

E.1 INTRODUCTION

This appendix describes the soil conditions along the two proposed alternate routes. The first alternate route starts at the north end of the Stetson Avenue station, and extends northward along Stetson Avenue and North Michigan Avenue, turning west at Oak Street. The route continues westward until turning on Clark Street, along which it continues northward, ending at North Avenue. The second alternate route is along Clinton Street and connects the existing lines along the Eisenhower Expressway and Milwaukee Avenue to the proposed subway along Monroe Street.

The physical properties and engineering characteristics of the various soils are described, and their effect on construction procedures is discussed.

E.2 EVALUATION OF INFORMATION

The results of subsurface investigations for other projects adjacent to the proposed alternate routes were used to determine the subsurface conditions. These investigations included borings and field and laboratory tests made by public agencies and private concerns dating from 1928 to 1973. The classification and quality of information available varied. When required and whenever possible, information was reclassified to conform with current practices. The sources of information used in preparation of this report are listed in the references. The locations of the borings are shown on the two boring location plans for the N. Michigan Avenue route and the Clinton Street routes. (Drawing Nos. CE21 and CE75)

The criteria used for determining the consistency of the cohesive soils and the compaction of the cohesionless soils are presented in Table E-1.

TABLE E-1

SOIL CLASSIFICATION

COHESIVE SOIL
(Including silty clays and clayey silts)

Consistency	Unconfined Compressive Strength
soft	0.00 - 0.59 TSF
stiff	0.60 - 0.99 TSF
tough	1.00 - 1.99 TSF
very tough	2.00 - 3.99 TSF
hard	4.00 TSF

COHESIONLESS SOILS (Includes sands, silty sands and sandy silts)

Compactness	Relative Density	Standard Penetration Resistance "N"
Very loose	0 - 15%	0 - 4
Loose	15 - 35%	4 - 10
Medium dense	35 - 65%	10 - 30
Dense	65 - 85%	30 - 60
Very dense	$\geqslant$ 85%	$\geqslant$ 60

"N" refers to the blows per foot of a 140 lb. hammer falling 30 inches on a 2-inch o.d. sampler.

The description of the materials on the original logs was based, in some cases, just on visual classification and, in other cases, on laboratory and field tests. These tests included Standard Penetration Tests, pocket penetrometer tests, unconfined compression tests, consolidation tests, water content determinations, Atterburg limit determinations, field seepage tests, and field pressure meter tests. When available, the results of the Standard Penetration Tests, the unconfined compression strength, and the water content are shown adjacent to the borings on the soils profiles.

E.3 SUBSURFACE CONDITIONS

The subsurface conditions along the alignment of the alternate route are shown on the soils profiles. (Drawings Nos. CE 22, CE 76 and CE 77) A generalized soil profile is as follows:

Elevation Range (ft.)	Generalized Description of Material	Thickness Range (ft.)
-10 to + 20	Miscellaneous Fill	3' - 19'
-12 to +10	Sand and Silty Sand, loose to dense	0' - 20'
-7 to + 6	Blue Silty Clay, stiff to tough	0' - 8'
-50 to + 6	Blue Silty Clay, soft to stiff	15' - 40'
-100 to -25	Blue Silty Clay, tough to hard	10' - 70'
-85 to -56	Blue Clayey Silt, very tough to hard (localized)	0' - 30'
-135 to -69	Hard Pan	3' - 60'
-135 to -176	Top of Bedrock - dolomitic limestone	

The various strata are described in more detail below.

E.3.1 Miscellaneous Fill

The ground surface along both routes is covered with fill. The depth of fill ranges between 3 and 20 feet. The fill includes material used to raise the ground level and to backfill excavations. Materials used on fill vary widely and include sand, clay, cinders, brick, and other miscellaneous fill. Occasionally wood and coal may be found in the fill. The Standard Penetration Resistance ranges between 2 and 72 blows/ft.

E.3.2 Sand

Underlying the fill is a sandy stratum found between elevations -12 to +10. This sand stratum was not encountered in borings along Clinton Street between Tilden and Monroe Streets. In other areas, the sand has been excavated and replaced with fill. The top of the sand stratum generally consists of a clean fine to medium sand, with a small amount of silt. The silt content generally increases with depth. Occasional zones of gravel and silt are to be found within this stratum. The Standard Penetration Resistances range from 2 to over 100 blows/ft. generally increasing with depth. The water content ranged between 4 and 24 per cent. In several instances, loss of drilling water was observed in this stratum, indicating that the stratum is very pervious in various locations.

E.3.3 Silty Clay

The silty clay underlies the sand and is found between elevations +6 and -100. Under portions of the N. Michigan Avenue route and in localized areas of the Clinton Street route, the upper 4 to 8 feet of the silty clay is desiccated and stiff to tough in consistency. The average unconfined compressive strength of the desiccated clay is 1.5 TSF and the water content averages 26 percent.

The upper portion of the silty clay below the desiccated layer is soft to stiff. This upper portion of the silty clay extends down to about elevation -40 and is 15 to 40 feet thick. The unconfined compressive strength is generally 0.4 TSF at the top and increases to 1.0 TSF at the bottom of this substratum. The water content ranges between 21 and 35 percent and generally decreases with depth. Consolidation tests indicate that the soft to stiff silty clay is normally consolidated with an average compression index of 0.21 and an average initial void ratio of 0.7.

Below the soft to stiff zone, the silty clay is tough to hard. This lower portion extends down to the clayey silt or hard pan found between elevations -56 and -100, and is 30 to 60 feet thick. The unconfined compressive strength of the tough to hard clays ranges from 2.0 to over 10 TSF and generally increases with depth. The water content ranges between 11 and 21 percent and decreases with depth. The high strength and low water content of the tough to hard silty clay indicates that is is preconsolidated.

Within the silty clays, borings have encountered layers of sand, gravel and silt.

E.3.4 Clayey Silt

This clay silt underlies the silty clay along the North Michigan Avenue route between the Stetson Street station and the Chicago River and along the Clinton Street route near Monroe Street. This layer is 10 to 30 feet thick and lies between elevations -85 and -56 feet. The unconfined compressive strength of this soil ranges from 2.0 to over 10 TSF, with an average water content of 15 percent. Some tough zones occur within this stratum.

E. 3.5 Hardpan

Underlying the silty clays and clayey silts is a layer of hardpan. This layer lies between elevation -69 and -135 and is 3 to 60 feet thick. The hardpan consists of very dense sandy clayey silt or hard sandy clay with zones of sand, gravel, boulders, and broken bedrock. Standard Penetration Resistance ranges from 50 blows per foot to 100 blows per 2 inches. The unconfined compressive strength of the cohesive portions of the hardpan ranged from 5 to over 12 TSF. The water content varied between 8 and 26 percent. Occasional loss of drilling water indicate that there are pervious zones within the hardpan.

E.3.6 Bedrock

The top of rock varies in elevation between -135 to -176 feet. The bedrock consists of dolomitic limestone. The upper 5 to 10 feet is generally fractured, with some joints being filled with clay.

E.3.7 Groundwater

Groundwater observations were made during boring operations in different years and during different times of the year. The groundwater appears to remain consistent. Generally, the groundwater level averages elevation zero along Michigan Avenue, +4 along Clinton Street, and +8 along Clark Street. The groundwater level lies within the fill or the underlying sand stratum.

E.4 EFFECT OF SOIL CONDITIONS ON CONSTRUCTION

Except for the Chicago River crossing, all excavations will be of the cut-and-cover type or by tunneling. Tunneling is proposed on the Michigan Avenue route along Oak and Clark Streets between Michigan Avenue and Division Street, and on the Clinton Street route between Des Plaines Street and Jackson Boulevard and possibly along Milwaukee Avenue. The material encountered during the excavations will include the miscellaneous fill, the underlying sand, and the silty clay. There will be no major problems in excavating these materials. Excavation of the hard clayey silt, the hardpan, or bedrock is not anticipated under the proposed profile of the alternate routes.

The face of the open excavations will require supports for their entire depth in order to prevent failure. This may consist of sheetpiles, diaphragm walls and/or soldier piles with lagging. Intermediate supports consisting of bracing and/or tiebacks will be required. The excavation support system should be designed and constructed in such a manner as to minimize lateral movement of the soils. This will avoid damage to nearby structures and keep settlement of adjacent ground surface within tolerable limits.

Most of the tunneling will be in the soft to silty clay, and will encounter some tough to hard silty clay. Air pressure should be employed to minimize soil movements and to control the amount of seepage into the tunnel. The tunnel lining should be installed as quickly as possible and as close as possible to the tunnel face. Voids between the surrounding soil and the tunneling linings should be filled. Most of the tunnel profiles are deep enough below the water bearing sand stratum to provide adequate cover during construction. At the corner of Oak Street and Michigan Avenue the thickness of cohesive soil between the crown of the tunnel and the water bearing sand may be less than ten feet. Special precautions will have to be taken when tunneling in this area.

Dewatering the excavation for the most part can be handled with shallow sumps in the bottom of the excavation. Seepage into the excavation from pervious fill and the underlying sand may occur in local areas. This seepage can be controlled, where encountered, with a dewatering system consisting of wells or drains or by a cutoff. The danger of a blowout of the bottom of the excavations may exist given two conditions. These conditions are (1) the bottom of the excavation is deep and close to the hardpan, and (2) the hardpan is pervious. Should future subsurface investigations show that these unfavorable conditions exist, then a cutoff through the hardpan or dewatering of the hardpan will be required.

It is proposed that the Chicago River crossing be constructed using prefabricated tunnel sections sunk in an open trench and backfilled. This type of construction will avoid difficulties associated with tunneling under the river.

E.5 SUMMARY

Soil profiles were developed and soil conditions were determined along the alignment of the alternate routes. This information was based on existing subsurface information developed for nearby projects. Additional subsurface information will be required prior to final design to obtain more detailed information, where required, and to fill in gaps in the existing information.

Tunneling will require the use of air until the lining can be installed.

The subsurface soil conditions present no major problems to the construction of the proposed alternate routes. The open excavations will require lateral supports with intermediate bracing or tiebacks. The support systems should be designed and constructed in such a manner as to minimize lateral movement.

E.6 REFERENCES

1. City of Chicago, "Preliminary Plans - Chicago Central Area Transit Planning Study," 1968.

2. Raymond Concrete Pile Co., Borings for 1000 Lake Shore Drive, 1953.

6. Raymond Concrete Pile Co., Borings for Railway Express at Michigan Avenue and E. Huron Street, 1948.

8. Boring at Michigan Avenue and Huron Street - no date.

9. Raymond Concrete Pile Co., Borings on property at E. Erie Street and N. Michigan Avenue, 1959.

10. Smith and Knapp, borings on property at SW corner Grand Avenue and N. Michigan Avenue, 1928.

11. City of Chicago, Dept. of Subways and Traction, boring at Clark and Division Streets, 1939.

13. City of Chicago, Dept. of Subways and Traction, borings at N. State and Oak Streets, 1939.

14. Boring at Vine Street (Michigan Avenue) and Chicago River - no date.

21. City of Chicago, Dept. of Public Works, boring at Michigan Avenue and Walton Streets, 1967.

22. City of Chicago, Dept. of Public Works, boring at Chicago Avenue and Michigan Avenue, 1967.

25. Raymond Concrete Pile Div., borings for Sandburg North at Michigan Avenue and Burton Place, 1968.

26. Soil Testing Services Inc., soils report for Newberry House at NW corner of State and Oak Streets, 1971.

33. Testing Service Corp., soils report for proposed apartment building at SE corner of Division and LaSalle Streets, 1971.

40. Soil Testing Services Corp., soils report for Marshall Field Hi-Rise Building at Michigan Avenue and Chestnut Streets, 1971.

41. Soil Testing Services Corp., soils report for proposed Neiman-Marcus Hilton Towers E. Chicago Avenue and Michigan Avenue, 1973.

43. Soil Testing Services Corp., soils report for proposed high-rise at 444 N. Michigan Avenue, 1973.

45. City of Chicago, Dept. of Public Works, borings for E. Wacker Drive, 1972.

46. Illinois Central RR Co., borings for elevated structure on N. Stetson Avenue, 1970.

47. City of Chicago Dept. of Public Works and Dept. of Subways and Superhighways, borings for various projects along Clinton, 1939-1968 (several with no date).

Note: Missing reference numbers indicate soil information received from the Dept. of Public Works, that were not used in determining the soil conditions along the alternate routes.

Appendix F

STAGING PLAN

Appendix F

STAGING PLAN

The staging plan outlined in this appendix was submitted to the District by letter of December 14, 1973 with suggestions for detailed investigation of the concept. This staging concept is one of many possibilities that could be followed during construction of the project.

F.1 STAGE 1

The first stage would provide for the rerouting of all north-south service through the existing State Street subway. Track connections and signaling must be constructed at 16th Street to allow Dan Ryan service to enter the State Street line. At Armitage, track connections already exist but signaling and interlocking must be activated. All State Street subway station entrances, exits, agents booths, turnstiles, escalators, and stairways must be fully operational.

The Lake Street service would operate to a turnback at the Clark or preferably the State Street transfer station. Required construction would include trackwork, signaling, and end-of-line restraining devices.

A major effort would be required to instruct patrons regarding use of the revised routings. The first stage would also include initiation of financing arrangements, engineering design, surveys, soil explorations, right-of-way acquisition, and system-wide standardization and procurement for following stages. The bar chart of Figure F-1 indicates in bare outline the preconstruction and construction periods. The development of detailed scheduling, contract packaging, and interfacing to optimize each major segment should be undertaken with a staff and budget appropriate to the potential savings to be realized, and is far beyond the scope of this study.

F.1.1 Advantages and Disadvantages

The primary advantage of early implementation of Stage 1 would be the early removal of the major portion of the Loop "L" structure and the "L" south to 16th Street and north to Armitage. Financing requirements for Stage 1 would be of the order of $7 million.

The principal disadvantage would be the removal of present service to the Loop and the new requirement for transfers for many passengers. Additional service on present bus routes or new service would be required. Operation of the State Street line at or near practical capacity would require additional station maintenance and schedule control.

F.1.2. Optional Plan

Evanston service could be routed to a turnback at the Merchandise Mart. This option would delay removal of the "L" north of the Merchandise Mart, but would continue service to three stations not served by the basic plan.

F.2 STAGE 2

The second stage would provide for construction of the Monroe Street Distributor from Clinton Street to Michigan Avenue, and the Randolph Street line west from the existing tunnel in Lake Street.

Preliminary planning for the Monroe Street Distributor is currently underway, but a major effort would be required to complete surveys, design, and right-of-way acquisition with the necessary review and approval procedures to allow placing this section under construction by June 20, 1975. Funding for this design effort may not be currently available.

Design of the Randolph west section would begin in this stage to allow early completion of construction required to provide Lake Street service direct access to the Dearborn subway and Congress-Douglas service connection. Completion of this construction would allow removal of the remainder of the Loop "L" and the Lake Street "L" west to the district boundary.

F.2.1 Advantages and Disadvantages

Construction of the Monroe Street Distributor from Clinton Street to Michigan Avenue would provide Distributor service through the Loop for the C&NW and Union Station commuter railroad patrons. The majority of these commuters have destinations within the downtown area.

Construction of the Lake Street subway, in addition to the favorable impact of removal of the existing elevated structure, would provide direct access to stations along Dearborn, immediate connection to Congress-Douglas service, and connection to the future Loop for operational flexibility.

A major disadvantage would be the difficulty of performing to the very tight schedule for design, review, and approval of the Monroe Street section. Detailed investigation of the contract packaging, interfacing, and coordination of this section would be required.

F.2.2 Optional Plan

Construction of a portal on Lake Street could reduce construction time by about six months. However, the difference in elevation between the existing tunnel and existing elevated structure dictates a portal location west of the Kennedy Expressway to stay within the maximum grades desirable for transit operation. Construction of a portal west of the expressway would represent a major portion of the total cost estimated for the alternate complete Randolph-Lake extension.

F.3 STAGE 3

The third stage would provide for extension of the Distributor north from Monroe to the river. This extension is part of the current preliminary planning and soils information, surveys, and right-of-way negotiations have been initiated.

This extension would provide additional service to the Prudential, Standard Oil, and I.C. Air Rights Developments. Operation would involve only an extension of the shuttle service instituted on Monroe.

F.4 STAGE 4

The fourth stage would provide for extension of the Distributor to the University of Illinois Circle Campus and construction of the Franklin Street subway from Van Buren to Randolph. (The Franklin Street intersection with Monroe Street would be constructed in Stage 2.)

Construction of the Distributor extension would provide new service to a major traffic generator, the University Campus. Construction of the Franklin Street subway would represent a major segment of the new north-south line that would be completed in the following stage.

F.5 STAGE 5

The fifth stage would provide for construction of the Franklin Street subway north along Kingsbury and Larrabee and south in the median of the proposed expressway to a connection with the Dan Ryan line.

Completion of this construction would allow operation of the Dan Ryan service through the Franklin Street subway to connect with Evanston, Howard, and Ravenswood service. New service would be provided in the Cabrini-Green area.

F.6 STAGES 6, 7 and 8

These three stages would provide for construction of the subway loop on Randolph, Wabash, and Van Buren; thus completing the loop, providing the high level of service to loop destinations, and providing great operational flexibility.

Stub-end or turnback operation would be feasible upon completion successively of the Randolph and Wabash legs. Complete loop operation would begin upon completion of the final leg.

F.7 STAGE 9

The final stage would provide for construction of the Distributor north to the John Hancock Building and south to McCormick Place. The final stage would complete the project as contemplated in the 1968 and 1971 reports.

F.8 GENERAL COMMENTS - ALL STAGES

The primary advantages would be:

- Early demolition of the "L" structure would be achieved
- Distributor service would be provided to commuter railroad stations
- Completion of stages would allow service improvements in successive steps
- Incremental capital investment would provide opportunity for investigation and evaluation of alternatives and possible rescheduling
- It would be possible to reorder later stages to meet demand and funding available
- Sequencing of construction would allow competition for construction packages

The primary disadvantages would be:

- Service would be lost in early stages; diversion of patrons to alternate modes and additional bus service would probably be required
- High-density loading of State Street subway platforms would require special control measures for delayed trains or other schedule interruptions
- Front-end loading of preconstruction effort would be required for the second stage
- Early stages would require strict schedule adherence, implying expeditious review and approvals, absence of adverse litigation, and other delays
- Overlapping construction periods in the Loop area would contribute to street traffic congestion

Startup and trial operation times must be added to the attached schedules. Vehicle design and procurement are not shown. Systemwide design standards and systemwide procurement must be completed early.

An in-depth analysis of the staging should be carried out before major commitment to the plan. Some of the key milestones for the Stage 2 section are given in paragraph F.9 to illustrate the close schedule adherence required.

F.9 KEY MILESTONES

The following dates for the Monroe Distributor-Clinton to Michigan were suggested as of December 14, 1973. The schedule should be modified to comply with the current situation.

The construction contract would have to be awarded by June 30, 1975. Construction management capabilities would have to be established immediately.

Advertising would be scheduled for March 31, 1975 (6 wks., adv. & 6 wks., awards).

It would be necessary to proceed with final design by March 31, 1974.

Tasks therefore would have to be completed as noted below by March 31, 1974:

- Design Criteria established
- Preliminary design completed
- All input complete, including
  - Utilities maps
  - Surveys
  - Soils exploration
  - Foundations survey
  - Design and construction (scheduling) packages established
  - Standard Specification

The design criteria which would have to be established as noted above include:

- Civil
- Structural
- Architectural
- Electrical (lighting, power, communications)
- Mechanical (plumbing, drainage HVAC, elev.)
- Car design and configuration
- Train control (space requirements)
- Facilities for the handicapped
- Fare collection
- Security
- Safety
- Graphics
- Acoustics
- Fire alarm
- Police call
- Train destination signs
- Other

Utilities relocation would have to be complete by June 30, 1975.

R. O. W. acquisition would have to be complete by June 30, 1975.

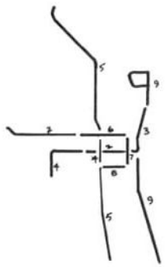
Public hearings would have to be completed by March 31, 1974.

Financing arrangements would have to be completed early in 1974.

Station entrances and private entrances would have to be located by March 31, 1974.

Patronage forecast would have to be completed by March 31, 1974.

- Peak five-minute design loads established
- Sector analysis complete

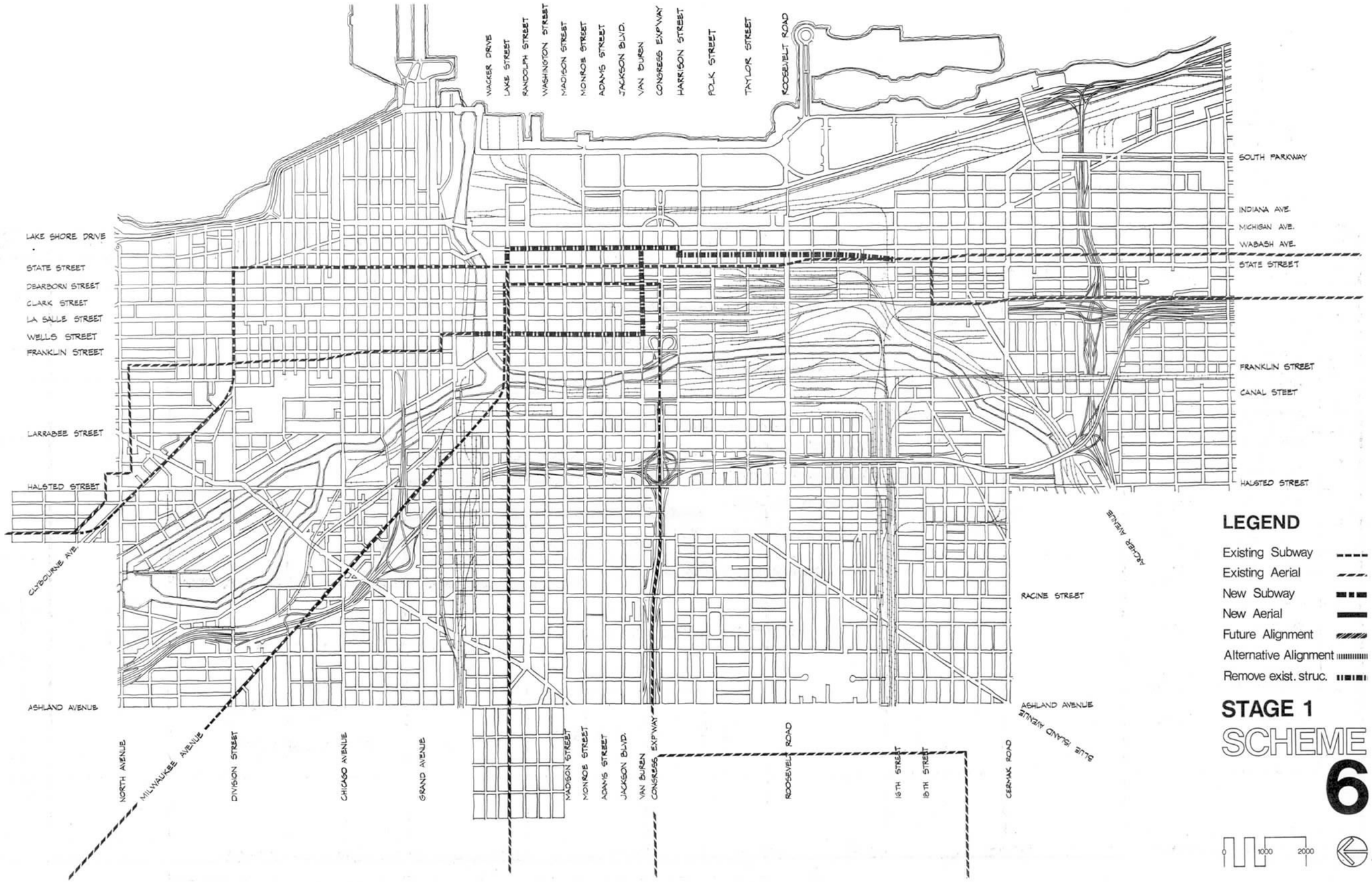


STAGE		
1	TEMPORARY FACIL. & REMOVE "E"	· ENG. · CONST.
2	MONROE DISTRIBUTOR	· ENG. · CONST.
	RANDOLPH WEST	· ENG. · CONST.
3	DISTRIBUTOR, MONROE TO THE RIVER.	· ENG · CONST.
4	FRANKLIN	· ENG · CONST
	DISTRIBUTOR TO CIRCLE CAMPUS	· ENG. · CONST.
5	FRANKLIN NORTH	· ENG. · CONST.
	FRANKLIN SOUTH	· ENG. · CONST.
6	RANDOLPH	· ENG. · CONST.
	RANDOLPH RIVER X-ING	· ENG. · CONST.
7	WABASH	· ENG. · CONST.
8	VAN BUREN	· ENG. · CONST.
9	DISTRIBUTAR NORTH OF MICH.	· ENG. · CONST.
	DISTRIBUTOR SOUTH	· ENG. · CONST.

1974 | 1975 | 1976 | 1977 | 1978 | 1979 | 1980 | 1981 | 1982 | 1983

$ COMMITMENT — 212 MILLION — 202 MIL. — 253 MIL. — 422 MIL. — 337 MIL. — 40 MIL. — = 1466 MILLION

EXPENDITURE RATE $ 200 MILLION/YR ±



LEGEND

- Existing Subway
- Existing Aerial
- New Subway
- New Aerial
- Future Alignment
- Alternative Alignment
- Remove exist. struc.

STAGE 1

SCHEME 6

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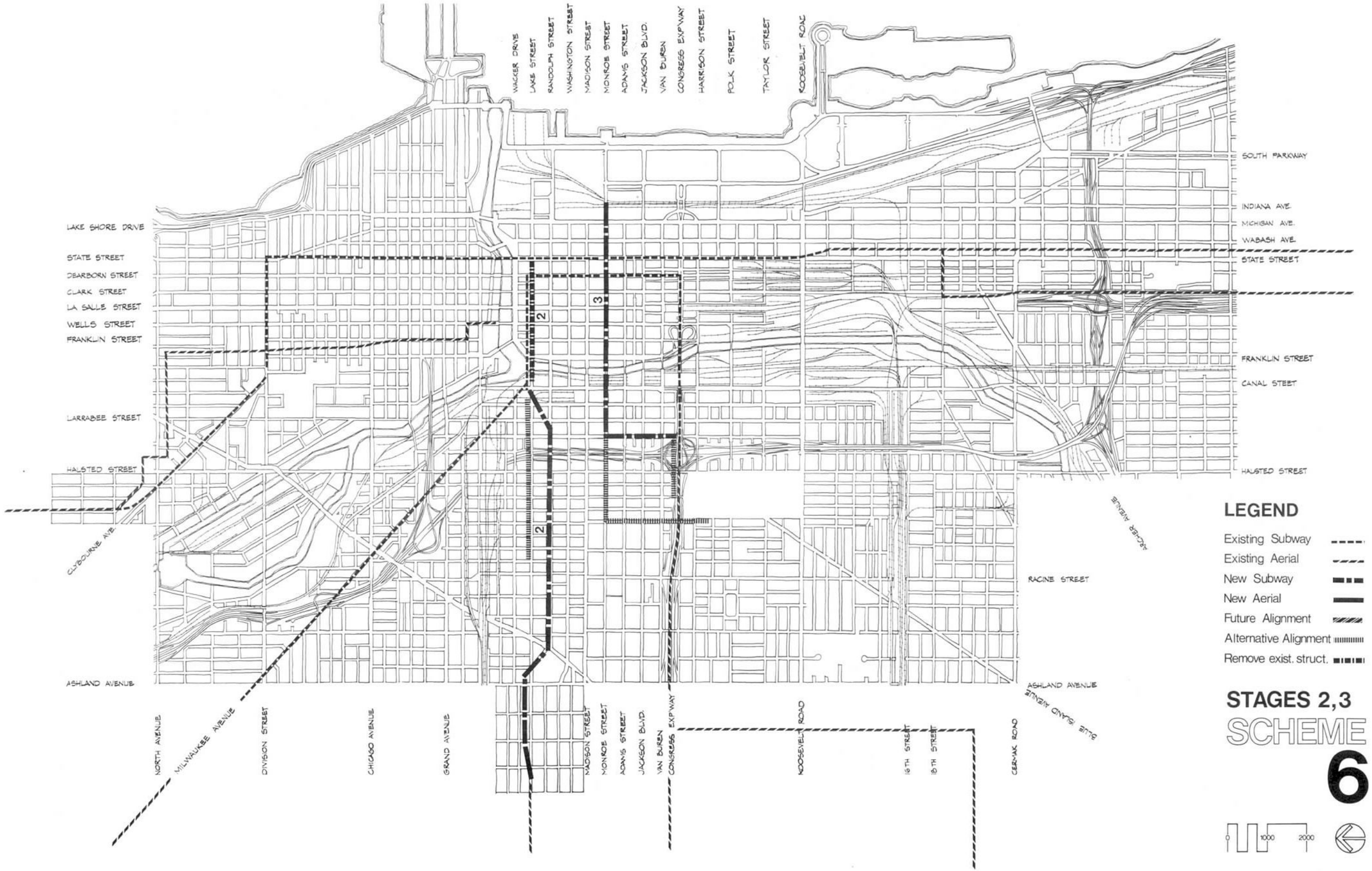
WACKER DRIVE
LAKE STREET
RANDOLPH STREET
WASHINGTON STREET
MADISON STREET
MONROE STREET
ADAMS STREET
JACKSON BLVD.
VAN BUREN
CONGRESS EXPWAY
HARRISON STREET
POLK STREET
TAYLOR STREET
ROOSEVELT ROAD
LAKE SHORE DRIVE
STATE STREET
DEARBORN STREET
CLARK STREET
LA SALLE STREET
WELLS STREET
FRANKLIN STREET
LARRABEE STREET
HALSTED STREET
CLYBOURNE AVE
ASHLAND AVENUE
NORTH AVENUE
MILWAUKEE AVENUE
DIVISION STREET
CHICAGO AVENUE
GRAND AVENUE
MADISON STREET
MONROE STREET
ADAMS STREET
JACKSON BLVD
VAN BUREN
CONGRESS EXPWAY
ROOSEVELT ROAD
16TH STREET
18TH STREET
CERMAK ROAD
ASHLAND AVENUE
BLUE ISLAND AVENUE
RACINE AVENUE
RACINE STREET
SOUTH PARKWAY
INDIANA AVE.
MICHIGAN AVE.
WABASH AVE.
STATE STREET
FRANKLIN STREET
CANAL STEET
HALSTED STREET
1
2
3
2
2
2
LEGEND
Existing Subway
Existing Aerial
New Subway
New Aerial
Future Alignment
Alternative Alignment
Remove exist. struct.
STAGES 2,3
SCHEME
6
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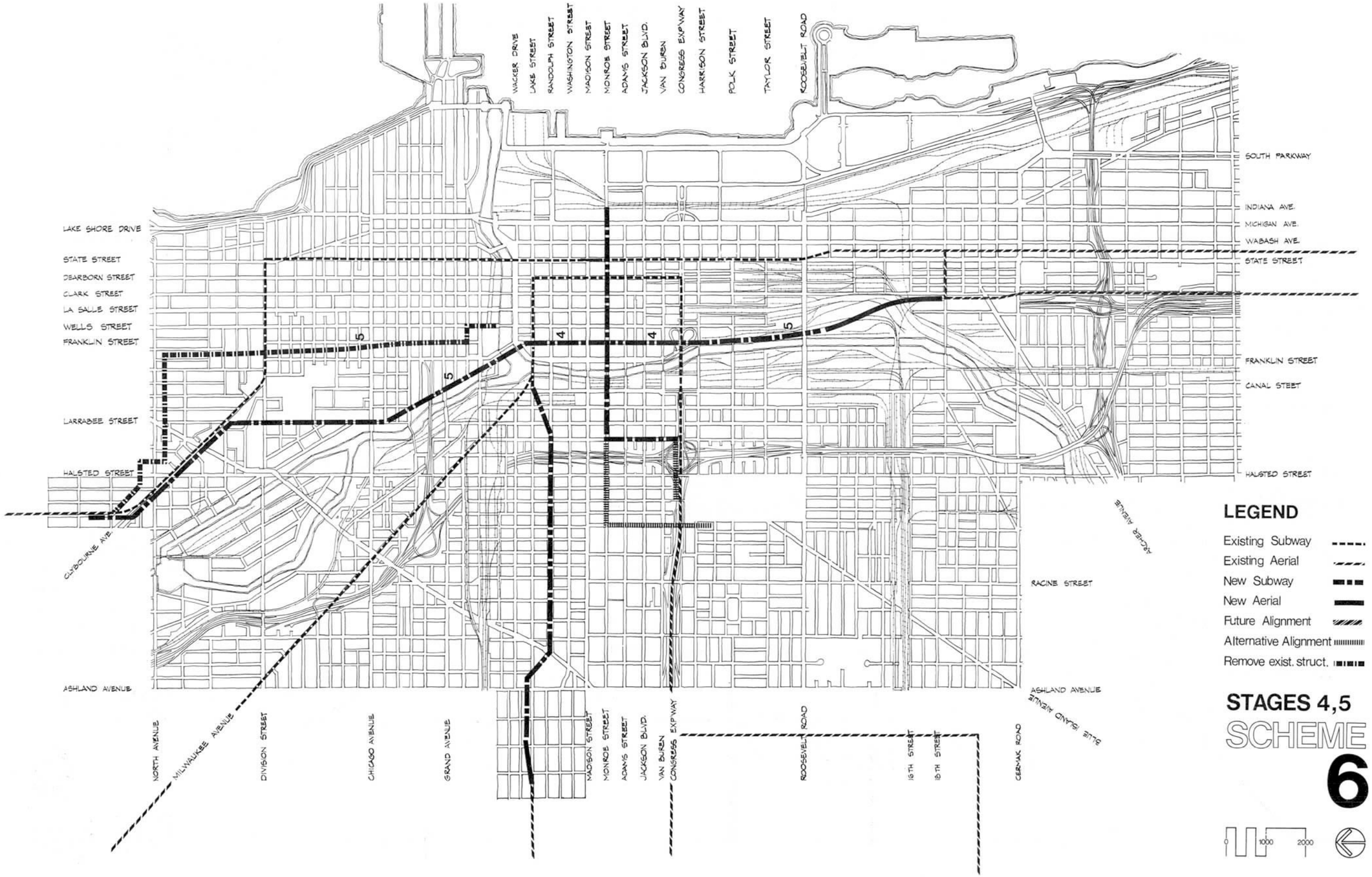
1000
2000



LEGEND

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- Existing Aerial
- New Subway
- New Aerial
- Future Alignment
- Alternative Alignment
- Remove exist. struct.

STAGES 4,5
SCHEME
6

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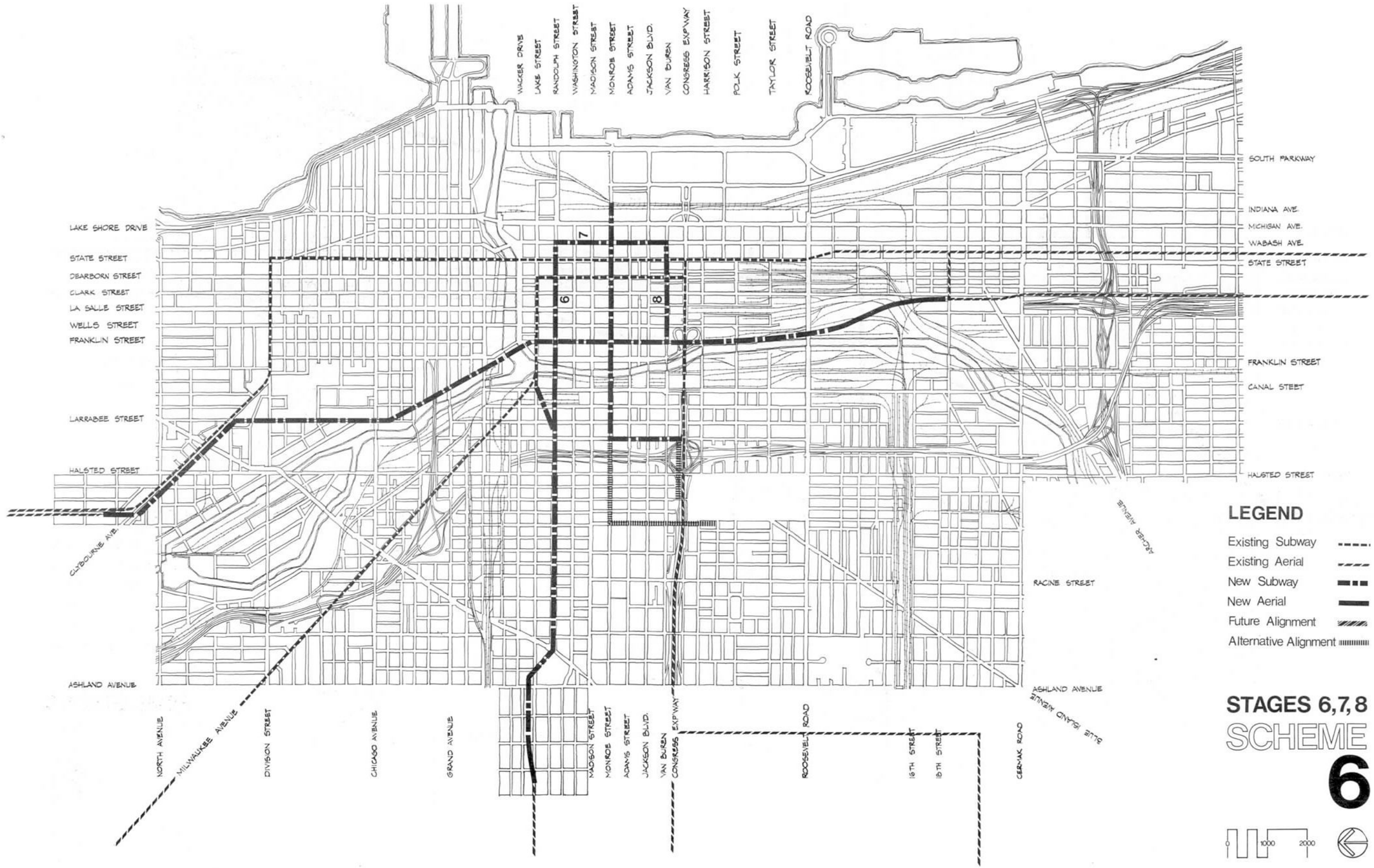

LEGEND

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- Existing Aerial
- New Subway
- New Aerial
- Future Alignment
- Alternative Alignment

STAGES 6,7,8
SCHEME 6

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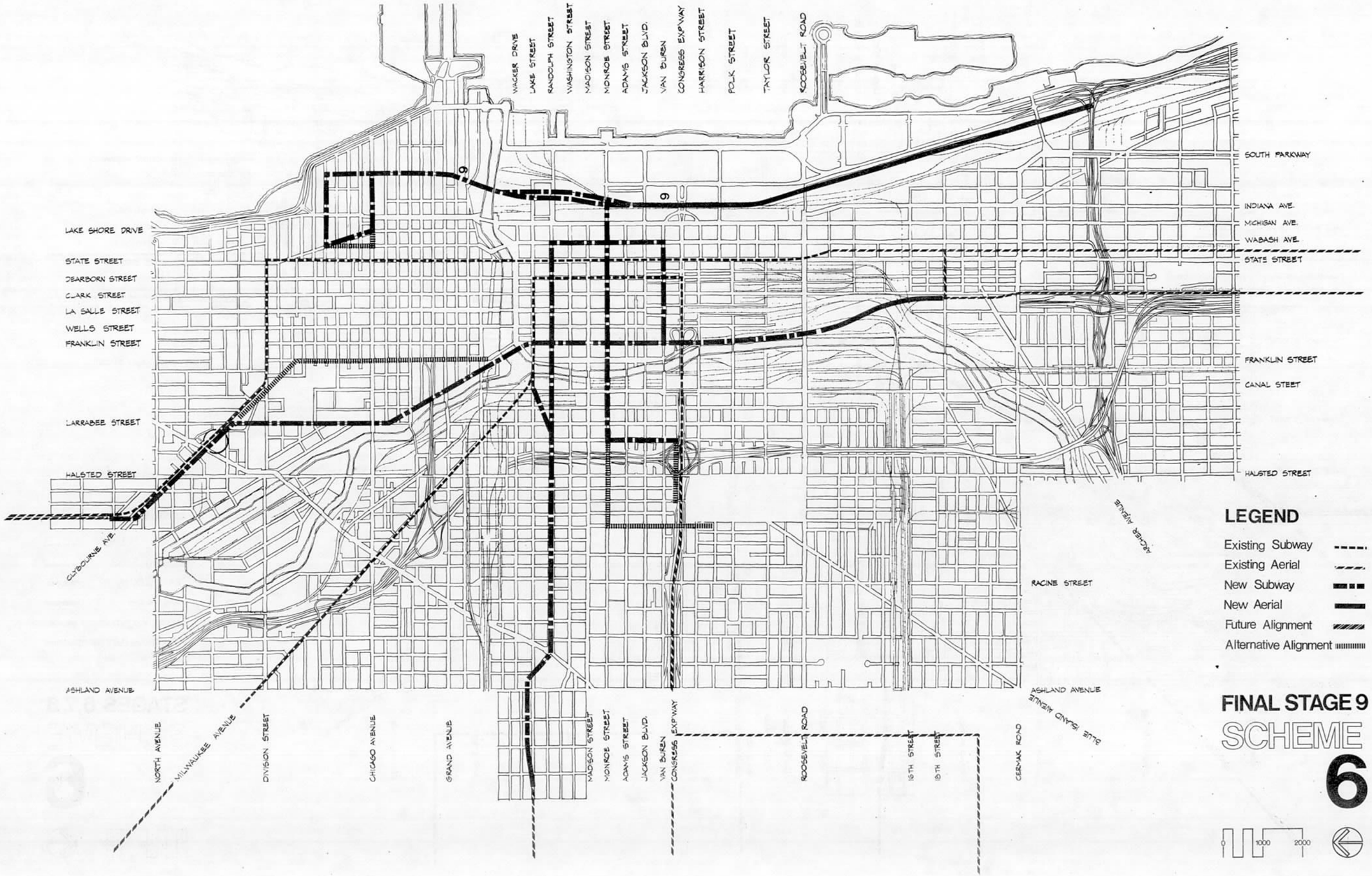

LEGEND

- Existing Subway
- Existing Aerial
- New Subway
- New Aerial
- Future Alignment
- Alternative Alignment

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Appendix G

AERIAL ALTERNATIVE

Appendix G

THE AERIAL ALTERNATIVE

G.1 INTRODUCTION

An aerial replacement for the existing loop elevated structure cannot be evaluated objectively solely by criteria evolved for determining service, patronage, economic impacts, social impacts, and environmental ramifications. A public "frame of reference" must be postulated, and this frame of reference must embrace a conceptual awareness of the entire Central Business District. The evaluations contained in this Appendix are based on anticipated public reaction to a new, aesthetically acceptable elevated structure -- but one considered as a separate architectural element, and not as an all-encompassing urban design for the Chicago Loop.

The concept outlined below reaches beyond the design of track structure: the result is a rapid transformation of the Loop area which would be inherent in transit construction, and not simply a projected result which might or might not take place over an uncertain span of future years.

G.2 RATIONALE FOR THE PROPOSED AERIAL ALTERNATIVE

Elevated transit structures have been coming down, and few new ones have been built. Their adverse impact is obvious. Third and Sixth Avenues in New York City developed after elevated lines were removed. Yet it took a number of years and an unprecedented office building boom to effect the change now visible.

Chicago's Loop elevated, from which the Central Area gets its name, has been the generator and symbol of the compactness of downtown. The Central Area is ultimately contained by the river north and west, the lake to the east, and the railroads to the south.

Under present zoning, the Loop could continue to grow to more than two or three times its floor area within its original confines. There is no lack of development possibilities.

The facts of over-zoning and underused land raise a question as to the de facto necessity of precluding elevated transit structures in order to stimulate new construction.

Wisdom advocates removal of the existing elevated structure to raise property values, and redevelop the streets now run down because of the "L." In other words, remove the blighting influence to raise land values. Lake, Wells, and Van Buren exhibit examples of marginal use circling the core, much of it necessary support functions hiding in the shadow of the elevated. By contrast, Wabash Avenue is still a primary retail area. If Wabash has survived the presence of the old elevated, a new type of "L" combined with joint development of a covered shopping mall, including the borderline streets, could be dramatically beneficial.

Taking down the existing loop structure would have a number of effects, some quire drastic: the obvious one would be exposing the blighted areas beneath. Efforts to clean up Van Buren and Lake will result largely in demolition, and probably after demolition, parking lots, which are not in Loop policy. The day when all 30 block frontages of the three borderline streets would be redeveloped is probably far distant.

The aerial alternative to construction of a loop subway and attendant exposure of blighted streets and a long interval of redevelopment must be essentially positive rather than negative.

Consider what is happening to the suburban shopping malls of today. The world's largest, Woodfield, throngs with shoppers who find easy access, which the loop also affords, and great variety in the new small scale boutiques and specialty shops anchored by the heavies, Sears and Fields, under the same roof, which the loop does not afford.

There is no question as to the trend. Galleria Milano has caught on in regional shopping centers from Columbia to Toledo, from the first covered mall in Minneapolis (Southdale) to Rochester's downtown. Malls today are covered.

This phenomenon, which has changed the shape of shopping in the suburban fringe, is basically an urban idea. The Cleveland and Providence arcades of the last century are an example.

Shoppers dart across Wabash Avenue, back and forth between the columns, playing both sides. They arrive from transit in upper entrances to the great department stores and shops below. Wabash is the loop retail center. It shores Michigan and State.

Because of its low traffic capacity, and if it is assumed that Wabash is the easier street to convert, joint development of a galleria elevated, connecting the same destinations but in a new style, would be appropriate.

The "L" streets could continue to function under this same umbrella and gradually upgrade in response to new market needs without the trauma of exposure, demolition, and parking.

Gallerias exist and "L's" exist. The proposition for Galleria-El is new only in combination. But cold logic says it is harmful to disrupt the daily habit structure and convenience of 100,000 people. The loop has had a strong symbolic influence on downtown development and to return it in some form would strengthen rather than weaken the bonds that hold the core together. Add to this the transformation from a utilitarian movement system to a galleria girdling the loop, sheltering and distributing its traffic in a symmetrical, balanced pattern serving alike the underdeveloped north and south fringes and the strong concentrations at Wacker and Michigan Avenue.

During the past ten years in Europe, particularly in Germany, the old town center's narrow streets leading to the market place have undergone a nearly miraculous transformation. Where traffic choked the streets pedestrians now roam freely. The improvement in business for shops and restaurants and the rent for the apartments above the stores have been so marked that nearly all German cities are following similar plans.

In Bonn after midday, all trucks, delivery service vehicles, and cars are forbidden in the old market place and in the streets leading to it. It transforms at the noon hour into a pedestrian enclave, a multi-use public space. The Ginza in Tokyo forbids traffic on Saturday afternoon and Sunday and becomes a carnival of cafes and kiosks.

In Chicago, the word loop should not become a memory or an anachronism: it should become the word for the new aerial concept, which gives riders the option of arriving above-ground as they have been accustomed to doing for over three-quarters of a century, but in a new style, through and above canopies of glass looking down upon a covered mall, leading to the stores of the central city.

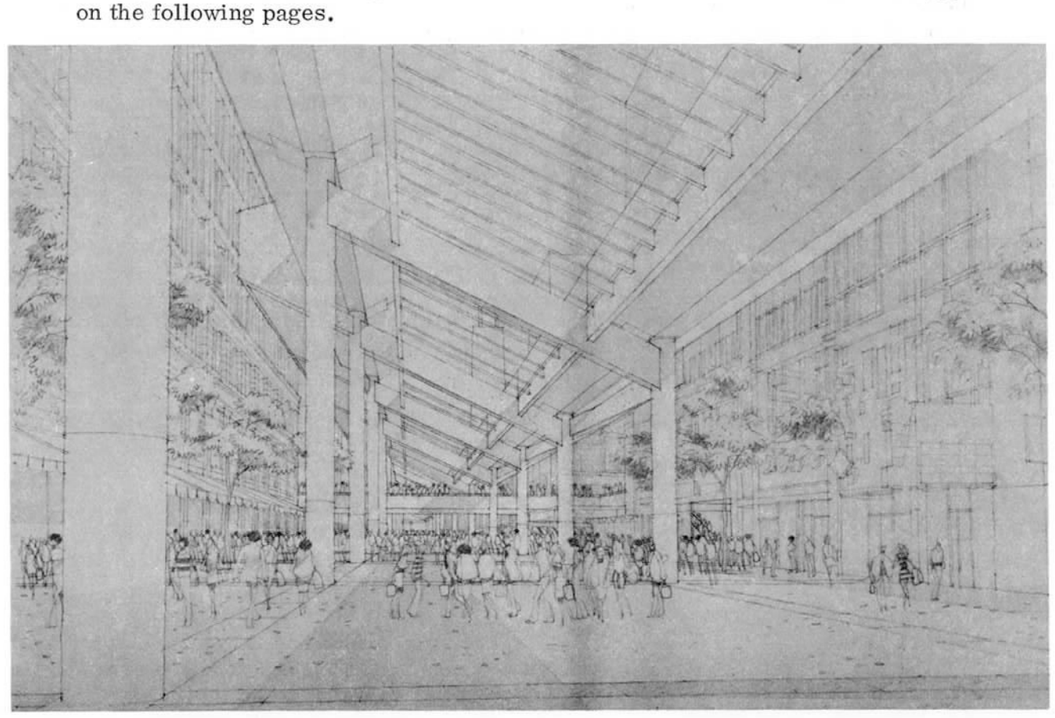
The price of joint development of aerial transit and covered malls is in this case low. The cost, fringe benefits, and tradeoffs must be considered.

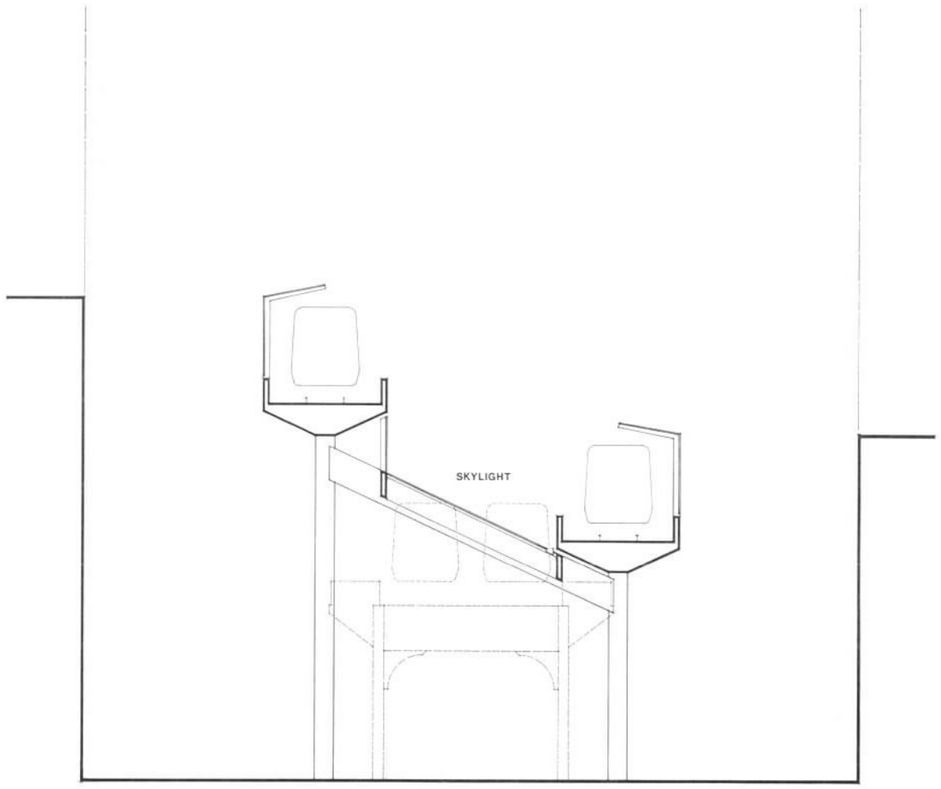
Visible impact on the city would include the following:

- A frame for the new plazas, of Civic, First National, and Federal centers
- A public structure walling in and containing the heart of the city
- A galleria for public gatherings in afternoon and evening hours
- A front door for new shops and theatres, linking over two dozen city blocks

G.3 ILLUSTRATIONS

A perspective view of the proposed aerial galleria as applied to Wabash Avenue, and typical sections through Wabash, Lake, Wells and Van Buren Streets appear on the following pages.





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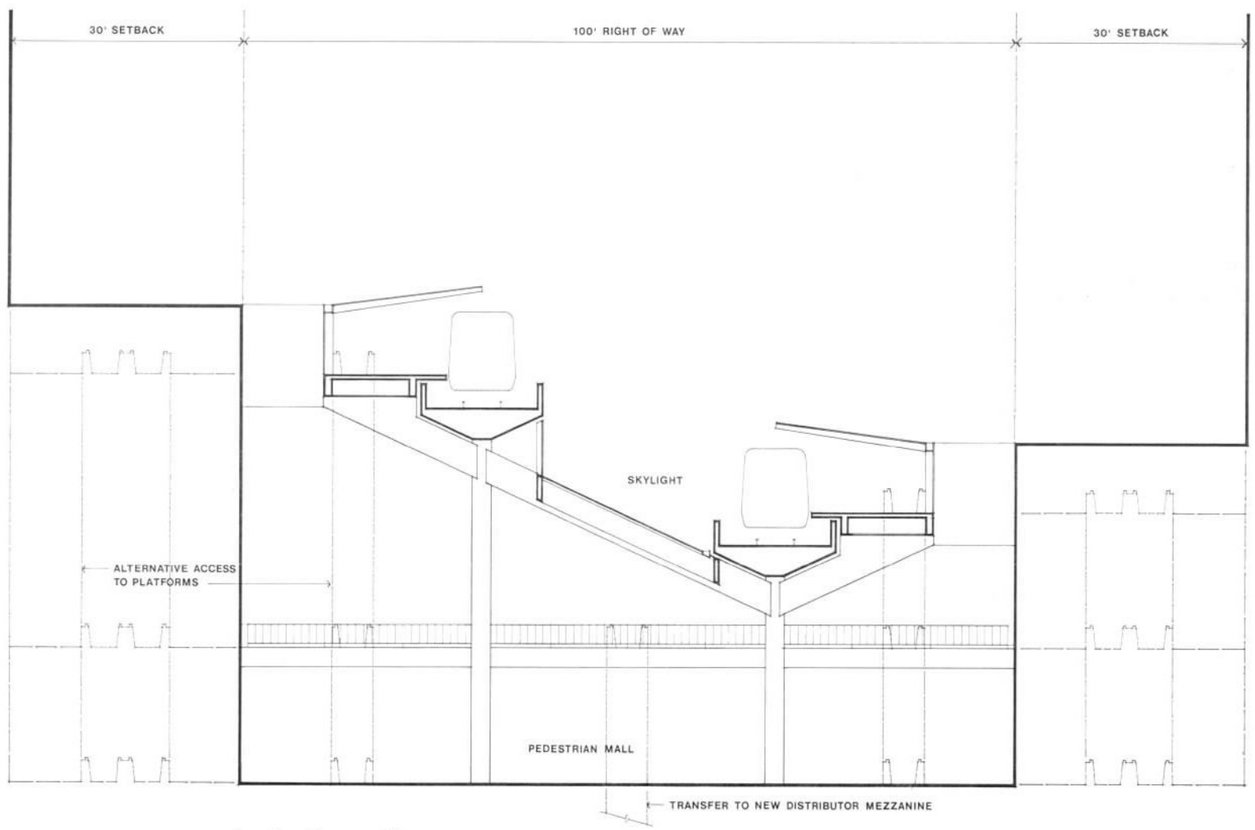

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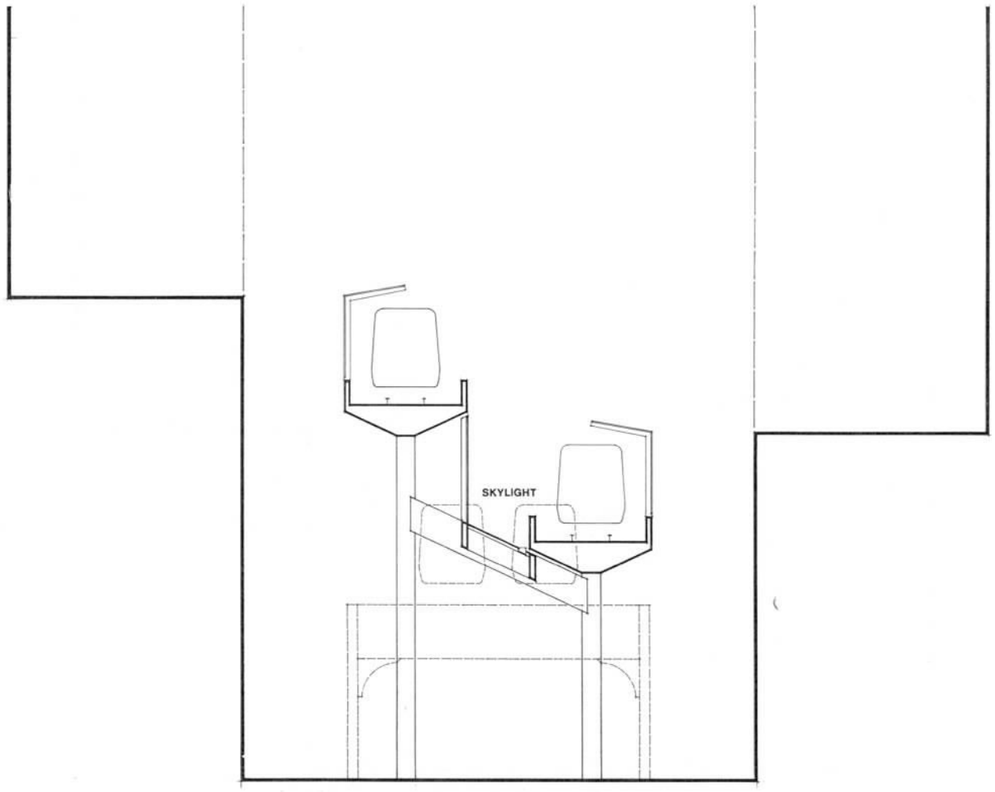
WABASH



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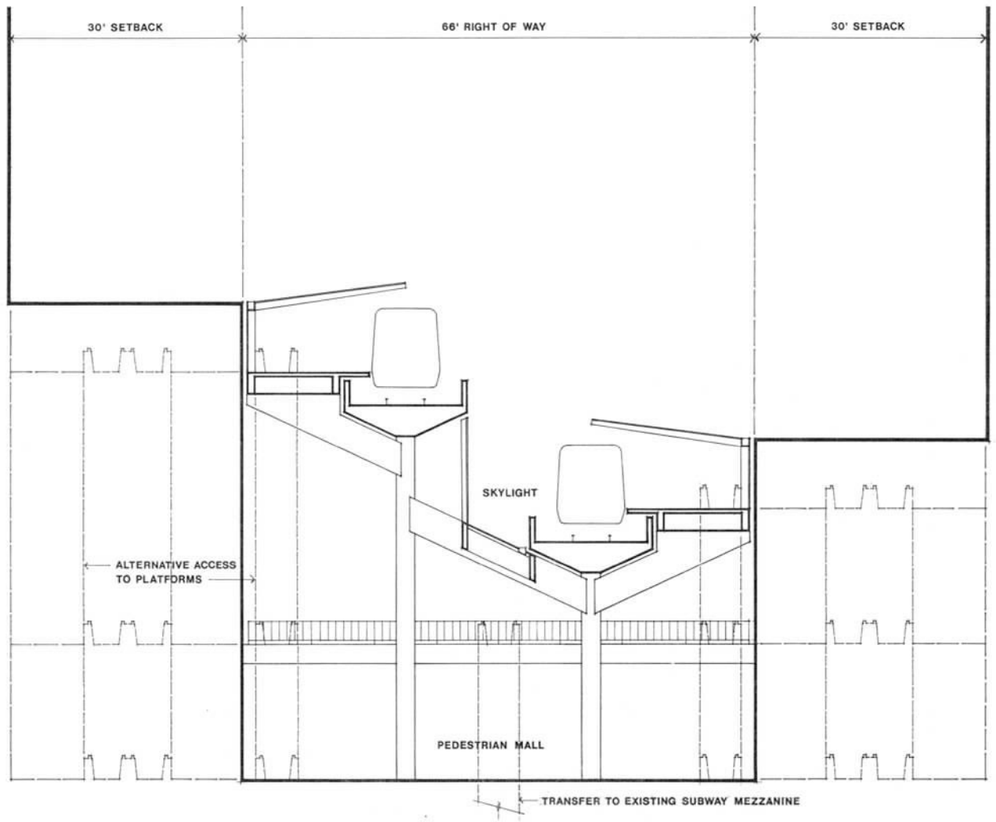

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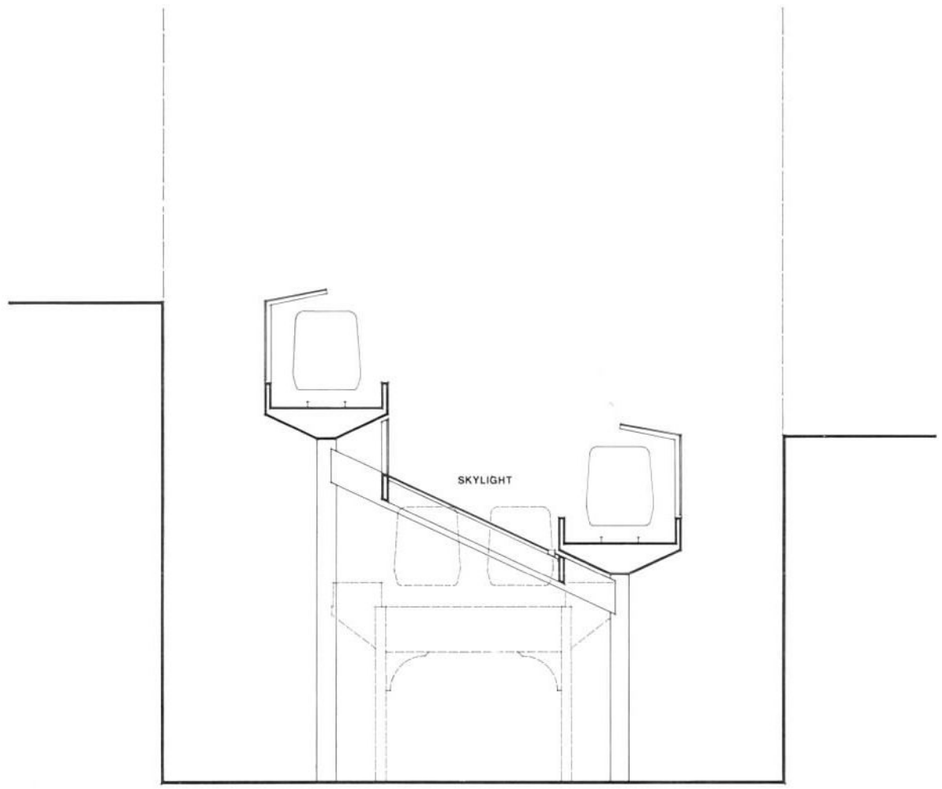
VAN BUREN



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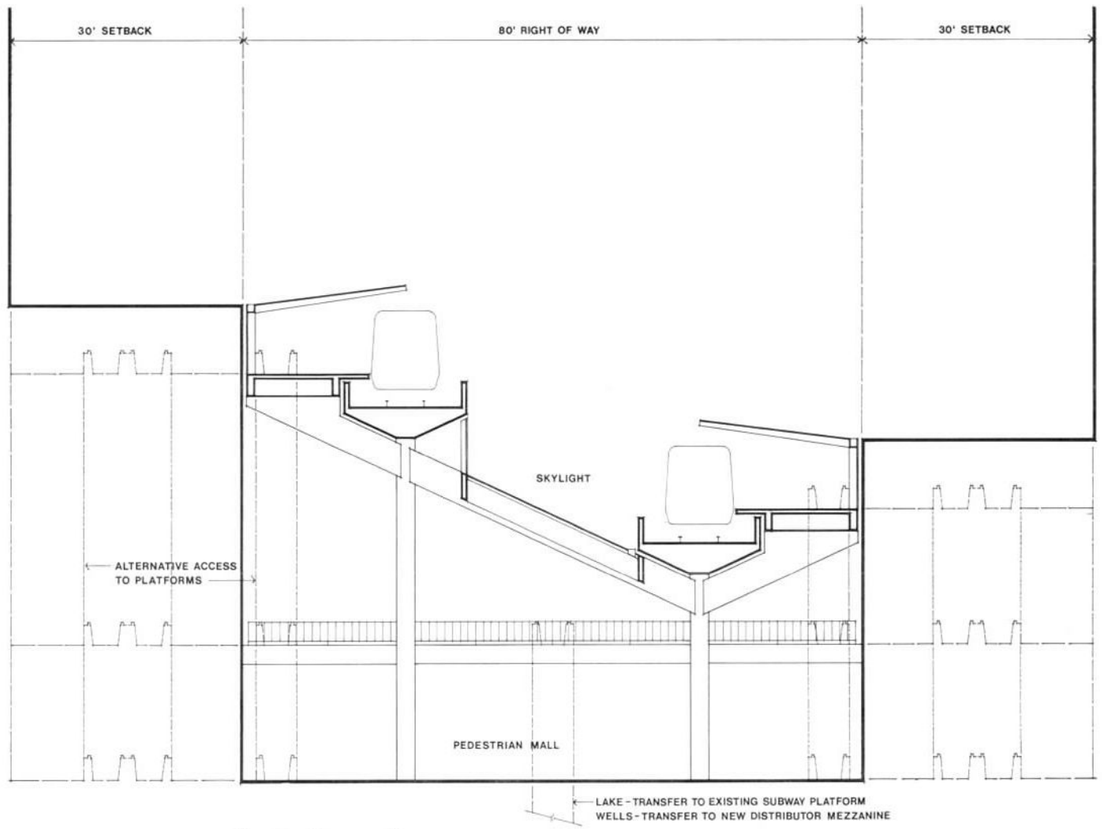

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SECTION AT PLATFORMS

LAKE · WELLS

Appendix H

COMMENTS AND RESPONSES TO E I A

Appendix H

COMMENTS AND RESPONSES TO E.I.A.

This appendix incorporates a summary of comments and responses to the Environmental Impact Analysis. The comments were received at two public hearings held on January 22, 1974. The transcripts of these hearings and the written responses are contained in a CUTD report entitled, "Environmental Impact Analysis, Comments and Responses."

22 JANUARY, 10 A.M. MEETING

speaker	Summary
(Thomas H. Coulter)	Favors 1968 plan with modifications. Build Monroe Street and lines to the Hancock Building and McCormick Place first.
(Nelson Forest)	Build Monroe Street and the Hancock and McCormick Place connections first. Build the Franklin Street north line to Montgomery Ward and the Cabrini-Green Housing area.
(William M. Freund)	Improve access to Union Station and Interface with buses.
(James Houlihan)	Improve community dialog. Establish a timetable. Develop an affirmative action program. Improve bus service.
(Margaret B. Norment)	Provide service to Montgomery Ward with a station at Division Street. Improve bus service.
(Philip De Filippo)	Improve bus service.
(Anthony Haswell)	Submitted written comment.
(Robert S. Small)	Wants out of the District.
(Robert M. Kenutis)	Wants provisions for the handicapped.
(James T. Arvey)	Don't save the existing "L". Make provisions for elder citizens. Provide service to the Cabrini area.
(Wilfred Brimlay)	Tear down the "L". It is noisy and people are afraid to walk in the area.
(August Crisman)	Provide for the handicapped.
(Norton V. Smith, Jr.)	Wants out of the District.
(John Mac Bauer)	Has an alternative plan - will discuss with the District.

22 JANUARY, 6 P.M. MEETING

(Alderman Seymour Simon)	Don't tear down the "L" until better service is provided. Provide an adequate police force on the system.
(Alderman Burton F. Natarus)	Inform the community of the length of the construction period. Consider the narrow streets on Fairbanks Court and the possibility of the Michigan Avenue alignment. Consider the effect of a 600 ft. station on Walton Street.
(Leonard Karlin)	Suggested alternate routing of trains from the D ouglas line to the Milwaukee line.
(Senator Dawn Netsch)	Favored more public hearings.

Speaker	summary
(unnamed voice)	Save the "L" for rush hour.
(Frank Miller)	Cost, inflation and suggested alternative routing of system.
(Sam Guard)	Availability of the Environmental Impact Analysis.
(Garland Guice)	Submitted written statement. Wants consideration of minority business.
(Dan O'Connell)	Favored Wards-Cabrini-Green alignment. Wants improved bus service.
(Mel Cain)	Favored Cabrini-Green/Wards alignment.
(Chuck Leavitt)	Questioned mathematics.

WRITTEN COMMENTS

(Chicago Union Station)	Improved access.
(Thomas H. Coulter)	In transcript.
(Anthony Haswell)	Alternate train routings.

writer	summary
(Garland Guice)	Availability of information. Handicapped provisions. Equal opportunity provisions. Publication in minority newspapers.
(Dan O'Connell)	In Transcript.
(Michael Reese Hospital)	Wants the McCormick line extended south to 29th Street. (beyond District boundary)
(Leonard Karlin)	Extensions of service beyond District Boundaries. Provision of parking lots at outlying locations.

writer	summary
(Joseph Zucker)	Supports aerial alternative.
(American Association of Architects)	Supports aerial alternative.

Thus the basic themes of all comments received can be capsuled as follows:

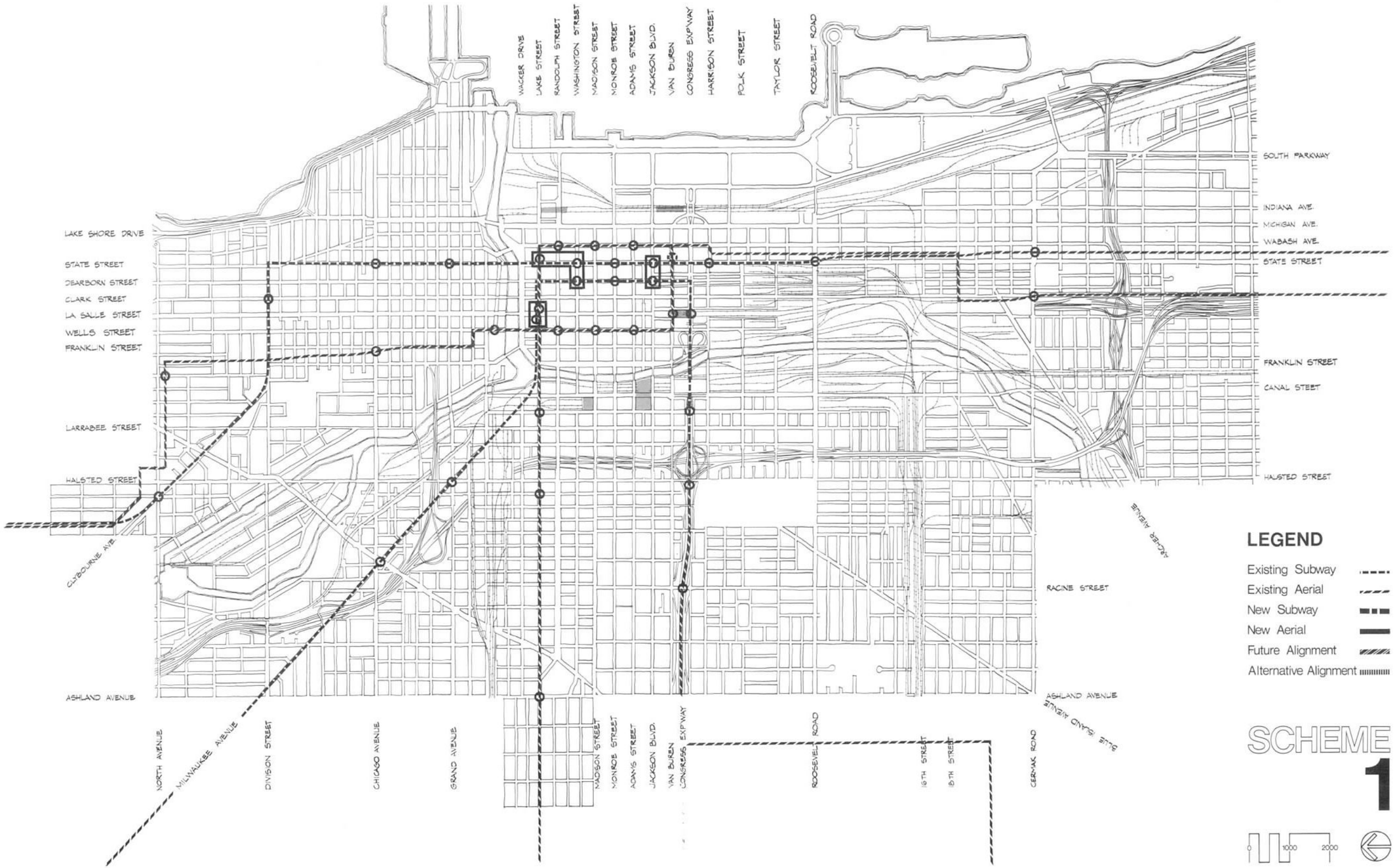
1. Adopt the 1968 plan with modifications to suit changed conditions.
2. Study the North Michigan Avenue alignment and the possibility of a station at Balbo Drive.
3. Adopt the Montgomery Ward/Cabrini-Green alignment.
4. Improve the interface of transit and bus service to Union Station.
5. Improve the dialog between the community and the District.
6. Establish a sequence of construction of various portions of the project.
7. Establish an affirmative action plan.
8. Improve bus service.
9. Want out of the District.
10. Make provisions for the elderly and handicapped.
11. Suggestions for alternative routing of the rapid transit system operation.
12. Don't tear down the "L" until new service is provided.
13. Provide a police force on the transit system.
14. Make District information more readily available.
15. Mathematics questioned.
16. Construct the aerial alternative.
17. Do further study on malls in the downtown area and on a connection with the Distributor to the Milwaukee line.

Section 7

DRAWINGS

Appendix I

ALTERNATIVE ROUTE ALIGNMENT SCHEMES



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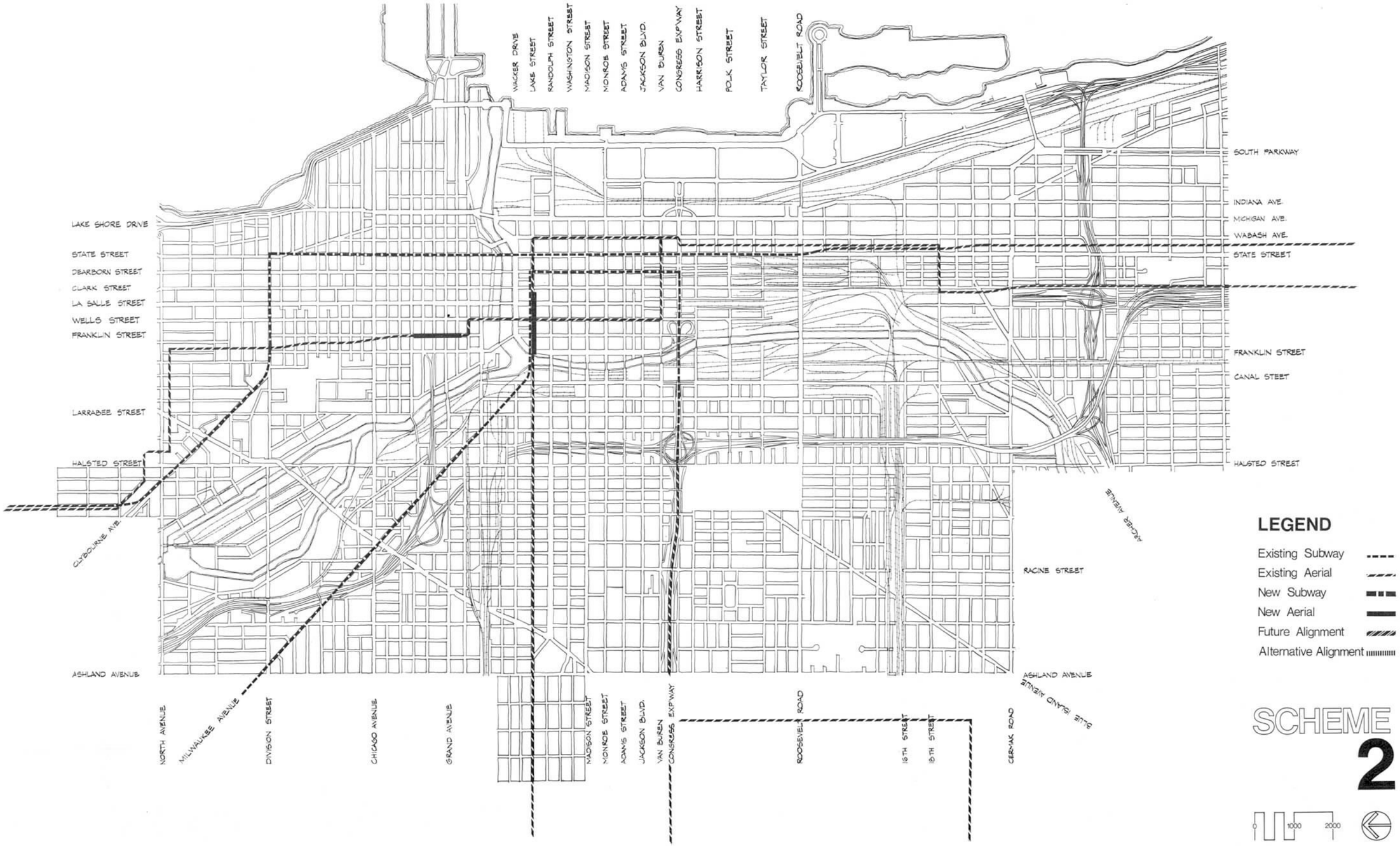

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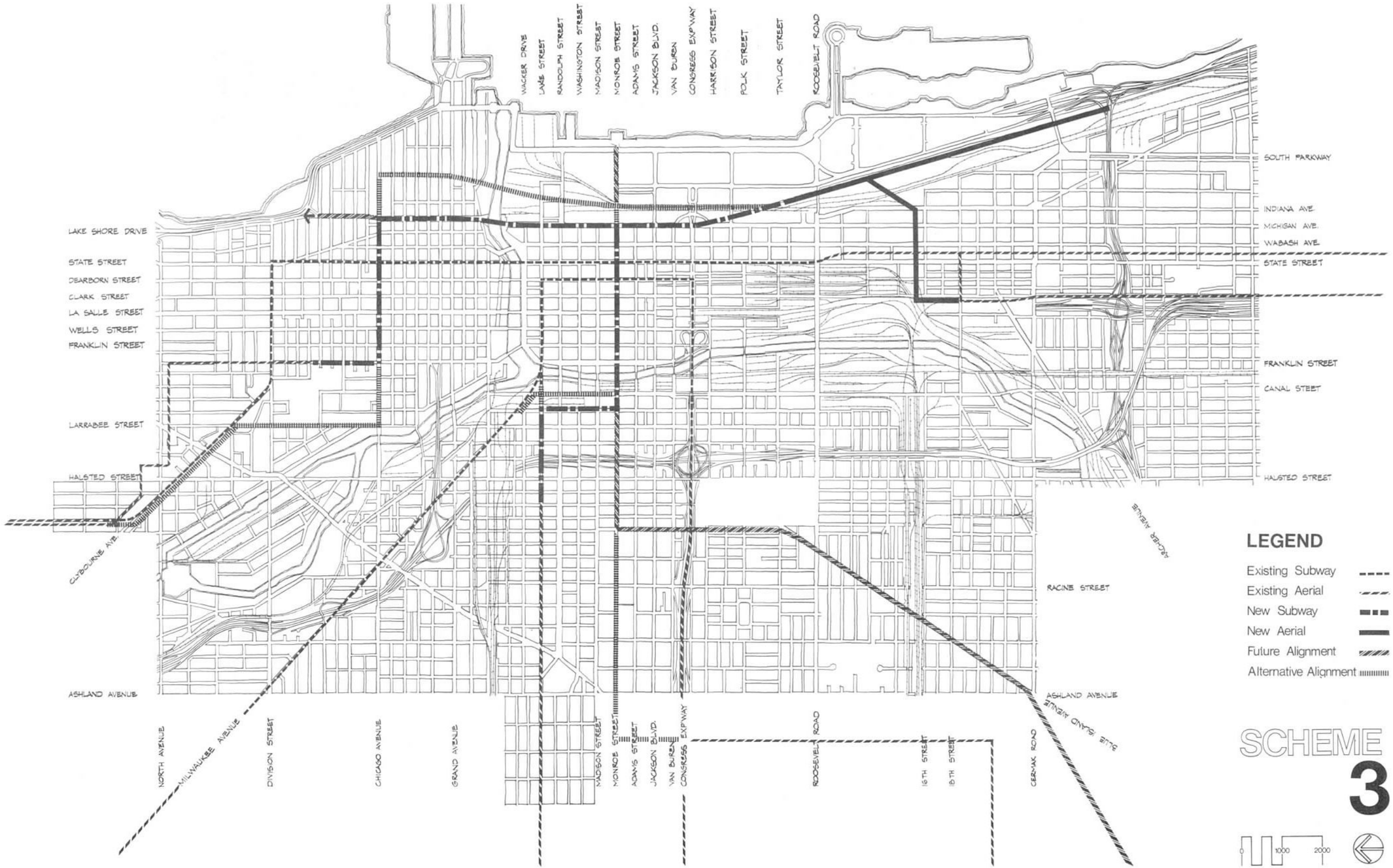

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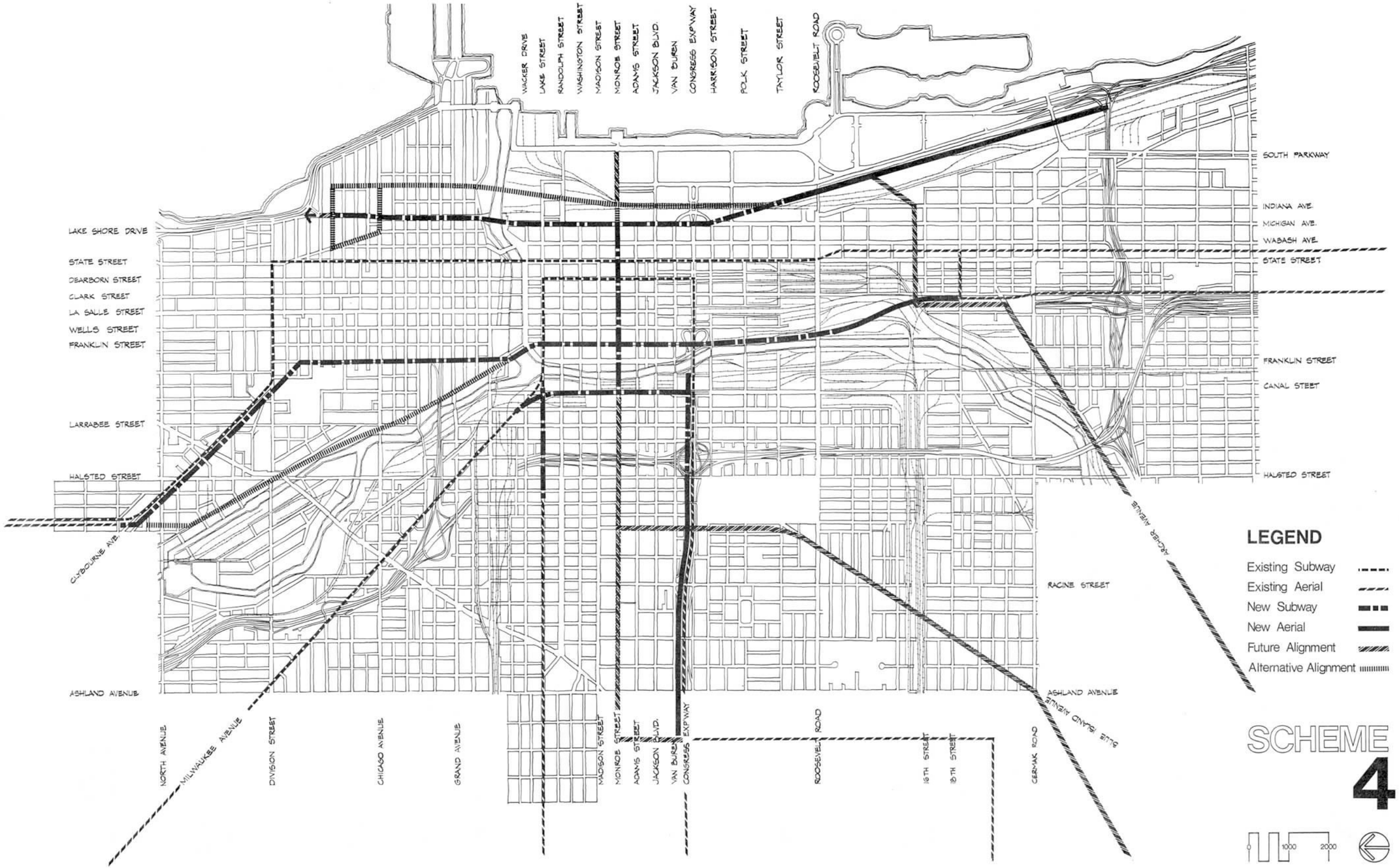
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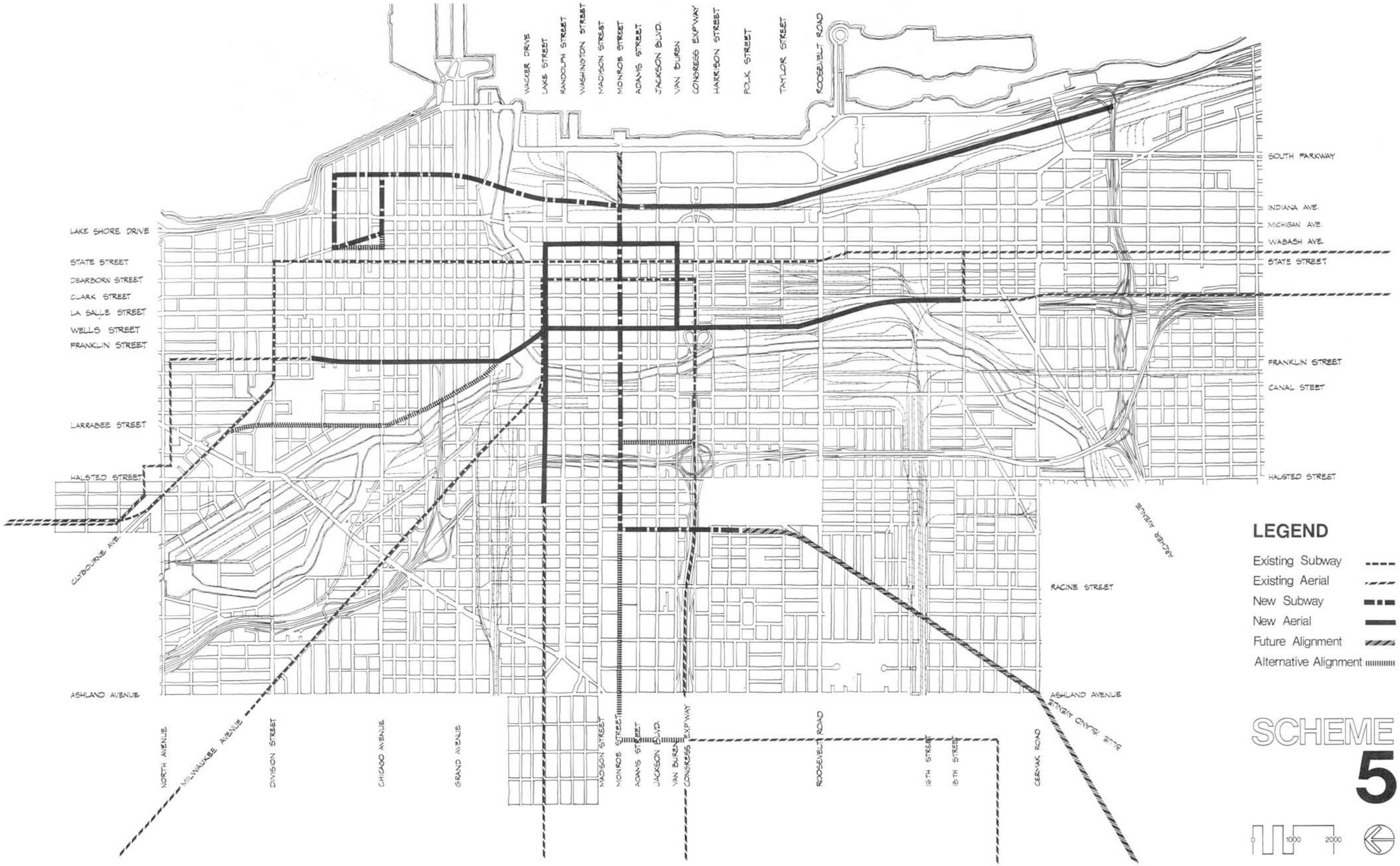

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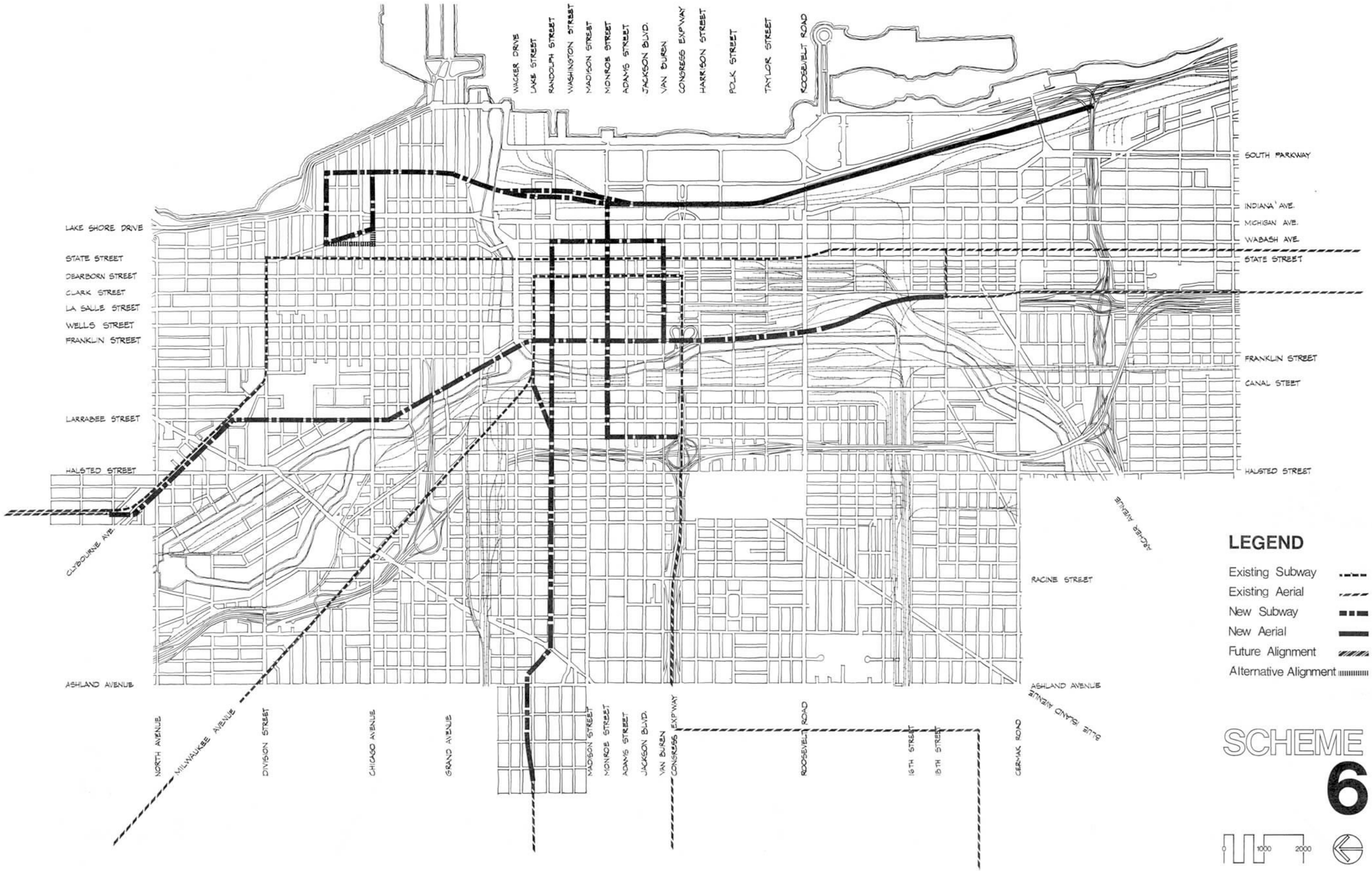

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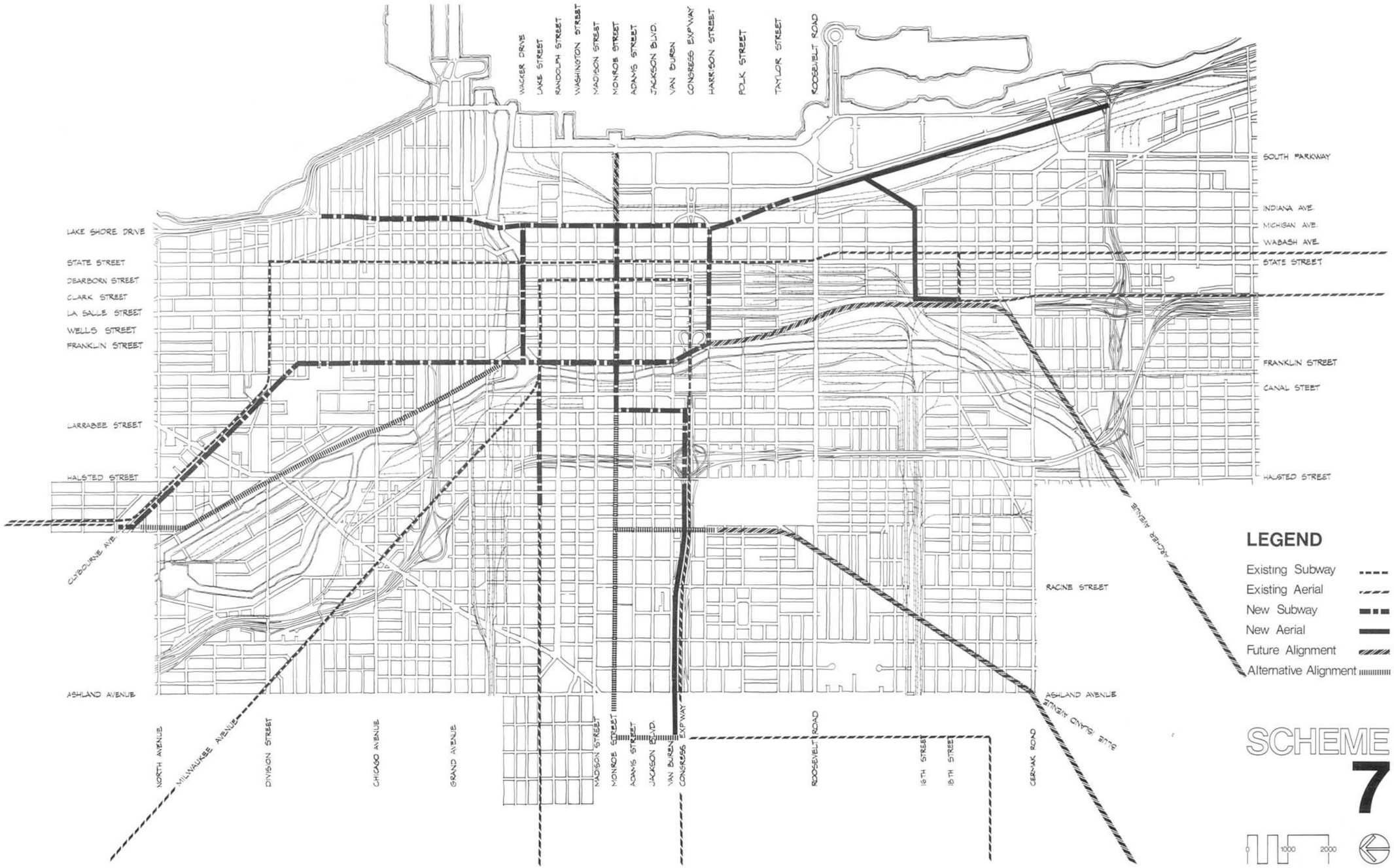
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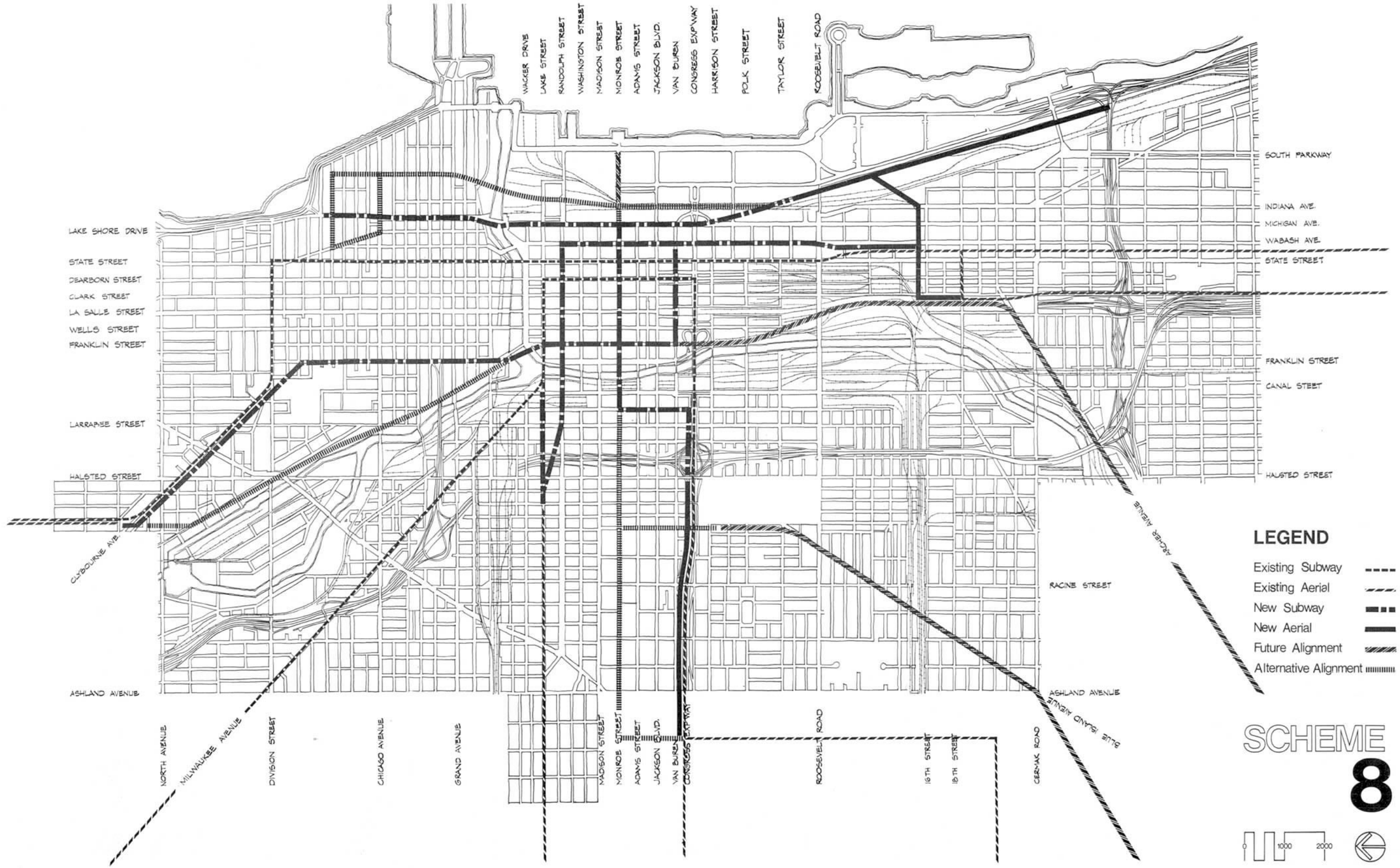
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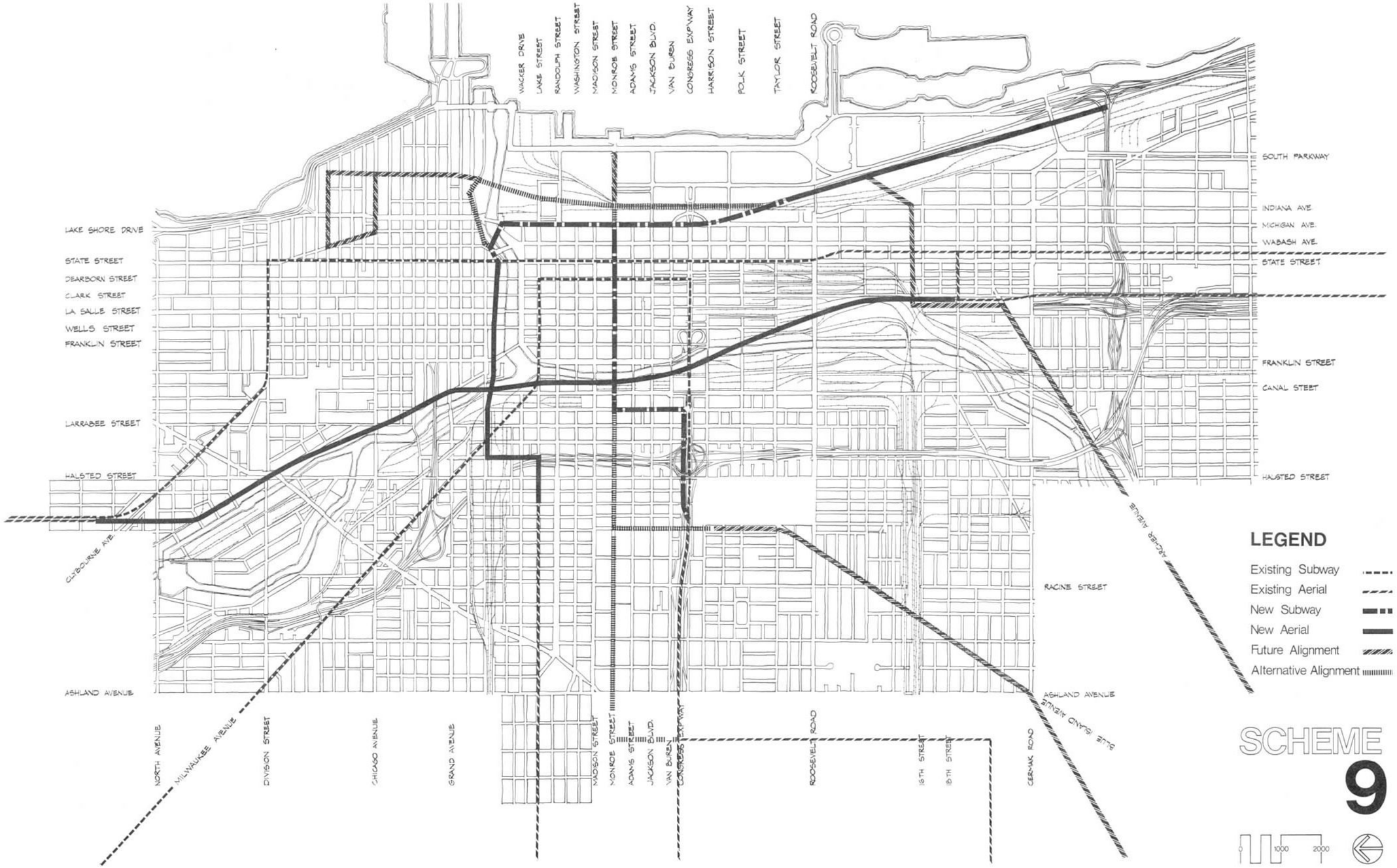
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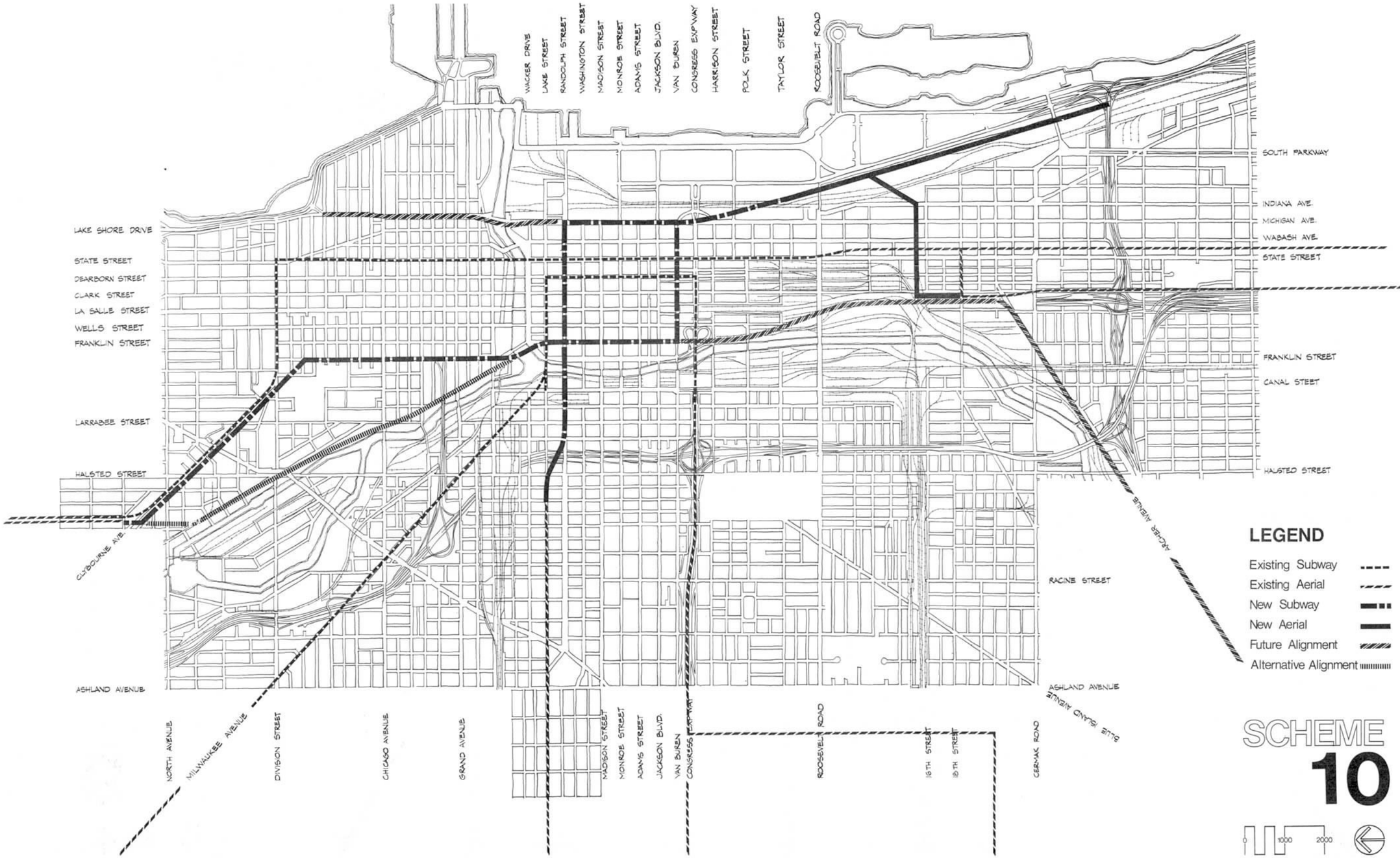
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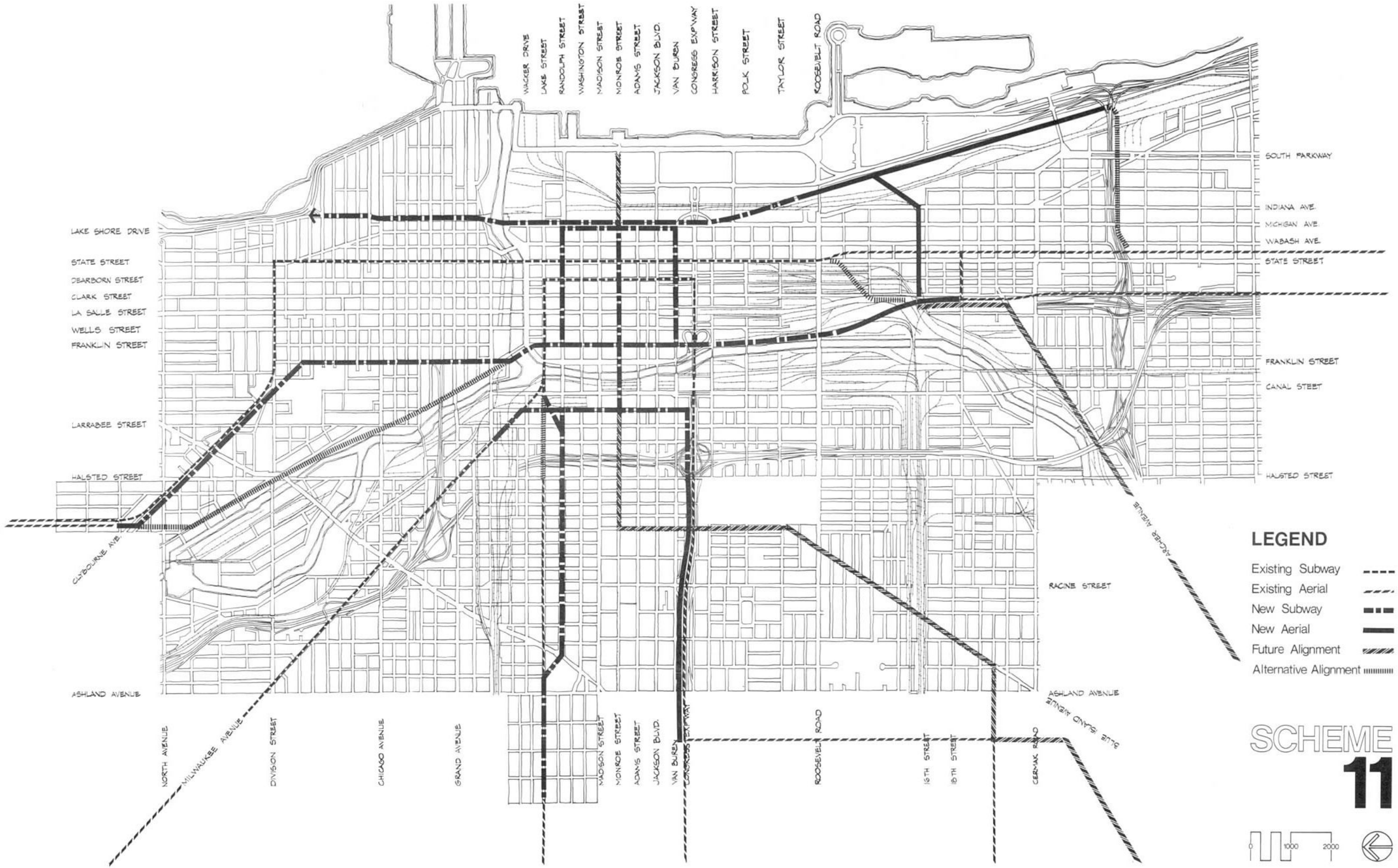

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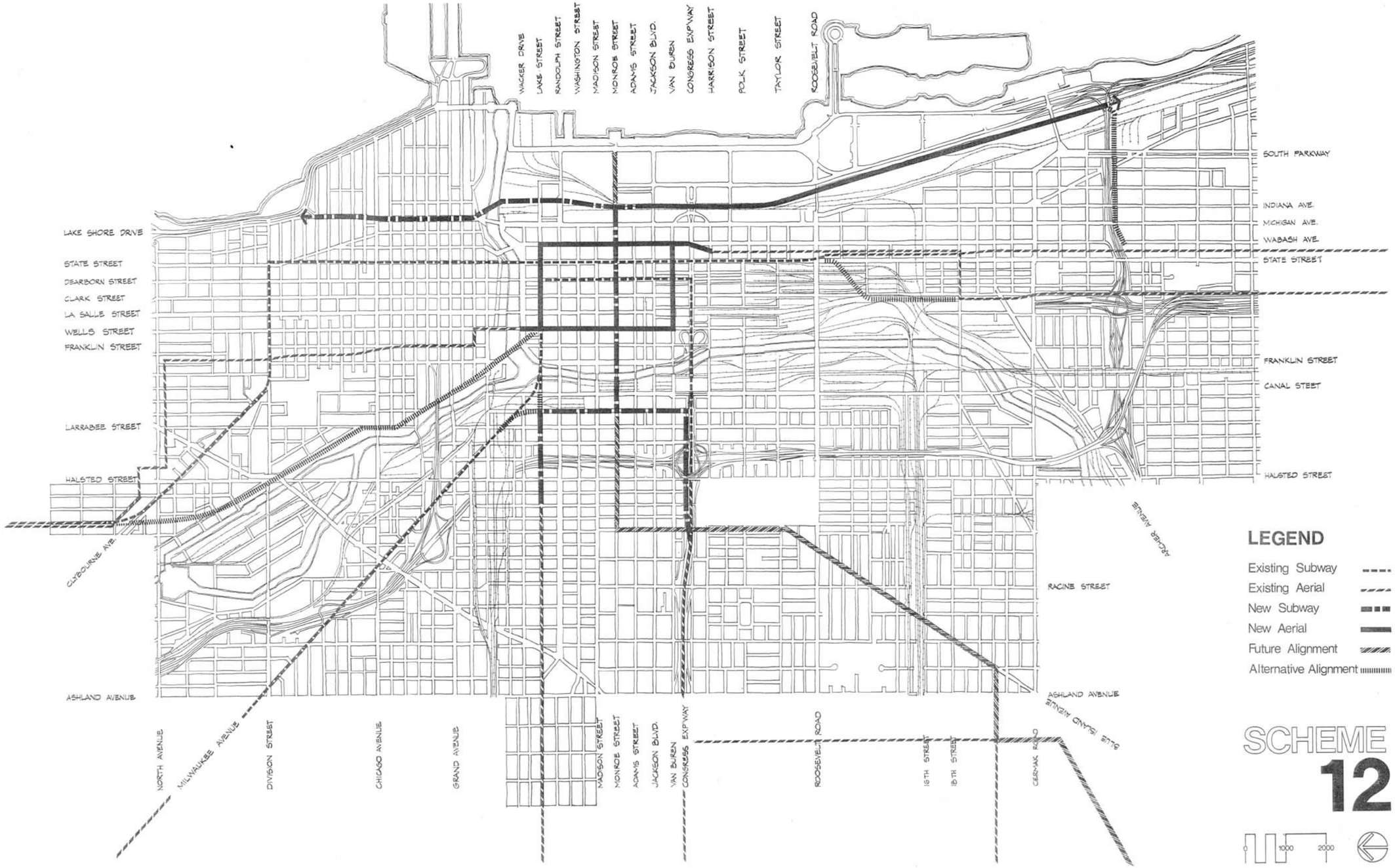

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- Alternative Alignment

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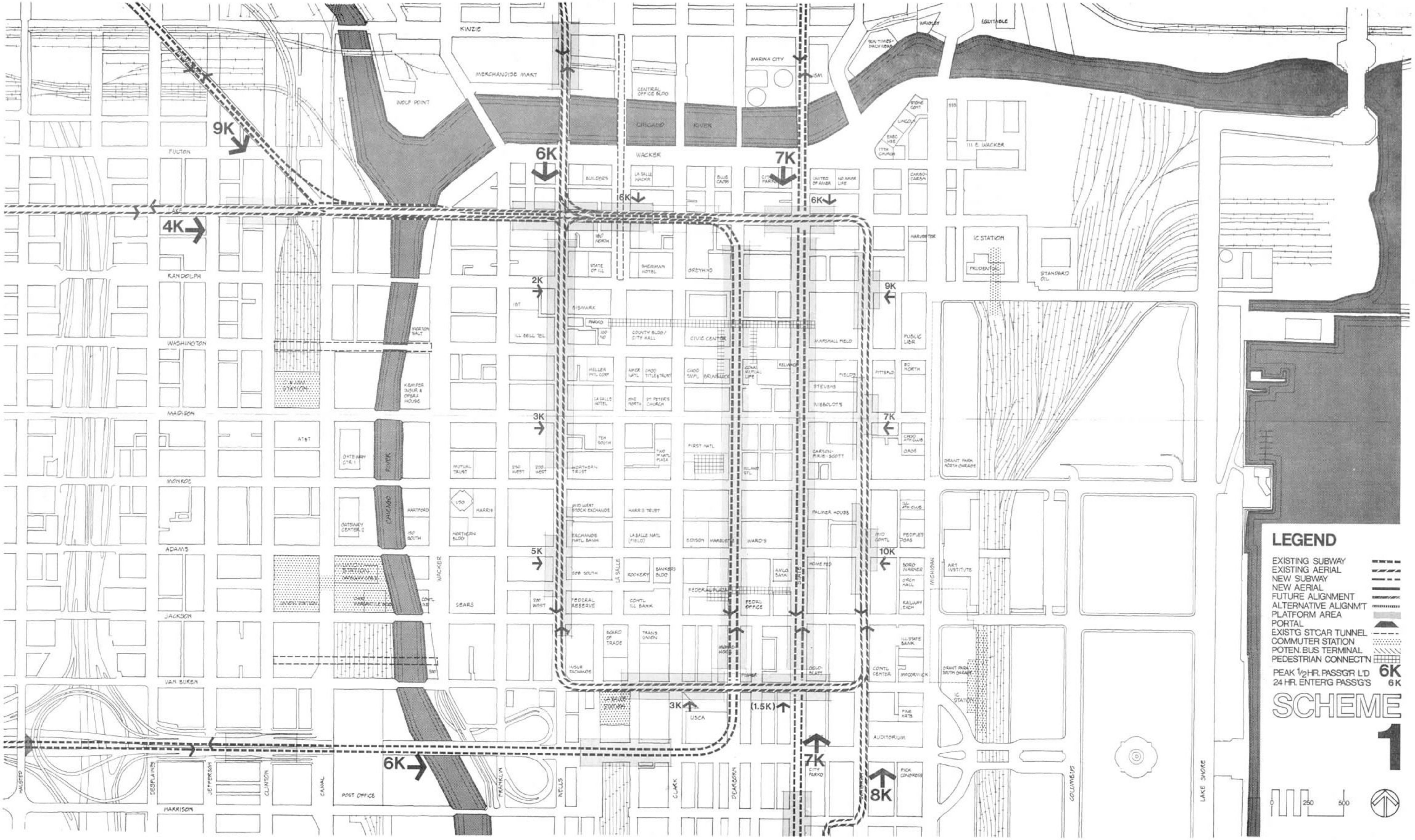
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- COMMUTER STATION
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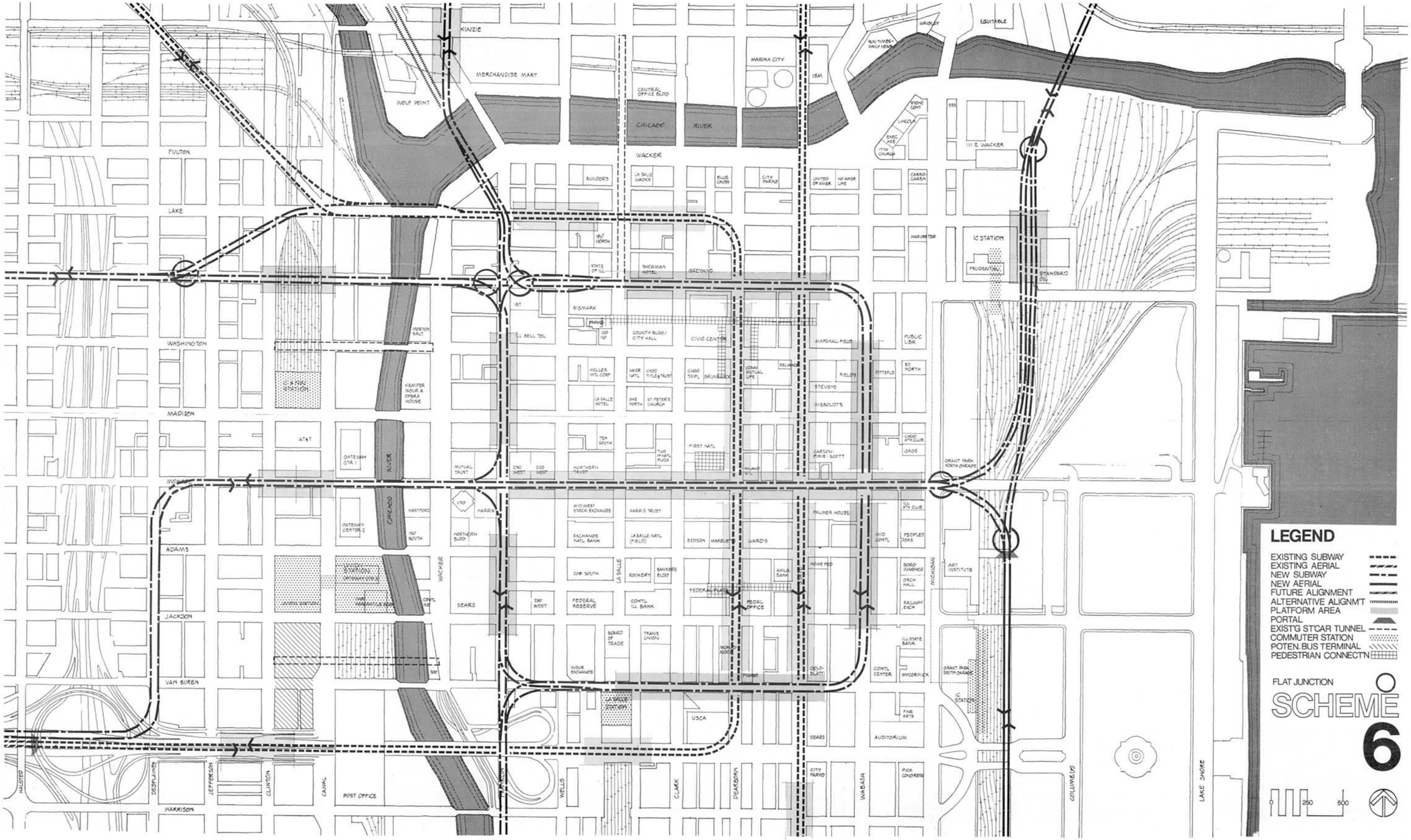

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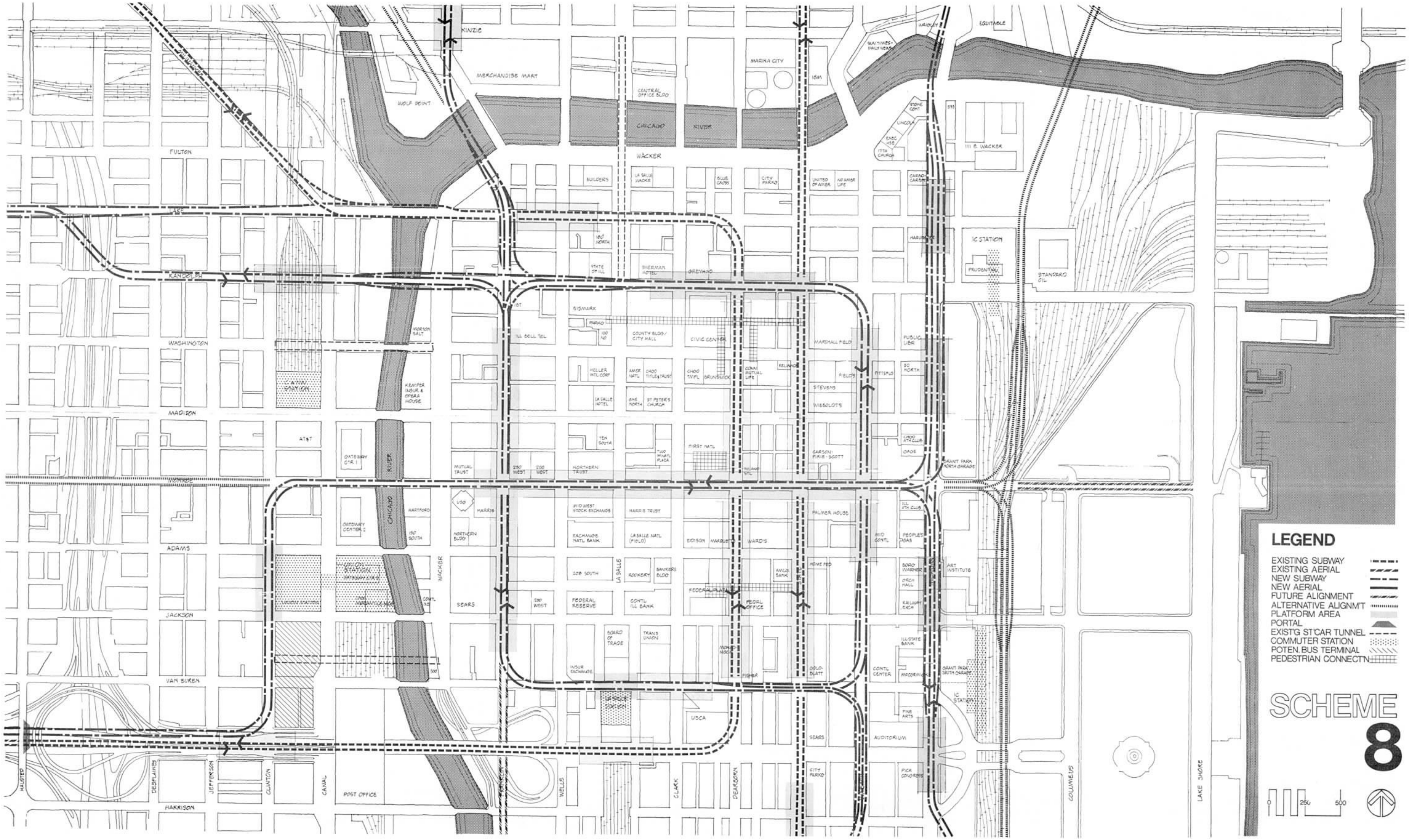
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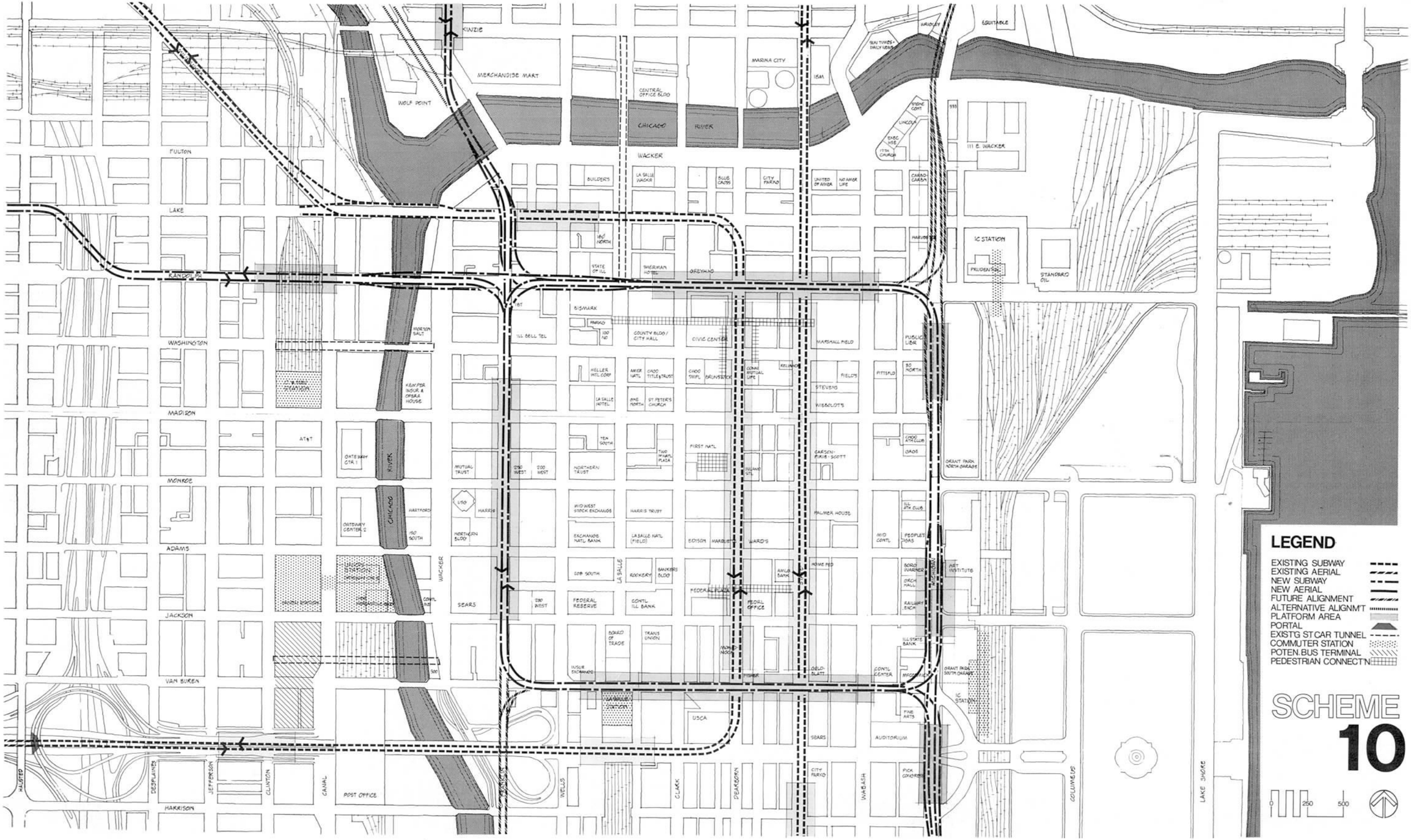

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- PLATFORM AREA
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- POTEN BUS TERMINAL
- PEDESTRIAN CONNECT'N

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Appendix J

EVALUATION CRITERIA MATRICES

ALTERNATIVE EVALUATION CRITERIA

LEGEND
SHADING INDICATES CONTRIBUTION OF ALTERNATIVE TO ATTAINMENT OF INDICATED GOALS AND OBJECTIVES.
○ MINIMUM CONTRIBUTION
● MAXIMUM CONTRIBUTION

ALTERNATIVE CONSIDERED	SERVICE									COMMENTS
	DOWNTOWN ACCESSIBILITY	PATRONAGE	SYSTEM TRANSFER	PASSENGER SECURITY	AVERAGE TRAVEL TIME	PASSENGER CONVENIENCE	FUTURE EXPANSION POTENTIAL	TRANSIT SERVICE TO NEW AREAS		
1. DO NOTHING										CONTINUATION OF PRESENT TRENDS OF DETERIORATING SERVICE IN ALL ELEMENTS. LOOP DEVELOPMENT SERIOUSLY SET BACK
2. UPGRADE EXISTING ELEVATED STRUCTURE										SAFER DUE TO ELIMINATION OF GRADE CROSSING, MODERATE DETERIORATION OF SERVICE FORCAST.
3. ELIMINATE LOOP BUILD EAST WEST DISTRIBUTOR										SERIOUS CURTAILMENT OF ACCESS TO LOOP. MAJOR FORMS OF DEVELOPMENT WILL SHIFT TO NEAR NORTH SIDE AND PERIPHERY LEAVING LOOP AS A GHOST TOWN.
4. ELIMINATE LOOP BUILD E W DISTRIBUTOR AND N S ROUTE										CURTAILMENT OF ACCESS TO LOOP WOULD HAVE SAME IMPLICATION AS #3 AT MODERATE LEVEL THOUGH.
5. REPLACE LOOP WITH NEW ELEV STRUCTURE										DIFFICULTY OF TRANSFER BETWEEN ELEVATED LOOP AND ALL SUBWAY LINES REPRESENT ONLY HANDICAP. DILUTION OF COMMERCIAL DEVELOPMENT EFFORTS BETWEEN UNDERGROUND AND ELEVATED.
6. REPLACE LOOP WITH RECOMMENDED SUBWAY LOOP AND DISTRIBUTOR										ALL SERVICE ELEMENTS WOULD IMPROVE DRAMATICALLY.
7. REPLACE LOOP WITH WACKER DRIVE GRANT PARK SUBWAY WITH DISTRIBUTOR										LIMITATIONS TO ACCESS TO SYSTEM IS A SERIOUS HANDICAP. SCHEME WILL ALSO UPSET COMMUTER'S PATTERN. LONG WALKING DISTANCES FOR SOME.
8. REPLACE LOOP WITH MODIFIED RECOMMENDED SUBWAY LOOP AND DISTRIBUTOR										ALL SERVICE ELEMENTS WOULD IMPROVE DRAMATICALLY.
9. REPLACE LOOP WITH SUBWAY WITH N S LEG WEST OF RIVER										DIRECT ACCESSIBILITY TO HEART OF LOOP SERIOUSLY CURTAILED. COMMUTER'S PATTERN UPSET. LONG WALKING DISTANCES FOR MANY NO NET SERVICE IMPROVEMENT EXPECTED.
10. REPLACE LOOP WITH SUBWAY AND ELIMINATE DISTRIBUTOR										POSSIBLE LIMITATIONS TO FUTURE EXPANSION IS A HANDICAP. QUESTION ABOUT SYSTEM CAPACITY TO HANDLE EXPECTED TRAFFIC VOLUMES.
11. REPLACE LOOP WITH SUBWAY WITH EAST LEG AND DISTRIBUTOR ON MICHIGAN AVE										ALL SERVICE ELEMENTS WOULD IMPROVE DRAMATICALLY.
12. REPLACE LOOP WITH NEW ELEV STRUCTURE & E W DISTR W/SUBWAY ADDED ON CLINTON										DIFFICULTY OF TRANSFER BETWEEN ELEVATED LOOP AND ALL SUBWAY LINES. DILUTION OF COMMERCIAL DEVELOPMENT EFFORTS BETWEEN UNDERGROUND AND ELEVATED.

ALTERNATIVE EVALUATION CRITERIA

LEGEND
SHADING INDICATES CONTRIBUTION OF ALTERNATIVE TO ATTAINMENT OF INDICATED GOALS AND OBJECTIVES.
○ MINIMUM CONTRIBUTION
● MAXIMUM CONTRIBUTION

ALTERNATIVE CONSIDERED	OPERATIONS							COMMENTS
	FLEXIBILITY FOR EXPANSION	SERVICE TO LOOP	INTERFACE WITH STREETS AND VEHICLE TRAFFIC	RESERVE CAPACITY	ELIMINATE LIFT BRIDGE OPERATION	PRESERVE EXISTING TRAIN ROUTINGS		
1. DO NOTHING								
2. UPGRADE EXISTING ELEVATED STRUCTURE								
3. ELIMINATE LOOP BUILD EAST WEST DISTRIBUTOR								
4. ELIMINATE LOOP BUILD E W DISTRIBUTOR AND N S ROUTE								
5. REPLACE LOOP WITH NEW ELEV STRUCTURE								
6. REPLACE LOOP WITH RECOMMENDED SUBWAY LOOP AND DISTRIBUTOR								
7. REPLACE LOOP WITH WACKER DRIVE GRANT PARK SUBWAY WITH DISTRIBUTOR								
8. REPLACE LOOP WITH MODIFIED RECOMMENDED SUBWAY LOOP AND DISTRIBUTOR								
9. REPLACE LOOP WITH SUBWAY WITH N S LEG WEST OF RIVER								
10. REPLACE LOOP WITH SUBWAY AND ELIMINATE DISTRIBUTOR								
11. REPLACE LOOP WITH SUBWAY WITH EAST LEG AND DISTRIBUTOR ON MICHIGAN AVE								
12. REPLACE LOOP WITH NEW ELEV. STRUCTURE AND E W DISTRIBUTOR WITH SUBWAY ADDED IN CLINTON								

ALTERNATIVE EVALUATION CRITERIA

LEGEND
SHADING INDICATES CONTRIBUTION OF ALTERNATIVE TO ATTAINMENT OF INDICATED GOALS AND OBJECTIVES.
○ MINIMUM CONTRIBUTION
● MAXIMUM CONTRIBUTION

ALTERNATIVE CONSIDERED	COST	COMMENTS
	COST	
1. DO NOTHING	ZERO	
2. UPGRADE EXISTING ELEVATED STRUCTURE	$160 (MILLIONS)	
3. ELIMINATE LOOP BUILD EAST WEST DISTRIBUTOR	730	
4. ELIMINATE LOOP BUILD E W DISTRIBUTOR AND N S ROUTE	1,280	
5. REPLACE LOOP WITH NEW ELEV STRUCTURE	910	
6. REPLACE LOOP WITH RECOMMENDED SUBWAY LOOP AND DISTRIBUTOR	1,550	
7. REPLACE LOOP WITH WACKER DRIVE GRANT PARK SUBWAY WITH DISTRIBUTOR	1,760	
8. REPLACE LOOP WITH MODIFIED RECOMMENDED SUBWAY LOOP AND DISTRIBUTOR	1,590	
9. REPLACE LOOP WITH SUBWAY WITH N S LEG WEST OF RIVER	820	
10. REPLACE LOOP WITH SUBWAY AND ELIMINATE DISTRIBUTOR	1,015	
11. REPLACE LOOP WITH SUBWAY WITH EAST LEG AND DISTRIBUTOR ON MICHIGAN AVE	1,715	
12. REPLACE LOOP WITH NEW ELEV STRUCTURE & E W DISTR W/SUBWAY ADDED ON CLINTON	830	

ALTERNATIVE EVALUATION CRITERIA

LEGEND
SHADING INDICATES CONTRIBUTION OF ALTERNATIVE TO ATTAINMENT OF INDICATED GOALS AND OBJECTIVES.
○ MINIMUM CONTRIBUTION
● MAXIMUM CONTRIBUTION

ALTERNATIVE CONSIDERED	SOCIAL FACTORS							COMMENTS
	ACCESSIBILITY TO JOBS & SERVICES	SAFETY & SECURITY	COMPATIBILITY WITH CURRENT PLANNING	POTENTIAL FOR JOINT DEVELOPMENT	FLEXIBILITY	SOCIAL COHESIVENESS		
1. DO NOTHING	○	○	○	○	○	○		PRESENT DEFICIENCIES REMAIN
2. UPGRADE EXISTING ELEVATED STRUCTURE	◔	◔	○	○	◔	○		IMPROVEMENTS IN STATION FACILITIES COULD MAKE TRANSFERS EASIER AND ENHANCE SECURITY
3. ELIMINATE LOOP BUILD EAST WEST DISTRIBUTOR	◒	◒	◔	○	◔	◒		CIRCUITOUS CONNECTION BETWEEN CABRINI-GREEN AREA AND DOWNTOWN. MINIMAL DISRUPTION IN CORE.
4. ELIMINATE LOOP BUILD E W DISTRIBUTOR AND N S ROUTE	◒	◕	◒	◔	◔	◕		MINIMAL DISRUPTION IN CORE
5. REPLACE LOOP WITH NEW ELEV STRUCTURE	◕	◒	◔	◒	◒	○		COUNTER TO MAJORITY EXPECTATIONS
6. REPLACE LOOP WITH RECOMMENDED SUBWAY LOOP AND DISTRIBUTOR	●	◕	●	●	◕	●		
7. REPLACE LOOP WITH WACKER DRIVE GRANT PARK SUBWAY WITH DISTRIBUTOR	◕	◒	◒	◕	◕	◕		STATION SECURITY PROBLEMS UNDER WACKER DR. AND MICHIGAN
8. REPLACE LOOP WITH MODIFIED RECOMMENDED SUBWAY LOOP AND DISTRIBUTOR	●	◕	●	◕	●	◕		ELIMINATION OF PEDESTRIAN WALKWAYS UNDER STATE STREET. RETENTION OF HALSTED-WALCOTT SECTION OF LAKE ST. ELEVATED.
9. REPLACE LOOP WITH SUBWAY WITH N S LEG WEST OF RIVER	◕	◕	◔	◕	◕	◕		RAVENSWOOD ALIGNMENT WILL IMPEDE RIVERFRONT DEVELOPMENT.
10. REPLACE LOOP WITH SUBWAY AND ELIMINATE DISTRIBUTOR	◒	◔	◒	◒	◕	◒		ABSENCE OF DISTRIBUTOR WILL LIMIT ACCESS TO NEAR NORTH JOBS AND SERVICES.
11. REPLACE LOOP WITH SUBWAY WITH EAST LEG AND DISTRIBUTOR ON MICHIGAN AVE	◕	◕	◒	◕	●	◕		DISTRIBUTOR SERVES COMMERCIAL FUNCTIONS BETTER THAN SOCIAL FUNCTIONS IN NEAR NORTH AREA.
12. REPLACE LOOP WITH NEW ELEV STRUCTURE & E W DISTR W/SUBWAY ADDED ON CLINTON	◕	◕	◔	◒	◒	○		COUNTER TO MAJORITY EXPECTATIONS.

ALTERNATIVE EVALUATION CRITERIA

LEGEND
SHADING INDICATES CONTRIBUTION OF ALTERNATIVE TO ATTAINMENT OF INDICATED GOALS AND OBJECTIVES.
○ MINIMUM CONTRIBUTION
● MAXIMUM CONTRIBUTION

ALTERNATIVE CONSIDERED	ECONOMIC FACTORS					COMMENTS
	OFFICE SPACE	LAND VALUES	RETAIL SALES	HOTELS	RESIDENTIAL	
1. DO NOTHING	◔	◔	◔	◔	◒	FUTURE COMMERCIAL AND RESIDENTIAL REDEVELOPMENT OF THE CENTRAL AREA WOULD BE SEVERELY CONSTRAINED BY THE DO NOTHING ALTERNATIVE.
2. UPGRADE EXISTING ELEVATED STRUCTURE	◔	◔	◔	◔	◒	THE OPERATIONAL IMPROVEMENTS THAT ARE INCLUDED IN THIS ALTERNATIVE WOULD NOT PRODUCE ANY MEASUREABLE DEVELOPMENT GAINS TO THE CENTRAL AREA.
3. ELIMINATE LOOP BUILD EAST WEST DISTRIBUTOR	◒	◒	◒	◕	◒	THIS ALTERNATIVE WOULD PRIMARILY ENHANCE THE COMMERCIAL DEVELOPMENT POTENTIAL OF MICHIGAN AVENUE THE BLIGHTING ECONOMIC INFLUENCE OF THE EXISTING EL SYSTEM WOULD BE ELIMINATED. THE ONLY MEASUREABLE LAND USE CHANGES THAT WOULD OCCUR RELATE TO HOTEL DEVELOPMENT.
4. ELIMINATE LOOP BUILD E W DISTRIBUTOR AND N S ROUTE	◕	◕	◒	◕	◕	COMMERCIAL OFFICE CONSTRUCTION ACTIVELY WOULD BE INDUCED BY THIS ALTERNATIVE ALONG FRANKLIN STREET. RELATED INCREASES IN RETAIL SALES REVENUES WOULD BE SLIGHTLY HIGHER THAN ALTERNATIVE 3. ADDITIONAL IMPETUS WOULD ALSO BE GIVEN TO RESIDENTIAL DEVELOPMENT IN THE CANAL STREET AREA.
5. REPLACE LOOP WITH NEW ELEV STRUCTURE	◒	◒	◒	◕	◒	THE POTENTIAL RETAIL GALLERIAS ASSOCIATED WITH THIS SYSTEM'S DESIGN WOULD IMPROVE PEDESTRIAN RETAIL SALES IN THE CENTRAL AREA. GREATER IMPETUS WOULD ALSO BE GIVEN TO MODERNIZATION OF EXISTING STRUCTURES ADJACENT TO THE FACILITY. OVERALL THE SYSTEM WOULD NOT SIGNIFICANTLY CHANGE THE STATUS QUO SITUATION.
6. REPLACE LOOP WITH RECOMMENDED SUBWAY LOOP AND DISTRIBUTOR	●	●	●	●	◕	THIS ALTERNATIVE WOULD PRODUCE THE MAXIMUM DEVELOPMENT IMPACT ON THE CENTRAL AREA OF CHICAGO. OVERALL THIS ALTERNATIVE WOULD ALLOW THE CENTRAL AREA TO REALIZE ITS FULL SERVICE POTENTIAL AS THE REGION'S CENTRAL ACTIVITY CENTER.
7. REPLACE LOOP WITH WACKER DRIVE GRANT PARK SUBWAY WITH DISTRIBUTOR	◕	◕	◕	●	●	THE LOCATION OF THE SUBWAY ELEMENTS OF THIS ALTERNATIVE WOULD NOT CREATE AS MANY PRIME OFFICE LOCATIONS AS ALTERNATIVES 6 AND 8. DUE TO THIS FACT, THE OVERALL URBAN DEVELOPMENT IMPACT WOULD BE 75-80% OF THESE TWO ALTERNATIVES.
8. REPLACE LOOP WITH MODIFIED RECOMMENDED SUBWAY LOOP AND DISTRIBUTOR	●	●	●	●	◕	THE TOTAL URBAN DEVELOPMENT IMPACT OF THEIR ALTERNATIVE WOULD ESSENTIALLY BE THE SAME AS ALTERNATIVE 6. GREATER FOCUS WOULD HOWEVER BE GIVEN TO COMMERCIAL DEVELOPMENT ALONG MICHIGAN AVENUE.
9. REPLACE LOOP WITH SUBWAY WITH N S LEG WEST OF RIVER	◒	◒	◒	◕	◕	THE DEVELOPMENT IMPACT OF THIS SYSTEM ALTERNATIVE WOULD BE COMPARABLE TO ALTERNATIVE 3 AND 5. ADDITIONAL LONG TERM IMPETUS WOULD BE GIVEN TO COMMERCIAL OFFICE AND RESIDENTIAL DEVELOPMENT WEST OF THE CHICAGO RIVER.
10. REPLACE LOOP WITH SUBWAY AND ELIMINATE DISTRIBUTOR	◕	◕	◕	◕	◕	THE LEVEL OF URBAN DEVELOPMENT GAINS ATTRIBUTABLE TO THIS ALTERNATIVE WOULD ONLY BE 80% AS GREAT AS ALTERNATIVES 6 AND 8.
11. REPLACE LOOP WITH SUBWAY WITH EAST LEG AND DISTRIBUTOR ON MICHIGAN AVE	●	●	●	●	◕	SAME AS ALTERNATIVES 6 AND 8
12. REPLACE LOOP WITH NEW ELEV STRUCTURE & E W DISTR W/SUBWAY ADDED ON CLINTON	◒	◒	◒	◕	◒	SAME AS ALTERNATIVE 5

ALTERNATIVE EVALUATION CRITERIA

LEGEND
SHADING INDICATES CONTRIBUTION OF ALTERNATIVE TO ATTAINMENT OF INDICATED GOALS AND OBJECTIVES.
○ MINIMUM CONTRIBUTION
● MAXIMUM CONTRIBUTION

ALTERNATIVE CONSIDERED	URBAN / ARCHITECTURE DESIGN									COMMENTS
	IMPROVED STATION FUNCTION AND APPEARANCE	DEFINES LOOP	PATRON ORIENTATION WITHIN CBD	APPROPRIATE ARRIVAL / DEP WITHIN CBD	VISIBLE AND IMMEDIATE URBAN DESIGN BENEFIT	LONG RANGE DEVELOPMENT OPPORTUNITY	BENEFIT TO GROUND LEVEL PUBLIC SECTOR	RELATED TO EXISTING PLANS (CHICAGO 21) AND RECENT DEVELOPM.	BENEFITS PEDESTRIAN CIRCULATION	
1. DO NOTHING	○	○	●	●	○	◔	○	○	○	
2. UPGRADE EXISTING ELEVATED STRUCTURE	◔	○	●	●	◔	◔	○	○	○	
3. ELIMINATE LOOP BUILD EAST WEST DISTRIBUTOR	●	◔	○	◔	◔	◔	◒	◔	◔	
4. ELIMINATE LOOP BUILD E W DISTRIBUTOR AND N S ROUTE	●	◒	○	◒	◔	◒	◒	◔	◔	
5. REPLACE LOOP WITH NEW ELEV STRUCTURE	●	◕	●	●	●	●	●	◔	●	
6. REPLACE LOOP WITH RECOMMENDED SUBWAY LOOP AND DISTRIBUTOR	●	◕	◕	◕	◕	●	◕	●	◕	
7. REPLACE LOOP WITH WACKER DRIVE GRANT PARK SUBWAY WITH DISTRIBUTOR	●	◒	◒	◒	◒	◕	◒	◔	◕	
8. REPLACE LOOP WITH MODIFIED RECOMMENDED SUBWAY LOOP AND DISTRIBUTOR	●	◒	◕	◕	◕	●	◕	◕	◕	
9. REPLACE LOOP WITH SUBWAY WITH N S LEG WEST OF RIVER	●	◔	◔	◔	◔	◔	◔	◔	◔	
10. REPLACE LOOP WITH SUBWAY AND ELIMINATE DISTRIBUTOR	●	●	◒	◕	◒	◕	◒	◒	◒	
11. REPLACE LOOP WITH SUBWAY WITH EAST LEG AND DISTRIBUTOR ON MICHIGAN AVE	●	◕	◕	◕	●	●	◕	◕	◕	
12. REPLACE LOOP WITH NEW ELEV STRUCTURE & E W DISTR W/SUBWAY ADDED ON CLINTON	●	●	●	●	●	●	●	◔	●	

ALTERNATIVE EVALUATION CRITERIA

LEGEND

SHADING INDICATES CONTRIBUTION OF ALTERNATIVE TO ATTAINMENT OF INDICATED GOALS AND OBJECTIVES.

○ MINIMUM CONTRIBUTION

● MAXIMUM CONTRIBUTION

ALTERNATIVE CONSIDERED	ENVIRONMENT						COMMENTS
	NOISE AND VIBRATION	DISRUPTION DUE TO CONSTRUCTION	DISRUPTION OF HISTORICAL AND CULTURAL SITES	AIR POLLUTION	ENERGY CONSUMPTION		
1. DO NOTHING	○	●	●	◔	◔		- AIR POLLUTION, NOISE AND ENERGY CONSUMPTION PROBLEMS WILL WORSEN AS MAINTENANCE OF TRANSIT STATUS QUO LEADS TO INCREASING AUTO USE - NO DISRUPTION OF NEIGHBORHOODS
2. UPGRADE EXISTING ELEVATED STRUCTURE	○	◔	●	◔	◔		- MINOR SOLID WASTE DISPOSAL PROBLEMS MAY ARISE - SAFETY OF SYSTEM IMPROVED BY GRADE SEPARATION - AIR POLLUTION, NOISE AND ENERGY COMSUMPTION PROBLEMS WILL WORSEN AS A RESULT OF INCREASED AUTO USE IN THE ABSENCE OF IMPROVED TRANSIT SERVICE - MINOR DISRUPTION POSSIBLE DURING MODIFICATION - ELEVATED SYSTEM NOISE LEVELS MAY BE REDUCED
3. ELIMINATE LOOP BUILD EAST WEST DISTRIBUTOR	◔	◒	●	○	○		- SOLID WASTE (SPOIL DISPOSAL) PROBLEM WITH ASSOCIATED WATER QUALITY AND ECOLOGICAL PROBLEMS - ELEVATED NOISE ELIMINATED
4. ELIMINATE LOOP BUILD E W DISTRIBUTOR AND N S ROUTE	◔	◒	●	◒	◒		SAME AS ALTERNATIVE 3
5. REPLACE LOOP WITH NEW ELEV STRUCTURE	◔	◒	●	◔	◔		- VISUAL IMPACT PROBLEMS - LESS NOISE REDUCTION THAN SUBWAY ALTERNATIVES - MINIMAL SOLID WASTE DISPOSAL PROBLEMS
6. REPLACE LOOP WITH RECOMMENDED SUBWAY LOOP AND DISTRIBUTOR	●	○	●	●	●		- SOLID WASTE (SPOIL DISPOSAL) PROBLEM WITH ASSOCIATED WATER QUALITY AND ECOLOGICAL PROBLEMS - ELEVATED NOISE ELIMINATED
7. REPLACE LOOP WITH WACKER DRIVE GRANT PARK SUBWAY WITH DISTRIBUTOR	●	○	●	◔	◔		SAME AS ALTERNATIVE 6
8. REPLACE LOOP WITH MODIFIED RECOMMENDED SUBWAY LOOP AND DISTRIBUTOR	●	○	●	●	●		SAME AS ALTERNATIVE 6
9. REPLACE LOOP WITH SUBWAY WITH N S LEG WEST OF RIVER	●	◔	●	◒	◒		SAME AS ALTERNATIVE 6
10. REPLACE LOOP WITH SUBWAY AND ELIMINATE DISTRIBUTOR	◔	◔	●	◔	◔		SAME AS ALTERNATIVE 6
11. REPLACE LOOP WITH SUBWAY WITH EAST LEG AND DISTRIBUTOR ON MICHIGAN AVE	●	○	●	●	●		SAME AS ALTERNATIVE 6
12. REPLACE LOOP WITH NEW ELEV STRUCTURE & E W DISTR W/SUBWAY ADDED ON CLINTON	◔	◔	●	◔	◔		SAME AS ALTERNATIVE 5

Appendix K

ENGINEERING DRAWINGS

Dwg. No.

CLINTON Vs. DES PLAINES ALIGNMENT

GP 1 Location, Clinton vs. Des Plaines Alignment
CE 1 Plan and Profile - Halsted to Des Plaines
CE 2 Plan and Profile - Des Plaines to Clinton to Van Buren
CE 3 Plan and Profile - Van Buren to Adams
CE 4 Plan and Profile - Adams to Monroe
SE 1 Kennedy Freeway Crossing - Construction Method
SE 2 Clinton Stations - Construction Method
AR 1 Clinton Street at Union Station - Plan Existing Concourse Level
AR 2 Clinton Street at Union Station - Plan Proposed Concourse Level
AR 3 Clinton Street at Union Station - Mezzanine and Platform Level
AR 4 Clinton Street at Union Station - Sections A-A
AR 5 Clinton Street at Union Station - Sections B-B and C-C
AR 6 Perspective - Union Station Concourse/Station Entrances (see Sect. 5 dwg)
CE 11 Des Plaines Street - General Plan
CE 12 Des Plaines Street - Utility Relocations
CE 13 Des Plaines Street - Plan and Profile - Sta. 902+50 to 916+50
CE 14 Des Plaines Street - Plan and Profile - Sta. 916+50 to 931+50
CE 15 Des Plaines Street - Plan and Profile - Sta. 931+50 to 944+50
CE 16 Des Plaines Street - Plan and Profile - Sta. 944+50 to 958+76
CE 17 Des Plaines Street - Plan and Profile - Sta. 958+76 to 967+03
CE 18 Des Plaines Street - Plan and Profile - Sta. 967+03 to 981+44
A2-7 Canal /Des Plaines - Monroe Station - Area Map
A2-8 Canal/Des Plaines - Monroe Station - Plan and Longitudinal Section
A2-9 Canal/Des Plaines - Clinton and Canal Street - Plan and Sections
CE 21 Boring Locations
CE 22 Soils Profile - Clinton Street

CLINTON CONNECTION TO MILWAUKEE SUBWAY

CE 31 Plan and Profile - Monroe to Randolph
CE 32 Plan and Profile - Randolph to Milwaukee - Northbound
CE 33 Plan and Profile - Randolph to Milwaukee - Southbound
SE 31 Milwaukee Subway Connection - Construction Method
AR 31 Clinton Street at C&NW Station - Plan Concourse Level
AR 32 Clinton Street at C&NW Station - Plan Street Level
AR 33 Clinton Street at C&NW Station - Plan - Mezzanine and Platform
AR 34 Clinton Street at C&NW Station - Section D-D
AR 35 Clinton Street at C&NW Station - Section E-E and F-F

Dwg. No.

CLINTON ALIGNMENT - URBAN DESIGN

AR 36 Clinton Street - Land Use Issues
AR 37 Clinton Street - Clinton/Des Plaines Alternatives
AR 38 Clinton Street - Urban Design Plan

NORTH MICHIGAN AVENUE Vs. FAIRBANKS COURT ALIGNMENT

GP 2 Location - Michigan Avenue vs. Fairbanks Court Alignment
CE 41 Plan and Profile - Lake Street to Chicago River
CE 42 Plan and Profile - River Crossing
CE 43 Plan and Profile - Chicago River to Ontario
CE 44 Plan and Profile - Ontario to Pearson
CE 45 Plan and Profile - Pearson to Oak
SE 41 Stetson and Wacker - Crossover Area
SE 42 Chicago River Undercrossing
SE 43 Michigan Avenue - Construction Method
SE 44 Michigan Avenue at Water Tower - Construction Method
AR 41 Michigan Avenue Station at Illinois - Street Level Plan - Existing
AR 42 Michigan Avenue Station at Illinois - Street Level Plan - Proposed
AR 43 Michigan Avenue Station at Illinois - Mezzanine and Platform
AR 44 Michigan Avenue Station at Illinois - Section G-G
AR 45 Michigan Avenue Station at Illinois - Sections H-H
AR 51 Michigan Avenue Station at Huron - Street Level Plan - Existing
AR 52 Michigan Avenue Station at Huron - Street Level Plan - Proposed
AR 53 Michigan Avenue Station at Huron - Mezzanine and Platform
AR 54 Michigan Avenue Station at Huron - Sections J-J, K-K
AR 61 Michigan Avenue Station at Delaware - Street Level Plan - Existing
AR 62 Michigan Avenue Station at Delaware - Street Level Plan - Proposed
AR 63 Michigan Avenue Station at Delaware - Mezzanine and Platform
AR 64 Michigan Avenue Station at Delaware - Section L-L
AR 65 Perspective Sketches - Michigan Avenue Corridor
AR 66 Perspective Sketches - Illinois Station Entrance
AR 67 Perspective Sketches - Chicago Station Entrance
AR 68 Perspective Sketches - Delaware Station Entrance
} (see Sect. 5 dwgs)

MICHIGAN AVENUE ALIGNMENT - URBAN DESIGN

AR 71 Michigan Avenue - Lake Use/Issues
AR 72 Michigan Avenue - Alternatives
AR 73 Michigan Avenue - Urban Design Plan

Dwg. No.

FAIRBANKS COURT ALIGNMENT

CE 51 General Plan
CE 52 Plan and Profile - Randolph to Wacker
CE 53 Plan and Profile - Wacker to Grand
CE 54 Plan and Profile - Grand to Erie
CE 55 Plan and Profile - Erie to Pearson
CE 56 Plan and Profile - Pearson to Walton
CE 57 Plan and Profile - DeWitt to Michigan Avenue
CE 58 Plan and Profile - Michigan Ave. to Wabash
CE 59 Plan and Profile - Fairbanks Court to Michigan Ave.
CE 60 Plan and Profile - Michigan Ave. to Wabash
CE 61 Plan and Profile - Chicago Ave. to Walton
CE 62 Plan and Profile - Pearson Street - Pedestrian Passageway - State to Wabash
A3N Fairbanks Court Alignment - General Plan
A3N-1 Illinois/Grand - Erie/Huron - Stations Environs
A3N-2 Illinois/Grand - Transverse Section
A3N-3 Illinois/Grand - Site Plan
A3N-4 Illinois/Grand - Mezzanine Plan - Longitudinal Section
A3N-5 Erie/Huron - Site Plan
A3N-6 Erie/Huron - Mezzanine Plan - Longitudinal Section
A3N-7 Illinois/Grand - Erie/Huron - Existing Land Use Patterns
A3N-8a Illinois/Grand - Erie/Huron - Existing Bus Routes
A3N-8b Illinois/Grand - Erie/Huron - Existing Circulation - Vehicular
A3N-8c Illinois/Grand - Erie/Huron - Existing Circulation - Pedestrian
A3N-9 Illinois/Grand - Erie/Huron - Planning Goals - Land Use Patterns
A3N-10 Illinois/Grand - Erie/Huron - Planning Goals - Pedestrian Circulation
A3N-12 Near North Distributor
A3N-13 DeWitt Station - Site Plan
A3N-14 DeWitt Station - Mezzanine Plan - Longitudinal Section
A3N-15 Walton Station - Site Plan
A3N-16 Walton Station - Mezzanine Plan - Longitudinal Section
A3N-17 Wabash Station - Site Plan
A3N-18 Wabash Station - Mezzanine Plan - Longitudinal Section
A3N-19 Chicago Station - Site Plan
A3N-20 Chicago Station - Mezzanine Plan - Longitudinal Section
A3N-23 Near North Loop Distributor - 1973-74 Study
A3N-25 Near North Loop Distributor - Existing Land Use
A3N-26 DeWitt - Existing Land Use
A3N-27 DeWitt - Existing Building Condition and Height
A3N-28 Walton - Existing Land Use

Dwg. No.

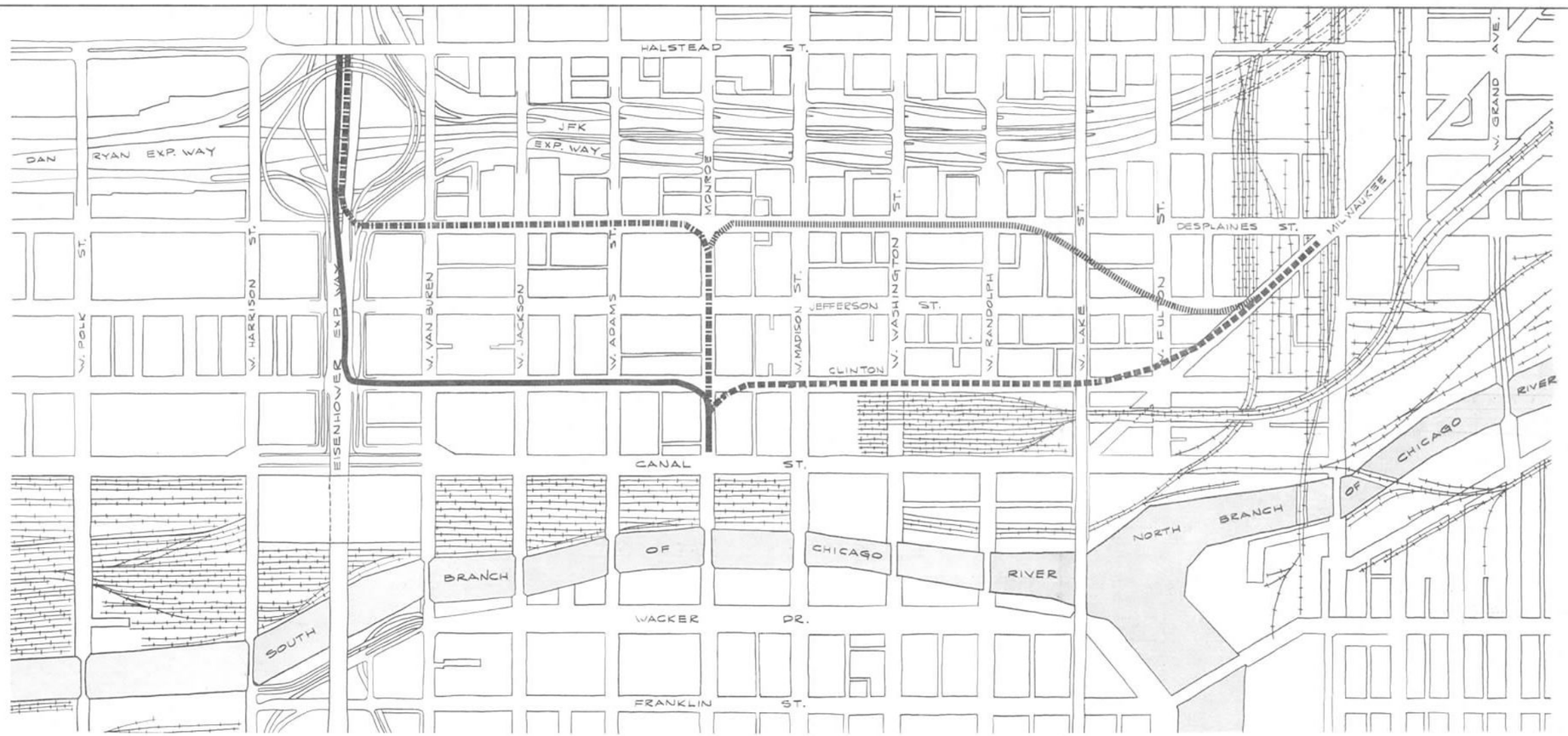
A3N-29 Walton - Existing Building Condition and Height
A3N-30 Wabash/Rush - Existing Land Use
A3N-31 Wabash/Rush - Existing Building Condition and Height
A3N-32 Chicago - Existing Land Use
A3N-33 Chicago - Existing Building Condition and Height

EXTENSION TO NORTH AVENUE

CE 71 Plan and Profile - Oak Street - Michigan Avenue to Dearborn
CE 72 Plan and Profile - Clark Street - Oak to Maple
CE 73 Plan and Profile - Clark Street - Maple to Goethe
CE 74 Plan and Profile - Clark Street - Goethe to North Avenue
AR 81 Station - Clark and Division - Mezzanine Level
AR 82 Station - Clark and Division - Platform Level
AR 83 Station - Clark and Division - Sections
CE 75 Boring Locations
CE 76 Soils Profile - Lake to Oak
CE 77 Soils Profile - Michigan Avenue to North Avenue

STRUCTURAL DRAWINGS

SE 51 Double and Single Track Sections
SE 52 Tunnel Sections
SE 53 Station and Subway Near Water Tower



CLINTON ALIGNMENT

OPTIONAL CONNECTION TO MILWAUKEE

DESPLAINES ALIGNMENT

OPTIONAL DESPLAINES CONNECTION TO MILWAUKEE

200 100 0 100 200 300 400 500 FT.
1:250

PRELIMINARY

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Checked by
Approved by

Reference Drawings number	description

Revisions date	by	description

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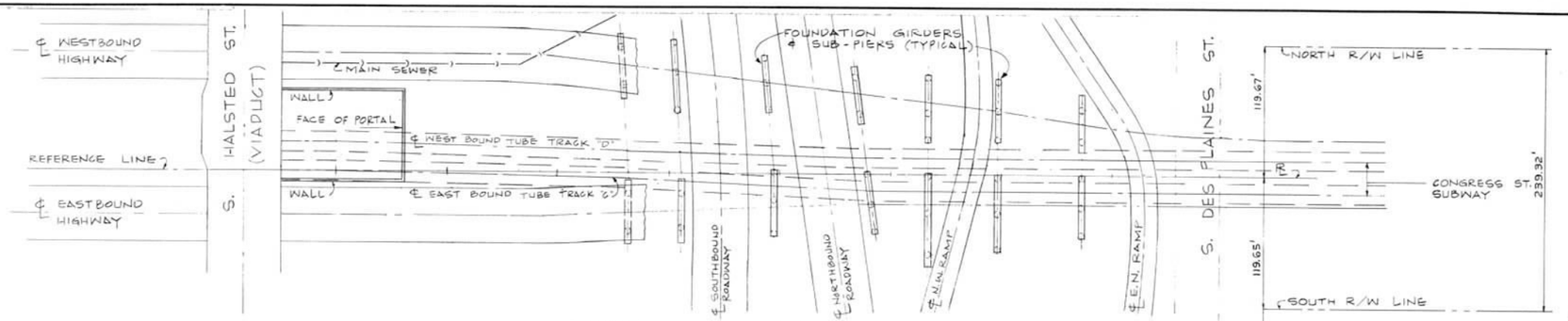
Chicago Transit Authority
Noted

Chicago Urban Transportation District
Noted

LOCATION
CLINTON VS. DESPLAINES ALIGNMENT

Date 26 APR 74 | Scale 1 : 250 | Drawing No. GP 1



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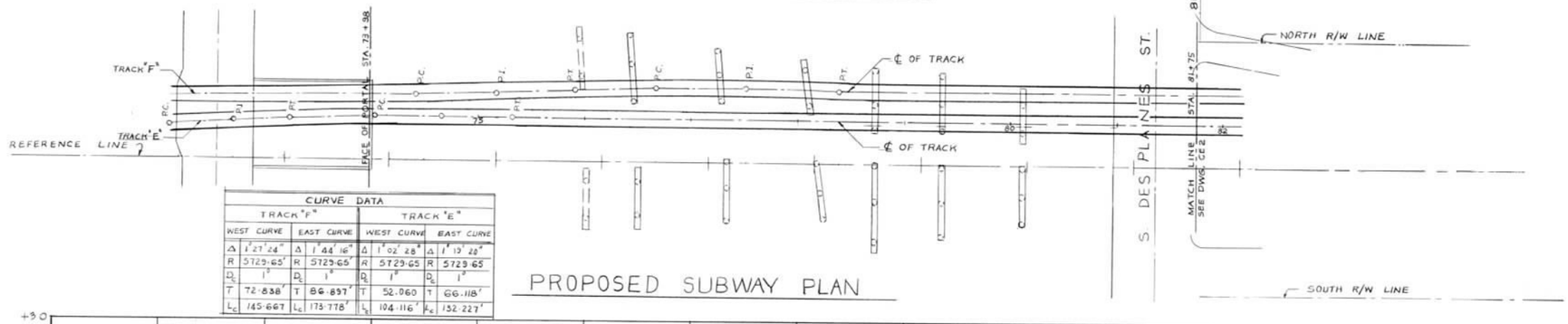
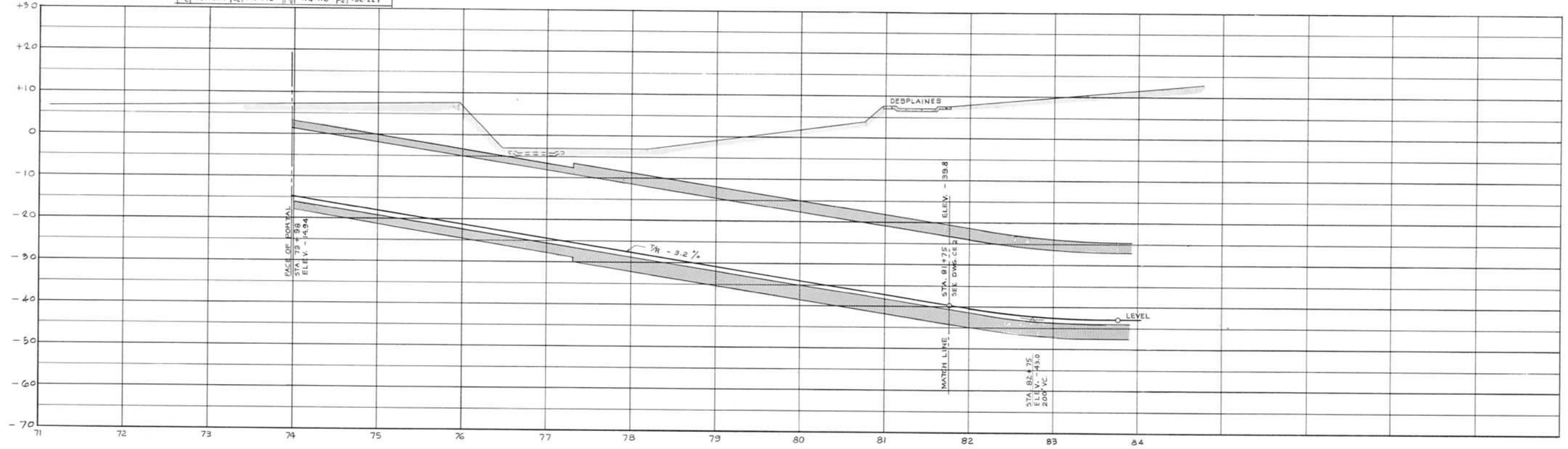


PROPOSED SUBWAY PLAN

CURVE DATA							
TRACK "F"				TRACK "E"			
WEST CURVE		EAST CURVE		WEST CURVE		EAST CURVE	
Δ	1°27'24"	Δ	1°44'16"	Δ	1°02'28"	Δ	1°13'28"
R	5729.65'	R	5729.65'	R	5729.65	R	5729.65
D_c	1°	D_c	1°	D_c	1°	D_c	1°
T	72.838'	T	86.897'	T	52.060	T	66.118'
L_c	145.667	L_c	173.778'	L_c	104.116'	L_c	132.227'



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1:50 1:10

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Reference Drawings number	description

Revisions date	by	description

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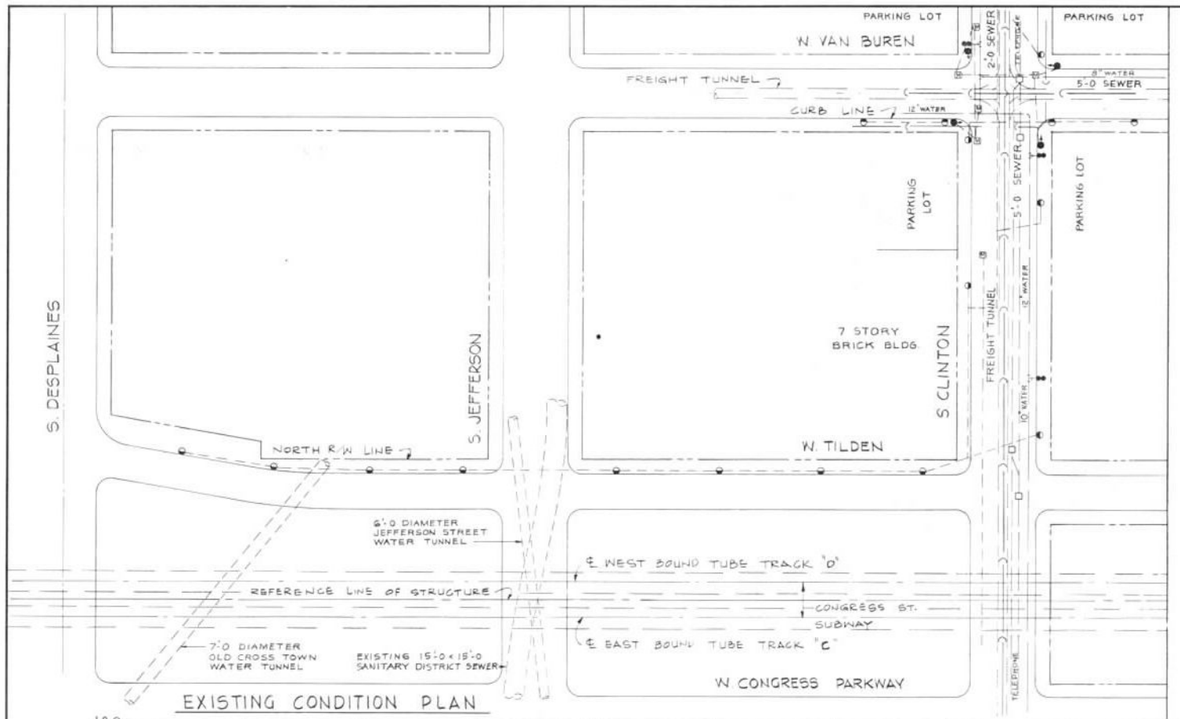
Chicago Department of Public Works Noted
Chicago Transit Authority Noted
Chicago Urban Transportation District Noted

PLAN AND PROFILE
HALSTED TO DESPLAINES

Date 26 APR 74 | Scale H 1:50 V 1:10 | Drawing No. CE 1



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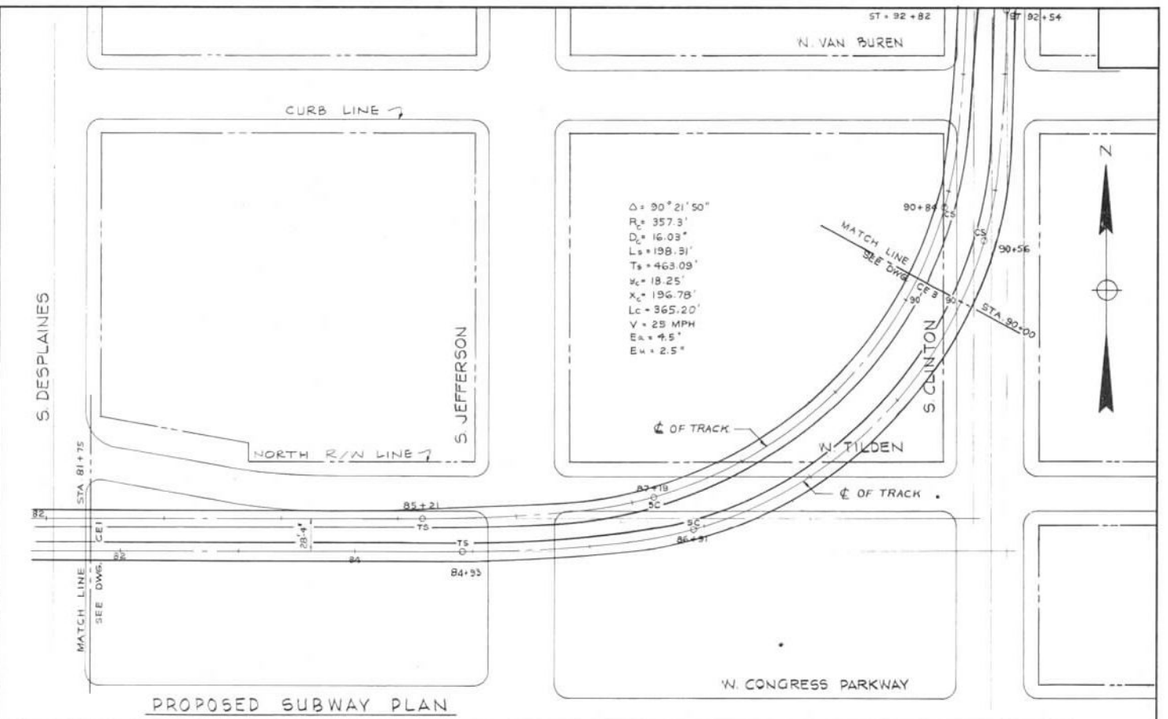

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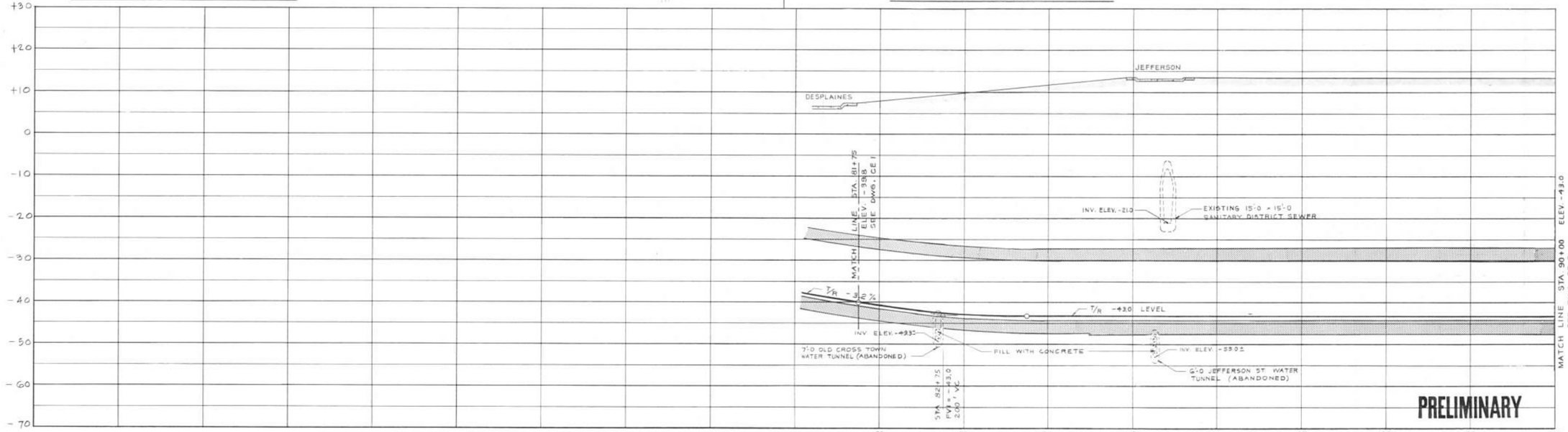

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Chicago Urban Transportation District
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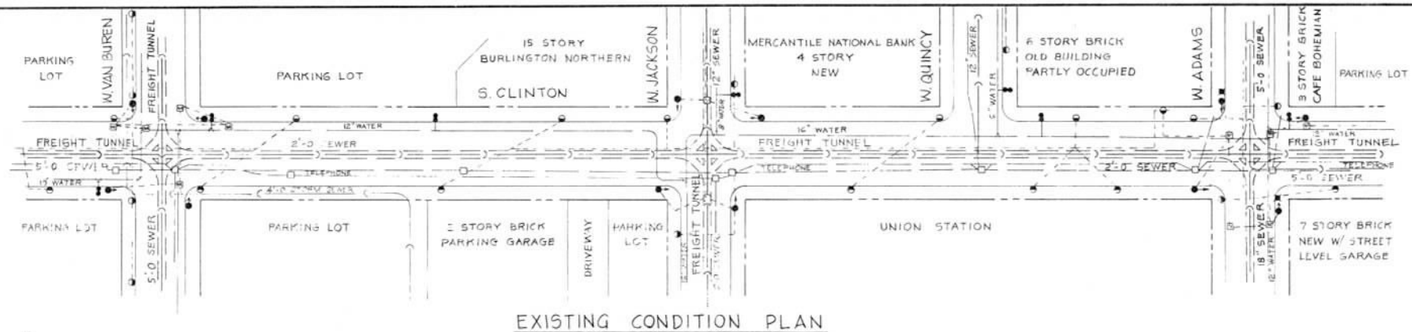
PLAN AND PROFILE
DESPLAINES TO CLINTON TO VAN BUREN

Date 26 APR 74 | Scale H 1:50 V 1:10 | Drawing No. CE 2



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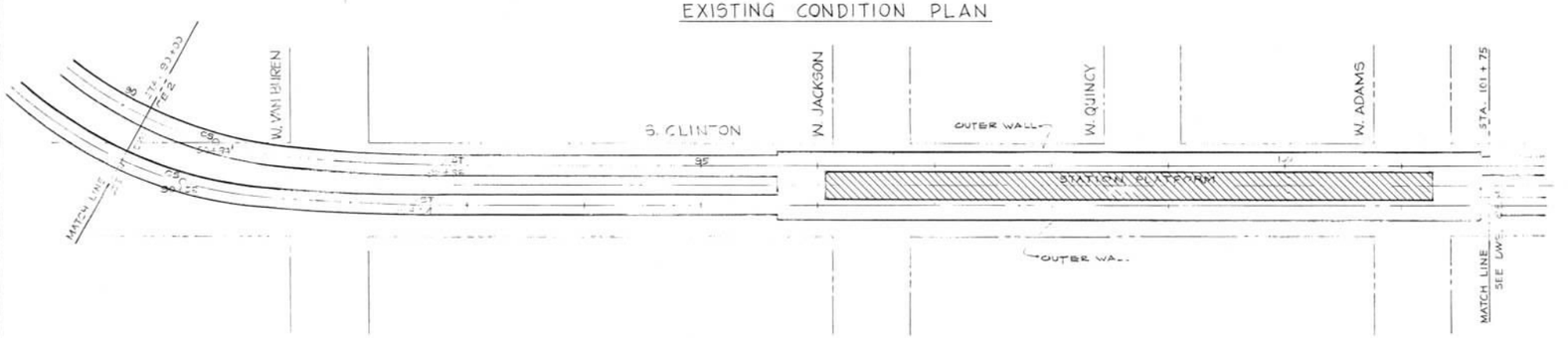
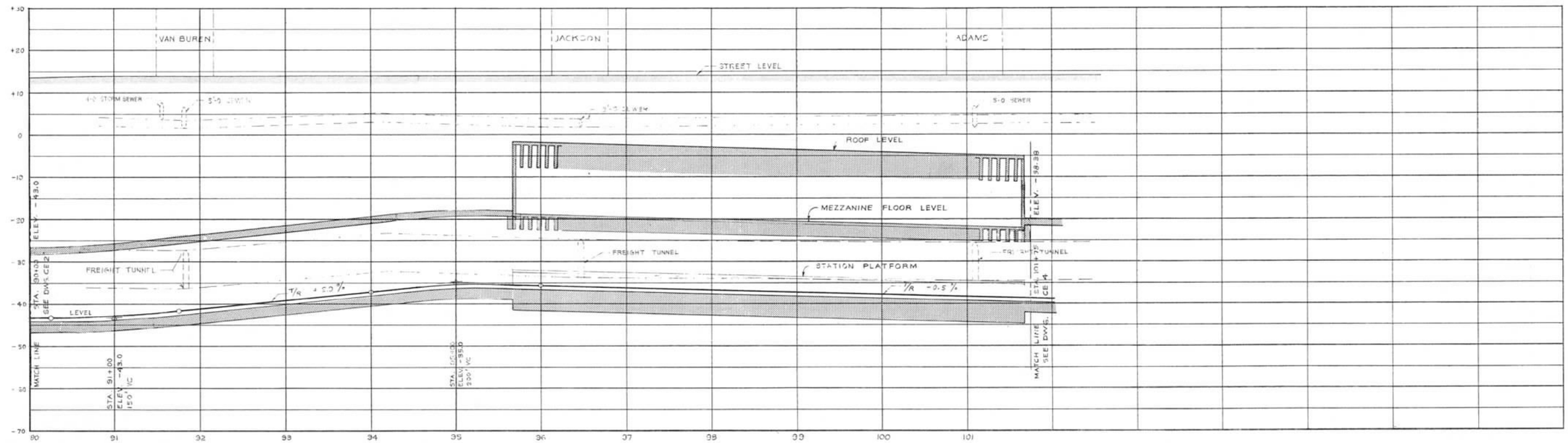


PROPOSED SUBWAY PLAN



PRELIMINARY

1" = 50'

1" = 10'

Reference Drawings number	description

Revisions date	by	description

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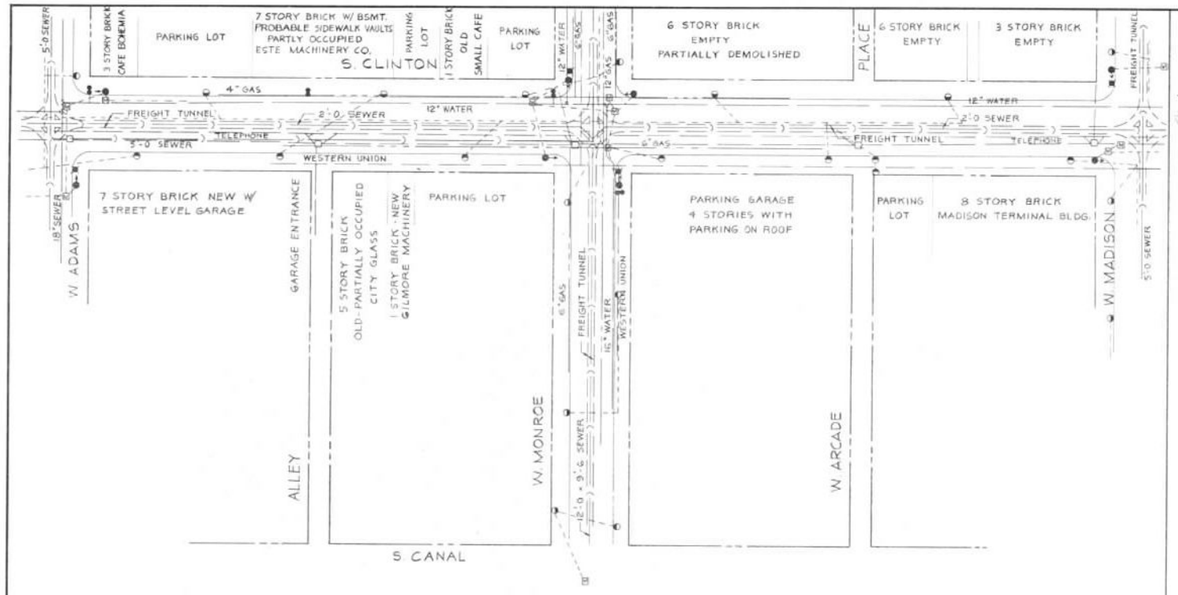
PLAN AND PROFILE VAN BUREN TO ADAMS

Date 26 APR 74 | Scale H 1" = 50' V 1" = 10' | Drawing No. CE 3



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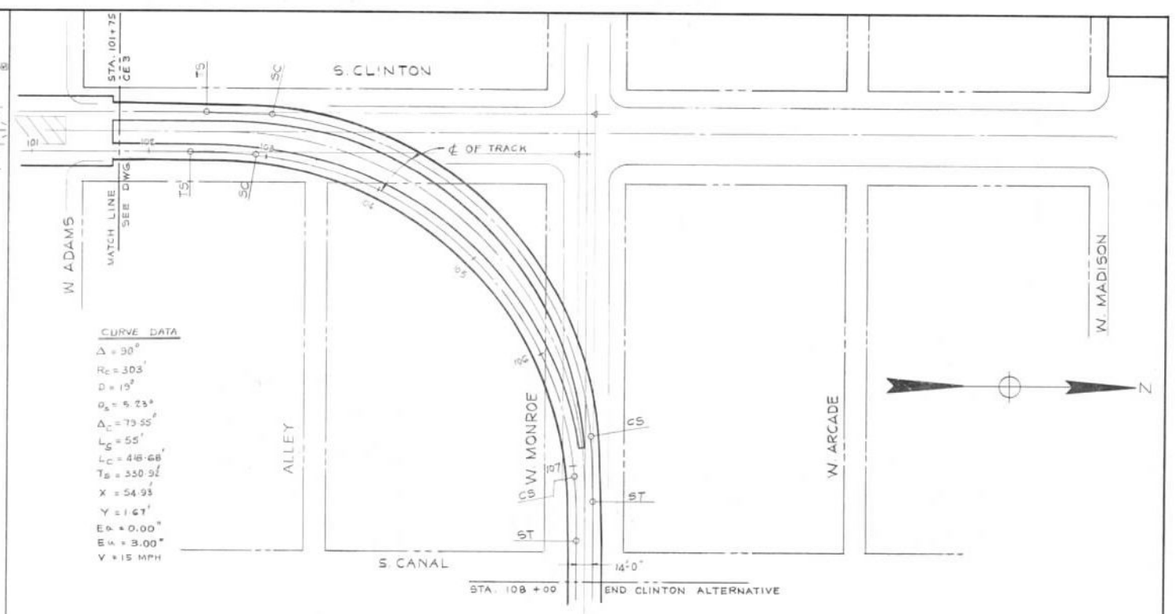

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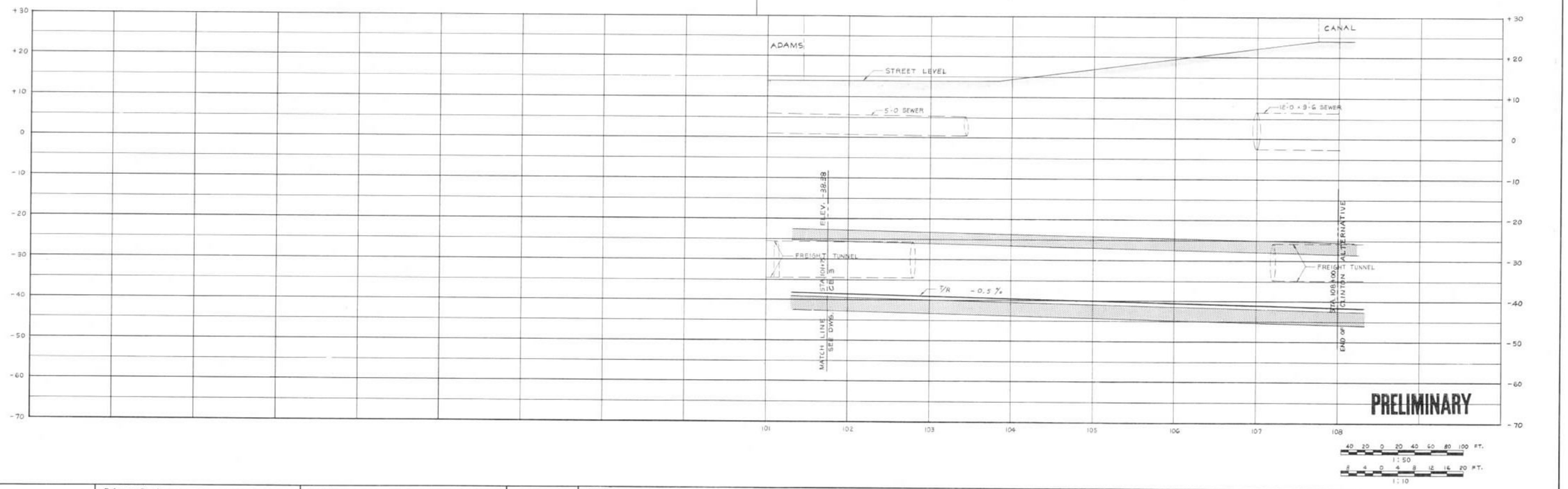

PRELIMINARY

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Chicago Urban Transportation District
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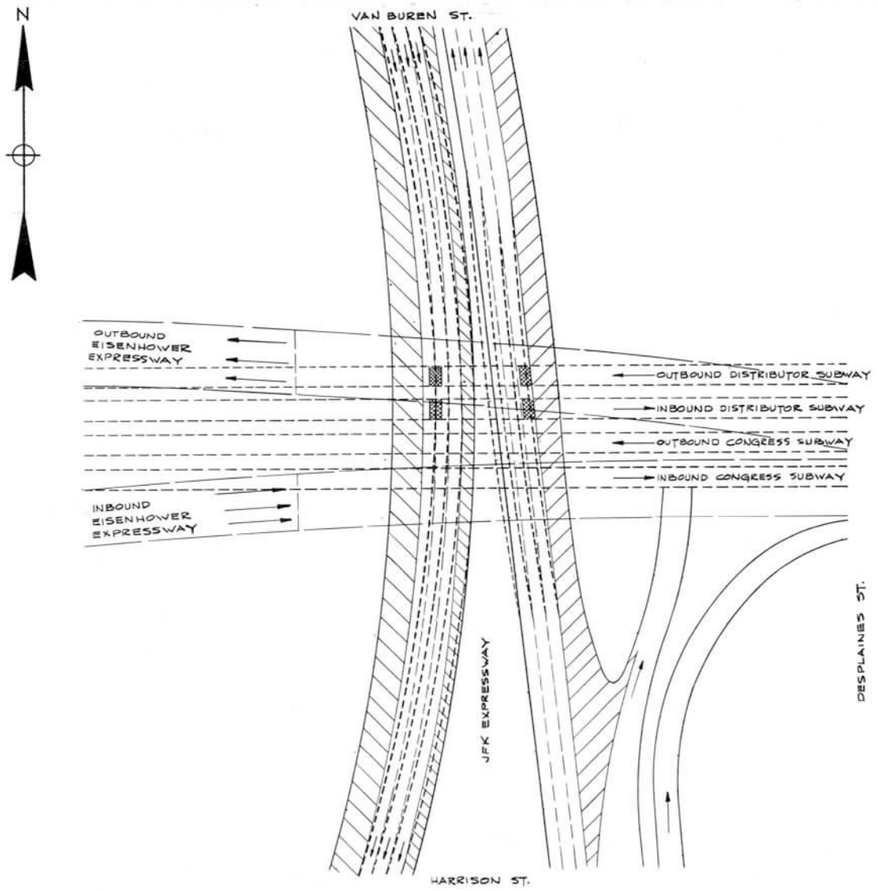
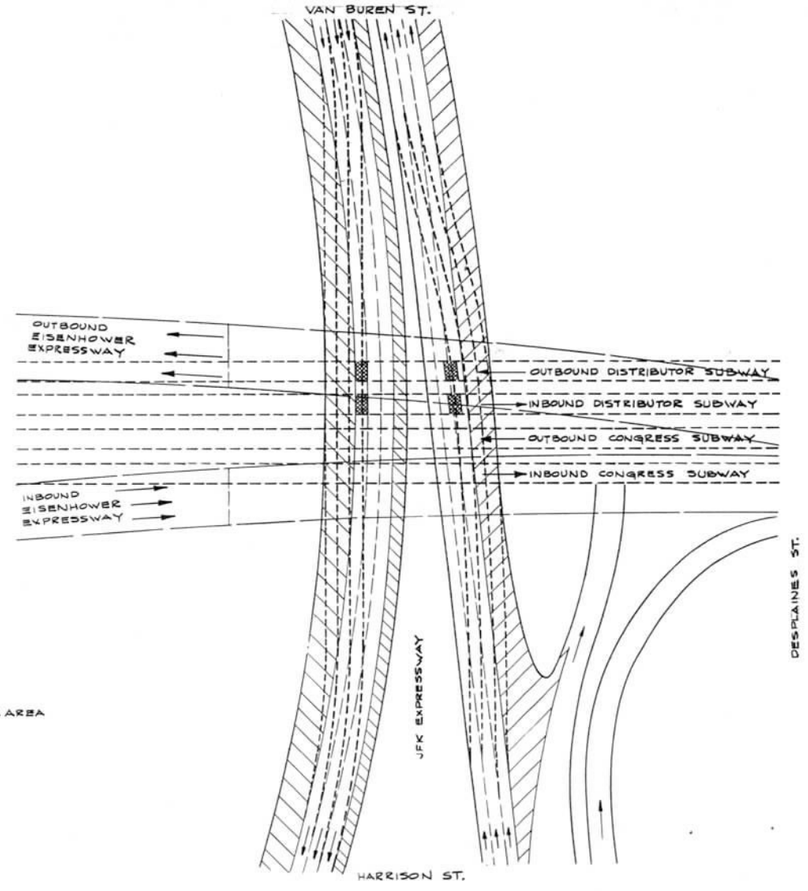
PLAN AND PROFILE
ADAMS TO MONROE

Date 26 APR 74 | Scale H 1:50 V 1:10 | Drawing No. CE 4



FIRST STAGE DETOUR

SCALE 1" = 40'

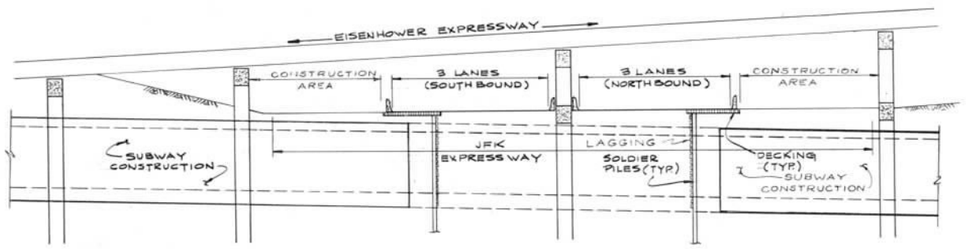


SECOND STAGE DETOUR

SCALE 1" = 40'

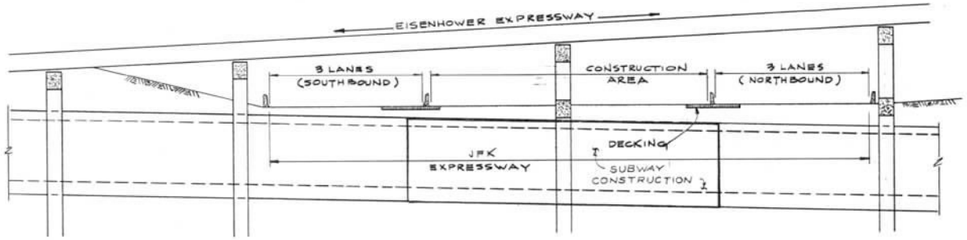
LEGEND

▩ INDICATES DECKED OVER AREA



SECTION - FIRST STAGE DETOUR SCALE 1"=10'

① DIVERT TRAFFIC TO CENTER OF HIGHWAY
② DECK OVER TWO AREAS
③ CONSTRUCT OUTER SECTIONS OF SUBWAYS



SECTION - SECOND STAGE DETOUR SCALE 1"=10'

① DIVERT TRAFFIC TO OUTER SIDES OF HIGHWAY
② CONSTRUCT CENTRAL SECTION OF SUBWAYS
③ REMOVE DECKING AT COMPLETION OF WORK

PRELIMINARY

Designed by
Drawn by
Checked by
Approved by

Reference Drawings — number — description

Revisions — date — by — description

Chicago Urban Transportation District · Chicago Central Area Transit Project

Special Consultant
American Bechtel Inc.
Approved

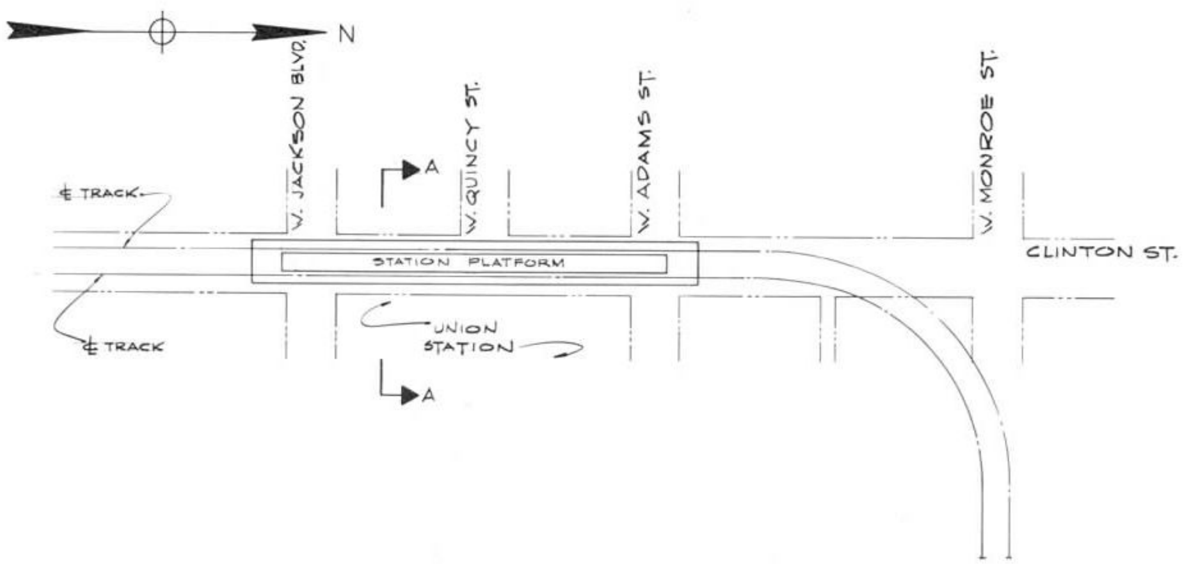
Chicago Department of Public Works
Noted

Chicago Transit Authority
Noted

Chicago Urban Transportation District
Noted

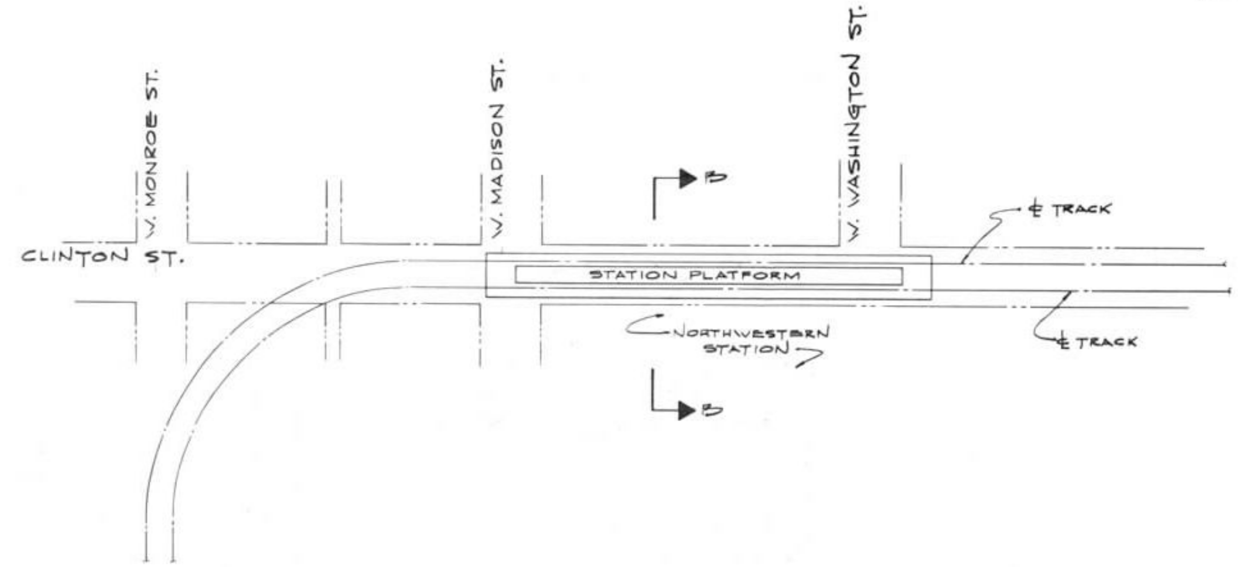
KENNEDY FREEWAY CROSSING
CONSTRUCTION METHOD

Date 26 APR 74 | Scale AS NOTED | Drawing No. SE 1



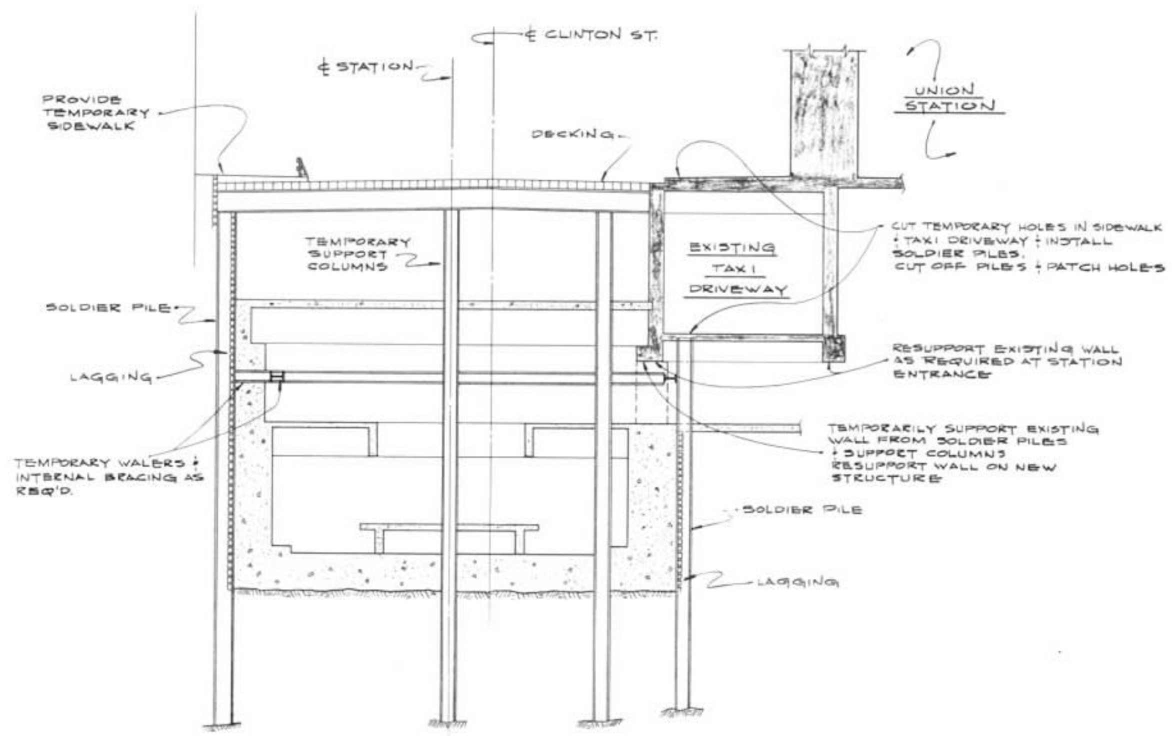
PROPOSED SUBWAY PLAN

SCALE 1" = 50'-0"



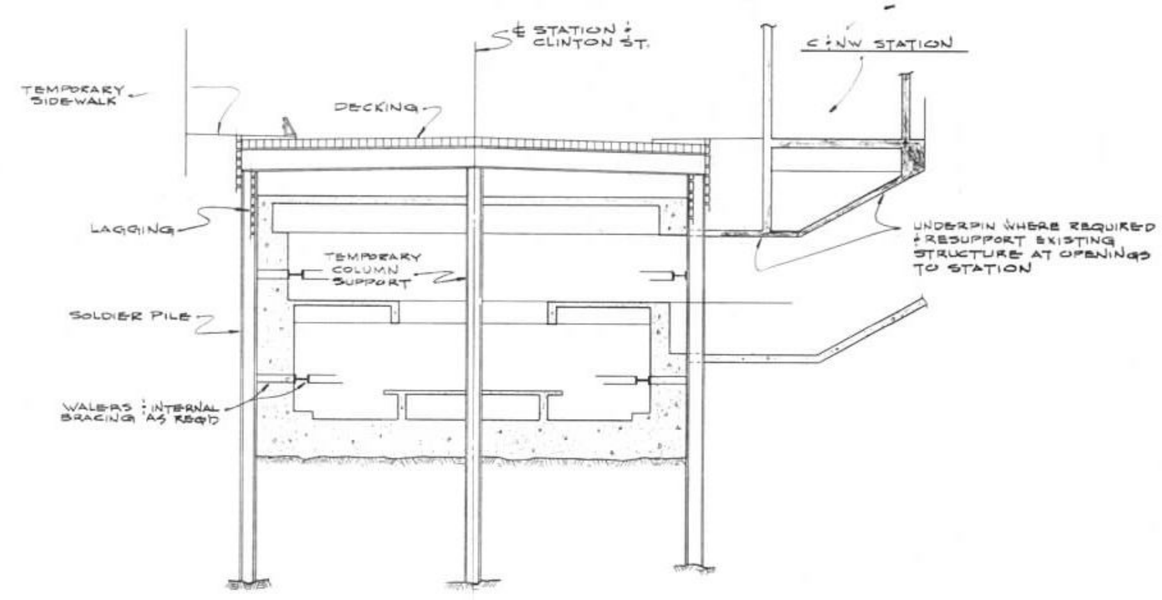
PROPOSED SUBWAY PLAN

SCALE 1" = 50'-0"



SECTION A-A

SCALE 1" = 10'-0"



SECTION B-B

SCALE 1" = 10'-0"

PRELIMINARY

1:10

1:50

Designed by	Reference Drawings number	description	Revisions date	by	description
Drawn by					
Checked by					
Approved by					

Chicago Urban Transportation District · Chicago Central Area Transit Project

Special Consultant
American Bechtel Inc.
Approved

Chicago Department of Public Works
Noted
Chicago Transit Authority
Noted
Chicago Urban Transportation District
Noted

CLINTON STATIONS
CONSTRUCTION METHOD

Date 26 APR 74 | Scale AS NOTED | Drawing No. SE 2